Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

PROGRAMME OUTCOMES

ARTS

Undergraduates will be able to

- Discuss the fundamentals of facts and concepts of languages, literature, history, business education, managerial skills and economics and an interdisciplinary cohesion of these subjects in providing a knowledge base.
- Develop communicative skills, exchange of ideas through oral and written mode, also interpersonal and intrapersonal communication, a thirst for learning through experiential learning and inquiry based learning, and advancement to higher education.
- Apply analytical skills, critical thinking, problem solving skills, decision making skills, in solving real life problems and meeting the needs of the society.
- Demonstrate an integrated personality in facing interviews competitive exams, new challenges and entrepreneurship.
- Recognize the social, political and cultural aspects of the society and exhibit societal and ethical concerns and global awareness.

Postgraduates will be able to

- Explain the advanced concepts, ideas of the concerned discipline such as languages, literature, history, business education, managerial skills and economics and appreciate the interrelatedness among the subjects.
- Identify a problem, search literature, frame hypothesis, analyze it with relevant statistical tools, draw conclusions and interpret the results in written and oral form.
- Exhibit respect to the world around them on ethical consideration and understand the creativity, diversity, contemporary issues in shaping the future of them and the society.
- Integrate the learned skills and knowledge leading them to noticeable changes in their vision, goals, attitudes and skills.
- Apply employability skills in viewing real world requirements, self-development and sustained living.

Scholars will be able to

- Develop intellectual creativity, passionate reading and innovative thinking.
- Demonstrate a quest for lifelong independent learning and pedagogical skills.
- Manage information in application of research methodology to the identified problems, library skills for literature search, and technical skills for statistical analyses, organize

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the ideas into a meaningful scientific report and present it in oral and written means of communication.

- Apply advanced research techniques and demonstrate their understanding of the disciplinary concepts.
- Exhibit commitment towards research and the society following the codes of ethics, practice and moral values.

PROGRAMME OUTCOMES

SCIENCE

Undergraduates will be able to

- Discuss current scientific facts, concepts, fundamental principles and scientific theories in solving societal problems and make informed decisions in scientific contexts.
- Transcribe scientific ideas, arguments and practical experiences and demonstrate laboratory skills in handling new scientific techniques and equipments safely and ethically.
- Recognize the benefits and limitations of science and its application in technological developments.
- Demonstrate an ability to pursue higher education as an independent learner and become entrepreneurs in the relevant discipline.
- Devise strategies to meet community requirements and serve as responsible citizens.

Postgraduates will be able to

- Describe advanced and contemporary concepts, principle and theories in the appropriate field to solve real problems.
- Apply skill of observation for scientific experiments, draw logical conclusions and present it as a report.
- Employ intellectual, personal, interpersonal and societal skills in professional career to maximize professional growth.
- Prepare themselves as capable administrators, educators, researchers and pursue higher education as lifelong learner.
- Develop scientific attitude not only with respect to science subjects but also in all aspects related to life imbibing ethical, moral and social values in personal and social life.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Scholars will be able to

- Critically evaluate information and ideas from multiple perspectives and synthesize newer thrusts of knowledge making a contribution to the field.
- Develop communication skills in publicizing the findings of scientific study in oral and written mode.
- Analyze creatively to propose novel ideas in explaining facts and providing new solution to real problems and understand the influence of science in other disciplines.
- Demonstrate a pursuit of knowledge as a lifelong activity combining untiring efforts taking social moral and ethical values into consideration.
- Adopt the results of the research to enhance their scientific integrity, acquire jobs, personal endeavors and live a life of a civilized society.

PROGRAMME OUTCOMES

B.Voc.

Undergraduates will be able to

- To Provide appropriate mix of skills relating to a profession and appropriate content of General Education.
- To ensure that the students have adequate knowledge and skills, so that they are ready to work at each exit point of the programme.
- To provide flexibility to the students by means of pre-defined entry and multiple exit points.
- To integrate NSQF within the undergraduate level of higher education in order to enhance employability of the graduates and meet industry requirements. Such graduates apart from meeting the needs of local and national industry are also expected to be equipped to become part of the global workforce.
- To provide vertical mobility to students coming out of 10+2 stream

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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PROGRAMME SPECIFIC OUTCOMES

PG & RESEARCH DEPARTMENT OF ARABIC

B.A Arabic
Students will be able to

PSO1. Appreciate classical and modern literature and poetry.

PSO2. Articulate knowledge of major literary, artistic and cultural works and figures associated with Arabic Language.

PSO3. Describe the nature, functions, evolution, linguistic concepts of Arabic Language pertaining to Listening, Speaking, Reading and Writing Skills.

PSO4. Translate and transcribe basic language structures from Arabic to English and Vice Versa.

PSO5. Integrate Arabic language proficiencies, technological skills to effectively perform tasks typical of today's globalised work environment and environmental issues.

M.A Arabic
Students will be able to

PSO1. Recognize the role of Islamic legislation and Philosophy in Classical Arabic literature.

PSO2. Demonstrate the ability of communicating in Arabic language both in oral and written form.

PSO3. Translate and interpret Arabic literature into English language.

PSO4. Compare and contrast the classical literature with modern literature and Indo Arabic literature.

PSO5. Consolidate the Arabic Literature for competitive exams to acquire jobs in Arabic career.

M.Phil Arabic
Scholars will be able to

PSO1. Summarize the history of Arabic literature.

PSO2. Outline the research methods, investigation procedures, use of statistical analyses to carry out research projects and publish papers in journals.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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PSO3. Adapt and apply teaching learning skills in Arabic language.

PSO4. Investigate a research problem and formulate possible solutions pertaining to Arabic language and literature ethically.

PSO5. Evaluate the societal issues, problems prevalent in language learning for shaping a better learned society.

COURSE OUTCOMES
B.A. ARABIC

Course Code	Course Title	Course Learning Outcomes
20U1LA1	Basic Arabic	CO1: Recognize and understand the Arabic Alphabets CO2: Demonstrate the correct pronunciation of the Arabic letters. CO3: Describe the basic Arabic Grammar. CO4: Discuss about the demonstrative pronouns and verbal sentences. CO5: Distinguish between active and passive voices.
20UAR1CC1	Grammar I	CO1: Acquire the basic types of words, particles and compounds. CO2: Indicate the gender, singular and plural in Arabic. CO3: Describe the genitive of possession and broken plural. CO4: Evaluate the cases of nouns and indicative pronouns. CO5: Appraise the interrogative pronouns and imperfect verbs.
20UAR1CC2	Arabic Morphology	CO1: Acquire the knowledge of basic structure of verbs in Arabic. CO2: Construct the various forms of verbs. CO3: Organize the various paradigms of the verbs. CO4: Categorize the triliteral verbs. CO5: Derive the forms of four root lettered verbs.
20UAR1AC1	Seerathul Anbiyaa I	CO1: Summarize the life and history of Prophet Ibrahim (Pbuh). CO2: Discuss the history and the source of Zam Zam water. CO3: Interpret the special characters of Yoosuf (Pbuh). CO4: Assess the happenings held between Yakoob (Pbuh) and his sons. CO5: Review the life and history of Prophet Yoosuf (Pbuh).
20UAR1AC2	Tajweed and Tarjama	CO1: Apply the rules of Idgamm during the recitation of Holy Quran. CO2: Demonstrate the Rules of Meem Sakin and Rules of Madd. CO3: Practice the rules of Waqf and Rules of Noon Al Qutni. CO4: Interpret the meanings of Surah Ad Dhuha to Al Asr. CO5: Illustrate the meanings of last few chapters of Holy Quran.
20U2LA2	Grammar & Translation	CO1: Acquire the skills of writing Simple sentences in Arabic. CO2: Construct the numbers in Arabic as per the rules. CO3: Identify the nouns derived from the verbs. CO4: Translate the sentences from English to Arabic and vice versa. CO5: Illustrate the translation skills in Arabic.
20UAR2CC3	Grammar II	CO1: Distinguish between transitive and intransitive verbs. CO2: Interpret the conjugation of Imperfect tense verbs. CO3: Dissect the different forms of the imperfect tenses. CO4: Appraise the rules of derived nouns and adjective nouns. CO5: Evaluate the categories other than the triliteral verbs.

Criterion I - Curricular Aspects

1.1 Curriculum Design and Development

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Course Code	Course Title	Course Learning Outcomes
20UAR2CC4P	Language Application - Practical	CO1: Acquire the efficiency of talking and listening in Arabic CO2: Communicate ideas and thoughts in Arabic CO3: Practice Arabic language in daily life CO4: Improve vocabulary, way of presentation and structure of language. CO5: Demonstrate the communication skills in Arabic
20UAR2AC3	Seerathul Anbiyaa II	CO1: Explain the creation of Adam (Pbuh) and its purpose. CO2: Discuss the story of Nooh (Pbuh). CO3: Examine the causes for the flood during Nooh (Pbuh). CO4: Interpret the transgression of nation of Aad. CO5: Summarize the history of Saalih (Pbuh) and his nation.
20UAR2AC4	History of Arabs I	CO1: Define the Arab culture and the early life of Prophet Muhammad (Pbuh). CO2: Explain the incidents and great characters of Prophet Muhammad (Pbuh). CO3: Discuss about the caliphate of Abubakr (Ra). CO4: Evaluate the reign of Umar (Ra). CO5: Analyze the periods of Uthman (Ra) and Ali (Ra).
20U3LA3	Prose & Poetry	CO1: Appraise the authority and power of Allah. CO2: Evaluate the blessings of Allah on the mankind. CO3: Analyze the solutions to the problems in the light of Hadeeth. CO4: Estimate the characters of the believers. CO5: Assess the aspects of creation of Allah.
20UAR3CC5	Grammar III	CO1: Identify the various types of verbs. CO2: Explain the ending changes in verbs in a simple manner. CO3: Construct the other forms of verbs. CO4: Organize the various paradigms of the Nouns. CO5: Formulate the derivative nouns from the verbs.
20UAR3CC6P	Applied Arabic - Practical	CO1: Recognize and understand the terminologies used in Arabic Cartoons. CO2: Illustrate the conversations happen in hotel, railway station etc. CO3: Prepare and deliver simple lectures in Arabic. CO4: Design and create an Arabic – English Glossary. CO5: Construct simple sentences in Arabic.
20UAR3AC5	Seerathul Anbiyaa III	CO1: Explain the settlement of Banu Israeel in Egypt. CO2: Discuss the birth of Musa (Pbuh) and childhood. CO3: Interpret the special characters of Musa (Pbuh). CO4: Assess the events held between Musa (Pbuh) and Firawn. CO5: Review the life and history of Prophet Musa (Pbuh).
20UAR3AC6	History of Arabs II	CO1: Analyze the establishment of Umayyad Dynasty and reign of Mu'awiya. CO2: Evaluate the rule of Umayyads and causes for decline. CO3: Appraise the foundation of Abbasids empire. CO4: Criticize the rivalry between Al – Amin and Al – Mamun. CO5: Revise the administration of Abbasids and the reasons for their fall.
20UAR3GE1	Foundation Course in Arabic I	CO1: Recognize and understand Arabic Alphabets CO2: Demonstrate the correct pronunciation of the Arabic letters. CO3: Describe the basic Arabic Grammar. CO4: Develop the demonstrative pronouns and verbal sentences.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO5: Distinguish between adjectives and genders in Arabic.
20U4LA4	Language Skills & Literary History	CO1: Define the punctuations and the structure of the letters in Arabic. CO2: Express the art of letter writing in Arabic. CO3: Construct the official letters in Arabic. CO4: Appraise life history of poets like Kaa'b ibn Zuhair, Hassan Ibn Thaabith etc. CO5: Evaluate the collection and compilation of Holy Quran and Hadeeth.
20UAR4CC7	Grammar IV	CO1: Analyze the Nominal Sentences in Various aspects CO2: Evaluate the different types of verbs with pronouns CO3: Appraise the rules of Exceptional particles and Tameez CO4: Identify the kinds of words which are prohibited to apply vowels CO5: Illustrate the conjunctions particles and interrogative particles
20UAR4CC8	Classical Prose I	CO1: Appraise the Manners discussed in the Surah Luqman. CO2: Develop the Heritage of Islam CO3: Discuss the Miracles of Quran CO4: Analyze How the Quran influences the society CO5: Discuss about the Islamic Traditions
20UAR4AC7	Seerathul Anbiyaa IV	CO1: Interpret the early life of Prophet (Pbuh) in Madeenah. CO2: Illustrate the battle of Uhud and its consequences. CO3: Evaluate the events happened in Madeenah. CO4: Analyze the victory of Makkah. CO5: Estimate the later life of Prophet (Pbuh) in Madeenah.
20UAR4AC8P	Media Arabic - Practical	CO1: Acquire the efficiency of listening to Modern Arabic News. CO2: Discuss about the various issues in Arabic. CO3: Practice debates in Arabic on different topics. CO4: Compose articles and seminar papers in Arabic. CO5: Organize and publish wall magazines in Arabic.
20UAR4GE2	Foundation Course in Arabic II	CO1: Recognize the alphabets in Arabic language CO2: Differentiate between Arabic consonants and vowel sounds. CO3: Express and communicate the things, views in Arabic language CO4: Construct the expression for months, days and Numbers in Arabic language CO5: Appraise the various sound producing places in Arabic language.
20UAR5CC9	Grammar V	CO1: Distinguish between Mazeed Al Thulathi, Mazeed Ar Rubayee and Mazeed Al Khumasi. CO2: Define Al Fi'l Al Mu'thal and its rules. CO3: Describe the places where the subject should be preferred over the predicate and vice versa. CO4: Demonstrate the verbs of Raja'a, Shuroo, and Muqarabah. CO5: Differentiate between the various types of Ibtidai.
20UAR5CC10	Modern Prose	CO1: Examine the literary genres of the modern prose. CO2: Analyze the modes of the modern prose. CO3: Discuss the situations of Modern writers' period. CO4: Differentiate between modern prose and classical prose. CO5: Evaluate the writing style of Modern Writers.

Criterion I - Curricular Aspects

1.1 Curriculum Design and Development

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Course Code	Course Title	Course Learning Outcomes
20UAR5CC11	Classical Poetry	CO1: Examine the logic poetry in Abbasid Period. CO2: Explain the contributions of Imam Shafiyi to the Arabic Literature. CO3: Investigate the structure, usages of words in poems of Imam Shafiyi. CO4: Compare the style of writings of different poets with Imam Shafiyi. CO5: Evaluate the legend Arabic poets of Abbasid Period.
20UAR5CC12	Rhetoric I	CO1: Define Balaga (Rhetoric) in Arabic language. CO2: Assess the classifications of Arabic Rhetoric and its impact in Arabic literature. CO3: Describe the special features of Ilm Al Bayan. CO4: Illustrate the various topics in Balaga with suitable examples. CO5: Explain similies, metaphors and other topics in Arabic Rhetoric.
20UAR5DE1P	Type Writing in Arabic-Practical	CO1: Operate the Arabic Keyboards for their correspondence. CO2: Practice typing the Arabic texts. CO3: Prepare to work in the professions like Typists and Translators. CO4: Drafting of letters to deal with international agencies. CO5: Setup typing centres in and out of country to meet global needs.
20UAR5DE1B	Translation Skills In Arabic I	CO1:Create the Arabic Sentences of his/her own CO2:Analyze the Arabic and English Translations CO3:Compare the Previous Translations in Arabic and English CO4:Apply the Translation Theories and Practices CO5:Make new Translation with the former Translation Theories
20UAR5SE2A	Essay Writing in Arabic	CO1: Construct essays in Arabic on various topics. CO2: Illustrate the different vocabularies in Arabic. CO3: Apply the new terminologies in the Arabic essays. CO4: Demonstrate the language skills and communication skills in Arabic. CO5: Evaluate the essays written in Arabic on various aspects.
20UAR5SE2B	Communication skills in Arabic	CO1: Recognize the techniques and skills of communication. CO2: Apply the conversational skills in important places. CO3: Demonstrate the Arabic terminologies according to the situations. CO4: Practice the important terms required during travel. CO5: Dramatize the booking of an accommodation in a hotel.
20UAR5SE3	Documents Preparation in Arabic	CO1: Apply the knowledge of computer application in Arabic documentation. CO2: Illustrate the value of documentation preparation in digital world. CO3: Practice the different types of documents for their progressive career. CO4: Analyze the types of documents with the development of documentation skills. CO5: Demonstrate the capability of entrepreneurship
20UAR5SE3B	Computer Literacy With Arabic	CO1: Discuss about the Computer terms in Arabic. CO2: Distinguish between the various applications of Computer. CO3: Construct the units of the computer.

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Course Code	Course Title	Course Learning Outcomes
		CO4: Differentiate between Software and Hardware. CO5: Assess General Software and its features.
20UAR5EC1	General Intelligence for Competitive Examinations	CO1: Identify the different types of Masterpieces in the Arabic literature CO2: Recognize the Important historical events in Arabic literature according to its period. CO3: Analyze the Arab Writers according to their contributions for Arabic literature CO4: Assemble the Arab poets according to their writing styles CO5: Assess the Importance of the different subjects of Arabic literature
20UAR6CC13	Grammar VI	CO1: Assess the various rules related to Sharth and Jawaab. CO2: Distinguish between the different types of Masdar. CO3: Demonstrate the rules of numbers in Arabic. CO4: Discuss about the Nasab and its rules. CO5: Appraise the sentences which have I'raab and which don't have I'raab.
20UAR6CC14	Classical Prose II	CO1: Demonstrate an ability to read and understand a variety of classical literary texts in the target language. CO2: Express the Knowledge of inflections, grammatical constructions and vocabulary items found on the average page of a classical literary text. CO3: Differentiate between the styles of authors in the major genres of prose and poetry. CO4: Organize to conduct research on classical subjects by using different reference works and sources in book form and on the Internet. CO5: Practice the skill of writing in the Arabic language.
20UAR6CC15	Modern Poetry	CO1: Describe the early changes that occurred in modern poetry ranging from subject to style of presentation CO2: Explain the influence of Madrasthu Baas al thuras, Madrasathu al Deewan and Jamaath Appolo in Modern Arabic Poetry. CO3: Differentiate between the themes, language usage, and style of writing from the beginning of modern Arabic poetry to the current era. CO4: Assess the socio-cultural dimensions, thoughts, and concepts in modern Arabic poetry CO5: Appraise the performance of modern Arabic poets and poetry.
20UAR6CC16	Rhetoric II & Prosody	CO1: Demonstrate the objectives of Khabar and its various types. CO2: Appraise the articles of Istifhaam and its different meanings. CO3: Analyze the places of Fasl and Wasl in detail. CO4: Assess the various aspects of Ilm Al Badee'. CO5: Recognize the importance of Ilm Al Aroodh and types of Bahr.
20UAR6DE2	History of Arabic Literature	CO1: Review the tribes and divisions of the Arabs. CO2: Estimate the literature of the Pre-Islamic periods of Arabs. CO3: Discuss about the Knowledge of Pre-Islamic Poets to develop their Language& Literature skills CO4: Demonstrate the Knowledge of Islamic Period.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO5: Appraise the concept of Wars happened in Prophet's life.
20UAR6DE2B	Commercial Arabic	CO1: Compose various types of letters for official purpose. CO2: Construct letters to banks and insurance companies. CO3: Formulate job applications and leave letters. CO4: Evaluate the various kinds of advertisements. CO5: Prepare tenders for auction and authorization letters.
20UAR6DE3BP	Data Entry in Arabic-Practical	CO1: Draft documents of Official and Personal Letter in Arabic CO2: Prepare a Resume and other commercial cards. CO3: Create an Excel sheet for different documents CO4: Chart an Invoice for sale and purchase CO5: Present different study materials in Power Point.
20UAR6DE3B	Translation Skills in Arabic II	CO1: Express their opinions in Arabic Sentences CO2: Translate the Arabic Sentences into English CO3: List out and Conjugate Arabic Verbs Apply the Translation Theories and Practices CO4: Apply the translation theories in written and verbal communication CO5: Analyze the current translation methods with the previous methods
20UAR6EC2	Arabic for Competitive Examinations	CO1: Identify the different types of Masterpieces in the Arabic literature CO2: Recognize the Important historical events in Arabic literature according to its period. CO3: Analyze the Arab Writers according to their contributions for Arabic literature CO4: Assemble the Arab poets according to their writing styles CO5: Assess the Importance of the different subjects of Arabic literature

COURSE OUTCOMES

M.A. ARABIC

Course Code	Course Title	Course Learning Outcomes
20PAR1CC1	Grammar	CO1: Recognize the Grammatical rules of sentence formation CO2: Apply the grammatical rules in sentence formation CO3: Analyze the grammatical aspects of any Arabic text CO4: Simplify the grammatical rules with his mother language CO5: Evaluate all the grammatical rules
20PAR1CC2	Classical Prose	CO1: Identify the style of Classical prose CO2: Classify the different Classical styles of prose CO3: Compare the different styles in Classical prose CO4: Construct sentences of different Classical styles CO5: Predict the different style of writings in Classical prose
20PAR1CC3	History of Islamic Legislation	CO1: Acquire the basic knowledge about the history of Islamic legislation. CO2: Determine the importance of Hadeeth in framing Islamic legislation. CO3: Assess the rulings from Quran and Sunnah. CO4: Evaluate the sources of Islamic Jurisprudence.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO5: Discuss about the issues in which the companions differed.
20PAR1CC4	History of Classical Arabic Literature	CO1: Identify the style of Classical Arabic literature CO2: Combine the different classical styles of Arabic language CO3: Compare the different ways in Classical Arabic literature CO4: Construct and translate sentences of various classical styles of Arabic literature CO5: Estimate the Arabic style of writings of Classical Prose for competitive exams
20PAR1DE1A	Aqeeda	CO1: Explain the basic concepts of Islam CO2: Classify the different faiths in the society CO3: Compare Islamic faith and principles with other religions CO4: Derive the reasons for the emergence of different sects among Muslims CO5: Justify the resemblance among the different faiths
20PAR1DE1B	Indian Islamic History	CO1: Explain the impact of Arabic language on the Indian Culture CO2: Classify the different spiritual qualities of humanity in Islamic Culture CO3: Compare the different groups and movements in the cause of Arabic Language CO4: Derive importance of journals and its establishment CO5: Justify different problems in India by Islamic Scholars
20PAR2CC5	Advanced Classical Prose	CO1: Reproduce the characters and deeds of Prophet Mohammed (Pbuh). CO2: Illustrate the last Prophecy. CO3: Analyze the traditions of Prophet Mohammed (Pbuh) on daily life. CO4: Demonstrate the simplicity of Prophet Mohammed (Pbuh) CO5: Appraise the traditions of Prophet Mohammed (Pbuh) - attributes and dreams.
20PAR2CC6	Classical Poetry	CO1: Examine and understand the logic poetry in Jahiliyya period CO2: Explain the style of "Shihru Naqail" in Abbasid Period CO3: Investigate the structure, usages of words in poems of Classical Arabic CO4: Criticize and compare the style of writings of different poets CO5: Evaluate the legend Arabic poets from Jahiliyya to Abbasid Period.
20PAR2CC7	Islamic Philosophy	CO1: Examine the terms and terminologies related to Islamic philosophy CO2: Explain the relevance of philosophy and in its impact on humanitarian CO3: Justify the steps to control the stress of emotions CO4: Develop physical and spiritual skills for personality CO5: Create a mutual respect towards other belief systems and religions.
20PAR2CC8	History of Modern Arabic Literature	CO1: Discuss the ethical personalities of Modern Prose Writers CO2: Collect Knowledge about Modern Arabic poets in various fields CO3: Compare among the Modern Poets and their Skills CO4: Create interest in reading and analyzing Modern Poems CO5: Choose the talent of Writing Essays

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
20PAR2DE2A	Translation Skills & Essays in Arabic	CO1: Acquire the basics of translation skills. CO2: Classify the different types of texts. CO3: Apply the various terminologies in Arabic translation. CO4: Construct the translated sentences from various forms of texts. CO5: Appraise the modern method of Arabic essays.
20PAR2DE2B	Shiru's Sahaba	CO1: Examine the unique style of The Companions of The Prophet Mohamed (Pbuh) CO2: Develop ideal qualities of a person through this poetry of Sahabaa CO3: Investigate the structure, usages of words from the poems of shiru's sahaba CO4: Compare among the Modern Poets and Classical Poets. CO5: Evaluate the legends of Arabic poets from the Companions of the Last Prophet
20PAR3CC9	Modern Prose	CO1: Identify the style of modern prose. CO2: Classify the different styles of modern prose. CO3: Apply the motivating factors mentioned by the author in life. CO4: Differentiate between modern prose and classical prose. CO5: Evaluate the writing style of Mustafa Al Manfulooti.
20PAR3CC10	Drama & Short Stories	CO1: Dramatize the early life of Prophet Muhammad (Pbuh). CO2: Illustrate the enmity of Quraish towards Prophet Muhammad (Pbuh). CO3: Analyze the events that led to Hijrah. CO4: Estimate the writing style of Gibran. CO5: Appraise the methodology followed by Najeeb Mahfooz.
20PAR3CC11	Indo Arab Literature	CO1: Estimate the History of Indian Arabic Writers. CO2: Illustrate the relation between India and Arab World. CO3: Analyze the Arabic Journalistic Writings in India. CO4: Compose the processes for the development of Arabic in India. CO5: Evaluate the personalities of Arabic Writers in India.
20PAR3CC12	Autobiography	CO1: Appraise the Autobiography of Taha Husain. CO2: Illustrate the life events of Taha Husain in a literary way. CO3: Analyze the skills possessed by Taha Husain in a detailed manner. CO4: Evaluate the talents and skills excelled in the fields of language and literature. CO5:Estimate the Modern Arabic Literature and its significance by the autobiography
20PAR3DE3A	Competitive Skills in Arabic	CO1: Recognize the Modern and Classical Arabic Literary works in competitions CO2: Analyze the different themes of Modern Arabic literature to excel in exams CO3: Evaluate the Indo Arab Literature and Modern sciences to scope high CO4: Simplify different types of references and quotations for talented skills CO5: Contrast Arabic journals and organizations in world for better career
20PAR3DE3B	Cultural History of Islam	CO1: Create aspiration to know about civilization

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Course Code	Course Title	Course Learning Outcomes
		CO2: Analyze various kinds of civilizations CO3: Evaluate the Islamic Civilization CO4: Trace the sources of Islamic civilization CO5: Compare the works on Islamic civilization
20PAR4CC13	Modern Poetry	CO1: Define various dimensions of modern Arabic poetry CO2: Discuss the different school of thoughts and literary movement CO3: Criticize and compare the themes ،language usages ،style of writing CO4: Experiment social aspects and humanitarian feelings ، thoughts CO5: Evaluate the performance of modern Arabic poets.
20PAR4CC14	Novel	CO1: Recognize the techniques and skills of Novel CO2: Analyze the various aspects of the novel. CO3: Evaluate the Modern Arabic Literature and its importance. CO4: Appraise the application of different types of references CO5: Assess the consciousness style of writing in Arabic.
20PAR4CC15	Arabic Translation & Interpretation	CO1: Recognize the basics of business correspondence in Arabic Translation. CO2: Demonstrate the types of translation of nominal and verbal sentences. CO3: Translate simple sentences in Arabic to English and vice versa. CO4: Interpret & comprehend the importance of Arabic as a language of commerce. CO5: Illustrate the translation skills and appraise the relevant skills.
20PAR4DE4AP	Advanced Arabic Communication Skills	CO1: Demonstrate the Arabic numbers in words that are used to describe years and amounts. CO2: Apply the rules of Mustasna and Masdar Muawwal in conversations. CO3: Appraise the adjectives to be used in day-to-day communications. CO4: Practice the modern usages in Arabic language. CO5: Dramatise the simple role plays in Arabic.
20PAR4DE4B	The Ottoman Empire	CO1: Discuss the establishment of Turkish Empire. CO2: Appraise the origin of Ottoman Empire and capture of Constantinople. CO3: Analyze the consolidation of the Ottoman Empire. CO4: Examine the Ottoman Empire as a world power. CO5: Assess the reasons for the decline of the Ottoman Empire.
20PAR4EC2	Arabic for Career Advancement	CO1: Recognize the Literary techniques and skills of competitive examinations CO2: Analyze the different Arabic literary writers and the books CO3: Evaluate the Modern Arabic Literature and its importance CO4: Practice the application of different types of references CO5: Estimate the writers of different Qur'anic and Hadith exergies

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

PROGRAMME SPECIFIC OUTCOMES

DEPARTMENT OF BUSINESS ADMINISTRATION

B.B.A

Students will be able to

PSO1. Demonstrate basic understanding of underlying relationship of Management, Accounting Finance, Economics, Marketing and Management information systems.

PSO2. Associate knowledge on specialized areas such as Human resource management, Finance and Marketing to address global and local issues in business administration.

PSO3. Apply statistical, mathematical and technological tools for business presentations, solve business and marketing problems, decision making and for developing marketing plans and strategies.

PSO4. Express business issues, management concepts, plans and decisions both in oral and written form, exhibiting leadership and managerial skills blending ethical issues and social responsibilities.

PSO5. Employ cost accounting principles and techniques for analyzing the cost components

COURSE OUTCOMES

B.B.A.

Course Code	Course Title	Course Learning Outcomes
20UBA1CC1	Principles of Management	CO1. Acquire the Knowledge primary function of management historical development and role of management activities in company or industry. CO2. The learners understood how to make plan with the help of company/ institution mission, vision and objectives. CO3. Equip the student to understand and create organization structures, how it should be running. CO4. Ensuring the requirement of human resource, how to allocate and basic of required qualities of employ from available source. CO5. The learners acquire the knowledge of co- ordination of business / association and how to make a corrective action based on plan through controlling activities to success.
20UBA1CC2	Financial Accounting	CO1. To learn fundamental aspects of accounting and also apply golden rules for the financial transactions, Pass journal entries and post them in ledger and understand trial balance. CO2. Prepare subsidiary books and understand the types of errors and identified the errors and how to reduce the error entries.

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Course Code	Course Title	Course Learning Outcomes
		CO3. To acquire the latest updates on financial knowledge and practice and Prepare Final accounts of sole proprietorship. CO4. To equip the knowledge of Bank Reconciliation Statement and to know the evaluation skill of assets through the Depreciation Methods CO5. To create excellence in non – profit organizations and to develop the financial management skills and to become a finance manager in future
20UBA1AC1	Managerial Economics	CO1. Knowing the role and responsibility of managerial economists and learn the demand and supply concept. CO2. Understanding the production function and cost concept. CO3. Import the knowledge of managerial decision making and pricing. CO4. Understand the different market condition and market structure. CO5. Intelligence in the concept of macro economics, national income and attainment the knowledge of employment cycle and econometrics.
20UBA1AC2	Business Communication	CO1. All basic concepts and importance of communication are imparted to students theoretically and practical knowledge. CO2. They realize the needs of business letters in managing the day- to- day activities of the business. CO3. Practical exercise on collection letter and sales promotion letter to communication enhances the students' knowledge. CO4. Understand the report writing, kinds of reports, application for jobs and updated resume writing CO5. Learn practical knowledge in advance E- communication.
20UBA2CC3	Marketing Management	CO1. Demonstrate understanding of modern marketing concepts & buyer behaviour towards buying motives CO2. Illustrating product, product mix and product life cycle for developing marketing skills CO3. Analysing the pricing and physical distribution systems to enhance marketing knowledge CO4. Enabling the importance of wholesaler, retailer, marketing intermediaries and their functions CO5. Acquire broad-based knowledge on promotional activities and digital marketing
20UBA2CC4	Business Environment	CO1. To understand the different environment in the business & society CO2. To know the different environment like social & cultural environment and ethics in the business climate CO3. To acquire the depth knowledge about the political and legal environment CO4. To identify the minor & major factors affecting the business in various streams. CO5. The students can recognize the impact of technology in economic & managerial perspectives
20UBA2AC3	Mathematics and Statistics for Manager	CO1. Understand the basic concepts in mathematics and statistics and learn mathematics for finance, simple and compound interest. CO2. To know the basic calculation about matrix methods.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO3. Impart the knowledge to the student about statistical tools and its application. CO4. Get an idea about the application of statistics in measures of central tendency. CO5. Learn and apply the rank correlation and regression.
20UBA2AC4P	MS – Office Management - Practical	CO1. Learn the MS Words features and how to use official and personal life. CO2. Specialized the students in all types of official documents in MS Word such as resume, letters, applications, forms, broucher templates, business cards and news letters CO3. The student understand to uses of MS – Excel in various types of official, research and personal purpose CO4. The learners equipped in the data filling, Data/Information management, Bill creation, chart creation in business purpose CO5. The students understand Ms-PowerPoint is often used to create business preparations, but also can used for business, official, information and educational purpose.
20UBA3CC5	Business Accounting	CO1. To impart the knowledge of business accounting and Partnership firm. CO2. To learn fundamental aspects of partnership accounting and also gain knowledge about profit and loss Appropriation Account and Capital Accounts of Partners. CO3. To gain knowledge regarding Accounting treatment in the event of Admission of a Partner. CO4. To acquire the knowledge about preparation of accounts in the event of retirement and death of a partner and also understand mode of payment. CO5.To equip the knowledge of Dissolution of firms , Settlement of Accounts among the partners and also enables the student to the preparation of Insolvency account.
20UBA3CC6	Business Laws	CO1. Acquire the basic knowledge of contracts with economic activities of business transactions for student development activities in business. CO2. The learners understood the essentials of law to develop the personal skill and address the local issues in business. CO3. Equip the students to understand and apply strategy in business contracts, and also provide remedies to problems in business contracts. CO4. Ensuring the requirement of agency creation, allocation and termination with ethical and social responsibilities. CO5. The learners acquire the knowledge of Sale of Goods Act for analytical thinking, decision making in business awareness.
20UBA3AC5	Operations Research	CO1. Develop a report that describes the model and the solving technique, analyse the results and propose recommendations in language understandable to the decision-making processes in Management CO2. Solve linear programming problems using appropriate techniques and optimization solvers, interpret the results obtained and translate solutions into directives for action. CO3. Conduct and interpret post-optimal and sensitivity analysis and explain the primal-dual relationship.

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Course Code	Course Title	Course Learning Outcomes
		CO4. Develop mathematical skills to analyse and solve integer programming and network models arising from a wide range of applications. CO5. Effectively communicate ideas, explain procedures and interpret results and solutions in written and electronic forms to different audiences.
20UBA3AC6P	Tally For Business-Practical	CO1. Understanding the power and potential of Tally Accounting Software from the business perspective CO2. Develop the Knowledge Company Setup & Configurations Charts of Accounts Setup; Understanding to using ledgers and vouchers to recording Financial Transactions. CO3. Understanding inventory tally and Generate InventoriesVouchers etc. CO4. To equip the knowledge of Bank Reconciliation Statement and budget in Tally. CO5. Understand practical applications of GST entries in Tally, GST reporting, GST Filling
20UBA3GE1	Management Principles	CO1. Acquire the Knowledge primary function of management historical development and role of management activities. CO2. The learners understood how to make plan with the help of company/ institution mission, vision and objectives. CO3. Equip the student to understand the organization structures and importance. CO4. Ensuring the requirement of human resource, how to allocate and basic of required qualities of employees from available source. CO5. The learners acquire the knowledge of co- ordination of business / association and how to make a corrective action based on plan through controlling activities to successes.
20UBA4CC7	Production Management	CO1. To know the basic knowledge of production management. CO2. To understand the students, concepts of production planning and control. CO3. To quote the theories of work study, Time study, motion study and work measurement. CO4. To learn how to maintain qualities of production. CO5. To analyses the importance of material management.
20UBA4CC8	Management Information System	CO1. Describe the role of information technology and information systems in business CO2. Interpret how to use information technology and software to solve business problems CO3. Analyze and synthesize trade information and systems to facilitate evaluation of strategic Alternatives and successfully communicate strategic alternatives to facilitate decision making CO4. Demonstrate how to design and implement secure access controls and to learn the tools of Information assurance CO5. Understand the functional areas of business and leadership role of Management Information Systems in achieving business competitive advantage through informed decision making.
20UBA4AC7	Services Marketing	CO1. To understand the scope, nature, characteristics and classification of services.

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Course Code	Course Title	Course Learning Outcomes
		CO2. To concepts of services marketing management and expanded service marketing mix becomes familiar to students offer better employability skills to students CO3. To know the pricing in services, service communication and major channel alternatives. CO4. To identify the different types of service personnel. CO5. To enable students to gain knowledge on marketing on various services.
20UBA4AC8	Cost Accounting	CO1. Aimed to familiarise the concept of Cost accounting and helps to gather knowledge on preparation of cost sheet in its practical point. CO2. To facilitate the idea and meaning of material control with various methods of material issues for production sector. CO3. Develop the knowledge about methods of wage payments and incentives plans. CO4. To introduce concept of overhead cost and determine the costs of products and services. CO5. To acquire the different types of cost accounting knowledge and current knowledge about cost accounting.
20UBA4GE2	Banking Practices	CO1. To understand the basic knowledge of Indian banking system. CO2. To understand and importance of Banker and Customer Relationship CO3. To learners should know the basic knowledge of Cheque and it importance. CO4. Equip the students to know the Banking services. CO5. To develop the students use of E-banking services
20UBA5CC9	Management Accounting	CO1. To understand Accounting and techniques of Management Accounting. CO2. Apply cash flow Analysis techniques and interpret the results thereof. CO3. To enable the students to know about financial statement analysis and calculate ratio analysis and applying for Decision making. CO4. To trace and construct the marginal costing, estimate cost volume profit analysis and Beak even analysis CO5. Classify and formulate the various types of Budgets and predict the future.
20UBA5CC10	International Business	CO1. To understand the International Business and Globalisation conditions. CO2. To import the knowledge of Multinational Corporations. CO3. To acquire the knowledge of Economic Integration of Developing Countries. CO4. To update the knowledge of International investment and finance, EXIM Bank and Export credit risk insurance. CO5. To adopt the knowledge of World Trade Organisation, GATs, TRIMs and TRIPs in recent era.
20UBA5CC11	Entrepreneurial Development	CO1. Acquire the Knowledge, role, importance and needs of entrepreneurs. CO2. Motivate students to become entrepreneurs and acquire knowledge of various schemes of the Government.

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Course Code	Course Title	Course Learning Outcomes
		CO3. The learners understood how to make business ideas and prepare project proposals. CO4. The learners acquire knowledge of various sources of finance. CO5. Enable the students to understand the problems of women and rural entrepreneurs.
20UBA5CC12	Organisational Behaviour	CO1. Acquire the knowledge of Organisational Behaviour CO2. The learners understood the Individual Behaviour, Personality and perception theory. CO3. Relate the theory of group dynamics and Group cohesiveness CO4. Understand the learners for leadership style and theory CO5. It demonstrate the stress management ,Organisational change and development
20UBA5DE1A	Consumer Behaviour	CO1. To understand the meaning consumer of behaviour, and identify about market segmentation, levels and patterns. CO2. To acquire about culture on consumer behaviour, measurements, factor determination and types. CO3. To make students to understand consumer motivation, theory and decision making by consumer CO4. To understand the opinion leadership, motivational forces and consumer learning. CO5. To know the nature of consumer attitudes, online marketing and consumer protection.
20UBA5DE1B	Corporate Accounts	CO1. To learn the ascertainment of Pre and Post incorporation profits and understands the final accounts of companies CO2. To acquire the latest updates on Amalgamation, Absorption and Reconstruction of companies CO3. To equip the knowledge of Liquidation of companies CO4. To prepare Holding company accounts with legal requirements CO5. To create Excellence in final accounts of banks with RBI guidelines
20UBA5SE2A	Introduction To Research Methodology	CO1. To develop understanding of the basic framework of research CO2. To create an awareness of research process and problem among the students CO3. To enable the students to understand the need of the research design CO4. To help the student to select the sample and collect data from various sources CO5. To educate the students to the art of research report writing
20UBA5SE2B	Supply Chain Management	CO1. To acquire the knowledge about the basic objectives of Supply chain Management and their decision phases CO2. To import the role of Transportation in Supply chain CO3. To enable the importance of Sourcing and Coordination CO4. To illustrate the several classifications of drivers in Supply Chain CO5. To identify factors influencing supply chain network design decisions in present era
20UBA5SE3A	Aptitude Test	CO1. To acquire a knowledge for a candidates abilities and problem solving

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Course Code	Course Title	Course Learning Outcomes
		CO2. It demonstrates an ability to reason and provide systematic solution to a given problem CO3. To assess individual performance in different work related tasks or situations CO4. It can assess a person's ability to spell words correctly, use correct grammar and understand the word meaning CO5. To equip the knowledge about pop culture, history and really know about the world around you
20UBA5SE3B	Knowledge Management	CO1. Enable students to understand the meaning, scope, significance and techniques of Knowledge Management. CO2. To provide an overview of Knowledge types, classification and life cycle of Knowledge Management in an organization CO3. To know the importance of technology influences of KM on various Organization activities. CO4. To understand the role of KM in Human Resource Management. CO5. Make students know about career opportunities in Knowledge Management
20UBA6CC13	Financial Management	CO1. To learn fundamental aspects of Financial Management CO2. To import the knowledge of Capital Structure and financial sources CO3. To gain knowledge regarding cost of capital and leverage CO4. To acquire the knowledge about Capital budgeting and Leverage CO5. To equip the knowledge of Working capital management
20UBA6CC14	Strategic Management	CO1. To know core concepts of Strategy and Strategic Management Significance, Benefits and Limitations. CO2. Establish and evaluate the mission statement, objective, and vision for the business. CO3. Explain the basic concepts, types associated with strategy formulation. CO4. To understand various steps of implementation of various business strategies. CO5. To know the nature of strategic Control and various techniques of the control process.
20UBA6CC15	Human Resource Management	CO1. To understand the basic concepts in Human Resource Management and its functions CO2. To know the basic knowledge regarding HR Planning process, Job analysis and Recruitment process CO3. To acquire practical exercises on employee training and employee development. CO4. To improve the knowledge in Theories of Motivation. CO5. To update the knowledge of the Performance Appraisal in the organisation.
20UBA6CC16	Industrial Relations	CO1. To help the students to understand the concept of Industrial Relations. CO2. To understand the objectives of the Industrial Dispute Act, 1947 and to know the industrial dispute settlement process and different labour practices under the Act. CO3. To make students know the better understanding between worker and management and help to resolve conflicts,

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Course Code	Course Title	Course Learning Outcomes
		CO4. To know the role and functions of trade union in the industrial setup, and procedures. CO5. To enable students to identify morale and efficiency among the workers and to develop the feeling of cooperation among the workers.
20UBA6DE2A	Advertising and Salesmanship	CO1. To learn the basics of Advertising, Objectives and approaches CO2. To understand the Advertising budget, copy and agency. CO3. To analyse the various Advertising media and its measures. CO4. To adopt the knowledge of personal selling and salesmanship. CO5. To import the knowledge of Sales Promotion and Strategy.
20UBA6DE2B	Banking and Financial Services	CO1. To enable learners to know basics of Indian Banking and Finance system CO2. To make them aware about basic terminology in Banking and Finance CO3. To make them understand about Indian financial services CO4. To get the knowledge about financial services in India as Indian Financial System. CO5. To develop the knowledge of well acquainted with Financial and money Markets
20UBA6DE3A	Retail Marketing	CO1. To import the knowledge about the classifications of Retailer. CO2. To develop the strategy of Retail Marketing store location and its planning. CO3. To identify the Retail Merchandising and its Buying system. CO4. To know about the Retail store operations and its Employees. CO5. To acquire the knowledge about Retail communication and its challenges.
20UBA6DE3B	Securities Market	CO1. To acquire the knowledge of securities markets, role and structure of markets CO2. To understand the meaning of primary markets and its functions. CO3. To learn the meaning of secondary markets, functions, structure and participants. CO4. To know the importance of Mutual Fund investment and systematic transactions. CO5. To understand the mechanism in Grievance Redressal in Securities Market.
20UBA6EC2	Business Administration of Competitive Examination	CO1. Acquire the knowledge of business ethics and management activities in company or industry. CO2. All basic concepts and importance of career planning and organizational needs. CO3. To test the awareness of candidate with reference to current affairs of national and international importance. CO4. Learn practical knowledge in advance for presentation skills CO5. To learn the growing management information system plays in vital role.

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PROGRAMME SPECIFIC OUTCOMES

PG & RESEARCH DEPARTMENT OF COMMERCE

B.Com
Students will be able to

PSO1. Discuss principles and concepts in the areas of accounting and use of them in different types of business organizations and acquaintance with the procedure of preparation and analysis of financial statements for external users and managers for business transactions and managerial decision making.

PSO2. Explain the types of business organizations, office management, regarding legal frame work governing the business world management of human resources within the organization, marketing strategies, insurance, industrial relations and corporate ship.

PSO3. Create, select, and apply appropriate techniques, resources, and modern statistical tools & software for economic problems and for the cultural, societal, and environmental considerations.

PSO4. Exhibit entrepreneurial skill through knowledge in the finance institution, project report incentives and subsidies and adapt to the ever changing business environment.

PSO5. Analyze the impact of the professional accounting solutions in societal and environmental contexts.

M.Com
Students will be able to

PSO1. Discuss application oriented knowledge and understanding of contemporary trends in business and the techniques of managing the business with special focus on the functional areas of management both at domestic and international level.

PSO2. Employ skills and strategies in the chosen field at different capacities for the successful functioning of the Industries, Finance and Investment, logistics, distribution channel management and application of information technology in business to meet the well trained manpower requirements.

PSO3. Create employment possibility in management sectors as managers, financial accountants, cost accountants, auditors, company secretaries, teachers and bank managers with an ethical awareness.

PSO4. Apply different research methodologies of research and proficient use of statistical methods and tools for modeling and analysis of data management, accounting techniques on undertaking research in varied fields of commerce.

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PSO5. Prepare and analyze financial statements, financial reports, and the provisions of Income Tax Act and their applications in computations of taxable income of an individual under different heads of income.

M.Phil
Scholars will be able

PSO1. Explain the functional areas of management.
PSO2. Design, develop and execute specific research problems in commerce and adjoining areas and present a technical report in oral and written form.
PSO3. Apply teaching learning skills in the classroom and for personal advancement.
PSO4. Recognize the employment opportunities in alliance with commerce subject on attempting entrepreneurship, getting employed in companies or qualifying national level examinations.
PSO5. Recommend solutions to business world problems and thereby meeting the demands of society in the cultural, social, economical and environmental contexts.

COURSE OUTCOMES

B.COM.

Course Code	Course Title	Course Outcomes
20UCO1CC1	Fundamentals of Accounting	CO1: To acquire the basic principles of accounting and to develop the accounting practices with relevance to Indian Accounting Standards CO2: To prepare the financial statements and to evaluate the performance of a sole proprietary concern CO3: To develop the problem-solving skills in the preparation of BRS, Bills of Exchange and Average Due Date CO4: To deal with the accounting statement of Non-Trading Concerns and service Oriented organisations like clubs, etc., CO5: To outline the operation of the Consignment taking into consideration the Normal and abnormal loss and also to estimate the operating efficiency of Joint Ventures
20UCO1CC2	Business Organisation & Management	CO1: Explain the concept of business, its system, scope and objectives with relevance to modern business scenario CO2: Understand the different forms of business organization in order to identify the right form of business CO3: Develop the skill in the selection of appropriate Plant location and Layout from among different types CO4: Acquire the knowledge regarding the functions of Management including the process of planning and its application CO5: Gain knowledge and skills in organizing, leadership and

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Course Code	Course Title	Course Outcomes
		control functions of management
20UCO1AC1	Economic Analysis	CO1: Acquire knowledge about the core economic activities of business at domestic and global level CO2: Understand Law of Diminishing Marginal Utility and Indifference curve analysis and devise models and software for measuring the Utility CO3: Deduce the significance of Law of Demand and its practical application highlighting the social and ethical implications CO4: Get insights into different laws of production along with the production factors and to criticize the different theories of factors of production CO5: Analyse and understand the Break Even point and its usage in business and also the concept of National income
20UCO1AC2	Commercial Law	CO1: Demonstrate the concepts of business law, sources, types and essential elements of a contract CO2: Evaluate legal principles relating to consideration and capacity and incapacity of parties CO3: Identify the different modes of performance and discharge of contract and concepts of indemnity and guarantee and bailment and pledge CO4: Identify the concepts of creation and termination of agency and rights and duties of principal and agents CO5: Understand the law relating to contract of sale, conditions and warranties, caveat emptor and Transfer of Property
20UCO2CC3	Financial Accounting	CO1: Describe theoretical back ground different grounds of accounting systems including single entry, Branch accounting, Insolvency accounting and so on CO2: Prepare accounting statements using accounting software based on the background knowledge of accounting in real business scenario CO3: Identify the practical oriented problems in the management of a business concern with relevance to accounting and to solve them keeping in mind accepted accounting principles CO4: Measure the performance of different type of business concerns employing the interpretation skills which will help to approach real problems like insurance claims, Hire Purchase system, etc CO5: Appraise the result of operations and to write reports on the value of the customers and estimate the efficiency of the business
20UCO2CC4	Marketing	CO1: Acquire knowledge of Marketing Concepts CO2: Identify the nature and type of Consumers and their Buying Behaviour Process. CO3: Explain the Individual Components of the Marketing Mix. CO4: Derive a suitable Marketing Mix for a Product. CO5: Observe the Recent Developments in Marketing.

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Course Code	Course Title	Course Outcomes
20UCO2AC4	Business Environment	CO1: Familiarize with the nature of business environment and its components CO2: Demonstrate and develop conceptual framework of business environment and generate interest in international business CO3: Evaluate the legal, social and economic environments of business and able to describe the global environment of business CO4: Demonstrate sensitivity towards ethical and moral issues and have ability to address them in the course of business CO5: Apply knowledge of business concepts and functions in an integrated manner
20UCO3CC5	Advanced Accounts - I	CO1: Learnt basic concepts of partnership and to prepare final accounts of partnership firm. CO2: Able to prepare financial accounts for partnership firms in different situations of admission, retirement, death and insolvency of the partners CO3: Gained knowledge about the financial statements on dissolution of the firm CO4: Learnt relevant financial accounting career skills, applying both quantitative and qualitative knowledge to their future careers in business CO5: Prove proficiency with the ability to engage in competitive exams like C.A., CS, ICWA and so on.
20UCO3CC6	Business Correspondence & Reporting	CO1: Gain knowledge about the process and importance of communication CO2: Have Awareness regarding new trends in business communication, various media of communication and communication devices CO3: Develop and deliver effective presentation CO4: Exhibit their skills to maximize team effectiveness CO5: Draft effective business correspondence with brevity and clarity
20UCO3AC5	Insurance & Risk Management	CO1: Understand the fundamental knowledge and function of insurance CO2: Identify and Measure the different types of Life Insurance CO3: Analyze the types of insurance such as Fire, Marine and Motor and also understand the Principles of Islamic Insurance CO4: Gain the knowledge about the Risk and Uncertainty CO5: Acquire the knowledge of Risk management and techniques
20UCO3AC6	Indian Economy	CO1: Identify the characteristics of Indian Economy as a Developing Economy, Describe the Demographic Trends in India, and understand the problem of poverty and unemployment. CO2: To create an idea about the significance of Agriculture in Indian Economy, understand the Land Reforms, Green Revolution, Agricultural Policy, Industrial Policy and Importance of small scale industries and its problems. CO3: Understand economic planning and development issues like Niti Aayog, Monetary Policy, Fiscal Policy and LPG Policy in India. CO4: Trend and composition of National Income, Per-Capita Income of India and Inflation and Deflation causes and effects.

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Course Code	Course Title	Course Outcomes
		CO5: Understand the Globalisation and its impact on Indian Economy and India's foreign trade policy, FDI and India balance of payments.
20UCO3GE1	Commerce for Competitive Examinations	CO1: To acquire the basic principles of business organisation and to develop the business practices with relevance to Trade and Commerce. The students can also able to examine the logic and working of Business organizations and outlines the major functions of Management and understand the responsibilities of Managers. CO2: To know the basic Accounting Principles and to acquire conceptual knowledge of Financial Accounting and to impart skills for recording various kinds of business transactions. Students also to understand Taxation System especially Basic platforms of Income Tax, GST and Customs Duty. CO3: To grasp the broad features of Indian financial system with its apex objectives and purview Students also able to realize the various banking services and their regulations which govern the lending operations, holding of funds and various banking innovations. CO4: To acquire the dynamics of marketing and their techniques, skills and also the relevance of consumer behaviour. They also gain ability and confidence to tackle common practices and problems of business. CO5: To understand the nature of human resources and its significance to the organization. The students will become a competent in various aspects of managing the human resources and to develop the skills in HR.
20UCO4CC7	Advanced Accounts - II	CO1: Identify and recognize the accounting procedures involved in the issue of shares at par, premium and discount, calls in arrears and advance, forfeiture and reissue of shares. CO2: Develop an understanding about the issue of Preference shares at par and premium, its redemption out of revenue reserves and proceeds of fresh issue. CO3: Exposure to Debentures, its issue and redemption at par, discount and premium. CO4: Gain knowledge about the factors determining the value of Good will and methods of valuing it. CO5: Gather idea and comprehend on the final accounts of Companies and ultimately acquire the proficiency skills needed to face CA and CMA exams and employability in Auditing firms.
20UCO4CC8	Practical Costing	CO1: Acquire the basic conceptual framework of cost accounting concept and various methods involved in cost ascertainment. The students understood the significant role of cost accounting systems, classification, elements, installation of cost accounting system and apply the procedure to prepare cost sheet, tender and quotation. CO2: Learn the significant role of the store keeping department in order to material identifying, classifying, and maintenance of stock records. The students gained the skill to prepare the store ledger account with various methods of pricing of material issues in the inventory control department.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Outcomes
		CO3: Be able to develop the knowledge about labour cost amounts to a significant portion of the total cost along with ability in knowing the objectives of time keeping, time booking, idle time, overtime and labour turnover concept in order to implement good wage and incentive system to be fair to the organization. CO4: Enhance the knowledge about the classification, allocation, and apportionment of overhead expenses in an organization in order to ascertain accurate cost for pricing and control methods. CO5: Acquire the skills and strategies of various methods of costing which are used for cost ascertainment depending upon the nature of the industry such as job costing, contract costing and process costing.
20UCO4AC7	Banking Technology	CO1: Know the Indian Banking systems and functions of Central Bank and RBI CO2: Learn various procedures of handling bank accounts and employ their abilities in different areas of customer relations and grievances CO3: Understand the applications of Indian financing network and to analyze the latest trends and developments of e-banking CO4: Employ their learned skills to implement the Paying and collecting of Negotiable Instruments and also determining legal protections CO5: Determine and evaluate the sound lending principles and have precautions while lending the loans and advances
20UCO4AC8	Financial Services	CO1: Acquire basic knowledge of the Meaning and Scope of Financial Services in India. CO2: Identify the nature, types and legal framework of Mutual Funds prevalent in the Market. CO3: Explain the concept and requirements of the various Fund-based Financial Services in India, namely, Leasing, Factoring, Forfeiting, Hire Purchase and Discounting. CO4: Understand and deal with Securitization. CO5: Examine the Present Scenario in the Indian Financial Services Sector.
20UCO4GE2	Services Marketing	CO1: Build an understanding of the marketing challenges for service businesses and their similarity and differences from goods/manufacturing businesses CO2: Provide a theoretical basis for assessing service performance using company examples and report on this in a professional and logical way. CO3: Identify the major elements needed to improve the marketing of services. CO4: Identify and discuss characteristics and challenges of managing service firms in the modern world including cultural implications. CO5: Understand the process and develop skills to evaluate the customer experience and service quality of an organization and develop solutions designed to build competitive advantage.
20UCO5CC9	Income Tax Law & Practice	CO1: Have an understanding of the basic terminologies used in Income Tax Act. Further Students will also understand the

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Outcomes
		residential status of an individual and about the basic exempted incomes. CO2: Upturn the ability to solve simple problems concerning assessees with the status of Individual covering the income from salaries and the income from house property CO3: Gain the knowledge to solve simple problems concerning assessees with the status of Individual covering the profits or gains from Business or Profession CO4: Gain the ability to solve simple problems concerning assessees with the status of Individual covering the income from capital gains, income from other sources. CO5: Have an understanding on the procedures relating to E-filing of income tax returns and the procedure relating to assessment of income. In General, this provides the proficiency with the ability to engage in competitive exams like CA, CS and ICWA and so on.
20UCO5CC10	Corporate Accounting	CO1: Learnt the basic concepts of Merger, Take Over, Amalgamation, Absorption and Reconstruction and also to prepare the relevant ledger accounts in the books of Transferor Company and Transferee Company in case of amalgamation of companies. CO2: Able to prepare a Consolidated Balance Sheet of Holding Company and also the legal requirements in relating to presentation of accounts. CO3: Gained knowledge about the preparation of final accounts of Electricity and Railway Companies under Double Account System and also develop the skills in the process of liquidation or winding up of joint stock companies. CO4: Learnt relevant legal requirements in preparation of accounts of Banking Companies and also to know about measuring the inflation or price level changes based on different methods of inflation accounting at national and international level CO5: Develop the ability in preparing the final accounts of Life and General Insurance Companies and also prove the proficiency with the ability to engage in competitive exams like C.A., CS, ICWA and so on.
20UCO5CC11	Company Law & Secretarial Practice	CO1: Gain basic knowledge of the provisions of the Companies Act, 2013 in relation to types of companies, Memorandum of Association, Articles of Association and Administration of Company Law. CO2: Know about the different types of directors and the procedure for their appointment. CO3: To acquire basic concept regarding the various provisions relating to winding up of the company. CO4: To provide knowledge in the various areas of Company Secretary and laws relating to companies. CO5: Understand the legal and procedural aspects of Meetings and Relating to Secretarial Duties.
20UCO5CC12	Business Intelligence	CO1: Understand the fundamentals of Business Intelligence, its components and areas of application CO2: Define the various aspects of Information Management in relation to Business Intelligence and understand the process of Data collection, storage and transformation.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Outcomes
		CO3: Devise tools to collect relevant business related data and prepare output datasets to be used in business for its development. CO4: Prepare Business Intelligence reports and identify the Key Performance Indicators of a business which can be used in Decision Supportive Systems. CO5: Measure the need for Cloud computing in the modern business and to apply the knowledge to the different areas of business management.
20UCO5DE1	Human Resource Management	CO1: Have an understanding of the basic concepts, functions and processes of human resource management CO2: Develop relevant skills necessary for application in HR related issues CO3: Design and formulate various HRM processes such as Recruitment, Selection, Training, Development. CO4: Plan human resources and implement techniques of Job Evaluation CO5: Describe the performance appraisal and career Development skills
20UCO5SE2	Office Automation – Practical	CO1: Perform documentation CO2: Using the special features of word CO3: Perform presentation skills CO4: Creating a Presentation with Slide Transition CO5: Creating a Presentation applying Custom Animation effects
20UCO5SE3	Computerized Accounting – Practical	CO1: Acquire practical knowledge in accounting software (Tally Prime) CO2: Create a company and entering the accounting transactions in computerized format using tally software and also find out the financial results of the concern CO3: Interpret financial statement as well as evaluation of Stock at the end and also applying the principles of accounting in preparing necessary reports, Bank Reconciliation statement. CO4: Learn relevant skills for applying the Statuary and Taxation provisions. CO5: Prove proficiency with the ability to possess the required skills and can also be employed as Accountant with Computerized skills.
20UCO6CC13	Management Accounting	CO1: Gain knowledge about the principles and fundamental application of Management Accounting concepts CO2: Understand and apply the different tools to analyse the Financial Statement of a business and to offer suitable suggestions for improvement of Financial performance of a business CO3: Prepare Marginal Cost statement which will helps the management in decision making and to employ Variance Analysis in order to have a critical control over production CO4: Exhibit skill in preparing different budgets which will help the organisation to maximize effectiveness of projection CO5: Draft Capital budgets helping the organisation to make decisions with regard to invest in business projects
20UCO6CC14	Financial Management	CO1: Become Finance Manager by developing cognizance of the importance of Financial Management in corporate valuation.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Outcomes
		CO2: Ability to conduct a company's Cost of Capital and able to allocate funds to the most attractive investment opportunities. CO3: Perform analytical reviews of Capital Structure and apply risk dimensions in decision making. CO4: Analyse how Corporate Leverages applied under different conditions and practical considerations in Dividend policies. CO5: Gain knowledge about the main ways of raising Working Capital and to manage the Cash.
20UCO6CC15	Entrepreneurial Development	CO1: Become skilled at entrepreneurship and to gain the importance and qualities of a good entrepreneur. CO2: Able to learnt aim, achievement, motivational training, techniques, Institutional Framework and schemes offered by State and Central Govt. CO3: Gained knowledge about the business on MSME, Act, objectives, benefits, Registration of enterprises. CO4: Learnt relevant creativity of Industrial Unit, Market & Demand Analysis, and Feasibility Study. CO5: To gain knowledge about the Project, Report system, format and designing of business.
20UCO6CC16	Auditing - Principles & Practices	CO1: To understand the fundamental concepts and objectives of auditing along with essential concepts, processes and assessment of internal control and internal check. The students acquired skills on audit programme and auditing standards. CO2: To upgrade the ability of the students in vouching of cash, credit, trading transaction and impersonal ledger. To Educated about verification and valuation of assets and liabilities in connection with the duties of an auditor. CO3: To enlighten their knowledge in association with appointment, removal, rights, duties and liabilities of an auditor as well as rendering an audit opinion through various audit reports. CO4: To comprehend about audit of joint stock company and special entities such as educational institution, hospital, club, Bank, insurance companies and hotels. CO5: To understand the important aspects of investigation and Professional ethics along with electronic data processing audit.
20UCO6DE2	Retail Marketing	CO1: Apply the principles, practices, and concepts used in retail marketing management. CO2: Describe the complex nature and environment of retail marketing management together with the buying and selling of goods, services, and ideas to the final consumer CO3: Understand, key drivers of retail supply chain and how to select a retail store location CO4: Understand the meaning of promotion in context of one of the tools of marketing CO5: Analyse impact of technology on product development, merchandising, markets and production, and multichannel distribution
20UCO6DE3	Advertising & Salesmanship	CO1: Understand the basic concepts of Advertising & Salesmanship CO2: Aware on the glimpses of Advertising & Salesmanship techniques used in the business growth and development

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Outcomes
		CO3: expertise knowledge in various roles and types of Advertising & Salesmanship CO4: Develop and design an overview of practical coverage on Advertising agencies & motivation about rewards towards Salesmanship CO5: Evaluate the knowledge imparted by the student's and create strategies to promote the significant of Advertising & Salesmanship

COURSE OUTCOMES

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Course Code	Course Title	Course Outcomes
20PCO1CC1	Corporate Law	CO1: Remember the Formation of company, Piercing the Corporate Veil, Oppression and Mismanagement and Management of Companies. CO2: Understand the Functions, Role, Responsibilities, Appointment and Remuneration of Key Managerial Personnel (KMP's) CO3: Derive the knowledge about FEMA and WTO CO4: Critically analyse the powers and functions of SEBI, Insurance Act, 1938 and IRDA CO5: Identify the Grievance Redressal Machinery under Consumer Protection Act, 1986, Banking Regulation Act, 1949 and Information Technology Act, 2000
20PCO1CC2	Economics for Managerial Decisions	CO1: Understand the basic concepts of Microeconomics and be familiar with the Elasticity of Demand and Supply CO2: Acquire and apply the Utility Theory, LDMU, effects of Income and various forms of production function along with Returns to Scale CO3: Ability to use various cost concepts, model of market demand and supply, market structure and its various competitions for decision making CO4: Outline the basic concepts of Macroeconomics, factors, approaches, measures and difficulties in measuring national income CO5: Analyse the monetary policy; identify and measure the problems and types of inflation
20PCO1CC3	Advanced Cost And Management Accounting	CO1: Explain the cost concept in decision making, executing various ideas in cost reduction and cost control techniques and apply the procedure in preparation of cost sheet, tender and quotation CO2: Identify the products, where the process costing method is applied and can analyze the process losses, inter process profit, joint product costing etc. CO3: Employ skills and strategies in application of operating

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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		costing method to ascertaining cost service in transport undertaking and exhibit the various issues involved in operating costing CO4: Establish the areas of application of marginal costing techniques exhibit the relationship between cost volume and profit analysis and make use the various accounting techniques for making decisions regarding make or buy decisions. CO5: Apply different methodologies to prepare the budgets, enhance the knowledge of students in establishing budgetary control system and integrate the learned skills for preparation of master budget for the entire organisation and apply employability skills in viewing real world requirements
20PCO1CC4	Goods and Services Tax	CO1: Gain knowledge on the need for the implementation of GST law in the country and derive skill on practical application which will equip them to become tax practitioners CO2: Infer skills to learn the concepts of indirect tax and GST from the pre-GST period to post- GST period CO3: understand the importance of indirect taxes (GST) in the Indian and global economy and its contribution to the economic development CO4: comprehend the principles of taxations, objectives of taxes and its impact, shifting and incidence process of indirect taxes in the market orientated economy CO5: Deduct practical oriented skills to become as a tax consultant in preparing the tax planning, tax management, Payment of tax and filing of tax returns
20PCO1DE1	Advanced HRM	CO1: Understand the concept of human resource management and HRP, International HRM and its Challenges CO2: Design and formulate various strategies regarding HRM practices such as recruitment, selection, training, development and performance appraisal methods CO3: Analyse the importance of Human Resource Development in an organisation along with Executive Development and Career Planning CO4: Measure the appropriate Wage payment system and analyse the theories of motivation and morale CO5: Demonstrate the importance of quality of work life, level of job satisfaction, empowerment of employees and work life balance
20PCO2CC5	Advanced Income Tax	CO1: Acquire the skills and identify the advanced concepts of specific incomes and deemed income of different persons. Moreover, they can apply and deal different provisions regarding Set- Off and Carry Forward Losses under Income Tax Act. CO2: Apply the learned skills of Income Tax Act regarding the integrated scheme of agricultural and non-agricultural incomes. Moreover, they can discuss the application oriented knowledge and understanding of Tax Liability, Double Taxation Relief and Special Provision to Avoidance of Tax

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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		CO3: Become a Tax Consultant and they can employ skills to assess the income of individuals, partnership firm and Joint Stock companies in the noticeable changes in Income Tax Act CO4: Understand the administration structure of Income Tax Authorities and identify their powers. They can also aware about the search and Seize circumstances of Income Tax authorities CO5: Understand and explain the different ITR forms, Tax Deducted Source and collection Procedures in assessment of Tax. Apply different methodologies and employing skills in filing of return of income with ethical and moral values
20PCO2CC6	International Business	CO1: State the importance of International Business identifying its drivers comparing to Local business and to report the business environment along with its different factors CO2: Inquire into the concept of Balance of Payment, measuring the BOP Equilibrium and to debate on India's FDI comparing and contrasting different mode of entry CO3: Interpret the conditions favouring Globalisation of Indian Business nlightening the challenges prevailing and the measures to overcome them through different measures CO4: Assess the role of Indian Trade policies defining and evaluating the different agreements stabilising the policies which will enhance the their application oriented knowledge on Industrial set up CO5: Exhibit the settlement procedures of disputes in the International Business devising new models employing new technologies taking into consideration the ethical issues
20PCO2CC7	Statistical Tools for Business Decisions	CO1: Identify the major areas of application of Correlation and Regression techniques in Business and Research for taking decisions CO2: Analyze the various elements of time series and index numbers for decision making in business and also to find solutions to the contemporary issues in the society CO3: Understand and employ the skills in application of probability theory with relevant statistical tools and also for getting employment in the various sectors at national and global levels CO4: Apply the learned skills of Theoretical distributions in arriving at solution to the business problems and research fields CO5: Solve problems for decision making and Testing of Hypotheses by using the tests of significance
20PCO2CC8	Enterprise Resource Planning	CO1: Demonstrate knowledge of ERP software package and to prepare the Final accounts of a concern with Tally Software CO2: Prepare the necessary reports with relevance to an organization dealing with goods using tally ERP CO3: Apply the principles of accounting in preparing Bank Reconciliation statement and to create cheque printing in Computerised accounting environment CO4: Create Wage and Salary administration strategies mechanically with the help of Tally software for an organization which had TDS and also ESI and PF contributions CO5: Practice GST compliance in which the intrastate and interstate supply of goods are made and prepare and upload GST Returns and upload them to GST portal

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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20PCO2DE2	Organisational Behaviour	CO1: Identify and demonstrate the applicability of the various concepts of organizational behaviour in order to understand the behaviour of people in the organization both at domestic and international level CO2: Enhance their ability of analysing the complexities involved in managing individual behaviour in the organization as influenced by personality, emotions, attitude and perceptions CO3: Illustrate the complexities associated with management of the group behaviour and group decision making in the organization and the challenges involved in effective organizational communication CO4: Assess the leadership styles and the role of leaders in decision making process, skills needed in conflict management, power and politics and abilities to be developed in stress management CO5: Infer the factors affecting organizational climate and organizational change and ultimately to build and maintain a competent and cooperative work force which ultimately leads to organizational effectiveness
20PCO3CC9	Business Ethics and Corporate Social Responsibility	CO1: Learn about the fundamentals of Business Ethics and CSR and adopt them in an enterprise CO2: Identify the factors of Corporate Ethics and estimate their level of significance in the successful running of an organisation CO3: Explore the areas of application of Ethics in Organisations in the current Business Environment CO4: Establish ethical codes for organisations at Domestic and Global level with reference to the real world business situations CO5: Develop research activities in the area of Business Ethics and CSR for future development
20PCO3CC10	Advanced Corporate Accounting	CO1: Learn about the Valuation methods of Shares and Goodwill and also the Measurement of performance of the Companies CO2: Gain knowledge of the entire liquidation process of companies and also the accounting treatment CO3: Apply the knowledge in preparation of consolidated balance sheet of Holding Companies and also the preparation of Final Accounts of Banking Companies CO4: Appraise the Need and Significance of International Accounting Standards in the Current Scenario CO5: Prepare the Final Accounts of the Insurance companies, Electricity companies as well as Railway Companies in conformity with the provisions of the Companies Act
20PCO3CC11	Research Methods	CO1: Acquire the basic knowledge of the Nature and Scope of the Research CO2: Analyze the essentials of a research design and apply the sampling methods for determining the sample size and sampling error CO3: Employ the skills in application of data collection with relevance to primary and secondary data for social science research in the various sectors at national and global levels CO4: Apply the appropriate tools for data analysis and processing in finding solutions to various business problems

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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		CO5: prepare an effective research report for business problems and become a successful Research Professional
20PCO3CC12	Security Analysis & Portfolio Management	CO1: Understand the characteristics, objectives of investment and various investment avenues CO2: Have insight into the relationship of the risk and return CO3: Have familiarity of the fundamental analysis CO4: Get an insight into the technical analysis, tools, theories related to it CO5: Learn the theories of portfolio management and also the tools and techniques for efficient portfolio management.
20PCO3DE3	Industrial Legislations	CO1: Acquire basic knowledge of the judicial set up of Industrial Legislations in India CO2: Identify the legal framework of the Factories Act consisting of Health, Safety, Welfare Measures and so on CO3: Understand and deal with the provisions of the Employee Relations Legislations with reference to Trade Unions Act and Industrial Disputes Act CO4: Explain the provisions of Wages and Social Security Legislations with reference to Payment of Wages Act, Minimum Wages Act, ESI Act, EPF Act, Payment of Bonus Act and Employee's Compensation Act CO5: Examine the recent developments in the Industrial Legislations in India
20PCO4CC13	Strategic Management	CO1: Understand the concept of Strategy and its application in various functional areas of management CO2: Identify the factors affecting the formulation of strategies in the current scenario collaborating the contemporary ideas with recently developed technologies CO3: Employ different strategies at various levels of the organisation for its sustainability with an ethical consideration CO4: Evaluate the successful implementation of a strategy and take corrective actions suitable for the real world business situations CO5: Undertake Research activities in the area of Strategy Development and Employment to enable the business to contribute to the welfare of the society
20PCO4CC14	Entrepreneurship and Project Management	CO1: Inculcate innovative ideas for their new initiatives. Manage their own/family business in skilful manner with new idea coping with fast changing requirements of the society CO2: Describe and summarize the latest programs of the government authorities in promoting small and medium industries CO3: Understand the systematic process to select and screen a business idea CO4: Analyse the learning and understand techniques for Project planning, scheduling and Execution Control CO5: Design strategies for successful implementation of ideas
20PCO4CC15	EXIM Management	CO1: Comprehend the importance of export and import management CO2: Become a newbie manager or entrepreneur to identify foreign markets, product development, payments, financial processes and documentations CO3: Gain knowledge about business expansion abroad and key issues related to their operations in other countries

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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		CO4: Manage the preparation of documents and the application of procedures to support the movement of products and services in the organization's global supply chain CO5: Identify and interpret relevant international financial documents, and evaluate financial strategies that support an organization's integrative trade initiatives
20PCO4DE4	Industrial Relations	CO1: Identify and exhibit the applicability of the various concepts of Industrial Relations in order to understand the importance and approaches of Industrial Relations towards its success CO2: Summarize the different concept, classification, impact and causes of Industrial Disputes and concepts of Strikes and its Typology, Rights and Prevention - Lock-Outs CO3: Interpret the core of The State and Industrial Relations Policy, Importance of National Commission and Resolution of Industrial Conflicts with its various Bodies and Councils CO4: Assess and apply Collective Bargaining system and Workers Participation in Management CO5: Assess and apply Collective Bargaining system and Workers Participation in Management

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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PROGRAMME SPECIFIC OUTCOMES
PG & RESEARCH DEPARTMENT OF ECONOMICS

B.A. Economics

Students will be able to

PSO1. Deduce reasonable predictions about possible economic outcomes based upon economic conditions and economic theories.

PSO2. Analyze data to support economic decision making using technologically advanced statistical tools and econometric techniques proceeded by economic evaluation and presentation of the results in a professional setting

PSO3. Describe how economic trade-offs and social values impact public/private social policy, and the success or failure of policies to achieve intended outcomes.

PSO4. Explain basic economic concepts such as GDP, unemployment, supply & demand, comparative advantage, opportunity cost and micro-economic concepts such as elasticity, monopoly and price discrimination, fiscal and monetary policies and measures of economic change and indicators of growth and development.

PSO5. Discuss the nuances of Public Finance and Environmental Economics, and correlate ideas from interdisciplinary areas such as Marketing, Human Resource Management, Managerial Economics, Financial Economics and Entrepreneurial development.

M.A.Economics

Students will be able to

PSO1. Explain new developments and contemporary issues in the field of economics and advanced theories in micro, macro and monetary economics.

PSO2. Identify economic problems and apply empirical evidence to economic arguments, by collecting evidences using appropriate statistical techniques, and interpret the results of such analyses imbibing research ethics.

PSO3. Organize global and disciplinary knowledge and practical skills for professional development in higher education and for obtaining job.

PSO4. Transcribe in diverse audiences and situations using equations and graphs and demonstrate skills in business and accounting.

PSO5. Apply pragmatic, principles-based policies to enhance economic well-being and promote social justice.

M.Phil Economics

Scholars will be able to

PSO1. Apply empirical evidence to evaluate the validity of an economic argument, use statistical methodology, interpret statistical results and conduct appropriate statistical analysis of data.

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PSO2. Prepare a scientific report based on evidences and disseminate convincing statements through oral and written mode for current economic problems and intended economic crisis.

PSO3. Develop teaching and learning skills in the relevant field and practice it in the classroom and for self development.

PSO4. Recognize advanced theories in economics and the technical application in addressing real world problems for the economic and social well being of the masses.

PSO5. Identify career in the field of economics and its adjoining sectors through self employment or competitive exams.

COURSE OUTCOMES

B.A. ECONOMICS

Course Code	Course Title	Course Learning Outcomes
20UEC1CC1	Indian Economy- I	CO1: Students acquire knowledge about economic growth and economic development CO2: Students explain the characteristics of Indian economy CO3: Students can demonstrate demographic features and population policies CO4: Students analyze the unemployment status in India CO5: Students can construct the development strategies towards Indian economy reforms and poverty
20UEC1CC2	Micro Economic Analysis - I	CO1: Acquire knowledge about definitions CO2: Describe economic analysis and its problems CO3: Demonstrate various types of utility analysis CO4: Analyse the importance, interdependence & functions of micro economics CO5: Validate various types of demand
20UEC1AC1	Economic Statistics - I	CO1: Students acquire basic Knowledge in Statistics CO2: Students are able to prepare data for statistical computation by selecting the samples and relevant source of data. CO3: Students will be able to compute various techniques of averages. CO4: Students will be able to compute various techniques of dispersion. CO5: Students will be able to compute various techniques of skewness.
20UEC1AC2	Marketing	CO1: To acquire basic knowledge about marketing CO2: To describe on marketing system CO3: To classify the various marketing research and their importance. CO4: To analyse the marketing and its feature. CO5: To describe about the Marketing & society
20UEC2CC3	Indian Economy – II	CO1: Students examine the land reforms, food security, sustainable agriculture and second green revolution

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO2: Students discuss about public sector enterprises and its performances CO3: Students can illustrate infrastructure and economic development CO4: Students can appraise the foreign trade and its composition of India's foreign trade CO5: Students can debate reforms in Indian financial sector
20UEC2CC4	Micro Economic Analysis – II	CO1: Describe elasticity of demand and supply CO2: Interpret indifference curve and revealed preference theory CO3: Demonstrate production laws CO4: Analyse the production function and production laws CO5: Assess the scale of production and its advantages and disadvantages
20UEC2AC3	Economic Statistics –II	CO1: Students will be able to understand the difference between quantitative and qualitative data and use the appropriate techniques of computation. CO2: Students will be able to compute the various techniques of correlation and Simple linear Regression. CO3: Students are provided with the knowledge of special type of averages and enable them to compute various techniques of index number. CO4: Students are taught with basics of time series and they will be able to compute the basic techniques of time series statistics. CO5: Theorems of probability and types of events make the students understand the basics of Probability.
20UEC2ACP	Computer Applications In Economics - Practical	CO1: Average of decadal growth rates, minimum and maximum values of domestic products of the Indian states. CO2: Calculation of sums of GDP components. # CO3: Calculation of median, mode and standard deviation of domestic products of the Indian states. CO4: Calculation of Correlation between India's public income, expenditure and debt. CO5: Calculation of Regression between BOP components
20UEC3CC5	Micro Economic Analysis – III	CO1: Discuss about product pricing CO2: Identify the price determination under perfect competition CO3: Demonstrate monopoly and price discrimination CO4: Examine price determination under monopolistic competition CO5: Interpret factor pricing
20UEC3CC6	Industrial Economics	CO1: To Examine the Classification and Characteristics of Modern Industry. CO2: To Discuss the Performance of Small Scale Industries CO3: To Indicate the pattern of Industrialisation CO4: To appraise the tools of industrial productivity CO5: To generate the aspects of rationalisation
20UEC3AC5	Mathematical Applications In Economics	CO1: Students will be able to understand the importance of straight line, learn the technique of converting the straight line into function (equations) and its applications in Economics. CO2: Students will be able to understand the techniques of differentiation.

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Course Code	Course Title	Course Learning Outcomes
		CO3: Students will be able to apply the techniques of differentiation in Economics. CO4: Students will be able to understand the techniques of partial differentiation and integration. CO5: Students will be able to apply the techniques of partial differentiation and integration in Economics.
20UEC3AC6	Human Resource Management	CO1: Students will acquire the knowledge on the basics of Human Resource Management. CO2: The students will identify the steps in the formulation of Human Resource Policies. CO3: The students can demonstrate the process of Human Resource Planning. CO4: Students enable to describe the quality aspects of manpower requirements CO5: Students will be able to evaluate the methods and techniques of Human Resource Training
20UEC3GE1	Elements Of Economics	CO1: Facilitate with fundamentals of economics. CO2: Integrate the knowledge about demand and supply. CO3: Understand the basic concepts in productions and cost. CO4: Ability to know the market structure. CO5: Achieve the knowledge about concepts in macroeconomics.
20UEC4CC7	Monetary Economics	CO1: Equip the students to understand the evolution of money and different types of monetary standards. CO2: Familiarize with the concept and the factors governing money supply and to acquaint the students with the theories on demand for money. CO3: Provide a comprehensive treatment of classical, Keynesian and Friedman's view on value of money. CO4: Give an understanding of the commercial banking and central banking. CO5: Have an insight into the importance and limitations of monetary policy and to make the students aware of the operating procedure of monetary policy in India.
20UEC4CC8	Economic Systems	CO1: The Students will acquire the knowledge on the basic characteristics and functions of Economic System CO2: The students will be able to identify the key pillars of Laissez-faire capitalist mode of production CO3: The students will be able to demonstrate the mechanism of centralized planning in the socialist mode of production CO4: The Students enable to describe the theory and experiences associated with Mixed economies CO5: The Students will be able to evaluate the convergence of capitalism and communism.
20UEC4AC7	Financial Economics	CO1: Facilitate the definition, concept, growth, and structure of financial markets. CO2: Understanding of long term financial sources. CO3: Excel with corporate securities and equity shares. CO4: Demonstrate the stock market and its functions. CO5: Understanding the primary market and secondary market.
20UEC4AC8	Econometrics	CO1: Identify and measure numerically the prevalence of relationship between dependent and one independent variable

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO2: compute predicted values of independent variable and error values in model relation and understand the assumptions regarding behaviour of error values and time series data values CO3: Find the fitness of data values in the model estimation CO4: Test the statistical significance of model relationship between dependent and one independent variables CO5: Understand the causes and consequences of violation of assumptions of SLRM and detect its presence
20UEC4GE2	General Economics	CO1: Make the Students understanding of Economic Growth and Development. CO2: understanding of Budgeting, finance commissions, and TAX's CO3: Facilitate of National Income concepts including GDP,NDP,GNP and NNP. CO4: understanding of Banking and capitals. CO5: Facilitate regarding the functions of International Financial Institutions.
20UEC5CC9	History Of Economic Thought	CO1: Acquire the knowledge of chronological development of economic ideas. CO2: Comprehend the origin of the economic theories. CO3: Critically analyze the revolutionary experiments in the context social thought. CO4: Demonstrate the concepts of different schools of economic thought. CO5: Evaluate the interrelations of various economic doctrines in India.
20UEC5CC10	Macro Economics – I	CO1:Give an understanding of the subject matter of macroeconomics and the general macro-economic concepts and major economic issues. CO2:Familiarize with the money flows and national income concepts CO3:Equip the students with the theoretical knowledge relating to classical model of employment CO4:Acquaint the students with the background of revolution and the general theory of employment CO5:Have an insight into the technical attributes of consumption function and the importance of Keynesian consumption theory.
20UEC5CC11	International Economics – I	CO1:Have knowledge about international trade, theoretical explanations of trade, trade policy and balance of payments CO2:understand the importance of theory of international economics, reasons for countries to enter into international trade, tools of protectionism and recording of various kinds of international transactions CO3:distinguish foreign trade from domestic trade, benefits from dangers of foreign trade, advantages from disadvantages of free trade and protectionism, and debit transactions from credit transactions in balance of payments CO4:be able to assess theories of international trade critically, the effects of import tariff and quota, and causes of balance of payment equilibrium

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
20UEC5CC12	Fiscal Economics - I	CO1:To acquire basic knowledge about Public Financ CO2:To describe on scope of Public Expenditure CO3:To classify the classification of Public Revenue. CO4:To analyze the Taxable Capacity. CO5:To describe about the Shifting and Incidence of Tax.
20UEC5DE1A	Entrepreneurial Development	CO1:Acquire basic knowledge about entrepreneurship CO2:Describe the various functions of Women Entrepreneur CO3:Classify the various entrepreneurship development programmer CO4:Analyze the various project appraisal methods CO5:Examine the institutional support to Entrepreneur
20UEC5DE1B	Health Economics	CO1: Students will be able to acquire basic economic concepts in Health Care system. CO2:Students will be able to describe the production function of Health Care Industry CO3:Students will be able to analyse the cost effectiveness of Health Care using cost control techniques. CO4:Students will be able to describe the various social and economic aspects of Health Insurance CO5:Students will be able to appraise the government policies related to health care
20UEC5SE2A	Accountancy	CO1:Students will be able to acquire basic knowledge of Accountancy CO2:Students will be able to describe the basic accounting concepts, conventions and terms CO3:Students will be able to prepare accounting equation CO4:Students will be able to apply golden rules of accounting in preparation of journal entries CO5:Students will equip their skill of preparing Ledger and Trial Balance.
20UEC5SE2B	Principles Of Insurance	CO1: Students will be able to know the basic ideas of economics of insurance. CO2: Students will be able to understand the concept and importance of insurance CO3: Students will be able to analyze the Methods of computing premium and Calculation of Insurance Policies. CO4: Students will be able to understand the Insurance Policy CO5:Students will be able to know the other benefits of Insurance Policy
20UEC5SE3AP	Accounting Packages – Practical	CO1:Practical knowledge and applicability of accounting concepts with tally. CO2:Acquire the knowledge in prepare the accounting information. CO3: Impart skills in post the various accounting voucher entries. CO4:Possess required skill and can also be employed inventory information. CO5:Develop the skills of display the reports for ascertaining the financial position of the various firms.
20UEC5SE3BP	Web Designing – Practical	CO1:Acquire the knowledge and understanding of web page and its creation.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO2:Practice hyper linking, designing of webpage with frames, forms and controls. CO3:Design the webpage-document layout, working with tables. CO4:Develop style sheet, CSS properties, text, font and styling etc. CO5:Publish the web page with the subject matter of economics.
20UEC6CC13	Macro Economics – II	CO1:Equip the students to understand the types of investment and factors influencing investment. CO2:Provide a comprehensive treatment of the working process of Multiplier and accelerator CO3:Arrive at an understanding of the problem of inflation, deflation and stagflation CO4:Familiarize with the features of trade cycle and to make aware of theories associated with trade cycle. CO5:Give an understanding of macro-economic policy objectives and its instruments.
20UEC6CC14	International Economics – II	CO1:recall the meaning of concepts relating to exchange rate, economic integration, foreign capital and multinational corporations CO2:have understanding of functioning of foreign exchange market, international institutions, and history of multinational corporations CO3:distinguish between fixed and flexible exchange rate systems, advantages and disadvantages of foreign capital CO4:evaluate the benefits and problems of economic integration, working of international institutions and role of multinational corporations CO5:be able to interpret the numerical changes in exchange value of currencies
20UEC6CC15	Fiscal Economics – II	CO1:To acquire basic knowledge about Public Debt CO2;To describe on objectives of Fiscal Policy CO3:To classify the Budgetary Procedure. CO4:To analyze the Indian Federal Finance. CO5:To describe about the Problems of Local Finance in India
20UEC6CC16	Economics Of Growth And Development	CO1:Students gain knowledge on distinguishing features of economic growth and economic development CO2:Students will be able to understand the various measures of the economic development at global level. CO3:Students will be capable of understanding various theories of Economic development. CO4:Students will be capable of understanding various theories of Economic Growth. CO5:Students will be able to distinguish the strategies of economic development and growth differentials.
20UEC6DE2A	Environmental Economics	CO1:Equip to understand the relationship between Environment and Economics CO2:Students will be able to compare various Environmental Problems. CO3:Students will be able to critically analyse the international level movements on environmental problems.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO4:Students will be able to gain awareness in the Conservation of Economic Resources CO5:Students will be able to identify the Ways and Means to enhance the Environmental Quality
20UEC6DE2B	Banking Theory Law And Practice	CO1:Students will be able to acquire basic knowledge about origin of Banking and analyse the role of banks in economic development CO2:Students will be able to Classify banks based on their functions CO3:Students will be able to explain the general procedure for opening an account with banks and different types of deposits. CO4:Students will be able to compare the different forms of advances provided by banks. CO5:Students will be able to describe the characteristics of negotiable instruments and different forms of E- Banking
20UEC6DE3A	Managerial Economics	CO1:Understand the internal and external decisions to be made by managers. CO2:Analyze the demand condition and assess the position of a company. CO3:Skills in critical thinking and decision-making, supported by economic principles and best practices in business. CO4:Design competition strategies, including pricing and product differentiation according to the natures of products. CO5:Analyze real-world business problems with a systematic theoretical framework
20UEC6DE3B	Rural Economics	CO1:Students will be able to acquire basic knowledge about rural economics CO2:Students will be able to describe the demographic structure and population challenges of rural economy CO3:Students will be able to explain the rural organizational structure. CO4:Students will be able to analyse the impact of Westernisation, Socialisation and Modernisation on Rural society CO5:Students will be able to Compare the various approaches to Rural Development.
20UEC6EC2	Economics for Competitive Examinations	CO1: Students would come out with a fundamental knowledge on glossary needed to understand economics. CO2: Students would acquire interest in learning various branches of economics. CO3: Students would get courage to face the economic section of any competitive examinations CO4: Students will be able to estimate the trend changes being explained by the concepts of various branches of economics CO5:Students will be able to explore the situation to apply the fundamental concepts of economics

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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COURSE OUTCOMES

M.A. ECONOMICS

Course Code	Course Title	Course Learning Outcomes
20PEC1CC1	Advanced Micro Economic Theory - I	CO1: Recognize the cardinal and ordinal approach CO2: Describe theory of production CO3: Analyse the price and output determination under different market situations CO4: Validate the oligopoly models CO5: Derive ideas of theories of firm and pricing:
20PEC1CC2	Advanced Macro Economic Theory	CO1: Equip the students with the theoretical knowledge relating to classical model of equilibrium in different markets and to acquaint the students with knowledge of Keynesian Economics. CO2: Equip the students to understand the different theories on consumption function. CO3: Arrive at an understanding of ISLM frame work and to examine the impact of macro-Economic policies. CO4: Acquaint the students with the knowledge of inflation theories and to make the students aware of the tradeoff between inflation and unemployment. CO5: Have an insight into the development to the modern Macro Economics.
20PEC1CC3	Mathematical Applications in Economic Analysis	CO1: Students will be able to understand the importance of curves in Economics and able to apply the techniques of straight line in economics. CO2: Students acquire the skill of applying derivatives (Marginal Analysis) with maxima and minima. CO3: Students are able to paraphrase partial derivatives (Marginal analysis with multiple firm and product) and its application in elasticities, price discrimination, etc. CO4: Students are able to compute integration problems with application in economics. CO5: Students are able to understand the basics of Matrices and will be able to apply the skill on Input Output Model.
20PEC1CC4	International Economics	CO1: Students would understand the theoretical basis of international trade formed after second world war CO2: Students will be able to measure terms of trade for countries and assess its trend CO3: Students would understand partial and general equilibrium frameworks to evaluate the effects of import tariff and import quota. The extra study portion would complement the indirect protectionist policies of the countries CO4: Students would understand the statistical recording of economic transactions of countries and be able to measure surplus

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		and deficit to suggest the ways to remove deficit and surplus in balance of payment CO5: Students would realise the need for international monetary system, international liquidity and institutions to govern it and would critically judge the desirability or otherwise of international capital and foreign exchange market. The extra study portion would help to relate the developments in foreign exchange market with debt crisis faced by developing countries.
20PEC1DE1A	Environmental Economics	CO1: Students are able to explore the theoretical base of the Inter linkages between Environment and Economics. CO2: Students can observe the implications of optimal allocation of resources CO3: The students are capable to validate the Economics of Environmental Regulations. CO4: Students will acquire knowledge to examine the effectiveness of fiscal techniques and market based approach in environmental regulations. CO5: It enrich the ability of student to analyse the environmental problems and evaluate the Environmental policies of India
20PEC1DE1B	Personnel Management	CO1: Student will acquire knowledge on nature and importance of Personnel management CO2: It increases the capability of the student to explore the need of Personnel Policy. CO3: Student can demonstrate the process of Human Resource Planning. CO4: Ability to analyse and evaluate the methods and techniques of Human Resource Training and Development. CO5: It enables the student to describe the methods of Performance Appraisal.
20PEC2CC5	Advanced Micro Economic Theory – II	CO1: Identify the individual behaviour under uncertainity CO2: Discuss about pricing of factors of production CO3: Demonstrate walrasian general equilibrium theory CO4: Examine pareto optimality conditions in welfare economics CO5: Interpret market with asymmetric information.
20PEC2CC6	Monetary Economics	CO1: Provide a comprehensive treatment of theories on value of money and to impart knowledge on classical, Keynesian and Friedman's view on money. CO2: Acquaint the students with the post Keynesian theories on demand for money. CO3: Equip the students with the theoretical aspects of monetarism and to have critical understanding of issues between Keynesianism and monetarism. CO4: Familiarize with the concept of money supply and to make aware of the relationship between money supply and Bop and Budget deficits. CO5: Given an understanding of the Macroeconomic policy objectives and tools and their limitations.
20PEC2CC7	Statistical Methods for Economic Analysis	CO1: Students acquire analytical skill in Statistics CO2: Students will be able to identify relevant techniques of averages for respective data types.

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Course Code	Course Title	Course Learning Outcomes
		CO3: Students will be able to compute various techniques of dispersion and interpret the results. CO4: Students will be able to compute advanced level in correlation and regression and interpret the results. CO5: Students will be able to formulate the Hypothesis and identify the relevant test of significance to interpret the data.
20PEC2CC8	Evolution of Economic Thought	CO1: Students will be identify the origins of economic thought in the ancient world including the scholastics and the emergence of ancient India. CO2: Students will be review to identify the links between the development of Medieval, Pre-Classical, Mercantilist and Physiocracy. CO3: Students will be analyze the development of Classical Economic Doctrines. CO4: Students will be appraise the perspectives of Nationalism, Institutionalism and Historical School. CO5: Students will be able to examine the historical context of the Socialism, Marginalism and Keynesianism, which have challenged mainstream doctrines.
20PEC2DE2A	Export Management	CO1: Equip the Students to understand the export management Concepts and functions. CO2: Analyze the Trend of India's Export CO3: Describe the Export Policy, Promotion and Regulations CO4: Given an understanding of Export pricing and Finance. CO5: Familiarize export procedure and incentives.
20PEC2DE2B	Industrial Economics	CO1: Students will be able to paraphrase the problems and pattern of Industrialisation CO2: Students will acquire the skill of identifying the industrial location CO3: Students will be able to determine the factors affecting the productivity and progress of industries. CO4: Students will be able to deduce the industrial regulations in India. CO5: Students will be able to summarise the problems of industries in India.
20PEC3CC9	Research Methodology	CO1: Students are able to explore the Nature and Significance of Social Research. CO2: Students will be able to observe the Problems in Formulating Hypothesis in Social Research. CO3: Students will acquire knowledge on the Concepts Relating to Research Design & Steps in preparing a Research Design. CO4: Students will be able to articulate the Methods and Techniques of Research. CO5: Students are capable to examine Presentation of Research
20PEC3CC10	Managerial Economics	CO1: Students will be able to critically understand the subject matter of managerial economics out of micro economic analysis. CO2: Students will be able to forecast the demand using appropriate techniques. CO3: Students will be able to distinguish the pricing strategies. CO4: Students will be able to critically analyse the production function

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO5: Students will be able to apply capital budgeting techniques in real time business.
20PEC3CC11	Economics of Growth and Development	CO1: To be able to critically analysis of the process of economic development under Classical and Keynesian thought. CO2: To critically evaluate the theories of Economic Development relevance to third world countries (Labour abundant countries). CO3: To critically evaluate the theories of Economic growth with due to importance to capital. CO4: Students will be able to critically distinguish the strategies of economic growth and development. CO5: Students gain the skill of formulating new strategies for economic development
20PEC3CC12T	Computer Applications in Economics – Theory	CO1: Acquire the concepts of Word, Access and Power point. CO2: Construct the skill in data analyzing using Excel. CO3: Recognize the familiar concepts of SPSS. CO4: Create ability to handling the statistical tools using SPSS. CO5: Demonstrate the use of SPSS in macro-economic variables.
20PEC3CC12P	Computer Applications in Economics – Practical	CO1: Acquire the awareness on the usage of Word, Access and Power point. CO2: Make skill in data processing and calculating using Excel. CO3: Recognize the familiar concepts of SPSS. CO4: Create ability to handling the statistical tools using SPSS. CO5: Demonstrate the use of SPSS in macro-economic variables.
20PEC3DE3A	Financial Economics	CO1: Facilitate the students to the Introduction of Financial Markets. CO2: Ability to know the Choice under Uncertainty. CO3: Understanding the Portfolio theories. CO4: Introductions to Asset Pricing. CO5: Achieve the Knowledge about Efficient Market Hypothesis,
20PEC3DE3B	Entrepreneurial Development	CO1: To Acquire knowledge about the concept of function of Entrepreneurs CO2: To Discuss Entrepreneurial Development Programme CO3: To Classify the project formulation and project report CO4: To Analysis the institutional finance and Entrepreneur CO5: To formulate the financial analysis
20PEC4CC13	Indian Economic Development	CO1: To Describe the issues of economic development CO2: To Communicate Economic Reforms in India CO3: To Contact the agricultural sector in India CO4: To appraise the industrial and services sector in India CO5: To modify the foreign trade in India.
20PEC4CC14	Public Finance	CO1: Students will be able to explore the acquire knowledge on scope, functions and various aspects of Public Finance CO2: Students able to understanding of the Theories of Public Expenditure CO3: Students will be able to understanding the Theories of Taxation. CO4: Students are capable to examine Fiscal Policy and Public Debt. CO5: Students to apply the knowledge for Indian Fiscal Federal Scenario.

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Course Code	Course Title	Course Learning Outcomes
20PEC4CC15	Comparative Economic Systems	CO1: Students are able to explore the features and organizational structures of different economic systems and their impact on achieving the economic goals. CO2: Students will be able to observe the development of the structure and institutions of capitalist economies. CO3: Students will acquire knowledge on the evolution of and transition in socialism. CO4: Students will be able to articulate the performance and problems of mixed economies. CO5: Students are capable to examine the relevance of alternative economic systems in solving the contemporary economic problems.
20PEC3DE4A	Econometrics	CO1: formulate and estimate SLRM and test for confirmation of stochastic assumptions CO2: test the fitness of the data and statistical significance of the model relation with one independent variable CO3: formulate and estimate MLRM and test for confirmation of stochastic and non-stochastic assumptions CO4: test the fitness of the data and statistical significance of the model relation with two independent variables CO5: test the stationarity property of time series variables and estimate model using time series data CO6: use the skills relating on methods learned to formulate and estimate models involving cross section and time series data values
20PEC3DE4B	Theory and Practices of Interest Free Banking and Finance	CO1: Acquire the concepts of Interest free banking. CO2: Construct the skill in Islamic financial system. CO3: Recognize the familiar concepts of financial contracts and mode of financing. CO4: Create ability to handling the operation of Islamic Banking. CO5: Demonstrate the use of Islamic capital market and Insurance.
20PEC4EC2	Economics for career Examinations	CO1: Equip the students with the theoretical knowledge relating to demand analysis and factor pricing. CO2: Arrive at an understanding of Keynesian and post Keynesian theories on Demand for money and business cycle theories. CO3: Equip the students to understand the fiscal management of the economy. CO4: Acquaint the students with the knowledge of international trade and the Recent trade reforms. CO5: Have an insight into the models of growth and planning and Indian economic development issues.

PROGRAMME SPECIFIC OUTCOMES
PG & RESEARCH DEPARTMENT OF ENGLISH

B.A. English
Students will be able to

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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PSO1. Explain the classic, contemporary and modern literary forms in relation to the salient features and literary traditions of the historical age of writing and state the proximity of life and literature.

PSO2. Demonstrate English language skills in listening, speaking, reading and writing by engaging learners in a range of communicative tasks and activities including business settings.

PSO3. Transcribe the history of English literature and English language and various literary genres along with world literature.

PSO4. Discuss the place of Indian writing in English and the exponents of Indian writing and their literary works.

PSO5. Evaluate the concepts of literary critics and their contribution to English literature and English language teaching in India.

M.A.English

Students will be able to

PSO1. Analyze works of literature in one or more interpretive contexts or frameworks and use one or more theoretical approaches for literary interpretation.

PSO2. Outline basic functions in literary texts with historical, social and political contexts writing techniques, constitutive of individual genres.

PSO3. Express literary movements, favoured genres and the development of literary forms.

PSO4. Integrate learned skills and knowledge leading them to noticeable changes in their vision, goals, attitudes and skills.

PSO5. Recognize employment requiring application of language and literature skills and evolve as a lifelong learner for professional development.

M.Phil English

Scholars will be able to

PSO1. Transcribe analytically in a variety of formats, including essays, research papers, reflective writing, and critical reviews of secondary sources.

PSO2. Identify, analyze, interpret and describe the critical ideas, values, and themes that appear in literary and cultural texts and understand the way these ideas, values, and themes inform and impact culture and society, in contemporary and ancient times.

PSO3. Explain the ideals and conditions for literary research, common and basic scholarly requirements of logical and empirical rigor in undertaking a research based on research ethics and socially responsible citizens.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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PSO4. Adopt the teaching learning skills in teaching English language and literature and in personal improvement for academic excellence.

PSO5. Outline the contemporary literary theory and its relatedness to literatures of the past.

COURSE OUTCOMES

B.A. ENGLISH

Course Code	Course Title	Course Learning Outcomes
20UCN1LE1	English for Effective Communication - I	CO1: Attain the various interactive and communicative skills for a holistic life. CO2: Gain the knowledge of essential grammar, vocabulary, usage and life skills. CO3: Enriching the reading skills and observation capacity for understanding universal truths. CO4: Write clearly and effectively in a variety of forms. CO5: Adapt writing and analytical skills to all situations.
20UEN1CC1	Prose	CO1: Identify simple facts and values presented in written text (literal comprehension). CO2: Evaluate about the written text's content (evaluative comprehension). CO3: Connect and discuss the text to other written passages and situations in life (inferential comprehension). CO4: Develop interest and over literary pieces. CO5: Examine the issues discussed in the text in the socio-historic and cultural context.
20UEN1CC2	Short Stories	CO1: Gain the knowledge of unfamiliar and diverse cultures through the text and recognize it as a product of a particular culture and historical moment. C02: Evaluate various interpretations of a text and their validity through reading, writing and discussion. CO3: Analyse the ways articulated in the text which contributes to self-understanding. CO4: Discern the various cultural and moral values associated with the texts. CO5: Focus on readability, teachability and testability to think beyond the text.
20UEN1AC1	Social History of England - I	CO1: Gain knowledge of the course of English history. CO2: Understand the impact of historical events on writers. CO3: Apply the knowledge gained in the study of literature and become more active and critical reader. CO4: Analyse and interpret English literature against the background of British social history. CO5: Acquire knowledge of major changes in every field discussed in the texts.
20UEN1AC2	History of English Literature - I	CO1: Obtain Knowledge about the major writers and their contributions to English literature. CO2: Realize the themes of the varied genres. CO3: Evaluate the perception of the ideology of a certain age of English literature.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO4: Analyse the various movements and waves in English Literature. CO5: Discuss how literature also influences the social and political history of each period.
20UCN1AE1	Value Education	CO1: Imbibe good values and clean habits in life. CO2: Understand their social responsibility and taught of their personal well-being. CO3: Recognize their significant role in family and the society. CO4: Analyze the process of moral living along with changes in their biological System. CO5: Describe the importance of professional ethics in daily life.
20UCN2LE2	English for Effective Communication - II	CO1: Attain the various interactive and communicative skills for a holistic life. CO2: Gain the knowledge of essential grammar, vocabulary, usage and life skills. CO3: Enriching the reading skills and observation capacity for understanding universal truths. CO4: Write clearly and effectively in a variety of forms. CO5: Adapt writing and analytical skills to all situations.
20UEN2CC3	Poetry – I	CO1: Knowledge about the major concerns, styles and perspectives of poetry writers. CO2: Understand the relationship between the historical /cultural contexts in which it is written. CO3: Apply the styles and concerns of the writers in creative writing. CO4: Analyse the various elements of poetry such as diction, tone, form, genre, imagery, figures of speech, symbolism, theme etc., CO5: Observe how poetry influences and improves the quality of life.
20UEN2CC4	Fiction – I	CO1: Gain the knowledge of unfamiliar and diverse cultures through the text and recognize it as a product of a particular culture and historical moment. CO2: Understand the variety of stylistic choices that novelists make within given forms and how the form influences meaning. CO3: Evaluate various interpretations of a text and their validity through reading, writing and discussion. CO4: Analyse the ways articulated in the text which contributes to self-understanding. CO5: Identify the literary, cultural, historical, political influence of fictional works in the literary world.
20UEN2AC3	Social History of England – II	CO1: Gain knowledge of the course of English history. CO2: Understand the impact of historical events on writers. CO3: Apply the knowledge gained to the study of literature and become more active and critical reader. CO4: Analyse and interpret English literature against the background of British social history. CO5: Acquire knowledge of major changes in every field discussed in the texts.
20UEN2AC4	History of English Literature – II	CO1: Knowledge about the major writers and their contributions to English literature.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO2: Realize the themes of the varied genres. CO3: Evaluate the perception of the ideology of a certain age of English literature. CO4: Analyse the various movements and waves in English Literature. CO5: Discuss how literature also influences the social and political history of each period.
20UCN2SE1 I	Soft Skills Development	CO1: Develop positive psychological and physical outlook CO2: Recognize opportunities and overcome threats CO3: Optimize their life skills experience and create a personal growth plan. CO4: Conceptually grounded and practically oriented towards interpersonal and group relationships that evolve beyond academic achievement. CO5: Strategies their personality traits towards community immersion and ethical behaviour.
20UCN3LE3	Poetry and Drama	CO1: Understand and appreciate poetry as a literary art form. CO2: Develop a deeper appreciation of cultural diversity by introducing them to poetry from a variety of cultures throughout the world. CO3: Analyze the various elements of poetry, such as diction, tone, form, genre, imagery, figures of speech, symbolism, theme, etc. CO4: Students will be exposed to the origin and development of English drama and its various themes and forms of different ages and stages. CO5: Explore how writers use the language to explore the entire range of human experience through drama.
20UEN3CC5	Modern Prose	CO1: Enable students to understand the nuances of prose pieces and its aesthetic quality. CO2: Encourage students to nurture their unique style of writing. CO3: Expose the learners to various dimensions of prose writing and its relevance to our day today life. CO4: Develop interest among the students to appreciate the aesthetic quality and the literary value of prose pieces. CO5: Widens the perspective of life, language, culture and society through the prescribed prose pieces.
20UEN3CC6	Fiction – II	CO1: Gain the knowledge of unfamiliar and diverse cultures through the text and recognize it as a product of a particular culture and historical moment. CO2: Understand the variety of stylistic choices that novelists make within given forms and how the form influences meaning. CO3: Evaluate various interpretations of a text and their validity through reading, writing and discussion. CO4: Analyze the ways articulated in the text which contributes to self-understanding. CO5: Identify the literary, cultural, historical, political influence of fictional works in the literary world.
20UEN3AC5	Literary Forms	CO1: Identify the variety of literary types or genres. CO2: Understand the organization, arrangement and framework of a literary work.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
		CO3: Analyze the manner or style of constructing, arranging, and coordinating the parts of a composition for a pleasing or effective result. CO4: Provide an elementary literary vocabulary as well as introduction and practice in the skills required for the reading of literature. CO5: Nurture the ability to appreciate literature through analytical and responsive reading.
20UEN3AC6	Grammar and Usage	CO1: Understand the factors that influence the use of grammar and vocabulary in speech and writing CO2: Able to recognize the meaning of targeted grammatical structures in written and spoken form. CO3: Compose grammatical structures meaningfully and appropriately in oral and written production. CO4: Demonstrate an understanding of a grammar structure through quizzes, tests, journal writing and other writing assignments. CO5: Inculcate an ability to master the language and use it effectively.
20UEN3GE1	Remedial English	CO1: Aims to concentrate on and to correct the most frequent grammatical mistakes CO2: Enrich and exercise the basic structures of English grammar CO3: Enable and enhance the use of grammar to avoid error free communication CO4: Build confidence to speak and write English effectively CO5: Proper understanding of English Grammar Usage.
20UCN3AE2	Environmental Studies	CO1: Realize the multidisciplinary nature of environment. CO2: Justify the need to preserve and conserve biological diversity. CO3: Analyze various natural resources available for sustaining human life. CO4: Create opportunities for alternative ways of energy harvesting. CO5: Produce wealth from waste by employing the concept of natural recycling.
20UCN4LE4	English for Enrichment	CO1: Enable to acquire the comprehensive ability to understand English Language and acquire 'Verbal Ability' to face various Competitive Exams. CO2: Proper understanding of English Grammar Usage. CO3: Help students to score high marks in– 'English Language' or 'Verbal Ability' Section in any competitive exams. CO4: Analyse the topics covered under English Language Section originated from four categories, i.e., Grammar Usage, Vocabulary Usage, Comprehension Skills and Writing Skills. CO5: Enrich the Writing Skills.
20UEN4CC7	Poetry – II	CO1: Recognize poetry from a variety of cultures, languages and historic periods CO2: Understand and appreciate poetry as a literary art form CO3: Analyze the various elements of poetry, such as diction, tone, form, genre, imagery, figures of speech, symbolism, theme, etc.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
		CO4: Identify a variety of forms and genres of poetry from diverse cultures and historic periods, such as haiku, tanka, sonnets, ballads, dramatic monologues, free verse, etc. CO5: Recognize the rhythms, metrics and other musical aspects of poetry
20UEN4CC8	Rabindranath Tagore – An In-depth Study	CO1: To understand that Rabindranath Tagore's writing is meant for not only older or more matured crowd, but for children and youngsters too. CO2: Realise that he has written various short stories meant for the minds of adept young readers. CO3: Analyse Rabindranath Tagore tackles various social practices which were unjust and cruel. CO4: Understand his work not only educates us about particular era but also encourages readers to interpret his opinion for themselves. CO5: Examine Rabindranath Tagore's books are quintessentially Indian; they teach us to be proud of our culture and roots.
20UEN4AC7	Language and Linguistics	CO1: Explain the basic concepts of language and linguistics research. CO2: Describe what the language is. CO3: Know the research areas related to the language. CO4: Establish a relationship between linguistics and language teaching. CO5: Interpret the linguistic data obtained or observed in the course of language teaching.
20UEN4AC8	Journalism	CO1: Demonstrate how the journalistic approach to problem solving and storytelling can produce locally engaged, globally competent citizens. CO2: Demonstrate competence in a core set of journalistic crafts in reporting, research and storytelling that show versatility across media. CO3: Express a critical understanding of the contextual factors that shape the media message in a diverse, globalized media landscape. CO4: Produce journalistic work that showcases an area of specialization that draws on the creativity and entrepreneurial spirit of the student. CO5: Produce a portfolio of work that demonstrates work produced in a public media setting.
20UEN4GE2	English for Employability Skills	CO1: Develop core leadership facilitation skills through practice and feedback. CO2: Gain strategies for starting any group interaction and maintaining civility. CO3: Learn to structure empowerment and responsibility when using group decision making. CO4: Practice strategies for dealing with resistance and distractions. CO5: Develop managerial skills and responsibilities for effective leadership.
20UEN5CC9	Drama – I	CO1: Familiarize the students with the major dramatists and their works.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO2: Enable the students to understand the elements of the drama. CO3: Use dramatic techniques to explore ideas, issues and dramatic texts. CO4: Appreciate the structure and organization of plays. CO5: Develop an appreciation of and respect for the various roles/aspects inherent within the dramas.
20UEN5CC10	Literary Criticism – I	CO1: Gain familiarity with the origin of critical ideas in literature beginning with the classical age. CO2: Acquire a better understanding about the function of criticism. CO3: Trace the chronology and develop a deep historical sense of literary criticism. CO4: Analyze and appreciate texts critically from different perspectives. CO5: Get exposure towards seminal critical pieces in literature.
20UEN5CC11	Indian Writing in English	CO1: Obtain knowledge about the major writers and their contribution to Indian writing in English CO2: Realize the theme of the varied genres. CO3: Examine the issues discussed in the text in the socio-historic and cultural context. CO4: Apply the knowledge gained to the study of literature and become a critical reader. CO5: Observe how Indian writing in English influence and improves the quality of life.
20UEN5CC12	History of English Language and Phonetics	CO1: Learn the origin and growth of English Language and the family of Indo-European Language. CO2: Understand the Historical and sociological factors in the growth of English Language. CO3: Learn English speech sounds, speech patterns in sentences and the concept of stress and intonation. CO4: Know the flexibility of English Language and how it accepted the foreign words so easily. CO5: Develop the linguistic skills required in the close analysis of individual words and other texts.
20UEN5DE1A	English Language Teaching	CO1: Understand the issues concerning English teaching such as methods and approaches of teaching, classroom techniques and strategies, and testing and evaluation systems. CO2: Acquire the skills of teaching English. CO3: Explore the application of language alongside current practice and developments in teaching and testing. CO4: Engage in self-directed English language learning CO5: Learn new approaches to design ELT syllabi.
20UEN5DE1B	Perspective of Environment in Literature	CO1: Gain a critical understanding of and appreciation for ecocriticism. CO2: Explore the reflection of environment in literature and examine the various ways literature treats the subject of nature. CO3: Take a more critical lens towards humanity's relationship with the planet. CO4: Understand environmental crises and develop critical awareness about sustainability.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO5: Familiarize with the theories of ecocriticism and close-read a few seminal texts of world literature.
20UEN5SE2A	Personality Development	CO1: Understand the importance of developing one's personality. CO2: Learn the various factors regarding confidence building and positive approach. CO3: Get exposure towards right attitudinal and behavioral aspects. CO4: Set individual goals and have self-motivation. CO5: Function effectively in multi-disciplinary and heterogeneous groups.
20UEN5SE2B	English for Mass Communication	CO1: Identify the different types of News and the process of Communication. CO2: Attain deeper understanding of Language and Style of Journalism. CO3: Develop interest in writing for the Media. CO4: Critically analyze and evaluate Current Affairs/Socio-Political issues CO5: Analyze the various elements of advertisements and learn to design an advertisement
20UEN5SE3A	English Conversation Practice	CO1: Acquaint themselves with Vocabulary, words, phrases and speaking skills CO2: Communicate their thoughts, feelings, needs, wants, ideas or opinions in English CO3: Comfortably and Confidently engage in a formal conversation CO4: Increase the awareness of different types of conversation patterns and begin to introduce variety in their speech pattern CO5: Use Language creatively and show a complete understanding of the language they are using
20UEN5SE3B	English for Business	CO1: Acquaint themselves with Vocabulary, words, phrases and speaking skills CO2: Communicate their thoughts, feelings, needs, wants, ideas or opinions in English CO3: Comfortably and Confidently engage in a formal conversation CO4: Increase the awareness of different types of conversation patterns and begin to introduce variety in their speech pattern CO5: Use Language creatively and show a complete understanding of the language they are using
20UEN6CC13	Literary Criticism – II	CO1: Trace the development of critical practices from ancient time to the present. CO2: Learn the critical concepts that emerged in different periods. CO3: Identify the key personalities of literary criticism and their ideas. CO4: Develop skills to analyze and interpret texts critically. CO5: Attempt a close reading of the text.
20UEN6CC14	Drama – II	CO1: Trace the themes present in the plays and carry in depth knowledge about its evolution. CO2: Analyze the literary devices in the plays.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO3: Attempts to evaluate the plays critically and its different perspectives. CO4: Get exposure towards famous playwrights in English Literature. CO5: Form ideas about the variety of drama.
20UEN6CC15	American Literature	CO1: Obtain knowledge about the major writers and their contribution to the American Literature. CO2: Realize the themes of varied genres. CO3: Examine the issues discussed in the text in the social-historic and the cultural context. CO4: Apply the knowledge gained to the study of literature and become a critical reader. CO5: Observe how American Literature influence and improve the quality of life.
20UEN6CC16	Shakespeare	CO1: Attain a first-hand knowledge about the plays of Shakespeare. CO2: Learn about the social and intellectual background of Shakespeare and his socio-cultural conditions. CO3: Understand the language of Shakespeare's plays, images, word play and his creative use of language. CO4: Acquaint with the dramatic and poetic devices employed by Shakespeare. CO5: Develop a critical comprehension of his literary compositions.
20UEN6DE2A	Children's Literature	CO1: Examine the history and characteristics of the various genres of children's literature. CO2: Appreciate the literary qualities and educational value of children's literature. CO3: Identify literary elements such as plot, theme, symbol, and point of view in works of children's literature. CO4: Explore the social, cultural, political, and literary issues raised by works of children's literature. CO5: Understand the variety of stylistic choices made by children's literature authors within given forms and how the form influences meaning.
20UEN6DE2B	Commonwealth Literature	CO1: Understand the various geographical distinction and nomenclature behind the term Commonwealth. CO2: Inculcate the ability to differentiate between common wealth literature and other world literature. CO3: Acquire the knowledge of the political, social and cultural context of Common wealth CO4: Develop the ability appreciate the literature of various countries that belong to commonwealth CO5: Objectify the contribution of Non-English speakers to English Literature.
20UEN6DE3A	Classics in Translation	CO1: Gain the knowledge of world literary traditions and the continuing influence of those traditions on world cultures. CO2: Develop skills in literary analysis and critical writing comparative methodologies. CO3: Evaluate various interpretation of a literary texts within social, cultural and historical contexts.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO4: Appreciate literature and other cultural production and analyse other literary texts. CO5: Discern the various cultural and moral values associated with the texts.
20UEN6DE3B	Translation: Theory and Practice	CO1: Understand the importance of Translation Studies, define the basic concepts and theories related to Translation. CO2: Analyse the ways in which one can translate a text effectively. CO3: Explore the challenges and difficulties of translation across languages. CO4: Identify the need of translation in order to enrich their knowledge. CO5: Develop Translation skills and linguistic competence.
20UCN6AE3	Gender Studies	CO1: Understand the concept of gender, sex and social construction. CO2: Report gender inequality in family and society. CO3: Discuss the various forms of discrimination of women. CO4: Comprehend women's rights in India. CO5: Analyse issues concerning gender inequality; eliminate crime against women and children.
20UEN6EC2	English For Competitive Examinations	CO1: Learn the aspects of grammar, comprehension and vocabulary. CO2: Appear comfortable and confident in writing various competitive exams. CO3: Prepare meticulously for competitive Examinations. CO4: Equip themselves about the nuances of English Language Testing. CO5: Learn, perform and excel in the competitive Examinations.

COURSE OUTCOMES

M.A. ENGLISH

Course Code	Course Title	Course Learning Outcomes
20PEN1CC1	British Literature – I	1. Develop knowledge of principal works and periods of Modern Literature from Chaucer to the Jacobeans. 2. Possess an awareness of the Canonical writers belonging to this period. 3. Acquire knowledge of the political, social and intellectual background of the age through the works of various writers. 4. Get acquainted with the understanding of the history and evolution of English Language from the past to the Present. 5. Demonstrate their ability to identify and differentiate the art of the early Literary period from the Later ones.
20PEN1CC2	British Literature – II	1. An in-depth Comprehension of the art of the early novelist. 2. Exposure to the realistic portraits of common English people through various genres. 3. Demonstrate the noticeable socio-political transition and its impact on Literature.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		4. Imbibe the ethical values inherent in the works of this Age. 5. Gain knowledge of the emergence of the new genre 'novel' in English literature and an awareness of the transition in cultural, ethical, political and religious characteristics of the Modern Age.
20PEN1CC3	Shakespeare	1. Comprehend the distinguishing features of Shakespeare's writing, especially the salient characteristics of comedies, tragedies and historical plays along with the knowledge of the Shakespearean audience and the theatre, also to identify Shakespeare's poetic genius. 2. Understand the significance of the social, historical and cultural context of Shakespeare plays. 3. Develop interest in Shakespearean language, his use of images and the word play. 4. Appreciate Shakespeare's skill of characterization, plot construction use of humour and wit, song and music. 5. Appreciate and develop an interest in the themes and the poetic form and devices of Shakespeare's sonnets.
20PEN1CC4	American Literature	1. Comprehend the implications and reverberations of American society and culture through the prescribed texts. 2. Be well-informed about the evolution of American literature and the different cultural backgrounds of the American authors and the themes, and their different wring styles. 3. Decipher and describe the evolution, development and body of literature over time from pre-colonial to the present times. 4. Recognize the universality of human experiences reflected in the works produced by Americans. 5. Get an exposure on the major and minor authors, text & contexts and also realize the philosophical intellectuality in American literature.
20PEN2CC5	British Literature – III	1. Have thorough knowledge of 18th and 19th century British Literature. 2. Develop competence in analysing and interpreting texts from different periods in literary history. 3. Gain an ability to view texts in terms of developments, values and conflicts in literary history, and as related to their social and cultural contexts. 4. Possess the capacity to identify, expound on and compare literary genres and periods. 5. Receive training to understand and deploy a range of terms and concepts pertaining to literature.
20PEN2CC6	British Literature – IV	1. Reveal their ability to discuss cogently, both orally and in writing the important concepts, themes and traditions in the 20th cent British literature and contemporary British literature. 2. Take cognizance of the seminal socio-political and historical events of the twentieth century, which exerted a deep influence on life and literature of the time. 3. Understand and appreciate the broad spectrum of literary and artistic movements of the twentieth century. 4. Develop the critical acumen to comprehend the complimentarily of theme and technique in the literary works. 5. Exposure to analyse and demonstrate the knowledge of the major literary movements of the period.
20PEN2CC7	History of English Language and Structure of Modern English	1. Gain knowledge of the diachronic history of English language from earliest times to the modern. 2. Comprehend the impact of political and social changes on the English language. 3. Understand

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		the articulation of English words; the use of sounds and intonation. 4. Understand the structure of modern English which gives a command over the syntactic formation and the semantic complexity of words. 5. Be motivated to take up advanced studies in the field of linguistics and stylistics. Apply Phonetic rules and be able to practice RP.
20PEN2CC8	Indian Writing in English	1. Understand how Indian writing in English evolved through a process of tradition and experiment, of imitation and innovation, of convention and revolt. 2. Take cognizance of the emergence of nationalist and Pan-Indian ideologies in colonial and post-colonial India and its role in shaping the literary works. 3. Analyse and appreciate the idea of 'Indianness' and 'Indian sensibility' inscribed in the works of both Indian writers and also writers of the Indian diaspora. 4. Gain knowledge of major literary movements and writers of Indian English Literature. 5. Inherit values and developed human concern through the versatile works of Indian Writing in English.
20PEN2DE2A	Advanced Communication Skills	1. Exposure to the latest trends and concepts in communication skill in facing English speaking environments and contexts. 2. Gain assertive confidence ability with the skillful acquisition of language and communication skills. 3. Overcome the fear of learning second language or a foreign language and equip themselves professionally. 4. Enhancement in the Professional Language 5. Improvement of Professional outlook will be improved for better performance.
20PEN2DE2B	Creative Writing	1. Make the pupil feel the pleasures of the creative process. 2. Familiarize students with the process of writing poetry, fiction and Drama. 3. Demonstrate strategic revision on completed creative works. 4. Articulate useful, critical editorial advice for peer writers. 5. Employ the techniques and strategies, crafting carefully composed, competent creative work in fiction and non-fiction.
20PEN3CC9	Theory of Comparative Literature	1. Attain a broad knowledge of various literary traditions and its interrelation. 2. Interpret a literary text or other cultural artifact in a non-native target language and to develop advanced skills in order to compare texts from a variety of different traditions, genres, periods, and areas. 3. Cultivate a complex, transdisciplinary understanding and appreciation of literary texts, cultural artifacts, and diverse media in their wide political and social contexts 4. Consider the role of translation in the production of textual and cultural meaning 5. Analyse the relations between literature and other modes of cultural production, including digital and new media and to think historically about the multiple ways in which globalization affects contemporary culture.
20PEN3CC10	Post-Colonial Literature	1. Possess a coherent knowledge and a critical understanding of postcolonial literature and its key historical, cultural and theoretical developments 2. Compare, discuss and explain interconnections and functions of postcolonial literature and its contexts, including comparative and interdisciplinary issues 3. Evaluate arguments and assumptions about postcolonial literature, texts, and modes of interpretation. 4. Communicate arguments effectively and show a degree of independent thinking. 5. Attain a broad knowledge of

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		different tenets of Post-Colonial Literature and compare them with the prescribed text.
20PEN3CC11	Voices of Women in Literature	1. Read and Respond to Feminist scholarship 2. Examine the similarities and differences among women within and across cultures and at different historical moments. 3. Describe gender socialization and its consequences in a particular society. 4. Identify gender and sex-based inequalities in a particular society. 5. Analyze how these factors with the privileges and disadvantages they confer have shaped one's own experiences, presumptions, viewpoints, and sense of identity
20PEN3CC12	English Language Teaching	1. Comprehends the different teaching methods of English Language 2. Well informed of the evolution and origin of English Language and the impact of English Language in Global arena. 3. Recognises the challenges involved in Teaching English as a Foreign Language in India 4. Understands the Various Theories of English Teaching pertaining to the cognition of the learner 5. Exposed to the Scientific improvements and the prevailing technological aids in teaching English.
20PEN3DE3A	English for Career Examinations	1. Demonstrate a clear understanding of primary literary texts and a familiarity with the culture, genre, and place in literary history from whence they come. 2. Account for the role of context(s) in the production, reception, and transmission of literary and cultural texts (across periods, histories, geographic or national spaces, and cultural differences). 3. Identify the major theoretical schools and apply those approaches to a variety of texts. 4. Well informed of the Literary terms, Techniques and ideologies for to comprehend the form, style and content of Literary texts. 5. Inculcates the holistic understanding of world literature and the related specific names, terms, dates, events and miscellaneous information essential for career examinations.
20PEN3DE3B	Regional Literature in English	1.Perpetuate the idea of celebrating regional literature of India 2.Demonstarte the style and significance of Regional Writers, their voices and their unique position in the literary avenue. 3.Identify the diverse Indian culture and tradition and its incorporation in regional literature. 4. Understand the evolution of Indian Literature and its genres in general and regional writings in specific. 5. Profusely compare and contrast the embedded social structures of various regions produced through various regional languages in Literary Art form.
20PEN4CC13	Research Techniques and Methodology	1. An in depth comprehension of the fundamentals of Research methodology for English Language and Literature. 2. Exposure to the latest trends of Research and thesis writing 3. Understand the rhetorical nature of knowledge and thesis building techniques 4. Instigate the need for strong research acumen and inculcating the ethics of research 5. Support literary research with peer-reviewed academic resources provided by the library, and include both in- and end-text citation of those sources that adheres to industry-accepted documentation styles.
20PEN4CC14	Contemporary Literary Criticism	1. Read and Respond to Contemporary Literary Criticism 2. Examine the various traits of Contemporary Literary criticism and its significance in reading or writing a text 3. Describe the impact

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		of different critical thinking and its consequences in the interpretation of a particular text 4. Identify the culture, class and gender based issues in a particular society. 5. Gain knowledge of the socio-cultural, socio-political, linguistic and psychological vastness; its differences and its changing nature in the contemporary world
20PEN4CC15	Post Modern Literature	1. A clear understanding of the Postmodern transition from Modernism. 2. Exposure to the different elements and styles of Postmodern writings. 3. A comprehensive understanding of the different genres of Postmodern Literature. 4. Offer an understanding towards the various cultures and sub cultures related to Postmodern way of existence. 5. Demonstrate the multiplicity and interdisciplinary nature of society, culture, language and art in the contemporary era.
20PEN4DE4A	South Asian Fiction	1.An advanced knowledge of distinctive literary strategies and devices deployed in South Asian Fiction. 2.A critical understanding of South Asian Literary texts in their appropriate historical and cultural contexts 3.An Understanding of key critical and theoretical approaches applied to these writings. 4.The ability to produce critical accounts of the prescribed fictional works, paying appropriate attention to both formal and contextual issues. 5.A thorough understanding of the narrative strategies in projecting the specific culture in these works by the prominent writers of South Asia.
20PEN4DE4B	Science Fiction	1. Recognize the elements common to science fiction that distinguish it from other genres and analyse science fiction works from various critical approaches using appropriate literary terminology 2. Analyze the different ways in which Science Fiction reflects and distorts reality and the ideological arguments underlying its presentations. 3. Explore the tradition of Science Fiction and discover ways in which authors have recognised the possibilities of the genre by examining a variety of modern, postmodern and classic works 4. Examine different presentations in Science fiction of gender, science and technology, culture and ethnicity. 5. Create Critical hypotheses about texts and argue for their validity using textual evidence.

PROGRAMME SPECIFIC OUTCOMES
PG & RESEARCH DEPARTMENT OF HISTORY

B.A.History

Students will be able to

PSO1. Outline the past socio-cultural, political and economic condition of the people in the world and the change that occurred in the due course of time.

PSO2. Discuss concepts related to Archaeology, Journalism, Human Rights, Tourism and Political Science, and social political religious and economic condition of India through the ages.

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PSO3. Analyze the socio-political, economic and philosophical thoughts of personalities that helped to shape the mankind in the modern world and constitutional development of the countries around the world and India in particular.

PSO4. Transcribe the basic concepts, theories and principles of geographical phenomena and environment and climatic conditions, reflect on the life of the people and the past glory of Tamil culture and the social, political, religious and economic condition of Tamil Nadu through the ages.

PSO5. Identify employment and/or advance in higher education on application of basic understanding of historical perspectives of India and the world.

M.A. History

Students will be able to

PSO1. Express terms, concepts, events, ideals, personalities and principles in Indian History.

PSO2. Analyze the various ways of life, belief, political, economic, social and cultural development of the world and particularly the socio-cultural heritage of Arabs.

PSO3. Explain international relations, origin of war and the maintenance of peace, the executive power, character of state and non-state actor, contemporary global issues and importance of world peace.

PSO4. Identify ancient monuments, inscriptions, literature and the glorious past of Tamil Nadu and appreciate its historical richness.

PSO5. Apply historical research method and present the findings as a project report and get through competitive exams proposing career openings.

M.Phil History

Scholars will be able to

PSO1. Recognize the diversity of human experience, including ethnicity, race, language, sex, gender, as well as political, economic, social, and cultural structures over time and space.

PSO2. Demonstrate historical research skills in conceptualizing and executing original research work and expressing their thoughts clearly and coherently both in writing and orally.

PSO3. Exhibit mastery in teaching and learning skills inside classroom, teaching and involves in life-long learning for self growth.

PSO4. Outline the historiography of world history and India history and connectedness of the past and the modern world.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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PSO5. Appraise employment probabilities through application of research skills or qualifying competitive examinations enduring life-long learning.

COURSE OUTCOMES

B.A. HISTORY

Course Code	Course Title	Course Learning Outcomes
20UHS1CC1	History of India Upto 647 A.D.	CO1: Understand the Geographical features of India. CO2: Study the Vedic society, religion and literature CO3: Assess the rise of Empires and their administration, urbanization process, Art and Architecture. CO4: Analyse the state formation and Governance CO5: Highlights relations of ancient Indian Kingdoms with foreign countries.
20UHS1CC2	History of Tamil Nadu Up to 850 A.D.	CO1: Understand the Geographical features of Ancient Tamil Nadu CO2: Study the social and economic condition of Sangam Age CO3: Analyse the importance of Sangam literature CO4: 4 Recognise the evolution of education and art and architecture CO5: Discuss the impact socio- religious movements in Ancient Tamil Nadu
20UHS1AC1	Outlines of Political Theory	CO1: Understand the evolution of democracy in Ancient period CO2: Recognize the origin and development of Nations States CO3 Assess the origin and nature of citizenship CO4: Discuss the significance of separation power CO5: Compare the different types of political theories and types of Government
20UHS1AC2	Human Rights	CO1: Understand the concept and evolution of Human Rights. CO2: Classifies the Generation Human Rights CO3 Recognise the role of United Nations in the promotion and protection Human Rights CO4: Analyse the impact of Human Rights Watch and the role N.G.Os CO5: Evaluate the functions of National and State Human Rights Commission
20UHS2CC3	History of India from 647 A.D. To 1526 A.D.	CO1: Understand the socio-economic, political and religious condition of India CO2: Analyse the administrations of various kingdoms CO3 Examine the causes for the rise and fall of various dynasties CO4: Evaluate the causes for the establishment of Sultanate rule in India CO5: Estimate the impact of socio-religious movements.
20UHS2CC4	History of Tamil Nadu from 850 A.D. To 1529 A.D.	CO1: Understand the Cholas administration and the development of Local Self Government CO2: Study the socio- economic and political condition under Cholas Kingdom

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO3: Assess the rise and fall of the Pandean Empire and their Administration, Art and Architecture CO4: Analyse the impact of Madurai Sultanate Rule in Tamil Nadu CO5: Evaluate the impact of Vijayanagar Rule in Tamil Society and culture.
20UHS2AC3	Indian Geography	CO1: Understand the Physical features of the Planet Earth. CO2: Study the Geographical features and its effect on socio-cultural life of the people of India CO3 Assess the various types of climate and Monsoon and its impact on Agricultural production CO4: Analyse the importance of Multi-purpose Projects in India CO5: Discuss the importance of Transport and communication
20UHS2AC4	Journalism	CO1: Understand the historical background of the development of Journalism CO2 Examine the development of Printing Technology CO3 Assess the elements of news and reporting CO4: Evaluate the features of editing and advertisement CO5: Study the organisational structure and administration of Print and Mass medias
20UHS3CC5	History of India from 1526 A.D. To 1707 A.D.	CO1: Understand the Condition of India on the eve of Babur's Invasion CO2: Discuss the prominent rulers of Mughal period CO3: Examine the Administrative structure of Mughal Period CO4: Evaluate the socio-economic and political condition of Mughal Period CO5: Analyse the causes for the emergence of socio-religious movement
20UHS3CC6	History of Tamil Nadu from 1529 A.D To 1800 A.D	CO1: Discus the establishment of Nayak rule in Madurai. CO2: Analyse the establishment of Nayak rule in Tanjore. CO3: Evaluate the administration of Tondaimans of Pudukkotai CO4: Analyse the impact of Nawabs Rule in Tamil Nadu CO5: Highlights the advent of Europeans and its consequences in Tamil Nadu
20UHS3AC5	Basics of Tourism	CO1: Understand the definition and scope of Tourism CO2: Analyse the Marketing strategies of Tourism Product CO3: Assess the importance of Transport system, Accommodation Industry and Hospitality management in Tourism sector CO4: Evaluate the role of Travel Agencies in Tourism CO5: Study the various policies of state and central government in the development of Tourism
20UHS3AC6	Public Administration	CO1: Study the evolution and importance of Public Administration CO2 : Understand the various theories of Public Administration CO3: Trace the evolution of Indian Administrative system CO4: Analyse the functions of Union Government and State Government CO5: Study the evolution and importance of Local self Government
20UHS3GE1	Indian History for Competitive Examinations-I	CO1: Understand the History of Ancient India CO2 : Study the Indus valley and Vedic civilisations Religious Movement and their Principles

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO3: Analyse the causes for the emergence of Buddhism and Jainism CO4: Assess the rise and fall of Ancient Empires CO5: Analyse the evolution of State formation and Governance
20UHS4CC7	History of India from 1707 A.D. To 1885 A.D.	CO1: Understand the causes for the coming of Europeans to Indian sub-continent CO2 : Analyse the condition of native rulers on the eve of the arrival of Europeans CO3: Examine the causes for the establishment of British rule in India CO4: Evaluate the causes and impact of 1857 revolt CO5: Analyse the causes for the emergence of socio-religious movement and its impact on the Indian society
20UHS4CC8	History of Tamil Nadu from 1800 A.D To 1987 A.D.	CO1: Understand the social and political background of Tamil Nadu and administration of British rule in Tamil Nadu CO2 : Study the emergence of nationalism and role Tamil Nadu in Freedom Movement CO3: Assess the rise and fall of Justice party rule in Tamil Nadu CO4: Analyse the Evolution of social transformation and political changes in Tamil Nadu CO5: Highlights the Welfare programmes of Congress and Dravidian Parties in Tamil Nadu
20UHS4AC7	Archaeology	CO1: Study the importance and different kinds of Archaeology CO2 : Understand the different scientific techniques associated with Archaeological Excavation CO3: Create awareness and skills on the excavation procedures CO4: Study the recent Archaeological findings CO5: Analyse the importance of Epigraphy and Numismatics
20UHS4AC8	Panchayat Raj	CO1: Understand the evolution of Panchayat Raj Institution during the British rule CO2 : Study the constitutional amendments related to the Panchayat Raj institution CO3: Evaluate the composition, powers and functions of Rural Local bodies CO4: Assess powers and functions of Urban Local bodies CO5: Analyse the evolution of Panchayat Raj Institution in Tamil Nadu and panchayat Acts.
20UHS4GE2	Indian History for Competitive Examinations-II	CO1: Analyse the administrative features of Mughal Empire CO2 : Highlight the Marathas and their administrative system CO3: Enable the students to understand the expansion policy of the British East India company CO4: Understand the causes for the development nationalism and the birth of Indian National Congress CO5: Analyse the causes and course of India's freedom struggle
20UHS5CC9	History of India from 1885 A.D. To 1947 A.D.	CO1: Understand the causes for the emergence of Indian nationalism CO2 : Analyse the background of moderates and extremist in Indian National Congress CO3: Evaluate the growth of modern industries and its impact on Indian society

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO4: Assess the role of Gandhi in National Movement and various programme introduced by him CO5: Highlights the various programmes and the role of prominent leaders which led towards Independence
20UHS5CC10	History of Arabs UPTO 1258 A.D.	CO1: Study the Topographical features of Arabian Peninsula and flora and Fauna CO2 : Highlights the life of Prophet Mohamed and his important teachings CO3: Analyse the establishment of Caliphate and their administration CO4: Study the Art and Architecture during the Ummayad Caliphate CO5: Assess the contribution of Abbasid Caliphate in art and architecture and the social and cultural progress
20UHS5CC11	Modern History of China and Japan	CO1: Analyse the sphere of influence by the European powers in China CO2 : Study the various reforms introduced in chin before the first World War CO3: Analyse the causes which lead to the modernization of Japan CO4: Understand the role of Japan in the Second World War and the fall of Militarism in Japan CO5: Study the cultural revolution and the establishment of Communist Government in China
20UHS5CC12	History of Europe from 1789 A.D. TO 1919 A.D.	CO1: Analyse the Social, Economic and Political causes for the French revolution CO2 : Understand the Vienna Settlement and its impact CO3: Study the Unification of Italy and Germany CO4: Assess the Balkan crisis and its impact CO5: Understand the causes, course and the impact of First World War.
20UHS5DE1A	Makers of Modern India	CO1: Study the prominent Nationalist leaders and their contribution to Indian Freedom struggle. CO2 : Analyse the prominent social reformers and their role in the societal development CO3: Highlight the prominent Poets of India and their contribution CO4: Assess the role of important Indian scientist and their contribution to science and Technology CO5: Highlights prominent Thinkers of modern India
20UHS6CC13	History of India from 1947 A.D. To 2014 A.D.	CO1: Understand the making of Indian constitution and the features of Indian constitution CO2 : Analyse the impact of National Planning commission, and National Development Council CO3: Highlight the Foreign policy of Lal bahadur sastri and Indira Gandhi CO4: Assess the new economic policy of Rajiv Gandhi and Globalisation of Narasimha Rao Government CO5: Highlights the development of science and technology
20UHS6CC14	History of Europe 1919 A.D. TO 1990 A.D.	CO1: Analyse the condition of Europe between two world wars CO2 : Assess the important causes for the second world war CO3: Study the political scenario of Europe during the cold war period

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO4: Understand the efforts made by UNO for the limitation of Nuclear weapons CO5: Highlights the involvement of European countries in various Global issues.
20UHS6CC15	History of USA from 1865 A.D. To 1964 A.D.	CO1: Highlight the emergence of Labour and Agrarian movements. CO2 : Analyse the importance of Progressive Era in the US History CO3: Understand the role played by Franklin D Roosevelt in the US History CO4: Assess the role played by United States in the Second World War CO5: Study the Emergence of United States after the Second World War.
20UHS6CC16	History of Science and Technology	CO1: Study the important scientific development in the Ancient world. CO2 : Analyse the important scientific inventions during the renaissance CO3: Assess the importance of scientific Academies and the Birth of Modern science and Technology CO4: Highlight the achievements of Technological Revolution and its impact CO5: Realize the scientific Development of India through the ages

COURSE OUTCOMES

M.A. HISTORY

Course Code	Course Title	Course Learning Outcomes
20PHS1CC1	History of India UPTO 1206 C.E.	CO1: Understand the Geographical features India CO2: Identify the pre historic cultural heritage of India and ancient Vedic culture and civilization. CO3: Evaluate the causes for the rise Buddhism and Jainism and its impact CO4: Analyse the emergence of Gupta Empire and the development in ancient Science and Technology CO5: Analyse the Rajput's culture, society and condition of women
20PHS1CC2	History of Tamil Nadu UPTO 1336 C.E.	CO1: Understand the Physical features of Ancient Tamil Nadu and the literary contribution of Sangam age CO2: Assess the contribution of Pallavas to art and architecture CO3: Evaluate the socio- economic and political conditions Cholas rule and their local self-government CO4: Analyse Architectural beauty of Cholas O5: Evaluate the socio-political and economic condition of Tamil Nadu under Pandiyas
20PHS1CC3	Arab Society and Culture Upto 750 C.E.	CO1: Understand the geographical features and socio-economic condition of Arabia during Jahilia period CO2: Assess the Prophet hood of Mohamed, Hijra and the conquest of Mecca

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO3: Analyse Philosophy of Isla, Religious dogmas and five pillars of Islam CO4: Study the Orthodox Caliphate, Canonisation of Quran and the expansion of Islamic rule CO5: Identify the formation of Umayyad dynasty and their Administration
20PHS1CC4	History of USA From 1865 C.E. To 1992 C.E	CO1: Understand the impact of Reconstruction and Emergence of big business CO2: Study the Agrarian unrest and the organisation of labour movement CO3: Assess impotence of Progressive era and the role of USA during First World War CO4: Analyse the condition of USA between two World Wars CO5: Highlights the importance of civil right movement and the Technological progress of USA
20PHS1DE1A	Intellectuals of Tamil Nadu	CO1: Understand the contribution of Freedom fighters of Tamilnadu CO2: Study the Chief Ministers of Tamil Nadu and their contribution CO3: Identify the Social reformers of Tamilnadu and their contribution to Societal development CO4:Evaluate the contribution of Scientists of Tamil Nadu CO5: Assess the contribution of Tamil Poets and writers to literature
20PHS2CC5	History of India From 1206 C.E. To1757 C.E.	CO1:Analyse the Administration of Delhi Sultanate and their contribution to Literature, Art and Architecture CO2:Study the emergence of Vijayanagara Empire and their contribution to Literature, Art and Architecture CO3:Assess the emergence of Mughal Empire and their contribution to Literature, Art and Architecture CO4:Evaluate the Mughal relation with neighbouring rulers in particular with Marathas CO5: Analyse the causes for the decline of Mughal Empire and the establishment of British rule in India.
20PHS2CC6	History of Tamil Nadu From 1336 C.E To 1987 C.E.	CO1:Study the establishment of Vijayanagar rule in Tamilnadu CO2:Analyse the causes for the establishment of British rule in Tamil Nadu and the resistance of native rulers CO3: Evaluate the Revenue, Judicial and police administrations of British CO4: Assess the role of Tamilnadu in Freedom Movement CO5: Evaluate the socio-economic, political and cultural transformation of Tamil Nadu after Independence
20PHS2CC7	Arab Society and Culture From 750 C.E. T0 1258 C.E.	CO1: Understand the causes for the emergence of Abbasid Caliphate CO2: Analyse the Administration of Abbasid Caliphate CO3: Evaluate the socio-economic and cultural condition of Arabia under Abbasid Caliphate CO4: Study the development of agriculture, trade and commerce during the Abbasid Period CO5: Analyse the scientific and literary development of Arabia

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Course Code	Course Title	Course Learning Outcomes
20PHS2CC8	Modern Europe From 1453 C.E To 1815 C.E.	CO1: Analyse the causes for the Geographical Discoveries and its Global Impact CO2:Understand the causes for the Reformation and its Impact on Holy Roman Empire CO3: Assess the emergence of nation states in Europe CO4: Evaluate the impact of Absolute monarch in Europe O5: Study the French revolution and its impact on Europe
20PHS2DE2A	Constitution of India	CO1: Understand the making of Indian constitution. CO2: Analyse the Salient features of Indian Constitution CO3: Estimate the Powers and Functions of Union executives CO4: Evaluate the Powers and Functions of state executives CO5: Study the power and Functions of Judiciary, Comptroller and Auditor General, Finance commission and Election Commission
20PHS3CC9	Historiography: Concepts and Methods	CO1: Understand the meaning, definition and nature of Historiography CO2: Analyse the development of Historical writings in Ancient period CO3: Explain the emergence of Modern Historical writings CO4: Evaluate the contributions of Indian Historiographers CO5: Study the important components of Research
20PHS3CC10	History of India From 1757 C.E To 1857C.E.	CO1: Analyse the causes and course of British expansion in India CO2: Understand the Economic Policy of British in India CO3: Assess the British system administration in India CO4: Evaluate the impact of Social-Religious Reform Movement in India CO5: Analyse the causes for the Tribal Revolts and south Indian Rebellion
20PHS3CC11	Modern Europe From 1815 C.E To 1945 C.E.	CO1: Understand the condition of Europe in the 19th century CO2: Analyse the emergence of Nationalism in Europe and its Impact CO3: Study Socio-political instability in the Ottoman Empire and its impact in Europe CO4: Analyse the causes and results of First World War and the emergence of Communism and Capitalism CO5: Analyse the causes and results of Second World War and the establishment of UNO
20PHS3CC12	Indian Administration	CO1: Understand the meaning , scope and Principles of Public Administration CO2: Analyse the evolution of public administration through the ages CO3: Assess the Nature and Functions of Union Government CO4: Assess the Nature and Functions of State Administration CO5: Identify the importance District Administration and the Power and functions of Local Self Government
20PHS3DE3A	Human Rights	CO1: Understand the historic evolution Human Rights CO2: Study UN declaration of Human Rights, International Conventions and Covenant CO3: Analyse the concept of Human Rights in Indian context and its adoption in Indian constitution

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Course Code	Course Title	Course Learning Outcomes
		CO4: Assess the functions of National and state human rights Commission CO5: Analyse the Contemporary challenges for the implementation of human rights in Indian context
20PHS4CC13	History of India From 1857 C.E. To 1947 C.E.	CO1: Understand the causes, course and impact of the Revolt 1857 CO2: Assess the Queen's proclamation and its impact on Indian administration CO3: Analyse the Emergence of Indian Nationalism and the founding of Indian National Congress CO4: Identify socio-political and economic impact of British rule and response of natives CO5: Explain the causes for the emergence of India's freedom struggle role played by Gandhi in Freedom Struggle
20PHS4CC14	India After Independence	CO1: Assess the impotence of the Integration of Princely States CO2: Analyse the contribution of Nehru in nation building CO3: Explain the role played by Lal Bahadur Shastri and Indira Gandhi in India's Foreign Policy CO4: Analyze the Rajiv regime and the political changes in India after his period CO5: Asses the development of Science and Technology in new millennium
20PHS4CC15	International Relations Since 1945 C.E.	CO1: Study the nature, scope and meaning of International Relations CO2: Analyse the Achievements and failure of the League of Nations. CO3: Explain the rise of Nazism and Fascism and its impact on International Relations. CO4: Understand the Cold War and its impact on World Politics CO5: Analyse the role of UNO in Nuclear Disarmament
20PHS3DE4A	Teaching and Research Aptitude	CO1: Understand the definitions, Nature Concept and meaning of Teaching CO2: Study the fundamental concepts on research methodology CO3: Assess importance and various types of communication CO4: Highlights the Advantages of Information Technology and it use in class room teaching CO5: Understand the importance of environmental production and analyse the impact of pollution on environment

PROGRAMME SPECIFIC OUTCOMES

DEPARTMENT OF MANAGEMENT STUDIES

MBA

Students will be able to

PSO1. Describe current theory and techniques of the business administration, varied

management aspects such as financial management, operations management, marketing management, strategic management and human resource management.

PSO2. Integrate the tools and concepts of various functional areas of Management to investigate and solve the critical and specific business problems to bridge diverse perspectives, cultures, and disciplines.

PSO3. Explore new business opportunities, design and implement innovations in business organizations and lead entrepreneurial leadership and strategic ventures.

PSO4. Apply deontological and consequential views on solving management problems and decision making imbibing legal practices, social values and ethical reasoning.

PSO5. Develop the ability to communicate in a variety of contexts through different medium, assessing global opportunities and challenges for business growth.

M.Phil

Scholars will be able to

PSO1. Integrate management techniques to aid planning and control in changing global competitive environments, conflict management, leadership and team membership skills needed for implementing and coordinating organizational activities.

PSO2. Apply business analysis, management science, data management, diagnostic problem-solving skills and statistical tools for business solutions and decision making.

PSO3. Synthesize employment and business opportunities and become a business leader by means of self employment, entrepreneurship, research quest or competitive examinations.

PSO4. Employ teaching and learning skills in the classroom and personal development through continuous learning.

PSO5. Validate a research problem in the relevant field using scientific methods of addressing a business problem and dissemination of results as report writing.

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COURSE OUTCOMES

M.B.A

Course Code	Course Title	Course Learning Outcomes
20MBA1CC1	Quantitative Methods for Managers	CO1: Facilitate with fundamentals of Matrices, Differential Calculus and solution of problems involving Maxima & Minima of Algebraic functions. CO 2. Integrate the knowledge and skills in Statistics including Probability. CO 3. Understand the application of Probability distribution practically. CO4. Formulate and test the Hypothesis in various realtime business situations. CO 5. Ability to forecast the future business scenarios by using regression and time series methods.
20MBA1CC2	Economics for Decision Making	CO 1. Relate the economic concepts in management and apply in the business decisions. CO 2. Assimilate and apply the laws of economics in the business. CO 3. Acquire the knowledge about the various types of market structure for strategizing and wise decision making. CO 4. Practice the pricing strategies in the organisation. CO 5. Achieve the knowledge about macro economics to foresee the external forces to the effective decisions.
20MBA1CC3	Corporate Communication	CO1. Enable the students to become aware of their communication skills and sensitize them to their potential to become successful managers ethically and legally. CO2. Acquire necessary skills to handle day today managerial responsibilities, such as making speeches, controlling one to one communication, enriching group activities and processes, giving effective presentations, writing letters, memos, minutes, reports and advertising, and maintaining one's poise in private and in public. CO3. Build students' confidence and to install competitiveness by projecting a positive image of themselves and of their future. Create impressive channel of communication that are delivered with confidence and poise. CO4. Understand the effectiveness of communication to implement in functional areas of management to shape the future of the organization. CO5. Formulate an effective communication strategy for any message, in any medium and in any real world situation.
20MBA1CC4	Accounting for Managers	CO1. Understand the basic principles of financial accounting and familiarize with recording of transactions in different accounting books with the aim to find the financial results and position. CO2. Gain sound knowledge in costing concepts, methods and Practice the different methods of pricing the materials Issues, labor and overhead with cost consideration. CO3. Acquire knowledge of Management Accounting functions and Practice the tools of Financial Statement Analysis in order to interpret the results thereof.

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Course Code	Course Title	Course Learning Outcomes
		CO4. Well verse in preparing Fund Flow and Cash Flow statements and get better understanding of fund and cash management concepts. CO5. Excel in Marginal Costing Techniques of decision making for selecting the correct proposal and also familiarize with preparation of different types of Budgets.
20MBA1CC5	Organisational Behaviour	CO 1. Understand organizational behaviour concepts, models and theories to real life management situations through case analysis; CO 2. Demonstrate the applicability of analyzing the complexities associated with management of individual behavior in the organization. CO 3. Analyze the complexities associated with management of the group behavior in the organization. CO 4. Experience how the organizational behavior can integrate in understanding the motivation behind behavior of people in the organization. CO 5. Communicate effectively in oral and written forms about organisational Change and Culture and their application using appropriate concepts, logic and theoretical conventions.
20MBA1CC6	Information Systems for Business	CO 1. Understand the fundamentals of Information systems in the context of Business Management. CO 2. Describe the types of information systems supporting the major functional areas of the Business. CO 3. Integrate the concept of Management Support System into various business situations and facilitate decision making. CO 4. Understand the roles of information systems in the formulation of competitive strategies. CO 5. Outline the importance of the ethical, social, and security issues of information systems.
20MBA1OBT	Out Bound Training Programme (OBT)	• Building self confidence, initiative, creating selfbelief and an attitude of "I CAN" • Enhancing Communication & Interpersonal Skills • Stimulate Out of the box thinking • Group Planning for Success • Managing Time • Goal Orientation • Building Trust, Bonding & Team Building • Group Dynamics (Inter & Intra Group) • Problem Solving & Decision Making through consensus • Developing Leadership skills • Project Management
20MBA2CC7	Operations Research	CO1. To Identify situations in which linear programming technique can be applied and to understand the basic concepts and general mathematical structure of a linear programming model. CO2. To make understand that how optimal strategies are formulated in conflict and competitive environment and to ascertain the use of absorbing state analysis for predicting future conditions.

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Course Code	Course Title	Course Learning Outcomes
		CO3. To recognize and formulate a transportation problem involving a large number of shipping routes and to solve a profit maximization transportation problem using suitable changes in the transportation algorithm and to solve a travelling salesman problem. CO4. To determine the probability of completing a project on or before the schedule date and to know how to update a project along with resource leveling and smoothing. CO5. To make decision under various decision making environment and make understand the tradeoff between cost of service and cost of waiting time.
20MBA2CC8	Operations Management	CO1. Apply the elements of operations management and various transformation processes to enhance productivity and competitiveness. CO2. Analyze and evaluate various facility alternatives and their capacity decisions, Develop a balanced line of production & scheduling and sequencing techniques in operation environments. CO3. Understand the effect of product, process and schedule design parameters on Plant layout. CO4. Implement the practical application of purchase management in inventory system. CO5. Understand the concepts of inspection and quality control and well verse with modern quality control aspects.
20MBA2CC9	Financial Management	CO1. Demonstrate the applicability of the concept of Financial Management to understand the Finance concepts, functions and Time Value of Money. CO2. Apply the Cost of Capital of difference sources and analyses the impact of Leverage. CO3. Clear idea about Optimum Capital Structure and familiarize with Capital Structure Theories and EBIT EPS Analysis associate with Financial Data in the corporate. CO4. Evaluate the financial proposals through Capital Budgeting Techniques and able to take Financial Decisions. CO5. Excel with Working Capital Management and Dividend Distribution Polices with Models.
20MBA2CC10	Marketing Management	CO1. Understand the dynamics of marketing concepts in business. CO2. Facilitate to make an understand on Consumer Behaviour. CO3. Ability to take decisions and plan, develop, execute and control marketing strategies. CO4. Determine strategies for developing new products and services that are consistent with evolving market needs. CO5. Ability to formulate and implement traditional and digital marketing and communications Strategies.
20MBA2CC11	Human Resource Management	CO1. Relating Human resource concept to organization relevance

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Course Code	Course Title	Course Learning Outcomes
		CO2. Understanding new strategic issues and strategies required to select and develop manpower resources. CO3. Develop, analyze and apply advanced training strategies and specifications for the delivery of training programs CO4. Appraise a jobbased compensation scheme that is consistent with organizational goals, mission and values, and at the same time linked to the labor market. CO5. Analyze, explain change in global scenario and summarize the causes and context of emerging changes.
20MBA2CC12	Advanced MS Excel for Managers***	CO1. Navigate around MS Excel and gain familiarity with Tables and Charts. CO2. Work with different types of formulas and functions in MS Excel. CO3. Manipulate Data using What If Analysis and Goal Seeking in MS Excel. CO4. Build Appropriate Formulas for Financial Applications. CO5. Understand data validation rules and create formulas to validate the data in MS Excel.
20MBA2CC13	Business Analytics	CO1. Make the students to understand how analytics is important in today's business environment and how it would be beneficial. CO2. Apply data analytic techniques to solve problems in a variety of business contexts. CO3. Choosing appropriate types and formats of data for topical, network, burst, and temporal analysis and able to Navigate to data sources CO4. Provide the best assessment of the future. CO5. Enabling to make decision under various decision making environments and to understand the importance of utility theory in decision making
20MBA2SP	Societal Immersion Programme	• The course is focuses on the significance of social concern every student must have, to serve the community in a better way. The course i s structured in such a way that it concentrates on poverty, rural poverty, urban poverty which would definitely help students to understand the poverty, livelihood and social welfare in a holistic perspective. • The concept of becoming a social entrepreneur is the core take away. As business students creating social business models out of the social problems are brought as a niche area. • Students of Management Education are going to be future decision makers of CSR activities in the organization. In such a responsible sense, they should know the areas of concern when they contribute towards CSR. For such needs, Societal Immersion Program serves as a great platform in making them understand the concerned areas. • The programme facilitates a huge positive transformation in the mindset of students about the struggling community. A feeling of compassion, love and care is all that people expect and to nurture that in the minds of students, such

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Course Code	Course Title	Course Learning Outcomes
		immersion programs are very important tin helping them to realize the • importance of serving the society.
20MBA3CC14	Research Methods in Management	CO1. Gain familiarity with a phenomenon to achieve insights by identifying right research problem, process and kinds of research ethically and solutions to meet the future needs, culture values and challenges. CO2. Develop understanding to identify right sampling technique to analyze the real time business problems and common human issues. CO3. Have basic awareness to collect information from right source and testing the assumptions to attain the legal and social issues in various business problems. CO4. Have adequate knowledge on multivariate analysis. CO5. Expertise in report writing based on the research findings and identifies future direction for research.
20MBA3CC15	Career Development***	CO1. Facilitate to better understand of self, the personality and control of emotions. CO2. Well versed in Arithmetical calculations CO3. Come out with good communication especially, written communication; comprehend topics. CO4. Able to prepare Resume, participate effectively in Group Discussion and answer well in Personal Interview. CO5. Analytically reason out relationship, situations.
20MBA3CC16	Entrepreneurial Development	CO1. Inculcate ability to recognize distinct entrepreneurial traits to become successful entrepreneur the economic growth CO2. Develop ability to grow the enterprise with learning and development strategies for adapting changes happening in the entrepreneurial environment CO3. Identify parameters to assess opportunities and constraints for new business ideas to gain international Business opportunities CO4. Analyze the systematic process to select, screen a business idea to design strategies for successful implementation of ideas CO5. Enhance Capability to grow the business concern through availing incentives, Subsidies, schemes, Fiscal and Tax concessions offered by the central and state government.
20MBA3DEA1	Consumer Behavior	CO1. Study the fundamentals of consumer behavior and its applications. CO2. Understand the consumer as an individual and their behavioral aspects. CO3. Explore the consumers in their social and cultural settings. CO4. Understand the consumer decision process and postpurchase behaviour. CO5. Sort out the emerging issues in the area of consumer behavior.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
20MBA3DEA2	Advertising and Sales Promotion	CO1. Exposes to the rigors of international advertising and equips them to be able to manage the media along with different aids of advertising in the international markets. CO2. Understand the concept of creativity in depth with the knowledge of growing importance of creativity in ads in today's competitive world. CO3. Assimilate and apply the creative strategies for advertising CO4. Enables the students to understand the ethical code in the advertising industry CO5. Implement the practical application of strategic use of sales promotion
20MBA3DEA3	Sales Management	CO1. Understand the fundamentals of sales management and sales process. CO2. Analyze the importance of sales force management in organizations and role of selling in the market. CO3. Developed understanding of sale forecast and territory management CO4. Demonstrate knowledge and understanding the area of direct marketing CO5. Expose to modern techniques in selling.
20MBA3DEA4	Brand Management	CO 1. Understand the basics of branding and role played by brand managers CO 2. Study the brand extensions, brand ambassadorship CO 3. Expose to recent trends in branding CO 4. Familiarise the Concepts of Brand Loyalty, Equity & Brand protection CO 5. In depth knowledge on the current development in branding
20MBA3DEA5	Digital Marketing	CO1. Examine and explore the role and importance of digital marketing in today's rapidly changing business environment. CO2. Focuses on how digital marketing can be utilized by organizations and how its Effectiveness can measure. CO3. Understand the key elements of a digital marketing strategy CO4. Study how the effectiveness of a digital marketing campaign can be measured CO5. Demonstrate advanced practical skills in common digital marketing tools such as SEO, SEM, Social media and Blogs.
20MBA3DEB1	Security Analysis and Portfolio Management	CO1. Understand the basics of Investments and primary market CO2. Acquire the knowledge and skills of trading in stock market CO3. Familiar with the Technical Analysis of Securities CO4. Facilitate to inculcate basic concepts portfolio management CO5. Ability to evaluate the performance of portfolio and revision of portfolio

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20MBA3DEB2	Financial Derivatives	CO1. Acquaint the students with the broad framework of financial derivatives market and to provide knowledge on various hedging strategies. CO2. Make the students understand the procedures and systems being followed in derivative Markets. CO3. Gain a firm foundation of the underlying concepts behind derivatives and also a detailed understanding of the main characteristics of financial derivatives and their relationships with the underlying assets. CO4. Possess good skills on the valuation principles and models for derivatives. CO5. Using derivatives for a wide range of hedging, trading and arbitrage purposes.
20MBA3DEB3	Strategic Financial Management	CO1. Understand the concepts of Financial Management from Strategic Perspective. CO2. Describe the Concepts of Investment Decision under risk and uncertainty situation. CO3. Integrate the meaning of Corporate, Ownership Restructuring. CO4. Understand the concepts of various valuation methods using for Corporate. CO5. Outline the importance of the Financial Reengineering.
20MBA3DEB4	Risk Management	CO1. Understand the concept of Risk, Types, management of risk for the business CO2. Describe the Classification and barriers of risk involved in the modern business CO3. Integrate the concepts of Enterprise Risk Management, scope and challenges for various enterprise CO4. Understand the concepts of Risk Transfer, Financial risk faced in the context of business management CO5. Outline the Operational Risk Management, VAR with reference to takeover tactics
20MBA3DEB5	Financial Institutions and Markets	CO1. Understand the concepts of Financial Market, Financial Instruments CO2. Describe the Concepts of Indian Capital Market, Functions, Capital Market Instruments CO3. Integrate the meaning of Foreign Exchange Market, Rates, Forex Risk, Swap CO4. Understand the meaning of Mutual Funds, Global Banking, Off shore Banking CO5. Outline the importance of the major institutions and the services offered with in the framework.
20MBA3DEC1	Strategic Human Resource Management	CO1. Practice the theories of SHRM. CO2. Develop a perspective of strategic human resource management and be able to distinguish the strategic approach to human resources from the traditional functional approach. CO3. Identify relevant metrics in strategic human resource management.

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Course Code	Course Title	Course Learning Outcomes
		CO4. Understanding the relationship of HR strategy with overall corporate strategy. CO5. Remember the approaches of strategic Human Resource Management.
20MBA3DEC2	Talent Management	CO1. Understand attraction, acquisition, and retention of talent in organizations. CO2. Develop focus on the alignment of the talent management process with business strategy, with culture, and with people. CO3. Focus on the alignment of the talent management process with business strategy, with culture and with people. CO4. Managing talent in organizations as well as managing one's own talents as an individual. CO5. Employ Modern practices in Talent attraction and retention.
20MBA3DEC3	Change Management	CO1: Identify the change significance to adapt with internal and external environment for Successful implementation of change. CO2: Develop ability to compare and implement the generalized models of change for improved business performance. CO3: Plan and implement organizational changes by applying change strategies. CO4: Analyze the experimentation process while implementing behavioral change and analyze the strategies can be used to stay away from implementation failures. CO5: Capable to realize the connection between leadership strategies and successful implementation of change to lead effectively.
20MBA3DEC4	Training and Development	CO1. Describe the key concepts associated with Training & Development CO2. Explain the training process and the various methods of training for various categories of employees in a variety of organizational contexts. CO3. Identify training needs of various categories of employees in a variety of organizational contexts. CO4. Examine the impact of training on various organizational and HR aspects CO5. Evaluate the training process of various categories of employees in a variety of organizational contexts.
20MBA3DEC5	Industrial Relations and Labour Legislations	CO1. Describes Sectoral distribution of employment and major occupations in India. CO2. Ability to recall the procedures of Registration of Trade Unions CO3. Constructs disciplinary and grievance redressal procedures. CO4. Knowledge to handling industrial disputes. CO5. Apply the various laws in industrial context
20MBA3DED1	Knowledge Management System	CO1. Define the nature and topology of knowledge and knowledge management within Business context.

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Course Code	Course Title	Course Learning Outcomes
		CO2. Identify tools and technologies for capturing, organizing, distributing, and sharing knowledge. CO3. Formulate knowledge management strategies for Competitive Advantage. CO4. Examine the factors that encourage and discourage Knowledge Transfer and Knowledge sharing. CO5. Identify the Ethical, Legal and Managerial Issues with regard to KMS Design and Implementation.
20MBA3DED2	IT Strategy for Business	CO1. Differentiate IT strategies and Business Strategies. CO2. Develop IT strategies for startup product companies. CO3. Integrate the principles of KM in IT strategy development. CO4. Design IT strategies for Non IT companies CO5. Devise IT strategies for achieving differentiation and Competitive Advantage.
20MBA3DED3	Modern Database Management System	CO1. Explore the basic concepts database system and Write SQL Queries for a given scenario. CO2. Perform mathematical and logical manipulations using SQL operators and SQL functions. CO3. Define constraints for data base and create reports in SQL*PLUS for decision making. CO4. Create and manipulate database using the PL/SQL programs and Triggers. CO5. Implement PL/SQL procedures and functions for database manipulation.
20MBA3DED4	Information Technology Management	CO 1. Thorough Update of information technology management used in Business Organizations CO 2. Understanding managerial aspects to use information technology effectively and efficiently CO 3. Capability to integrate related aspects of information technology CO 4. Develop view of IT management for all types and size of organization CO 5. Understand IT management as an independent and important field of work
20MBA3DED5	Data Mining	CO1. Understand the functionality of the various data mining and data warehousing component CO2. Appreciate the strengths and limitations of various data mining and data warehousing models CO3. Explain the analyzing techniques of various data CO4. Describe different methodologies used in data mining and data ware housing CO5. Compare different approaches of data ware housing and data mining with various technologies
20MBA3DEE1	Inventory Management	CO1. Understand on the basic concepts of Inventory. CO2. Get ideas on inventory and delivery. CO3. Gain a deep insight on Product Forecasting CO4. Study about environmental Aspects of Storage CO5. Gain awareness on modern trends in Inventory Management.

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Course Code	Course Title	Course Learning Outcomes
20MBA3DEE2	Strategic Logistics Management	CO1. Ability to understand the scope, functions and objectives of logistics to solve Managerial issues. CO2. Apply the knowledge of distribution channels and outsourcing logistics on achieving value proposition to the organization. CO3. Analyze the importance of transportation and packaging and its effect on consumer and industry CO4. Evaluate the performance of logistic functions in an organization CO5. Execute logistics desires of a company from a global perspective
20MBA3DEE3	Material Flow Management	CO1. Understand flow of materials in a supply chain practice. CO2. Apprehend the role of transportation and warehouse management CO3. Understand the essentials of packaging and Materials handling from Logistics point of view. CO4. Know the Government statutory requirements related to logistics management CO5. Demonstrate linkages between concepts and practical application of managing material flow in supply chains.
20MBA3DEE4	Essentials of Supply Chain Management	CO1. Recognize the process of supply chain and apply it in real business situation. CO2. Display specialized technical, analytical and creative skills which are fundamental to Problem solving and decision making. CO3. Identify the fundamental theories and concepts and methods that inform supply chain management within a variety of organizational settings and in a variety of disciplines CO4. Apply Supply Chain Drivers to Improve the Performance of Supply Chain Enhance knowledge CO5. Develop corporate procurement and logistics management strategy in line with the corporate strategic objectives and goals and be able to negotiate contracts effectively
20MBA3DEE5	Vendor Management	CO1. Understand purchasing process policy and procedures. CO2. Aware basic terminology and supply chain operations in the context of today's business environment. CO3. Know the role and function of purchasing and sourcing management. CO4. Realize the importance of purchasing and sourcing management in modern day business. CO5. Assimilate supplier quality management.
20MBA3DEF1	Innovation and Startup	CO1. Analyze and innovate new products with present market scenario through Business Model Innovation CO 2. Experiment service innovations by sector and frame strategies in respect to the Environment. CO 3. Identify the innovative culture to get success in the experimentation processes. CO 4. Ability to ideate, Assess, Validate and execute the ideas for Successful startup.

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Course Code	Course Title	Course Learning Outcomes
		CO 5. Make changes by assessing the performance of the startup.
20MBA3DEF2	Project management	CO1. Understand the concepts of Project Life Cycle and its phases. CO2. To identify alternative solutions for project planning. CO3. Apply techniques to identifying project risks. CO4. To Construct the project network. CO5. To develop various project Models.
20MBA3DEF3	Entrepreneurial Finance	CO1. Explain the concepts of Entrepreneurial finance and its difference to traditional Corporate finance. CO2. Analyze the sources of Finance. CO3. Synthesize the risks involved with capital research and valuation CO4. Assess the necessary steps for measuring new business venture performance. CO5. Evaluate the key concepts involved with the planning
20MBA3DEF4	Information Technology and E Commerce	CO1. Study about information Technology concepts and features CO2. Gain practical knowledge exposure to Windows XP CO3. Provide practical knowledge exposure MS Excel CO4. Understand the categories of ECommerce and understand the different applications of ECommerce CO5. Identify security issues of E Commerce
20MBA3DEF5	Business plans	CO1. Understand The Dynamics Of Business Plan CO2. Develop, Analyze And Apply Advanced Strategies And Specifications For The Business Plan Process, CO3. Determining The Strategies To Formulate Components Of Business Plan CO4. Enabling To Understand The Emerging Ethical Issues And Corporate Governance CO5. Able To Evaluate The Industry Potential And Market Situation
20MBA4CC17	International Business Management	CO1. Understand concepts in international business with respect to foreign trade/international business CO2. Acquire knowledge about various theories of international business CO3. Understand world financial environment CO4. Gain knowledge of structure and functions of TRIPS, TRIMS, WTO CO5. Study the various international business strategies production strategy international human resources strategy and international marketing strategy etc.
20MBA4CC18	Strategic Management	CO1. Understand the strategic decisions that organizations make and have an ability to engage in strategic planning. CO2. Explain the basic concepts, principles and practices associated with strategy formulation and implementation. CO3. Integrate and apply knowledge gained in basic courses to the formulation and implementation of strategy from holistic and multifunctional perspectives.

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Course Code	Course Title	Course Learning Outcomes
		CO4. Analyze and evaluate critically real life company situations and develop creative solutions, using a strategic management perspective. CO5. Scrutinize various types of measures and controls to measure organizational performance.
20MBA4DEA1	Retail Management	CO 1. Understand the basic concepts of retail management CO 2. Explore the retailing in India and global context CO 3. Aware of the various retail formats and its administration CO 4. Know the retail marketing mix and the inventory CO 5. Understand the retail shoppers' behavior and attitude.
20MBA4DEA2	International Marketing	CO1. Understand basic international marketing concepts, theories, principles and terminology. CO2. Demonstrate an awareness and knowledge of the impact of entry strategies on international marketing activities. CO3. Be capable of identifying international customers through conducting promotion Strategies and developing crossborder segmentation and positioning strategies. CO4. Apply the procedure of investing money in the global business CO5. Understand the export procedures and documentation for doing international Business.
20MBA4DEA3	Customer Relationship Management	CO1: Ability to understand the basic concepts of CRM CO2: Understand Customer based CRM into business strategy CO3: Analyze the various marketing aspects of CRM by using customer research and evaluation CO4: Manage Customer relationships and its importance. CO5: Analyze the various strategies and develop CRM strategy
20MBA4DEA4	Services Marketing	CO1. Examine the nature of services, and distinguish between products and services CO2. Identify the major elements needed to improve the marketing of services CO3. Develop an understanding of the roles of relationship marketing and customer service in adding value to the customer's perception of a service CO4. Demonstrate integrative knowledge of marketing issues associated with service Productivity, perceived quality, customer satisfaction and loyalty CO5. Recognise how services marketing principles can be used as a conceptual framework to help managers identify and solve marketing problems
20MBA4DEA5	Marketing Research	CO1. Make the student as a knowledgeable research consumer and a beginning practitioner. CO2. Focus on qualitative (exploratory) and quantitative research execution and the application of research findings and analysis in decision making. CO3. Facilitate with practical application of research, through gaining working knowledge of certain terminologies.

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Course Code	Course Title	Course Learning Outcomes
		CO4. Translate marketing problem into a feasible research question. CO5. Understand the fundamentals of qualitative (exploratory) and quantitative marketing research.
20MBA4DEB1	Financial Modelling using Excel	CO1: Understand the concept of Design Model for analysing performance, variance and break even analysis. CO2: Describe the various financial models for calculating cost of capital, time value of money and for planning capital budgeting and capital structure. CO 3: Integrate the concepts of developing model for valuing share and bond, analysing portfolio and risk. CO4: Understand the concepts developing the model for the applications of investment Management CO5: Understand the concepts developing the model for the applications of linear regression, trend line, data smoothing and decision tree model.
20MBA4DEB2	Banking and Insurance	CO1. Understand the basics of Indian Banking System and Banking Structure. CO2. Acquire the knowledge and skills of banking functions and services CO3. Integrate the application of technology in banking and its impact. CO4. Facilitate to inculcate basic concepts of insurance and its functions CO5. Develop depth knowledge of various types of insurance.
20MBA4DEB3	International Finance	CO1: Ability to understand the concept of international monetary system and the foreign exchange markets CO2: Apply knowledge of derivatives to risk management in international financial markets. CO3: Understand the Concept International Financial Instrument and Corporate Finance. CO4: Integrate the knowledge of Analyze and determine cost of capital and multinational capital budgeting to enable firms to make informed investment decisions CO5: Acquire the knowledge of processes and instruments used in the financing of international trade.
20MBA4DEB4	Financial Services	CO1. Practice the concept of financial system. CO2. To differentiate the Hire purchase and leasing. CO3. Apply the mechanism of forfaiting and methodology of credit rating system. CO4. To enable the students get familiarize with Mutual Funds CO5. Understanding legal aspects of Venture Capital and Housing Finance.
20MBA4DEB5	Tax Management	CO 1. Understand the basics of Tax system and Tax planning in India CO 2. Acquire the knowledge and skills to calculate tax on salary income CO 3. Familiar with tax planning of house property income CO 4. Facilitate to inculcate basic concepts of business tax planning

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Course Code	Course Title	Course Learning Outcomes
		CO 5. Practice tax management in firms and companies
20MBA4DEC1	HR Analytics	CO1. Understanding of the role and importance of HR analytics, and the ability to track, store, retrieve, analyse and interpret HR data to support decision making. CO2. Apply benchmarks/metrics to conduct research and statistical analyses related to Human Resource Management CO3. Employ appropriate software to record, maintain, retrieve and analyse human resources information (e.g., staffing, skills, performance ratings and compensation information). CO4. Apply quantitative and qualitative analysis to understand trends and indicators in human resource data; understand and apply various statistical analysis methods. CO5. Demonstrate how to connect HR results to business results.
20MBA4DEC2	International Human Resource Management	CO1. Ability to deal with international culture and diversity. CO2. Apply selection process and also manage expatriate and repatriation. CO3. Understand the international training module CO4. Analyse the Performance appraisal Techniques. CO5. Create labour relations in Multinational Corporations etc.
20MBA4DEC3	Performance Management	CO1. Systematically decide and communicate strategic performance aims, objectives, priorities and targets. CO2. Plan effective performance management policies and practices to improve organizational and employee performance. CO3. Devise and sustain arguments for using appropriate performance management techniques, rewards and sanctions to improve performance. CO4. Demonstrate the appraisal skills required when managing achievement and underachievement. CO5. Critically evaluate the effectiveness of performance management.
20MBA4DEC4	Managerial Behaviour and Effectiveness	CO 1. Inculcate effective job behaviour and inter personal relationship to maintain organizational peace. CO 2. Identify managerial behavioural talents and remunerate the right talents for enhancing organizational effectiveness. CO 3. Apply managerial behavioural approaches to face the environmental changes internally and externally. CO 4. Analyze the leadership talents to foster synergy in the organization. CO 5. Develop ability to address learning issues with the employees and favours the organization to face with the competitors.
20MBA4DEC5	Human Resource Development	CO1. To build an understanding about perspective of Human Resource Development as discipline, appreciating learning. CO2. To learn the skills of developing a detailed plan for need and implementation of HRD program in the organization. CO3. To learn role of learning in action as an individual, group and an organization in order to develop creative strategies to organizational problems.

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Course Code	Course Title	Course Learning Outcomes
		CO4. To develop a perspective of HRD beyond organizational realities. CO5. To understand contemporary realities of HRD and its future needs.
20MBA4DED1	Software Project Management	CO1. Identify the different project contexts and suggest an appropriate management strategy. CO2. Practice the role of professional ethics in successful software development. CO3. Identify and describe the key phases of project management. CO4. Determine an appropriate project management approach through an evaluation of the business context and scope of the project. CO5. Demonstrate an ability to present ideas both formally and informally to a group of their peers and the management.
20MBA4DED2	Cyber Security	CO1. Analyze and evaluate the cyber security needs of an organization. CO2. Determine and analyze software vulnerabilities and security solutions to reduce the risk of exploitation. CO3. Measure the performance and troubleshoot cyber security systems. CO4. Comprehend and execute risk management processes, risk treatment methods, and key risk and performance indicators CO5. Design and develop security architecture for an organization.
20MBA4DED3	Enterprise Wide Information System	CO1. Comprehend the technical aspects of ERP systems. CO2. Understand roles of BPR in ERP system implementations. CO3. Describe typical functionality in an ERP system. CO4. Understand the activities of supply chain and roles of E SCM in enterprise system. CO5. Develop skills to identify and solve the issues in CRM effectively.
20MBA4DED4	Decision Support System	CO1. Describe different kinds of decision support systems and their functions. CO2. Understand the applications and Impact of DSS in different kinds of organizations. CO3. Analyze typical decision situations in market. CO4. Apply relevant theory in order to evaluate different alternatives for decision making. CO5. Identify the circumstances under which, EIS and ES can be used for decision making.
20MBA4DED5	E Business	CO 1. Understand the basics of concepts of EBusiness CO 2. Acquire the knowledge of different E business models CO 3. Familiar with web designing and website construction CO 4. Inculcate the knowledge of security aspects in ebusiness CO 5. Wellverse with emarketing and e payment systems and its applications

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Course Code	Course Title	Course Learning Outcomes
20MBA4DEE1	Six sigma	CO1. Enable the student to identify the characteristics of an organization's business processes. CO2. Identify the process or product customers impacted by the problem CO3. Delivering nearperfect goods and services for business transformation for optimal Customer satisfaction CO4. Acquaint the knowledge that the primary goal is to bring maximum benefit to the customer. CO5. Facilitate that the business transformation and change.
20MBA4DEE2	Supply Chain Planning	CO 1. Acquire knowledge on Supply chain forecasting. CO 2. Implement the Supply chain based on the demand. CO 3. Acquire knowledge on the various Planning Strategies. CO 4. Know factors responsible for decisions. CO 5. Illustrate the network decisions.
20MBA4DEE3	Supply Chain Coordination	CO 1. Understand the fundamentals of supply chain coordination CO 2. Know the challenges in supply chain coordination CO 3. Understand how managerial levers and partnerships aid in achieving Supply Chain coordination CO 4. Expose to the different approaches for coordination systems CO 5. Apply the different strategies of supply chain coordination
20MBA4DEE4	Modelling for Supply Chains	CO1. Understand the concepts of modelling and analytics for supply chain management in MS Excel CO2. Analyze the complexities associated in supply chain with linear programming models CO3. Evaluate the effectiveness of transportation models CO4. Apply the elements of performance Measures and performance Models for supply chain. CO5. Formulate an effective network strategy in supply chain.
20MBA4DEE5	Theory of Constraints	CO1. Familiarize students to the fundamentals of operational process analyses with a view to improving productivity and performance towards fulfilling the overall business goals. CO2. Enable them learn the concepts, principles and application of the theory of constraints approach in this regard. CO3. Identify the constraints in organizational process CO4. Estimate and express the constraints. CO5. Evaluate the performance after elevation of constraints.
20MBA4DEF1	Diversity Management	CO1. Understand the new Changes in the Business Environment Cultural Diversity CO2. Analyze Change in Global Scenario and Summarize the Causes, Context of Emerging Changes in the Management CO3. Managing Competition And Legal Acts in India. CO4. Articulate Both The Advantages And The Challenges Of Diversity

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Course Code	Course Title	Course Learning Outcomes
		CO5. Understand Diversity in the Organization and Implement Diversity Strategies to Develop Smooth Working Environment in Global Companies
20MBA4DEF2	Business Opportunity Recognition and Forecasting	CO 1. Inculcate skills to evaluate and source the right business opportunity for excelling with creativity CO 2. Eliminate the risks involved due to industry setup & competitors and overcoming the risks with business concept CO 3. Identify the marketing strategy for adapting in relation with the external environment CO 4. Build scenario planning in the organization through developing scenario matrix CO 5. Foresight while recognizing the opportunity through assessment and gives feedback for the business processes
20MBA4DEF3	Creative problem solving	CO1. Make the students to understand the role of creativity and innovation CO2. Be familiar with processes and methods of creative problem solving. observation, definition, representation, ideation, evaluation and decision making CO3. Recognize and overcome barriers to using creative problem solving in management practices and decisions. Incorporate whole brain thinking strategies into personal approach to solving problems in the workplace. CO4. Develop solutions to workplace problems through applying appropriate problem solving techniques. CO5. Demonstrate knowledge of Organizational Creativity & Innovation Creativity.
20MBA4DEF4	Small Business Management	CO1. Familiarize the students with the concept of small business CO2. In depth knowledge on small business opportunities and challenges CO3. Ability to devise plans for small business by building the right skills and marketing Strategies CO4. Identify the funding source for small startups CO5. Business evaluation for buying and selling of small firms
20MBA4DEF5	Sustainable Enterprise	CO1. Innovate Sustainable products and services for having social return for the enterprise CO 2. Apply Sustainable Business Strategies in the business and makes journey towards Sustainable Development Goals CO 3. Practice Different Approaches for making the Successful sustainable enterprise CO 4. Utilize the Concepts of Green Business for adapting Sustainable business environment CO 5. Manage Green Business and Practice Job Opportunities on green enterprise and contribute economic growth

PROGRAMME SPECIFIC OUTCOMES
DEPARTMENT OF SOCIAL WORK

MSW

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Students will be able to

PSO1. Discuss the nature of social work profession, ideals virtues of social work and effectual way of working as individual within groups and families.

PSO2. Demonstrate ethical, professional and social demeanor social workers and engage in lifelong learning and personality development.

PSO3. Apply knowledge of social systems and human behaviour to promote social change, problem solving in human relationships and the empowerment of people to enhance their well-being.

PSO4. Express knowledge of theory, legislation, policy, official inquiry reports and international conventions, to assessment and intervention planning in social work practice.

PSO5. Employ social entrepreneurship for sustained living, in changing society by engaging in action projects, research work, networking and Liasoning.

M.Phil Social Work

Scholars will be able to

PSO1. Explain the contemporary issues in social work and the changing trends and global expectation from the social workers.

PSO2. Recognize teaching and learning skills adequate for classroom teaching and learning techniques for self improvement in academics.

PSO3. Assess the requisite needs of individuals, groups and organizations, carryout a research study and emerge solutions for the welfare of the society following ethics, code of practices and virtues of research.

PSO4. Restate the research results in oral and written form and promote the study findings as publications.

PSO5. Apply the theories, concepts and knowledge of social issues in enhancing professionalism as an independent worker or through affiliation.

Course Code	Course Title	Course Learning Outcomes
20PSW1CC1	Social Work Profession and Society	CO1: Gain knowledge on concepts of Social Work, historical development of the profession and its different methods. CO2: Enhance understanding on principles, scope and philosophy of Social Work. CO3: Increase knowledge on fields and emerging areas of Social Work. CO4: Create awareness on problems that is prevalent in the society.

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Course Code	Course Title	Course Learning Outcomes
		CO5: Develop deeper understanding on various recent trends in Social Work profession.
20PSW1CC2	Working With Individuals	CO 1: Enable the student to get sufficient knowledge on working with individuals. CO 2: Enhance the understanding of basic tools and techniques in working with individuals in problem solving CO 3: Identify the various situations and practical applicable settings of social work methods CO 4: Ability to critically analyze the problem of individuals. CO 5: Acquire the skills and attitudes to work with individuals.
20PSW1CC3	Working with Groups	CO 1: Enable the students to learn the values, concepts, principles and process of working with groups. CO 2: Expand their ability to build a team to achieve the goal in the society CO 3: Apply the knowledge about social group work in various settings CO 4: Ability to critically analyze the problem of groups. CO 5: Acquire the skills and attitudes to work with groups in the present context.
20PSW1CC4	Working with Communities	CO 1: Understand the concept of community and Social Action CO 2: Obtain the insight about welfare of the community towards the development CO 3: Apply the methods and techniques for social transformation CO 4: Able to experiment the phases of community organization for social change. CO 5: Acquire the knowledge about social action movements for the social progress.
20PSW1CC5	Field Work Practicum	CO1: Enhance understanding about organizational profile, activities and role of social workers in selected civil society organizations, hospitals, industries and government institutions. CO2: Gain familiarity on identifying rural area and it's problems prior to rural camp, executing methods of Social Work based on needs of rural area during rural camp, planning the entire rural camp program and its effective implementation by optimal utilization of financial and community resources. CO3: Develop professional skills on planning and organizing group project by using social worker's intervention for social problems by creating sensitization on it among people in rural and urban areas. CO4: Acquire the basic skills and abilities needed to outshine as a Social Work professional. CO5: Enrich understanding about social problems in rural and urban areas.
20PSW2CC6T	Management of Welfare Organization– Theory	CO 1: Understand the Concept and Functions, Social work methods CO 2: Apply the skills and techniques of social welfare administration in different settings. CO 3: Gain knowledge on Social and personal Legislation for catering to the needs of the society.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
		CO 4: Initiate own social welfare organization based on the knowledge of social work Profession. CO 5: Enhance the abilities and qualities of social workers in administering community based organization.
20PSW2CC6P	Management of Welfare Organization– Practical	CO 1: Understand the basic knowledge of computer for the application of technology in social work practice. CO 2: Apply the computers in the Field for the presentation of social issues properly. CO 3: Acquire the skills and techniques of computer for excelling in social work profession. CO 4: Prepare the documentations by using the knowledge of computer technology. CO 5: Apply the internet resources for the better functioning in the society
20PSW2CC7	Research Methods in Social Work	CO 1: Acquire the understanding about the concepts of Social work research CO 2: Recognize the various processes involved in research CO 3: Enable the students to acquire skills in addressing the social issues in the society. CO 4: Apply the social statistics in analyzing the issues pertaining in the community CO 5: Identify the social issues, frame the action research and suggest the suitable measures
20PSW2CC8	Human Growth and Personality Development	CO 1: Obtain the basic understanding of the concept of psychology and personality. CO 2: Understand Physical, Psychological, Social and Emotional changes and development of a person in the present. CO 3: Enhance the knowledge about psychological theories to fulfill the needs of the society. CO 4: Gain the knowledge on human behavioral changes and found suitable strategies for the social development. CO 5: Apply the knowledge of psychology in the various stages of human life in the field work practice.
20PSW2CC9	Counselling in Social Work: Theory and Practice	CO 1: Acquire the basic knowledge on counselling. CO 2: Enhance knowledge about the various types of counselling for solving the behavioural problems of the persons. CO 3: Develop skills and techniques of counselling for becoming professionally effective. CO 4: Create aware about theories and modalities of counselling for becoming proficient. CO 5: Apply the knowledge of counselling in various settings for being successful in it.
20PSW2CC10	Concurrent Field Work	CO1: Enhance understanding about fieldwork agency profile, activities and role of social worker in it. CO2: Enable students to plan and apply the methods of social work at the relevant fieldwork organization (i.e. Hospitals or Industries or Civil Society Organization or Special Schools). CO3: Contribute for the fieldwork organization by way of documentation, creating awareness program and helping professional social workers in the organization.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO4: Understanding the application oriented aspects of theoretical concepts and methods of Social Work discipline at the fieldwork agency. CO5: Develop skills needed to outshine as a Social Work professional through fieldwork experiences.
20PSW3CC11	Summer Internship*	CO1: Understand the functioning of the social work agencies CO2: Enrich the professional capacity of the social workers CO3: Imbibe the ethics of social work to the trainees CO4: Promote networking among social work agencies CO5: Enhance the reporting and documentation skills of social work students
20PSW3CC12	Social Entrepreneurship	CO 1: Apply and critique social entrepreneurship frameworks CO 2: Apply the theory of change model for social enterprises CO 3: Identify areas of our economy/society where social entrepreneurs work CO 4: Identify characteristics of successful social entrepreneurs CO 5: Analyze the challenges in growing a social enterprise and scaling social impact
20PSW3CC13	Disaster Management	CO1: Enhance understanding on concepts pertaining to disaster (i.e. meaning, significance, types, impact, intervention, etc.), Disaster Management Act, 2005 and key agents in disaster management CO2: Gain familiarity on concepts relating to disaster mitigation, disaster management, disaster management cycle and disaster management dimensions. CO3: Improve knowledge on impact of disaster during, post disaster, impact of it on physical, economical, spatial, psycho social conditions and on its victims. CO4: Know about concepts relating to relief, reconstruction, rehabilitation, prerequisites and constraints in relief work. CO5: Enrich acquaintances on disaster policy in India, Disaster Management Act, 2005, international agencies working for disaster, role of international civil society organizations, media, social workers, case studies relating to disaster, etc.
20PSW3DE11	Community Health	CO 1: Obtain knowledge and understanding about the concept of health and community health CO 2: Strengthen the understanding of health care system in India. CO 3: Enhance the skills to assess the health needs of the community CO 4: Develop the understanding of nutrition and the deficiency of it create hazards in human beings CO 5: Acquire the understanding of various communicable and non-communicable diseases that affect the human beings.
20PSW3DE12	Mental Health	CO 1: Able to understand the Concept and History of Mental Health CO 2: Develop the Assessment skills and applying the knowledge in the field of Mental Health CO 3: Acquire the Knowledge about Neurotic, Stress-related and Somatoform Disorders

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO 4: Gain the insight of Prevalence and Treatment modalities Psychosis, Psycho-somatic problems CO 5: Ability to familiarize in the field of mental health and mental Illness.
20PSW3DE13	Disability and Social Work	CO 1: Obtain knowledge about disability and impairment CO 2: Acquire insight into different types of disability CO 3: Understanding the impact of disability on individuals and families CO 4: Develop an attitude of respect and dignity towards persons with disability CO 5: Strengthen the skills of social worker to deal the persons with disability.
20PSW3DE21	Rural Community Development	CO 1: Understand about the culture and lifestyle of rural community CO 2: Critical analysis of the problems of people in rural community CO 3: Obtain knowledge about the administrative structure of rural community development CO 4: Strengthen the knowledge about the rural development programmes for the welfare of the rural community CO 5: Enrich the skills to apply the social work methods for the development of the rural community
20PSW3DE22	Urban Community Development	CO1: Enhance understanding on concepts pertaining to urban community (i.e. Features of urban area, classification, trends in urbanization process, types and theories of migration). CO2: Gain familiarity on theories of urbanization, characteristics of urbanism, approaches, theories, classification of slums and urban problems. CO3: Improve knowledge on concept, approaches, process and methods of urban community development as well as about laws relating to it. CO4: Know about concepts relating to urban development administration at national, state and local level, urban development agencies, urban services, urban deficiencies and role of voluntary agencies in urban development. CO5: Enrich acquaintances on various urban development programmes, problems in implementation of programmes related to urban development and role of community development professionals.
20PSW3DE23	Tribal Community Development	CO 1: Enable the students to understand the unique nature of tribal culture. CO 2: Develop sensitivity and commitment for working with tribal community CO 3: Enhance skills on critical review of tribal development Programmes and its application of social work methods. CO 4: Acquire the knowledge on the government and voluntary efforts towards tribal development. CO 5: Understand the Problems of tribal community and its administration.
20PSW3DE31	Human Resource Management	CO 1: Gain requisite knowledge on various HR aspects CO 2: Familiarize the emerging trends in HRM

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO 3: Identify the challenges of HR Profession in the 21st Century CO 4: Understand the Methods of various skills of Human Resource Records Maintenance/ Evaluation CO 5: Enhance knowledge of incorporating specific social work interventions in Industrial Settings
20PSW3DE32	Industrial Relations and Labour Legislations	CO1: Gain knowledge on the concept of labour, labour welfare and industrial relations. CO2: Understand concept, causes and consequences of industrial conflict and aspects pertaining to collective bargaining. CO3: Enlighten on theories pertaining to labour legislation, laws relating to working conditions and worker's organization. CO4: Know about various protective legislation and wage legislations. CO5: Develop understanding on laws relating to industrial relation and social security.
20PSW3DE33	Training and Development	CO1: Understand principles, need, importance of training and organizing training programmes for employees at various levels. CO2: Develop understanding on training need analysis and designing a training programme. CO3: Enhance the understanding of methods and techniques of training. CO4: Improve understanding on employee development and executive development programme. CO5: Gain familiarity on aspects relating to management development in global context and training in important areas of human resources.
20PSW3CC14	Concurrent Field Work	CO1: Implement the process of undertaking case history and providing psycho social intervention in hospitals. CO2: Gain knowledge about the company or industry, functions of human resource managers and implementation of labour laws. CO3: Develop familiarity about civil society organization, their activities and role performed by community development professional in the institution. CO4: Practice methods of Social Work and theoretical concepts learnt in hospitals, industries and civil society organization. CO5: Contribute towards fieldwork agencies in form of documentation, practicing methods of Social Work, training and awareness programs, etc.
20PSW4DE14	Medical Social Work	CO 1: Obtain understanding about social work in medical settings CO 2: Strengthen knowledge of psychological, social, and economic implications of illness on the patient and families CO 3: Understand the structure and functions of hospitals for the welfare of the society CO 4: Gain insight into the health policies and programmes meant for the welfare of the people in the society. CO 5: Enrich the skills of social workers to deal with patients and their families.
20PSW4DE15	Psychiatric Social Work	CO 1: Acquire specific knowledge and concept of psychiatric social work.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO 2: Understand the therapeutic intervention in psychiatric illness/ theoretical framework for individual psychotherapy and counseling. CO 3: Enhance skills and intervention techniques for psycho-social treatment and Rehabilitation of psychiatric patients CO 4: Ability to build professional skills and use the methods to solve the issues of the personality. CO 5: Develop the capacity of the student to apply knowledge and skills of the methods of professional social work in the domain of mental health
20PSW4DE24	Project Management	CO 1: Obtain basic knowledge about NGO and its functions CO 2: Understand various dimensions of project from planning till evaluation CO 3: Acquire skills to draft a project proposal CO 4: Enhance skills in undertaking participatory methodology CO 5: Understand the legal frame work to start and manage an NGO
20PSW4DE25	Social Development	CO 1: Gain knowledge about underdevelopment and sustainable development for the welfare of the society CO 2: Obtain understanding about the concept of social development of the people in the society CO 3: Develop the understanding of local self-governance for the welfare of the people in the society CO 4: Obtain knowledge about the roles and responsibilities of NGO's in promoting social development CO 5: Enhance the skills of social workers towards working for social development
20PSW4DE34	Organizational Behaviour	CO1: Enhance understanding on concepts pertaining to organizational behaviour (i.e. Features, importance, disciplines contributing to organizational behaviour, historical background, models, Etc.) CO2: Gain familiarity on aspects relating to individual behaviour, personality, perception, job stress, burnout, frustration and coping strategies. CO3: Improve knowledge on group behaviour, group dynamics and team building. CO4: Know about organizational structure, organizational change, organizational culture, organizational effectiveness, organizational design, organizational change management and challenges to organizational behaviour. CO5: Enrich acquaintances on organizational change and development
20PSW4DE35	Strategic HRM	CO 1: Assess the contribution of human resources strategic planning to an organization's bottom line. CO 2: Develop values and ethics statements that support organizational goals. CO 3: Analyze how an organization's learning capability affects its success in change management. CO 4: Assess the role of human resources management in work design and redesign initiatives.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
		CO 5: Evaluate the impact of globalization on an organization's human resources.
20PSW4CC15	Concurrent Field Work	CO 1: Obtain knowledge about the practices and functioning of the hospitals, industries and NGOs CO 2: Obtain the skill of practicing case study, group work and organizing the community for sustainable development CO 3: Learn the skill of assessing the need of the community through PRA CO 4: Obtain knowledge of monitoring and evaluation of various projects of the organization, hospitals and industries CO 5: Gain insight into various industries, hospitals and NGOs which render service to the society
20PSW4CC16	Pre-Employment Training/Block Placement	CO 1: Implement the process of undertaking case history and providing psycho social intervention in hospitals. CO 2: Gain knowledge about the company or industry, functions of human resource managers and implementation of labour laws. CO 3: Develop familiarity about civil society organization, their activities and role performed by community development professional in the institution. CO 4: Practice methods of Social Work and theoretical concepts learnt in hospitals, industries and civil society organization. CO 5: Contribute towards fieldwork agencies in form of documentation, practicing methods of Social Work, training and awareness programs, etc.
20PSW4PW	esearch Project	CO 1: Introduce and to provide hands on training to the students on the various sampling procedures. CO 2: Impart knowledge on data collection skills CO 3: Develop their ability to analyse the data they have collected. CO 4: Develop their scientific writing and ability for logical reasoning CO 5: Develop skills for use of library and documentation services for research.
20PSW4EC2	Social Work for Career Examinations	Develop the practical skills and qualities in the field of social work careers and opportunities.
20PCNOC	Online Course (Compulsory)	Updating their knowledge and skills to survive in the competitive field of social work

PROGRAMME SPECIFIC OUTCOMES
PG & RESEARCH DEPARTMENT OF TAMIL

இளங்கலைத் தமிழியற் பட்டம் (B.Lit)

PSO1. மொழி இலக்கியம் குறித்த விரிவான ஒருங்கிணைந்த கருத்தியலை வெளிப்படுத்தல்.

PSO2. பல்துறை சார்ந்த உயர்கல்விக்கு வழிகாட்டும் வகையிலான உரையாடல் மற்றும் பயன்முறைத் திறன்களை வளர்த்தல்.

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PSO3. விமரிசன சிந்தனைகள், பிரச்சனைகளை தீர்க்கும் திறன், முடிவெடுத்தல் திறன், பகுப்பாய்வுத் திறன் ஆகியவற்றைப் பெறுதல்.

PSO4. நேர்காணல், புதிய மாற்றங்கள் ஆகியவற்றை எதிர்கொள்வதற்கான ஆளுமைத் திறன்களைப் பெறல், தொழில்முனைவோராக சாதனையாளர்களாக உருவாக வழிகாட்டலைப் பெறல்.

PSO5. உலகளாவிய நோக்கு மற்றும் கலாச்சாரப் பன்முகத் தன்மைகளை கற்றல்.

முதுகலைத் தமிழியற் பட்டம் (M.A)

PSO1. இலக்கியங்களை இனங்காணல், வகைப்படுத்தல், வாசித்தல், புரிதல் முதலிய அறிவுத்திறன்களைப் பெறல்.

PSO2. இலக்கியப் பிரதிகளைத் தொடர்புறுத்தல், விளக்குதல், கட்டுடைத்தல், மறுக்கட்டமைத்தல், திறனாய்தல், விமர்சித்தல், தற்கித்தல் ஆகிய நுண்ணறிவுத் திறன்களைப் பெறல்.

PSO3. இலக்கியப் பிரதிகளை உருவாக்குவதற்கான கற்பனைத்திறன், மொழித்திறன், புலப்பாட்டுத்திறன், பேச்சாற்றல், எழுத்தாற்றல் ஆகிய படைப்புத்திறன்களைப் பெறல்.

PSO4. பண்பாட்டியல் நோக்கு அறிவியல் கண்ணோட்டம், கலைப்பார்வை, நுண்கலை ரசனை, நவீனச்சிந்தனை ஆகிய ஆளுமைப் பண்புகளைப் பெறல்.

PSO5. வேலைவாய்ப்புக்கான பல்வேறுத் திறன்களைப் பெறல்.

ஆய்வியல் நிறைஞர் பட்டம் (M.PHIL.)

PSO1. தமிழின் அறிவுசார் படைப்பாற்றல், பொறுமையான வாசிப்பு, புதுமையானச் சிந்தனைகள் ஆகியவற்றை உருவாக்குதல்.

PSO2. தன்னார்வக்கற்றல் மற்றும் கற்பித்தல் திறன்கள் ஆகியவற்றை வாழ்நாள் அனுபவமாகக் கொள்ளுவதை ஊக்குவித்தல்.

PSO3. அறிவு மற்றும் கருத்தியல் சார்ந்த புரிதல்களை மேம்படுத்த நவீனத் தமிழ் ஆய்வியல் அணுகுமுறைகளைப் பயன்படுத்த வழிகாட்டுதல்.

PSO4. நிகழ்வுகள், சிக்கல்கள், சிந்தனைகள், விவாதங்கள் ஆகியவற்றின் ஏடுகள், குறிப்புகள் ஆகியவற்றை, நூலகம் மற்றும் தொழில்நுட்பக் கருவிகள், இணையம், ஆகியவற்றின் துணையோடு தகவல் மேலாண்மையை மேற்கொள்ளுதல்.

PSO5. சமூக விழுமியங்களையும் ஆய்வு நேர்மையையும் பின்பற்றுதல்

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

COURSE OUTCOMES

B.Lit. TAMIL

Course Code	Course Title	Course Learning Outcomes
20U1LT1	செய்யுள், சிறுகதை, பயன்பாட்டுத் தமிழ் இலக்கிய வரலாறு	1. இருபதாம் நூற்றாண்டு முதற்றான தமிழ் மரபுக் கவிதைகளை இனங்காணுவர். 2. தமிழ்ப் புதுக்கவிதைகளை இனங்காணலும் அவற்றின் வளர;ச்சி மற்றும் பொருண்மை மாற்றங்களைப் புரிந்துக் கொள்வர். 3. தமிழ்ச் சிறுகதைகளின் வாயிலாகத் தமிழ்ச் சமூகப் பண்புகள் குறித்து அறிவர். 4. பிழையற்ற மற்றும் கலப்பற்ற தூய தமிழ் மொழித் திறன்களைப் பெறுவர். 5. தமிழின் நவீன இலக்கிய வடிவங்களின் வரலாற்றை அறிவர்.
20UTA1CC1	நன்னூல் - எழுத்ததிகாரம்	1. தமிழைப் பிழையின்றி எழுதும் திறன் பெறுவர். 2. வல்லினம் மிகும் மிகா இடங்களை அறிவர். 3. தொல்காப்பியத்திற்கும் - நன்னூலுக்குமான வேறுபாட்டை அறிவர். 4. தமிழ் இலக்கணப் புலமை பெறுவர். 5. ஆசிரியர் - மாணவர் என்ற சமூக உறவு குறித்த புரிதலைப் பெறுவர்.
20UTA1CC2	கவிதை இலக்கியம்	1. கவிதை வாசிப்பு அனுபங்களைப் பெறுவர் 2. மரபுக்கவிதை புதுக்கவிதைப் புனையும் ஆற்றலைப் பெறுவர் 3. புதுக்கவிதையில் உள்ள உத்திகளைக் கண்டு அவற்றின் நுட்பங்களின் தாக்கத்தால் புதிய உத்திமுறைகளைத் தங்களின் கவிதைகளிலும் கையாள்வர் 4.கவிதை விமர்சனப் பார்வையை மாணவர்கள் பெறுவர் 5.கவிதை இலக்கியத்தில் தமிழ் உணா;வை அறிவர்.
20UTA1AC1	தமிழக வரலாறும் பண்பாடும்	1. பல்வேறு போட்டித் தேர்வுகளை எதிர்கொண்டு தேர்ச்சி பெறுவர். 2. முற்கால மக்களின் வாழ்வியலை அறிந்து தொள்வர். 3. முற்கால அரசியலை அறிந்து தற்கால அரசியலில் திறம்பட செயல்படுவர். 4. தமிழ் மொழி மற்றும் தாய்நாட்டு உணர்வை பெறுவர் 5. தமிழின் தொன்மைகளை வரலாற்று அடிப்படையில் அறிவர்.

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1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
20UTA1AC2	மக்கள் தகவல் தொடர்பியல்	1. தற்காலத்தில் எந்த வகையான மக்கள் தொடர்பு சாதனங்கள் நம்மை மேன்மைப் படுத்துகின்றன என்பதை அறிவர். 2. இன்றைய காலகட்டத்தில் இதழியல் எவ்வாறு புதிய தாக்கங்களை ஏற்படுத்துகின்றன என்பதை அறிவர். 3. வானொலியில் முற்காலத்தில் செய்தி கேட்ட முறையினையும் தற்காலத்தில் செய்தி கேட்கும் வேறுபாடுளைப் புரிந்து கொள்வர். 4. தொலைக்காட்சி இன்றைய காலக் கட்டத்தில் அவசியப் பொருளா? அல்லது ஆடம்பரப் பொருளா? என்பதை அறிந்து கொள்வர். 5. தற்காலத்தில் கணினியால் ஏற்படும் நன்மைகளையும், தீமைகளையும் அவற்றினால் ஏற்படும் புதிய விளைவுகளையும் மாணவர்கள் விளங்குவர்.
20U2LT2	செய்யுள் நாடகம் இலக்கிய வரலாறு செம்மொழி வரலாறு	1. ஆன்மீகச் சிந்தனை உடையவர்களாகத் திகழ்வர் 2. நாட்டுப்பற்று உடையவா;களாகத் திகழ்வர். 3. இன்றைய வாழ்வியலில் இளையோர் உணர்ச்சிவய நிலையில் தவறுகள் செய்யக் கூடாது என்பதையும் அதன் விளைவுகளுக்கு வருந்த வேண்டி இருக்கும் என்பதையும் உணர;ந்து நற்பண்புகளை வளர;த்துக் கொள்வர். 4. பழந்தமிழ் இலக்கியங்களின் செம்மையை உணர்வதால் மொழிப்பற்றும் உயர்பண்புகளும் உடையவர்களாகத் திகழ்வர். 5. பணித்தேர்வுகளை எதிர்கொள்ளும் ஆற்றலும் அறிவும் பெறுவர்.
20UTA2CC3	நன்னூல் - சொல்லதிகாரம்	1. தமிழ் மொழியின் சொல் இலக்கண வளத்தைப் பெறுவர். 2. தமிழ்ச் சொற்களின் பயன்பாட்டை அறிவர். 3. மொழி நடையில் தேர்ச்சி பெறுவர். 4. சொற்களின் பிறப்பு பற்றி உணர்வர். 5. இலக்கண அறிவைக் கொண்டு இலக்கிய வகைமையை அறிவர்.
20UTA2CC4	உரைநடை இலக்கியம்	1. கடிதங்கள் என்பவை சமூக ஆவணங்கள் என உணர்வர். 2. இலக்கிய ஆய்வுத் திறன்களைப் பெறுவர். 3. தம் அனுபவங்களைக் கட்டுரைகளாக எழுதும் ஆற்றல்களைப் பெறுவர். 4. பொதுக்கட்டுரைகள், பத்திகள், துணுக்குகள் ஆகியவற்றை எழுதும் பயிற்சிகளைப் பெறுவர். 5.ஊடகங்களில் பணிவாய்ப்புகளைப் பெறுவர்.
20UTA2AC3	நாட்டுப்புறவியல்	1. நாட்டுப்புறவியல் கோட்பாட்டு வகைகளை அறிவர்

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Course Code	Course Title	Course Learning Outcomes
		2. மரபு வழிப்பட்ட உணவு, உடை, மருத்துவம் பற்றிக் கற்றுக் கொள்வர். 3. நாட்டுப்புறவியல் துறை ஆராய்ச்சிக்கு அரசின் பங்களிப்பை பற்றித் தெரிந்து கொள்வர் 4. களப்பணியாளரின் தகுதியையும், பணி மேற்கொள்ளும் முறைகளையும் அறிவர். 5. நாட்டுப்புற ஆய்வு குறித்து பல்வேறு கோட்பாடுகளையும் கற்றுணர்வர்.
20UTA2AC4	திரைப்படக்கலை	1. திரைப்படங்கள் கூற விரும்பும் கருத்தை எளிதில் மாணவர்கள் விளங்குவார்கள். 2. திரைப்படத்தின் கருத்தை விமர்ச்சனமாகக் கூறும் திறமையை மாணாக்கர்கள் அடைவர். 3. திரைப்படத் துறையின் நவீனத் தொழில் நுட்பவியலை அறிவர். 4. திரைக்கதையை எழுதும் ஆற்றலைப் பெறுவர் 5. நடிப்பின் மூலம் கருத்தை வெளிப்படுத்தும் திறமையைப் பெறுவர்.
20U3LT3	செய்யுள், புதினம், மொழிபெயர்ப்பு, கடிதம், கட்டுரை வரைதல், இலக்கிய வரலாறு	1. மாணவர;கள் காப்பியங்கள் வழி சமயப் பன்மியத்தைப் பெறுவர். 2. நாவல் இலக்கியம் வாயிலாகச் சமுதாயச் சிந்தனைகளை எய்துவர். 3. மொழிபெயர;க்கும் ஆற்றலைப் பெறுவர். 4. கடிதம், கட்டுரையைப் பிழையின்றி எழுதப் பயிற்சியைப் பெறுவர். 5. போட்டித் தேர்வுகளுக்கானப் பயிற்சியும், வேலை வாய்ப்பும் பெறுவர்.
20UTA3CC5	இடைக்கால இலக்கியம்	1. காலந்தோறும் பக்தி இலக்கியம் வளா;ந்து வந்துள்ள நெறிமுறைகளை அறிவர் 2. பல்சமய கோட்பாடுகளை அறிதல் 3. சமயம் எதுவாயினும் சகிப்புத்தன்மையை உணா;தல். 4. பக்திநெறி உள்ளத்தைத் தூய்மை செய்யும். 5. இறைவனிடத்தில் காட்டும் பணிவு மனிதனிடத்திலும் காட்டுவர்.
20UTA3CC6	யாப்பருங்கலக்காரிகை	1. செய்யுள் உறுப்புக்களை அறிவர். 2. மாணவா;கள் சீh;கள் மற்றும் பாவகைகளை தெளிவுறக் கற்றுத் தேர்வர் 3. பாவினங்களை அறிவர். 4. யாப்பிலக்கணம் கற்று கவிபுனையும் திறனை வளா;த்துக் கொள்வர். 5. அரசு பணிசிக்கான தேர்வினை எதிர்கொள்ளும் திறன் பெறுவர்.
20UTA3AC5	விமரிசனக்கலை	1. இலக்கியப்; படைப்புகளை மதிப்பிடும் முறைமையை அறிவர்.

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		2. திறனாய்விற்கும் படைப்பிற்கும் இடையேயுள்ள தொடா;பை அறிந்து கொள்வர். 3. திறனாய்வுக் கோட்பாடுகளின் வகைமையை அறிவர். 4. திறனாய்வுக் கோட்பாடுகளின் வழி தமிழ் இலக்கியப் பிரதிகளை அணுகுவர். 5. தமிழ் இலக்கியப் பிரதிகளின் உட்பொருள்களை உணா;வர்.
20UTA3AC6	மொழி வரலாறு	1. மொழியியல் சார்ந்த துறையில் ஆர்வத்தை ஏற்படுத்துதல் 2. தமிழ் மொழியின் பண்பட்ட தன்மையை மாணவர்கள் அறிந்துணர்வர் 3. மொழிகளின் பொதுவான வரலாற்றை அறிவதன் வாயிலாகத் தமிழ் மொழியின் வரலாறைப் பெரும்பாலும் விளங்கிக் கொள்வர். 4. இலக்கணத்தை நடைமுறை வாழ்வில் கையாளும் தன்மையைக் கண்டறியும் ஆற்றல் பெறுவா;. 5. மொழி வரலாற்றைக் கற்பதன் மூலம் இலக்கணத்தை எளிமையாகப் புரிந்துக் கொள்வர்.
20UTA3GE1A	தமிழ் இலக்கியங்களும் வரலாறும் - I	1. இருபதாம் நூற்றாண்டு முதற்றான தமிழ் மரபுக் கவிதைகளை இனங்காணுவர். 2. தமிழ்ப் புதுக்கவிதைகளை இனங்காணலும் அவற்றின் வளர்ச்சி மற்றும் பொருண்மை மாற்றங்களைப் புரிந்துக் கொள்வர் 3. தமிழ்ச் சிறுகதைகளின் வாயிலாகத் தமிழ்ச் சமூகப் பண்புகள் குறித்து அறிவர். 4. பிழையற்ற மற்றும் கலப்பற்ற தூய தமிழ் மொழித் திறன்களைப் பெறுவர். 5. தமிழின் நவீன இலக்கிய வடிவங்களின் வரலாற்றை அறிவர்.
20UTA3GE1B	எழுத்தும் இலக்கியமும் - I	1. தமிழ் எழுத்துக்களை அறிந்து கொள்வர். 2. தமிழ் எழுத்துக்களை எழுதப் பழகுவர். 3. எழுத்துக்களைக் கூட்டி சொற்களை எழுதப்பழகுவர். 4. புதிய சொற்களை உருவாக்கும் விதத்தினை அறிவர். 5. சிறு சிறு தொடர்களை எழுதப் பழகுவர்.
20U4LT4	செய்யுள், உரைநடை, போட்டித் தேர்வுத் தமிழ், இலக்கிய வரலாறு	1. தமிழர்களின் வாழ்வியல் விழுமியங்களை அறிவர். 2. நீதிச் சிந்தனைகளையும், அறச்செயல்களையும் உணர்ந்து செயல்படுவர். 3. பல்வேறு அறிஞர;களின் கட்டுரைகளின் வாயிலாக உலக அறிவினைப் பெறுவர். 4. உரைநடைகளின் தன்மைகளை உணர்வர். 5. போட்டித் தேர்வுகளுக்கானப் பயிற்சியும், வேலை வாய்ப்பும் பெறுவர்.

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Course Code	Course Title	Course Learning Outcomes
20UTA4CC7	தொல்காப்பியம் - எழுத்ததிகாரம்	1. தமிழ் இலக்கணப் பயிற்சியை மாணவா;கள் பெறுவர். 2. தமிழ் தொல் இலக்கண மரபுகளை அறிவர். 3. ஒப்பிலக்கணத் திறன்களைப் பெறுவர். 4. இலக்கண ஆராய்ச்சியாளா;களாக உருவாவதற்கான அடித்தளத்தைப் பெறுவர். 5. எழுத்தாற்றலைப் பெறுவர்
20UTA4CC8	சிற்றிலக்கியங்கள்	1. சமய நெறி சாh;ந்த இலக்கியங்களைக் கற்று மாணவா;கள் தம் வாழ்வில் கடைப்பிடிப்பர். 2. புதிய சிற்றிலக்கியங்கள் படைக்கும் தகுதியை வளர்த்துக் கொள்வர். 3. சிற்றிலக்கியத்தின் மூலம் நம் நாட்டின் நாகரிகம், பண்பாட்டை நடைமுறைப்படுத்துவது மட்டுமல்லாமல் உலகம் முழுவதும் கொண்டு போய் சேர்ப்பர். 4. தமிழ்நாட்டை ஆட்சி செய்த மன்னர்களின் கொடை, வீரம், சிறப்புகளை அறிந்து கொள்வர். 5. 96 வகை சிற்றிலக்கியங்களைப் பற்றி அறிந்து கொள்ளவர்.
20UTA4AC7	நாடகக்கலை	1. மாணவா;கள் நாடகத்தமிழ் வரலாற்றை முழுமையாக அறிவர். 2. நாடகத்தை படைக்கவும், திறனாய்வு செய்யவும் திறன் பெறுவர். 3. நடக வளர்ச்சிக்கு பாடுபட்டவர்களை மாணவா;கள் இனம்காணுவர் 4. நாடக நடிப்பில் ஆர்வம் கொள்வர். 5. நாடகங்கள் வாயிலாகச் சமூக மாற்றத்தைக் கொண்டு வருவர்.
20UTA4AC8	அரசுப்பணித் தேர்வுத் தமிழ்	1. தமிழக அரசுப்பணித் தோ;வுகள் பற்றிய பயம் இன்றி செயல்படுவர். 2. எதிரிவரும் காலங்களில் அரசுப் பணித் தேர்வுகளில் வரக் கூடிய தமிழ்ப் பாட வினாக்களை நல்ல புரிதலோடு எதிர் கொள்வர் 3. அரசுப் பணிகளுக்கான தேர்வின் தமிழ்ப்பாடப் பகுதிகளை முழுமையான தயாரிப்போடு எதிர்கொண்டு வெற்றி பெறுவர் 4. அரசுப் பணிகளில் வரக்கூடிய தமிழ்ப்பாடப் பகுதிகளை அதற்கென்று தனியாகப் படிக்க வேண்டிய அவசியம் இருக்காது. 5. தமிழ் மாணவா;கள் எந்த வித பதட்டமும் இல்லாமல் எளிமையாகத் தேர்வில் முழு மதிப்பெண் பெறுவர்.
20UTA4GE2A	தமிழ் இலக்கியங்களும் வரலாறும் - II	1. சிலப்பதிகாரத்தின் மூலம் நீதிக் கருத்துக்களை இனங்காணுவர். 2. கம்பரின் கவி நயத்தை அறிந்து கொள்வர்.

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Course Code	Course Title	Course Learning Outcomes
		3. தமிழ் இலக்கியங்களின் வாயிலாகத் தமிழ்ச் சமூகப் பண்புகள் குறித்து அறிவர். 4. தமிழரின் வாழ்வியல் விழுமியங்களை அறிந்து கொள்வர். 5. போட்டித் தேர்வுகளுக்கான அறிவைப் பெறுவர்.
20UTA4GE2B	எழுத்தும் இலக்கியமும் - II	1. சிறு சிறு சொற்களைக் கொண்டு வாக்கியங்களை அமைக்கக் கற்றுக் கொள்ளுவர். 2. இயற்கை வளங்களின் சிறப்பினை அறிவர். 3. வாக்கியங்களை வாசிக்கக் கற்றுக் கொள்வர். 4. சுற்றுலாவின் பெருமைகளையும் பயன்களையும் தெரிந்து கொள்வர். 5. பாடல்களின் மூலம் தமிழ் மொழியின் செம்மொழி பண்புகளை அறிவர்.
20UTA5CC9	தொல்காப்பியம் – சொல்லதிகாரம்	1. தமிழ்ச் சொல்லிலக்கணத்தில் திறன் பெறுவர்; 2. சொல்வளம் பெற்றவா;களாக மாணவா;கள் விளங்குவர் 3. புதிய சொற்களை உருவாக்கும் ஆற்றல்களைப் பெறுவர் 4. கலைச் சொல்லாக்கப் பணியில் வாய்ப்புகளைப் பெறுவர் 5. அகராதிகளை உருவாக்கும் கலையைக் கற்பர்
20UTA5CC10	புறப்பொருள் வெண்பாமாலை	1. புறத்திணைகள் பற்றிய வேறுபாட்டை அறிவர் 2. புறத்துறைகள் பற்றிய அறிவைப் பெறுவர் 3. பழந்தமிழரின் புறவாழ்க்கைகளை தெளிவுறப் பெறுதல் 4. தொல்காப்பியர் - ஐயனரிதனாரின் திணை முரண்பாட்டை அறிதல்
20UTA5CC11	நம்பியகப் பொருள்	1. அகத்திணைகள் பற்றி அறிவர் 2. உள்ளுறை, இறைச்சி போன்ற நுட்பங்களை அறிவர் 3. ஐந்திணைக்குட்பட்ட பண்பாட்டை அனைவரும் அறிவர் 4.திணையின் அடிப்படையில் ஒழுக்க நெறிகளை கடைபிடித்தல் 5. இயற்கையின் இயல்புகளை உணரச்செய்தல்
20UTA5CC12	காப்பியங்கள்	1. காப்பிய இலக்கியத்தின் சிறப்புகளை சிறப்புகளை அறிவர்; 2. காப்பியக் கதைகள் வழி அற சிந்தனை பெறுவர்; 3. பல்வேறு காப்பிய வடிவங்களைப் பற்றிய புரிதல் பெறுவர்;
20UTA5DE1A	நாவல் இலக்கியம்	1. நாவல் வாசிப்பு அனுபவங்களைப் பெறுவர்; 2. நாவல் எழுதுவதற்கானத் திறன்களைப் பெறுவர்; 3. நாவல் வாசிப்புகளின் வழியே உலகளாவிய சமூகச் சிக்கல்களைப் புhpந்து கொள்ளும் ஆற்றல்களைப் பெறுவர்;

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		4. பதிப்பகங்களில் பணிவாய்ப்புகளைப் பெறுவர்; 5. முழு நேர எழுத்தாளா;களாக உருவாவர்;
20UTA5DE1B	ஒப்பிலக்கியம்	1. மற்ற மொழி இலக்கியத்துடன் தமிழ் இலக்கியத்தை ஒப்பிட்டுப் பாரிக்கும் அனுபவத்தைப் பெறுவர்; 2. உலக மொழி இலக்கியத்தின் தனித்தன்மைகளை உணரும் தன்மையைப் பெறுவர்; 3. ஒப்பாய்வு மனப்பான்மையை மாணவர்கள் பெறுவர்; 4. ஒரே மொழி ஒரே காலகட்டத்தைச் சாரிந்த படைப்பாளிகளின் கருத்து ஒற்றுமை வேற்றுமைகளை மாணவர்கள் உணரப்பெறுவர்.
20UTA5SE2A	தமிழின் செம்மொழிப் பண்புகள்	1. உயர்தனிச் செம்மொழியின் இலக்கணம் அறிவர். 2. தமிழ் மொழியின் செவ்வியல் இலக்கியங்களைப் பற்றித் தெளிவு பெறுவர். 3. தமிழ் மொழியின் தொன்மை, சிறப்பு ஆகியவற்றைப் பற்றி அறிவர். 4. 'தமிழ் உலகச் செம்மொழிகளுள் ஒன்று' என உணர்வர். 5. தமிழ்ச் செவ்விலக்கியங்களின் வாழ்வியல் விழுமியங்களை அறிந்து கொள்வர்.
20UTA5SE2B	இலக்கியத்தில் மனித உரிமைகள்	1. மனித உரிமைகளை இனங்காண்பர். 2. மனித உரிமைகள் ஆணையம் பற்றித் தெரிந்து கொள்வர். 3. மனித உரிமை மீறல் பற்றிய பதிவுகளை அறிவர். 4. இலக்கியத்தில் மனித உரிமைகள் பற்றிய பதிவுகளை ஆய்வு செய்வர். 5. மனித உhpமைச் சட்டங்கள் பற்றி அறிந்து கொள்வர்.
20UTA5SE3A	சித்த மருத்துவம்	1. இயற்கை மருத்துவம் குறித்த விழிப்புணா;வு 2. உணவின் முக்கியத்துவத்தை அறிந்து செயல்படல் 3.மாற்றுமருந்து இல்லாமல் உணவையே மருந்தாக்கி நலம் பெறல்
20UTA5SE3B	தொல்லியல் அறிமுகம்	1. தொல்லியலின் பல்திறக் கூறுகளை அறிவர். 2. தொல்லியல் வழி தமிழின் தொன்மையை இனம் காண்பர். 3. தொல்பொருட்கள் வழி பழந்தமிழர் வரலாற்றை அறிந்து கொள்வர். 4. அகழ்வாராய்ச்சியின் அவசியத்தை அறிவர். 5. தொல்லியல் தொடர்பான பிற துறைகளை அறிவர்.
20UTA5EC1	தமிழ்க் கற்பிக்கும் முறைகள்	1. தமிழ் மொழியின் உயர்வு தன்மைகளை அறிந்துக் கொள்வர் 2. வாய்மொழி பயிற்சியின் வழியாக [illegible] ஆற்றலைப் பெறுவர் 3. கற்றவற்றை வெளிப்படுத்தும் ஆற்றலைப் பெறுவர் 4. தனிப்பயிற்சி மைய தொழில் முனைவோராக உருவாக்கும் ஆற்றலைப் பெறுவர்

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
20UTA5EC1	உமறுப்புலவர்	1. தமிழ்ப் புலவர்களில் உமறுப்புலவர் பெறுமிடத்தை அறிவர். 2. உமறுப்புலவரின் படைப்பு உத்திகளை இனம் காணபர். 3. சீறாப்புராணத்தின் காப்பிய மரபை உணர்வர். 4. சீறாப்புராணத்தில் காணலாகும் இஸ்லாமியக் கோட்பாடுகளை அறிவர். 5. சீறாப்புராணத்தின் சிறப்பை மாணவா;கள் உணர்ந்து கொள்வர்
20UTA6CC13	தொல்காப்பியம் - பொருளதிகாரம்	1. தமிழ் மரபுக் கவிதையின் இலக்கணத்தை அறிவர் 2. பண்டைத் தமிழ் அக, புற இலக்கிமரபுகளை அறிவர் 3. மரபுக் கவிதை படைக்கும் படைப்பாற்றலை பெறுதல்
20UTA6CC14	தண்டியலங்காரம்	1. தத்தம் படைப்புக்களில் அணிகளைப் பயன்படுத்துவர் 2. அணிமிலக்கணங்களை மாணவா;கள் தெளிவுபட அறிந்து கொள்ளுதல் 3. பாடல்களில் உள்ள அணிகளை இனம் காண்பர் 4. அணியின் வகைகளையும் நுட்பங்களையும் பழுதற கற்றல் 5. படைப்பு எதுவாயிலும் அணி என்ற அழகியலோடு அணுகுவர்
20UTA6CC15	சங்க இலக்கியம்	1. சங்க கால மன்னா;களின் ஆளுமைத் திறனையும், அவா;கள் மக்களோடு நெருங்கிப் பழகிய தன்மையினையும் அறிய முடிகிறது 2. தன்னை நாடிவந்த புலவர்களுக்கும் வறியவர்களுக்கும் இல்லை என்று சொல்லாத அளவிற்கு கொடை வழங்கிய பான்மையினை அறியலாம் 3. சங்கப்புலவர்கள் விரிந்த அறிவினையும், பரந்த மனத்தையும் உடையவா;களாக இருந்ததால் அவர் பொய் சொல்லாதவர்களாக விளங்கினர் 4. சங்கப்புலவர்கள் மன்னனிடத்தும் மக்களிடத்தும் ஒற்றுமையையே காண விழைந்தனர் என்பதை அறிய முடிகிறது 5. சங்ககால மக்களின், நாகரிகம், பண்பாடு, வாழ்க்கை முறை, உணவுமுறை, அவர்கள் விருந்தோம்பிய முறையை அறியலாம். 6. நற்றாய், செவிலித்தாய், தோழி, தலைவன், தலைவி, பாங்கன், பாங்கி இவர்களது ஆழ[illegible] முறைகளை அறிய முடிகிறது.
20UTA6CC16	அற இலக்கியம்	1. மாணவர்கள் அறநெறிகளைக் கற்று உடனிருப்பவர்களையும் நெறிப்படுத்த இயலும்.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		2. சங்க வாழ்வியலுக்கான அடிப்படை அறங்களைக் கற்று பயனடைவர் 3. நீதியைக் கற்றுக்கொண்டு வாழ்வின் கடைப்பிடிப்பர் 4. இயற்கை மருத்துவத்தை அறிந்து பக்கவிளைவுகள் இல்லாமல் சுகம் பெறுவர் 5. மாணவா;கள் தவறான பாதையை விட்டு விலகியிருக்க இயலும்
20UTA6DE2A	சிறுகதை இலக்கியம்	1. சிறுகதைகளை வாசிக்கும் ஆர்வத்தை பெறுவர் 2. சிறுகதைகளை எழுதும் திறன்களைப் பெறுவர் 3. சிறுகதைகளைத் திறனாய்வு செய்யும் ஆற்றலைப் பெறுவர் 4. முழு நேர எழுத்தாளர்களாக உருவாகும் வாய்ப்புகளைப் பெறுவர் 5. தேசிய உலகளாவிய சமூகப் புரிதல்களைப் பெறுவர்
20UTA6DE2B	மொழி பெயர்ப்பியல்	1. மொழியின் இன்றியமையாமையை அறிவர் 2. மொழி படைப்பாகும் விதங்களை உணர்ந்து கொள்வர் 3. மொழிபெயர்ப்பு பற்றி அறிந்து கொள்வர். 4. மொழிபெயர்ப்பின் பல் திறக் கூறுகளை அறிவர். 5. மொழிபெயர்ப்பின் நன்மைகளை உணர்ந்து கொள்வர்.
20UTA6DE3A	இஸ்லாமியத் தமிழ் இலக்கியம்	1. இஸ்லாமிய இலக்கியங்களை மாணவரகள் அறின்து பயன்பெறுவர். 2. இஸ்லாமிய சமயப் புரிதலை மாணவர்கள் தெரிந்து கொள்வர். 3. சமய நல்லிணக்க உணர்வை மாணவர்கள் கைக் கொள்வர் 4. பல்சமய உரையாடல்களுக்கான ஆற்றல்களைப் பெறுவர் 5. இஸ்லாமிய இலக்கியங்களைப் படைக்கும் திறன்களைப் பெறுவர்
20UTA6DE3B	நிர்வாகவியல்	1. இந்திய அரசின் சட்டங்களை அறிந்து கொள்கின்றனர். 2. மக்களுக்கும், அரசிற்கும் உள்ள கடமைகளை அறிந்து கொள்ளுதல். 3. புதிய செயல்திட்டங்களை செயல்படுத்த வல்லவர்.
20UTA6EC2	பெண்ணியம்	1. பெண்ணினத்தின் இருப்பை அறிவர் 2. 'பெண்ணியம்' என்ற சொல்லிக்கருத்தை அறிந்து கொள்வர் 3. பெண்களின் பிரச்சினைகள் இனம் காண்பர். 4. பெண்ணியக் கோட்பாடுகளை தெரிந்து கொள்வர் 5. தற்காலப் பெண்களின் நிலையைப் பெண்ணியத் தோடு தொடர்புபடுத்துவர்.

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20UTA6EC2	நுண்கலைத் திறன்கள்	1. கலை குறித்த கூர் திறனை வளர்த்துக் கொள்வர் 2. கலைக்கும் வாழ்க்கைக்கும் இடையேயான தொடர்பை அறிவர். 3. கலையின் பல்வகைமையை அறிந்து கொள்வர். 4. கலைகள் தரும் மகிழ்ச்சியை உணர;ந்து கொள்வர். 5. கலைஞர்களின் வாழ்க்கை முறைக்கும் கலைக்கும் உள்ள தொடர்பை அறிவர்.

COURSE OUTCOMES

M.A. TAMIL

Course Code	Course Title	Course Learning Outcomes
20PTA1CC1	தொல்காப்பிய எழுத்ததிகாரம்	1. எழுத்திலக்கணக் கோட்பாட்டை மாணவர்கள் அறிவர். 2. மொழிவளத்தை வளர்க்கும் ஆற்றலைப் பெறுவர். 3. எழுத்துக்கள் பிறக்கும் முறைமையினை மாணாக்கர; உணர்வர். 4. எழுத்துக்கள் புணரும் முறைமையினை மாணாக்கர் அறிந்து கொள்வர். 5. மொழியைப் பிழையின்றி எழுதுவதற்கும் வேலை வாய்பினைப் பெறுவதற்கும் பயிற்சியைப் பெறுவர்.
20PTA1CC2	நவீன இலக்கியம்	1. கவிதைகள், சிறுகதைகள், நாவல் மற்றும் நாடகப் பிரதிகளை இனங்காணல், வகைப்படுத்தல், வாசித்தல் மற்றும் புரிந்து கொள்வர். 2. நவீன இலக்கியப் பிரதிகளை வடிவ மற்றும் உள்ளடக்க நோக்கில் தொடர்புபடுத்தும் திறன் பெறுவர். 3. இருபதாம் நூற்றாண்டு முதற்றே வரும் படைப்பிலக்கியப் பிரதிகளைத் தாலச் சூழல் மற்றும் பண்பாட்டு மாற்றங்களின் நோக்கில் திறனாய்வு செய்து விமர;சிக்கும் ஆற்றல் பெறுவர் 4. படைப்பிலக்கிய வாசிப்பின் மூலம் மொழித்திறனும் புலப்பாட்டுத் திறனும் எய்துவர்.

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Course Code	Course Title	Course Learning Outcomes
		5. பல்பண்பாட்டியல் நோக்கு மற்றும் நவீனச் சிந்தனை ஆகிய ஆளுமைப் பண்புகளையடைவர்.
20PTA1CC3	பக்தி இலக்கியம்	1. ஆன்மீக அருளாளர்கள் ஆற்றிய சமய சமூகத் தொண்டுகளின் சிறப்பினை உணர;வர். 2. ஆன்மீகத்திற்கு அடிப்படை அன்புணர;வும் அறவுணர்வும் என்பதை அறிந்து கொள்வர். 3. பிறர்க்கு உதவுதலே சமயத்தின் அடிப்படைக் கூறுகளுள் ஒன்று என்பதை உணார்ந்துகொள்வர். 4. நமக்கும் மேலான ஒருசக்தி இருக்கிறது என்பதை உணர்வதால் ஆணவ மனப்பான்மையில் இருந்து விடுபடுவர். 5. பல்வேறு சமயங்களும் மனிதகுல மேம்பாட்டிற்கே உரியது என்பதால் சமயநல்லிணக்க உணர்வு உடையவர்களாகத் திகழ்வர்.
20PTA1CC4	இலக்கியத் திறனாய்வியல்	1. திறனாய்வின் வகைகளைத் தெரிந்து கொள்வர். 2. துறையிடை அணுகுமுறைகளை மாணவர்கள் அறிவர். 3. திறனாய்வின் அணுகுமுறைகளை அறிவர். 4. இலக்கியக் கொள்கைகள் குறித்த தெளிவைப் பெறுவர். 5. இலக்கியக் கொள்கைகள் ஆய்வுலகில் பெறும் இடத்தை மாணாக்கர் அறிவர்.
20PTA1DE1A	பண்பாட்டு மானிடவியல்	1. மானிடவியல் துறையை மாணாக்கர் அறிவர். 2. பண்பாட்டின் உட்கூறுகள், படி மலர்ச்சி மற்றும் பரவலை உணர்வர். 3. பொருளியல் முறைகள், பரிமாற்றம், பங்கீடு குறித்து மாணாக்கர் அறிவர். 4. தமிழகப் பண்பாட்டு மாற்றம் குறித்து மாணவர்கள் அறிவர். 5. பிற சமயத் தழுவுதல் குறித்து விரிவாகத் தெரிந்துக் கொள்வர்.
20PTA1DE1B	தமிழ் மொழி வரலாறு	1. தமிழ்மொழியின் வரலாற்றினை மாணாக்கர் அறிவர். 2. காலந்தோறும் தமிழ்மொழி பெற்ற மாற்றங்களை மாணவர்கள் தெரிந்து கொள்வர்.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
		3. வரலாற்றுச் சான்றுகள் மற்றும் கல்வெட்டினைப் பற்றி அறிவர். 4. மொழி வளத்தைப் பாதுகாத்தலும், மொழித்திறனை வளர;த்துக் கொள்வர். 5. அரசுப்பணி தேர்வுகளுக்கு எளிமையாக விடையளிக்கக் கற்றுக் கொள்வர்;.
20PTA2CC5	தொல்காப்பிய சொல்லதிகாரம்	1. சொல்லிலக்கணக் கோட்பாட்டை மாணவர்கள் அறிவர். 2. தமிழ் மொழியின் செழுமையினை மாணவர்கள் உணர்வர். 3. சொற்களில் வேற்றுமை உருபுகள் குறித்து மாணாக்கர் அறிவர். 4. சொற்களின் வகைபாடுகளை மாணவர்கள் கற்றுத் தெளிவர். 5. மொழி வளர;ச்சியில் இலக்கணப் பங்களிப்பினை மாணவர்கள் உணர்வர்.
20PTA2CC6	காப்பிய இலக்கியம்	1. தமிழிலக்கியப் பரப்பில் காப்பிய இலக்கியங்களை இனங்கண்டு காலமுறைப்படி வரிசைப்படுத்திப் பயில்வர். 2. காப்பியங்களைத் தொடர்புபடுத்தித் திறனாய்வு செய்வர். 3. காப்பியங்களின் மொழி நிலையை உணர்வர். 4. காப்பியங்கள் உணர;த்தும் தமிழர;தம் கலைத்திறனை உணர்வர். 5. காப்பியங்கள் சார;ந்த ஆய்வுக்கட்டுரைகளை மாணாக்கர்கள் அறிவர்.
20PTA2CC7	ஒப்பிலக்கியமும் மொழி பெயர்பியலும்	1. ஒரு மொழி இலக்கியத்துடன் மற்றொரு மொழி இலக்கியத்தை ஒப்பிடும் திறன் பெறுவர். 2. மொழிபெயர்ப்புத் திறனையும் மாணாக்கர் பெறுவர். 3. உலக இலக்கியங்களிடையிலான ஒற்றுமைகளை இனங் காணுவர். 4. இலக்கியங்கள் நுவலும் வாழ்வியற் விழுமியங்களைக் கற்பர். 5. பல்வகை மொழிபெயர;ப்புநூல் பயிலுதல் மாணவர;கள் அறிவர்.
20PTA2CC8	இஸ்லாமியத் தமிழ் இலக்கியம்	1. இறைத்தூதரின் வாழ்வும் வரலாறும் அறிவர்.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		2. இஸ்மாயீல் என்னும் இறைத்தூதரையும், முகியித்தீன் என்னும் இறைநேசரையும் காப்பியங்களின் வழி உணர்வர். 3. திருப்புகழின் சந்தத்திறனில் மகிழ்வர் மஹதி தஜ்ஜால் வருகையினால் ஏற்படும் விளைவுகளை அறிந்து கொள்வர். 4. நரக இயல்பும், சொர்க்கச் சிறப்பும் அறிந்து வருந்தித் திருந்துவர். 5. நபியவதாரம் அறிவர் இஸ்லாமியத் தமிழ்க் காப்பியங்களின் ஆற்றல் மிக்க அறிவைப் பெறுவர்.
20PTA2DE2A	தமிழர் வரலாறும் பண்பாடும்	1. பழங்கால சமூக நிலைகளை மாணாக்கர்கள் அறிவர். 2. தமிழக மன்னர்களின் ஆட்சிமுறை - வீழ்ச்சி முறைகள் பற்றி மாணாக்கர் தெரிந்துக் கொள்வர். 3. தமிழகத்தில் ஆதிக்கம் செலுத்திய அண்டை ஆட்சியாளர்களை மாணவர்கள் அறிவர். 4. தமிழர் தம் நாகரிகம், பண்பாடு, கலாச்சாரம், பழக்கவழக்கங்களை மாணாக்கர் உணர்வர். 5: பண்டைத் தமிழர்கள் கலைக்கு அளித்த முக்கியத்துவம் பற்றி மாணவர்கள் அறிவர்.
20PTA2DE2B	அகராதியியல்	1. தொல்காப்பியத்தில் காணப்படும் அகராதியியல் கூறுகள் பற்றி மாணவர்கள் அறிவர். 2. நிகண்டுகளில் காணலாகும் அகராதிக் கூறுகளை அறிவர். 3. அகராதிகள், கலைக்களஞ்சியங்களின் கால, அமைப்பு முறைகளைத் தெரிந்துக் கொள்வர். 4. பல்வேறு வகையிலான நிகண்டுகள் குறித்து மாணவர்கள் அறிவர். 5. அகராதியியல் குறித்ததான தெளிவை மாணவர்கள் அடைவர்.
20PTA3CC9	தொல்காப்பியம் பொருளதிகாரம்	1. பொருளிலக்கணக்கோட்பாட்டினை மாணவர்கள் அறியச் செய்தல். 2. மொழிவளத்தைக் காக்கவும் வளர்க்கவும் மாணவர்களுக்கு எடுத்துரைத்தல். 3. திணைக்கோட்பாட்டை மாணாக்கர்கள் அறியச் செய்தல்.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		4. முப்பொருள் கோட்பாடுகள் குறித்து மாணவர்களுக்குக் கற்பித்தல் 5. சங்கத்தமிழிரின் வாழ்வியல் விழுமியங்களை மாணவர்களுக்கு எடுத்தியம்புதல்.
20PTA3CC10	செவ்விலக்கியம்	1. சங்க இலக்கியப் பாடல்களை வாசிக்கக் கற்றுக் கொள்வர். 2. சங்க இலக்கிய ஆய்வுப் பொருண்மைகளை அறிந்து கொள்வர். 3. சங்க காலச் சமூக அமைப்புப் பற்றி அறிவர். 4. சங்ககாலத் தமிழ் அரசர;களின் சிறப்பினை எடுத்தியம்புவர்;. 5. தமிழரின் சங்கப் பண்பாட்டு நிலையினை இத்தலைமுறையினர் அறிவர்.
20PTA3CC11	ஊடகவியல்	1. தகவல் தொடர்புச் சாதனங்கள் சமகால சமுதாயத்தில் ஏற்படுத்தியுள்ள புரட்சியை மாணவர்கள் கற்றுத் தெளிவர். 2. செய்தி ஊடகங்களின் இன்றைய போக்குகளையும் அவற்றின் அவசியத்தையும் அறிவர். 3. நவீன தொடர்புச் சாதனங்களையும் அவற்றின் பயன்பாடுகளையும் மாணவர;கள் அறிந்துகொள்வர். 4. சமகால சமுதாயத்தில் ஊடகங்களின் வளர;ச்சியையும் அதன் அவசியத்தையும் மாணவர்கள் அறிவர். 5. சமூக வலைதளங்களின் பயன்பாடுகள் குறித்து மாணவர்கள் விழிப்புணர்வைப் பெறுவர்.
20PTA3CC12	அயலகத் தமிழ்	1. தமிழரின் அயல்நாட்டுத் தொடர்புகளைப் புரிந்து கொள்ளுதல். 2. அயல் நாடுகளில் தமிழ்க் கல்வியின் நிலை குறித்த புரிதல். 3. இலங்கைத் தமிழ் இலக்கியம் மற்றும் அதன் வரலாறு பற்றிய அறிவைப் பெறுதல். 4. சிங்கப்பு+ரில் தமிழ் இலக்கியம் மற்றும் அதன் வளர்ந்த வரலாறு பற்றிய அறிவைப் பெறுதல். 5. அயலகத் தமிழர்களின் பண்பாட்டுக் கூறுகள் பற்றிய கண்ணோட்டம் வளர்த்தல்.
20PTA3DE3A	போட்டித் தேர்வு தமிழ்	1. தமிழ் இலக்கணங்கள் குறித்த தெளிவைப் பெறுவர்.

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Course Code	Course Title	Course Learning Outcomes
		2. தமிழ் இலக்கியங்களின் வழி வாழ்வியல் விழுமியங்களை அடைவர். 3. தமிழறிஞர்களின் படைப்பாற்றலை அறியச் செய்து படைக்கும் திறனை வளர;த்துக்கொள்வர். 4. போட்டித்தேர்வுகள் எழுதுவதற்கான அறிவைப் பெறுவர். 5. போட்டித்தேர்வுகளின் வழி மாணவர்கள் வேலை வாய்ப்பினைப் பெறுவர்.
20PTA3DE3B	நாட்டுப்புறவியல்	1. நாட்டுப்புறவியல் குறித்த அறிமுகத்தை மாணவர்கள் பெறுவர் 2. நாட்டார் வழக்காறுகள் குறித்ததான விளக்கங்களைப் பெறுவர். 3. நாட்டார் வழக்காற்றியல் குறித்த தெளிவைப் பெறுவர். 4. நாட்டுப்புற நம்பிக்கைகள் குறித்த அறிவைப் பெறுவர். 5. போட்டித்தேர்வுகளின் பார்வையில் நாட்டுப்புறவியலை மாணவர்கள் அணுகுவர்.
20PTAEC1	NET/SET General Paper - I	Getting Knowledge advanced concepts of language & literature. Developing the skills of Problem solving and Analytical skills. Developing creativity, diversity and framing the future of the society. Accruing the vision of goals attitudes and skills. Learning skill of world requirement, self development and job opportunity.
20PTA4CC13	இலக்கிய வரலாற்று நோக்கில் இஸ்லாமிய மெய்ஞ்ஞான இலக்கியங்கள்	1. இந்தியாவிலும் தமிழகத்திலும் மெய்ஞ்ஞானம் பரவிய வரலாற்றினை அறிந்து கொள்வர். மத நல்லிணக்கம் பெறுவர். 2. தக்கலை பீர் முகமது அப்பாவின் இலக்கியங்களைக் கற்றுக்கொள்வர். 3. குணங்குடி மஸ்தான் சாகிபுவின் படைப்புகளின் சிறப்பினை அறிவர். 4. நான்கு ஞானியர;களின் படைப்புகள் வழி மெய்ஞ்ஞானம் உணர்வர். 5. பெண் ஞானியர் வழி சூஃபித்துவம் உணர்வர். கருத்தூன்றிக் கற்றால் மெய்ஞ்ஞானம் பெறுவர்.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
20PTA4CC14	திராவிட மொழிகளின் ஒப்பிலக்கணம்	1. திராவிட இனம் பற்றி அறிவர். 2. திராவிட மொழிகள் பற்றித் தெரிந்துக் கொள்வர். 3. திராவிட மொழிகளின் இலக்கணத்தை ஒப்பிட்டு அறிவர். 4. திராவிட மொழிகளின் வேர;ச்சொற்களை இலக்கண நோக்கில் அறிவர். 5. தமிழ்ச் செம்மொழி என்ற நிலைப்பாட்டிற்கான ஆதாரங்களை உணர்வர்.
20PTA4CC15	தமிழ் இலக்கண வரலாறும் உரையாசிரியர்களும்	1. இலக்கண வரலாற்று அறிவு பெறுவர். 2. இலக்கண வளர;ச்சி நிலையை அறிவதால் மொழித் திறனில் மேம்பாடு அடைவர். 3. படைப்பிலக்கிய ஆற்றல் மிக்கவர;களாகத் திகழ்வர். 4. உரையாசிரியர்களின் உரையின் வழி இலக்கண இலக்கியங்களை முறையாகக் கற்கும் திறம் பெறுவர். 5. பண்;டைய உரைநடைகளைக் கற்று தேர்வதால் தமிழ் உரைநடையில் வல்லமைப் பெறுவர்.
20PTA4DE4A	உரைநடை வளர்ச்சி	1. தமிழ் உரைநடைப் பிரதிகளை இனங்காணல், வகைப்படுத்தல், வாசித்தல் மற்றும் புரிதல். 2. உரைநடைப் பிரதிகளை வடிவ மற்றும் உள்ளடக்க நோக்கில் தொடட்புபடுத்தி விளக்குவட். 3. உரைநடைப் பிரதிகளை நடையியல் நோக்கில் போலச் செய்தல், மறு ஆக்கம் செய்தல் மற்றும் புதிய உரைநடை ஆகிய எழுத்துத் திறன்களை அறிவர். 4. பண்டைய மற்றும் நவீன உரைநடைப் பிரதிகளைக் காலச் சூழல் மற்றும் பண்பாட்டு மாற்றங்களின் நோக்கில் திறனாய்வும் விமர;சனமும் செய்வர். 5. வட்டார வழக்குகள் குறித்த அறிதலும் புரிதலும் பெறுவர்.
20PTA4DE4B	சித்தர் இலக்கியம்	1. சித்தர்கள் பற்றிய அறிவினைப் பெறுவர். 2. சித்தர்களின் அறிவியல், தத்துவம், இறையுணர்வை அறிவர்.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
		3. சித்தர்களின் எட்டு வகையான சித்திகளை மக்களின் வாழ்வியலோடு ஒப்பிட்டு இனங்காணுவர். 4. சித்தர்களின் யோக முறைகளை மாணாக்கர்கள் கற்றுத் தெளிதல். 5. பல்வேறு சித்தர்களின் வாழ்வியலை ஒப்புநோக்கி தன்நிலை உணர்வர்.
20PTA4EC2	பயன்முறை இலக்கணம்	1. தமிழ் இலக்கண அமைப்பினை முழுமையாக அறிதல். 2. மொழிப்பிழை ஏற்படாமல் எழுதும் திறன் பெறுவர். 3. மொழி இலக்கண மரபுகளை அறிந்து கொள்வர். 4. அச்சாக்கப் பணிகளில் மெய்ப்புத் திருத்தம் செய்யும் பணிவாய்ப்புப் பெறுவர். 5. பணித்தேர்வுகளில் இலக்கண வினாக்களுக்கு விடையளிக்கும் திறன் பெறுவர்.

PROGRAMME SPECIFIC OUTCOMES
PG & RESEARCH DEPARTMENT OF BOTANY

B.Sc. Botany
Students will be able to

PSO1.Recall the range of plant diversity in terms of structures, function, environment relationship and classification of plants.

PSO2.Develop basic knowledge to make a substantial contribution in environmental science for the biodiversity conservation and sustainable use of natural resources.

PSO3. Apply the practical skills of handling laboratory equipments in the field and in the laboratory, safely.

PSO4. Generate employment opportunities through self employed entrepreneurial skill and competitive exams.

PSO5.Construct multidisciplinary and interdisciplinary knowledge for the promotion of communities, population and ecosystems.

M.Sc. Botany
Students will be able to

PSO1. Identify various group of plants, their functions, utilization and conservation aspects and give scientific explanation for the unity and diversity on earth.

PSO2. Demonstrate knowledge on primary and modern techniques in terms of theory and practical application and also handling of laboratory equipments for biological research.

PSO3. Combine the knowledge of interdisciplinary subjects such as molecular biology, Biotechnology, Bioinformatics and Biostatistics for the mitigation of biodiversity and environmental issues.

PSO4. Apply the cultivation of sea weeds, floriculture and plant tissue culture for entrepreneurship and commercialization.

PSO5. Appraise various analytical techniques for planning and execution of biological experiments, and drafting them as a report.

M.Phil Botany

Scholars will be able to

PSO1. Outline the recent advances in Botany such as molecular taxonomy, sequence analysis, analytical, statistical methods for the specific areas of research.

PSO2. Illustrate the teaching learning skills by being proponent in the classroom and laboratory setup.

PSO3.Organize the laboratory practices and experimentation, compile and communicate, them into research report based on the principles of thesis writing and research publication.

PSO4.Approve changes in environment with high integrity and transport ethical professionals.

PSO5. Conceive opportunities for higher education and research career.

COURSE OUTCOMES

B.SC. BOTANY

Course Code	Course Title	Course Learning Outcomes
20UBO1CC1	Plant Diversity (Algae, Fungi and Archegoniate)	CO1: Describe the salient features of Algae, Fungi and Archegoniate. CO2: Match the classification, structure, reproduction and life cycle of Algae, Fungi and Archegoniate. CO3: Explain the evolutionary relationship between Algae, Fungi and Archegoniate. CO4: Point out the economic importance of Algae, Fungi and Archegoniate based on their morphology. CO5: Identify and preserve them in their natural environment.
20UBO1CC2P	Laboratory course for core I - Practical	CO1: Explain the internal structures of algae and fungi through microscopic observation. CO2: Examine the morphology, anatomy and reproductive parts of bryophytes.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO3: Observe the morphology, anatomy and reproductive parts of Pteridophytes and gymnosperms. CO4: Categorize fossil plants based on geological time period. CO5: Realize the natural plant diversity through field visit.
20UBO2CC3	Plant Anatomy and Embryology	CO1: Outline the fundamental concepts of plant anatomy and embryology. CO2: Distinguish different type of tissue system and their organization. CO3: Recognize the anatomical features of plant organs and secondary growth. CO4: Evaluate the structural organization of flower and the process of pollination and fertilization. CO5: Categorize the plant relationships based on internal anatomy and reproductive system.
20UBO2CC4P	Laboratory course for core III - Practical	CO1: Identify simple, complex tissues and vascular bundle orientation in plants. CO2: Distinguish and compare the anatomical features of dicot and monocot plants. CO3: Recognize primary, secondary and anomalous thickening of plants. CO4: Compare the young and mature stages of reproductive organs of a plant. CO5: Justify the identification of anatomical and embryological specimens.
20UBO3CC5	Cytology and Genetics	CO1: Inculcate the structure and function of cells and organelles. CO2: Impart knowledge on chromosomes and their aberrations. CO3: Enlighten Mendelian inheritance and their deviations. CO4: Effect of mutation due to environmental changes. CO5: Molecular understanding of mutations and diseases.
20UBO3CC6P	Laboratory course for core V - Practical	CO1: Understanding of plant cell structure through temporary mounts. CO2: Understanding of plant cell structure through temporary mounts. CO3: Understanding of cellular organelles. .CO4: Understanding of cell inclusions. CO5: Understanding of chromosomal variations.
20UBO3AC5	Applied Botany - I	CO1: Outline the diversity of cryptogams and seed plants. CO2: Identify the economic uses of natural wealth from cryptogams and seed plants. CO3: Perceive the alternative uses of and applications of cryptogams and seed plants. CO4: Appraise the values of natural wealth from cryptogams and seed plants. CO5: Recommend alternative bio resources for human welfare.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
20UBO3AC6P	Laboratory Course for Core – VI Applied Botany - I	CO1: laboratory skills of handling botanical specimens. CO2: Describe diversity of Plants. CO3: Demonstrate preparation and curation of botanical specimens. CO4: Identify commercial potential of cryptogams. CO5: Appraise the traits and key characters of cryptogams.
20UBO3GE1	Edible Mushroom Cultivation and Commercialization	CO1: To provide an adequate knowledge about importance and habitation of CO2: To get knowledge nutritional value, cultivation unit and storage methods. CO3: To acquire knowledge about spawn and spawning techniques. CO4: To understand the factors influencing the mushroom cultivation and post harvesting methods. CO5: Students get detailed knowledge about cost economics, importance and preparation of value-added products.
20UBO4CC7	Microbiology and Plant Pathology	CO1: Describe the characters and classification of bacteria and study the principle and application of various types of microscopes. CO2: Analyse the internal & external structures, growth and air borne disease caused by bacteria. CO3: Study the characters and classification of plant and animal viruses and emphasis the most virulence human viral infections. CO4: Correlate the epidemiology and forecasting of plant disease. CO5: Acquire the knowledge of plant disease, integrated pest management and innovative.
20UBO4CC8P	Laboratory course for core VII – Practical	CO1: Calibrate microscope. CO2: Study the basic rules, sterilization methods and preparation of culture media for the enumeration of bacteria. CO3: Differentiate cell wall characters of bacteria through Gram's staining technique. CO4: Pure culture methodology is adopted for the characterization of bacteria. CO5: Correlate the morphological and internal tissue of the infected plants.
20UBO4AC7	Applied Botany – II	CO1: Illustrate the external characters of flowering plants. CO2: Classify the flowering plants based on their external characters. CO3: Appraise the plants as useful resources for human use and welfare. CO4: Recommend unique food supplements and herbal value-added products. CO5: Solve the problems related with human environment applying physiology principles.
20UBO4AC8P	Laboratory course for Applied Botany II – Practical	CO1: Illustrate the external characters of flowering plants. CO2: Classify the flowering plants based on their external characters.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO3: Appraise the plants as useful resources for human use and welfare. CO4: Recommend unique food supplements and herbal value-added products. CO5: Solve the problems related with human environment applying physiology principles.
20UBO4GE2	Nursery and gardening for entrepreneurship	CO1: Distinguish the concept of nursery and Gardening. CO2: Expand the skills for growing fresh and safe vegetables. CO3: Create awareness about home gardening. CO4: Develop different skills regarding the gardening operations. CO5: Apply nursery and gardening for entrepreneurship.
20UBO5CC9	Plant Systematics and Economic Botany	CO1: Impart knowledge on taxonomy and its significance. CO2: Realize the morphological characters of plant. CO3: Understand the different type of taxonomic classification. CO4: Describe the vegetative and reproductive characteristic of plants. CO5: Familiarize the students with plants having immense economic importance.
20UBO5CC10	Plant Physiology	CO1: Impart knowledge on insight into the functional aspects of plants. CO2: Realize the regulation of plant functions by their environment. CO3: Recognize the importance of plant physiological events. CO4: Acquire the knowledge on mechanism of photosynthesis, respiration, transpiration and mineral absorption. CO5: Realize the control of plant growth and development by plant hormones.
20UBO5CC11	Biochemistry and Biophysics	CO1: Realize the structure, properties and formulation of carbohydrates. CO2: Analyze the different structure, properties and different configuration of proteins. CO3: Summarize the concept of enthalpy, entropy, free energy and standard free energy. CO4: Systemize the metabolism of carbohydrates, lipids and proteins. CO5: Realize the various bio-instrumentation which are used to detect different biomolecules.
20UBO5CC12P	Laboratory course for core IX, X & XI – Practical	CO1: Identify the family, genus, species and morphology of the useful parts and uses of the tribal medicinal plants. CO2: Interpret the Rf values of amino acids/pigments by paper chromatography. CO3: Develop practical skills in separation and quantification of plant pigments. CO4: Understand the water absorption and their transport in plants

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Course Code	Course Title	Course Learning Outcomes
		CO5: Estimate the sugars/protein/lipid in plant tissues.
20UBO5DE1A	Biostatistics and Bioinformatics	CO1: Demonstrate the skill of various numerical and graphic description of statistical data. CO2: Identify the patterns and types of data distribution in biological world. CO3: Make inference about the data collected in various surveys and experiments to support the decision-making process. CO4: Appraise the organization and usage of various biological databases. CO5: Develop analytical skills in numerical and sequence data in biology.
20UBO5SE2A	Algal Cultivation Techniques for Entrepreneurship	CO1: Recall various algae as potential bio resources. CO2: Identify the possibilities of large scale cultivation of both fresh water and marine algae. CO3: Examine algae as alternative candidate for cultivation. CO4: Appraise various cultivation methods for algae. CO5: Adapt algal cultivation for entrepreneurial initiatives.
20UBO5SE2A	Food Microbiology	CO1: Understand the role of microbes in food microbiology. CO2: Realize the role of microbes in food spoilage. CO3: Inculcate the various applications of food preservation. CO4: Recognize the significances of fermentation products. CO5: Categorize the microbes on food borne illness.
20UBO5SE3A	Greenhouse Technology	CO1: Summarize the history of protected cultivation and evolution in control of greenhouse environment. CO2: Classify the greenhouses based on shape, utility, construction and covering materials. CO3: Manipulate root medium and integrated pest management with reference to greenhouse agriculture. CO4: Recognize the rules of watering, irrigation types and application of hydroponics in greenhouse cultivation. CO5: Analysis strength, weakness, opportunities and challenges in greenhouse technology.
20UBO6CC13	Plant Ecology and Phytogeography	CO1: Describe the fundamentals of ecology, ecosystem and population ecology. CO2: Explain the characteristics of community ecology and various types of species interaction. CO3: Point of the different pollution and its control measures. CO4: Match the energy resources and different types of conservation. CO5: Understand different phytogeographical regions of India and geospatial methods for assessment of bioresources.
20UBO6CC14	Plant Molecular Biology and	CO1: Describe the salient features of organization and molecular mechanisms of cell

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Course Code	Course Title	Course Learning Outcomes
	Biotechnology	CO2: Get exposure on prokaryotic and eukaryotic gene regulation CO3: Acquire basic knowledge in plant biotechnology. CO4: Recognize Agrobacterium transformation and applications of plant biotechnology CO5: Acquire basic knowledge in intellectual property rights, biosafety of genetically engineered products and guidelines in India.
20UBO6CC15	Biological Techniques	CO1: Explain the uses of various fixatives, microtomes and stains for tissue processing and sectioning. CO2: Elucidate the extraction and isolation of plant constituents. CO3: Describe the principle and application of colorimeter, spectrophotometer and chromatography in biosciences. CO4: Appraise the centrifugation techniques to separate fluids and liquids based on density. CO5: Develop theoretical and practical knowledge on biological techniques.
20UBO6CC16P	Laboratory course for core XII, XIV and XV – Practical	CO1: Demonstrate distribution of various biotic and abiotic factors of environment. CO2: Experiment with biological techniques related to ecological parameters, plant biotechnology. CO3: Analyze the role of nutrients in tissue culture. CO4: Assess the quality and quantity of DNA isolated from plant specimens. CO5: Test the fixation, staining and visualization methods for plant specimens.
20UBO6DE2A	Industrial Botany	CO1: Recall various plants as potential bio resources. CO2: Identify the possibilities of large scale production of plant based products. CO3: Examine medicinal plants as alternative candidate for industrial applications. CO4: Appraise various methods of fermentation. CO5: Adapt mushroom cultivation for entrepreneurial initiatives.
20UBO6DE3A	Horticulture and Plant Breeding	CO1: Realize the entrepreneur opportunity and values of horticulture. CO2: Conclude the advantages, disadvantages and limitation of various propagation techniques. CO3: Familiarize with the cultivation practices of fruits, vegetables and design the various types of gardens. CO4: Impart theoretical knowledge on scope and importance of plant breeding. CO5: Apply the principle involved in conventional and special plant breeding techniques.
20UBO6DE2A	Industrial Botany	CO1: Recall various plants as potential bio resources. CO2: Identify the possibilities of large scale production of plant based products.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO3: Examine medicinal plants as alternative candidate for industrial applications. CO4: Appraise various methods of fermentation. CO5: Adapt mushroom cultivation for entrepreneurial initiatives.
20UBO6DE3A	Horticulture and Plant Breeding	CO1: Realize the entrepreneur opportunity and values of horticulture. CO2: Conclude the advantages, disadvantages and limitation of various propagation techniques. CO3: Familiarize with the cultivation practices of fruits, vegetables and design the various types of gardens. CO4: Impart theoretical knowledge on scope and importance of plant breeding. CO5: Apply the principle involved in conventional and special plant breeding techniques.

COURSE OUTCOMES

M.SC. BOTANY

Course Code	Course Title	Course Learning Outcomes
20PBO1CC1	Plant Diversity – I (Thallophytes and Bryophytes)	CO1: Describe the characteristic features of non-flowering plants. CO2: Identify the morphology, organization and reproduction stages of thallophytes and bryophytes. CO3: Interpret their interrelationships and evolutionary trends. CO4: List the economic importance of Algae, Fungi and Bryophytes. CO5: Identify and preserve them in their natural environment.
20PBO1CC2	Plant Diversity – II (Pteridophytes, Gymnosperms and Paleobotany)	CO1: Describe the major groups of non-flowering and naked seeded plants. CO2: Appraise the life histories of embryophytes, tracheophytes and seed plant. CO3: Correlate their classification, anatomy, reproduction and life cycles. CO4: Recognize geological time periods, types and methods of fossilization. CO5: Acquire knowledge on different fossil genera of pteridophytes and gymnosperms.
20PBO1CC3	Microbiology, Plant Pathology and Immunology	CO1: Classify the bacteria and viruses based on their characters and structures. CO2: Justify the role of microorganisms in food processing, industrial production of beverages, antibiotics and waste water treatment. CO3: Recognize plant defence mechanism against pathogens at molecular and genetical level. CO4:

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Course Code	Course Title	Course Learning Outcomes
		Describe the common plant diseases caused by bacteria, fungi and viruses. CO5: Compose the mechanism of immune system, properties and role of antigens, antibodies and different assays for diagnosis.
20PBO1CC4P	Laboratory course for core I, II and III - Practical	CO1: Explain the internal structures of unicellular and multicellular algal specimens. CO2: Compare the organization of thallus among various plant groups. CO3: Describe and identify fossil specimens of plant. CO4: Isolate, culture & study of microbes for various applications. CO5: Demonstrate basic techniques of microbiology and immunology
20PBO1DE1A	Applied Marine Botany	CO1: Recognize marine based analytical methods and remote sensing applications. CO2: Apply the methods of collection, cultivation and mass production of seaweeds and sea grasses. CO3: Appraise the utilization of marine algae for human consumption. CO4: Distinguish various coastal bio-resources for commercial application. CO5: Discover marine based products for human welfare.
20PBO2CC5	Cell and Molecular Biology	CO1: Identify the structural organization and function of organelles of a cell. CO2: Appraise the structure, function and transport mechanism of cell membrane. CO3: Summarize the genetic material of an organism and replication process in prokaryotes and eukaryotes. CO4: Analyse the signalling, communication and mechanism of a cell. CO5: Systematize the mechanism of transcription, translation in prokaryotes and eukaryotes.
20PBO2CC6	Anatomy, Embryology and Forensic Botany	CO1: Analyze different type of tissue systems and its organization. CO2: Review the physical and chemical properties, types and preservation of wood for the better utilization. CO3: Systematize male and female gametophyte development and their sexual incompatibilities. CO4: Recognize forensic importance of different parts of a plant. CO5: Collect, preserve and analyze botanical evidences for forensic science.
20PBO2CC7	Genetics and Plant Breeding	CO1: Describe the principles of genetics and their interaction. CO2: Analyse the changes occurs in chromosomes correlate with disease syndrome. CO3: Calculate the modifications of alleles and genotype change over time within and between populations.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
		CO4: Recognize the fundamentals of crop improvement through plant breeding. CO5: Practice the biotechnological techniques for crop improvement.
20PBO2CC8P	Laboratory course for core V, VI and VII – Practical	CO1: Examine various stages of cells in specimens. CO2: Demonstrate basic experiments related to DNA. CO3: Systematize internal organization of plant. CO4: Appraise various reproductive features & their uses. CO5: Solve problems related to genetics and able to demonstrate techniques related to plant breeding.
20PBO2DE2A	Floriculture for Entrepreneurship and Export	CO1: Recognize the fundamentals of floriculture. CO2: Employ various cultivation practices for flowering plants in commercial scale. CO3: Generate quality planting material of ornamentals and flowering plants. CO4: Standardize and practice production, preparation, and packaging of the commercially important cut flowers and flower based decorative products. CO5: Validate commercial floriculture as competent filed to start their own enterprise and turn into job creators instead of becoming job seekers.
20PBO3CC9	Plant Systematics and Ethnobotany	CO1: Impart knowledge on plant systematics and its applications. CO2: Realize the concepts of biosystematics and ICBN. CO3: Learn the striking affinities of different families. CO4: Familiarize the students with plants having immense economic importance. CO5: Recognize the theory and practices involved in ethnobotany.
20PBO3CC10	Plant Physiology	CO1: Recognize the transport process of water by the plant. CO2: Understand the photophysical and photochemical phase of photosynthesis. CO3: Distinguish the various phases of cellular respiration in plants. CO4: Analyzes the importance and significances of nitrogen fixation and physiological effect of plant growth hormones. CO5: Identify the responses of plants to biotic and abiotic stress.
20PBO3CC11	Biomolecules, Bioenergetics and Analytical Instrumentation	CO1: Identify the structure, properties and formulation of carbohydrates. CO2: Realize the different structure, properties and different configuration of proteins. CO3: Summarize the concept of enthalpy, entropy, free energy and standard free energy. CO4: Systemize the metabolism of carbohydrates, lipids and proteins.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO5: Analyse the various bioinstrumentation which are used detect different biomolecules.
20PBO3CC12P	Laboratory course for core IX, X and XI – Practical	CO1: Identify the family, genus, species, and morphology of the useful parts and uses of the tribal medicinal plants. CO2: Understand the water potential determination, physical and chemical treatments on membrane permeability. CO3: Estimate the content of chlorophyll, carotenoids and their absorption spectra in C3 and C4 plants. CO4: Analyses the preparation methods of molal, molar, normal and percentage solutions and their dilutions. CO5: Interpret the Rf values of amino acids/pigments by paper/thin layer chromatography.
20PBO3DE3A	Biostatistics and Bioinformatics	CO1: Demonstrate various numerical and graphic description of statistical data. CO2: Identify the patterns and types of data distribution in biological world. CO3: Make inference about the validity of the data collected in various surveys and experiments to support the decision-making process. CO4: Appraise the organization and usage of various biological databases. CO5: Develop analytical skills in biostatistics and bioinformatics.
20PBO4CC13	Plant Ecology and Conservation Biology	CO1: Understand and describe the fundamentals and components in Ecology. CO2: Explain and reflect about the different characteristic of populations and ecological niche concepts. CO3: Demonstrate concepts of biogeography, diversity and distribution of plants in various geographical regions. CO4: Apply ways to minimise and avoid major threats to biodiversity and impact of climate change on it. CO5: Identify the different approaches conservation methods and adopt to implement.
20PBO4CC14	Plant Biotechnology	CO1: Describe the scope and importance of biotechnology. CO2: Choose and design desired enzymes and cloning vehicles for genetic engineering. CO3: Recognize different gene transfer methods and analysing techniques. CO4: Utilize and develop plant-based products for social welfares. CO5: Distinguish about biosafety, IPR and patents of biological products.
20PBO4CC15P	course for core XIII and XIV – Practical	CO1: Comprehend different methods of analysis of vegetation and environmental samples. CO2: Demonstrate knowledge of methods in plant ecology. CO3: Evaluate the methods to interpret the data pertaining to plant ecology. CO4:

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Course Code	Course Title	Course Learning Outcomes
		Exploit the knowledge on isolation and quantification of DNA. CO5: Acquire knowledge in constructing map of cloning vectors.
20PBO4DE4A	Plant tissue culture and secondary metabolites production	CO1: Gain the knowledge on important techniques about plant tissue culture. CO2: Apply somatic embryogenesis techniques and cryopreservation. CO3: Develop and apply genetic transformation protocols. CO4: Gain fundamental knowledge of metabolic engineering of secondary metabolites. CO5: Enumerate the types of bioreactors and its commercial application.

PROGRAMME SPECIFIC OUTCOMES
DEPARTMENT OF BIOTECHNOLOGY

B.Sc. Biotechnology
Students will be able to

PSO1. Demonstrate a base of knowledge on the fundamentals of biotechnology and technical concepts in the field of biotechnology.

PSO2. Recognize the importance of bioethics, IPR, entrepreneurship, communication and managerial skills as instrumental to future biotechnologist.

PSO3. Discuss the domains of biotechnology and their applications in industrial research, scientifically and ethically.

PSO4. Employ basic laboratory skills for research in biotechnology and interdisciplinary aspects of biotechnology using scientific methods to explore natural phenomena.

PSO5. Combine the principles of biotechnology and its interdisciplinary concepts for finding solutions to contemporary biological questions.

M.Sc.Biotechnology
Students will be able to

PSO1. Discuss the principles and the applications of molecular biology, methods with an emphasis on the application of recombinant DNA technology to animals, plants and microbes.

PSO2. Explain the concepts and applications of monoclonal antibody technology, use of mammalian cells for the production of pharmaceutical products.

PSO3. Relate the applications of biotechnology and advances in the different areas like medical, environmental, agricultural, veterinary and forensic sciences.

PSO4. Apply technical skills necessary to support biotechnology research study.

PSO5. Extrapolate the scope for career in biosciences by getting through competitive exams or through research undertakings.

M.Phil. Biotechnology
Scholars will be able to

PSO1. Demonstrate critical understanding of advanced level of updated knowledge in the field of biotechnology.
PSO2. Apply the knowledge of teaching learning skills in personal and professional life.
PSO3. Integrate life-long learning skills and academic advancements.
PSO4. Appraise biotechnological research using theoretical knowledge and practical application of laboratory equipment's critically and systematically.
PSO5. Prepare research project reports for publication in journals and present them orally and in written form.

Post Graduate Diploma in Fermentation Technology
Students will be able to

PSO1. Describe the basic concepts in biomolecules and microbial biochemistry.
PSO2. Explain the principles of fermentation technology, use of biocatalysts and biotransformation involved in the bioprocess.
PSO3. Illustrate the process of industrial fermentation, bio process of animal and plant cell and the role of enzymes in fermentation.
PSO4. Summarize the steps in downstream processing.
PSO5. Evaluate the cost effective fermentation process and bioprocess in compliance with market demand.

Post Graduate Diploma in Bioinformatics
Students will be able to

PSO1. Explain the fundamental principles of Bioinformatics and statistical applications in bio informatics.
PSO2. Outline the process of generation, manipulation and representation of molecules for drug modeling.
PSO3. Describe the basic structure of biological molecules, process of sequencing and structures and the interaction between the molecules.
PSO4. Develop and apply basic computer programming to build biological algorithms and models to study their relationships.
PSO5. Deduce the interrelationship between genomics and Proteomics, techniques involved in analyzing proteomics and its applications.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

COURSE OUTCOMES

B.SC. BIOTECHNOLOGY

Course Code	Course Title	Course Learning Outcomes
20UBT1CC1	Essential Biodiversity	CO1: Ensure imparting the knowledge on a concep biodiversity and its advantages. CO2: Describe the evolutionary relationship of microorgani plants and animal. CO3: Demonstrate web resources in biodiversity and conservation using modern tools. CO4: Develop the conservation strategies to the beginners improvement of natural resources. CO5: Appraise the scientific attitude using modern tools conserving biodiversity.
20UBT1CC2P	Essential Biodiversity - Practical	CO1: Acquire basic knowledge on animal and plant organization. CO2. Describe the basic knowledge of evolutionary relationship living organisms. CO3. Ensure imparting the knowledge on a concept of biodiversity and its advantages. CO4. Analyse the status of endangered flora and fauna. CO5. Generate the knowledge through field visit of botanical garden and zoological park.
20UBT1AC1	Microbiology-I Bacteriology and Virology	CO1. Develop an understanding on the different aspects of Bacteria, fungi, Virus and its history. CO2. Relate, identify and discriminate among Prokaryotic and Eukaryotic organisms. CO3. Explain the properties, structure and cultivation of Bacteria and Virus. CO4. Describe the theory behind the practical parts in this course. CO5. Analyse the different aspects of viral, bacterial diseases and research findings in the areas of Bioinformatics in microbial technology.
20UBT1AC2P	Microbiology- I Bacteriology and Virology- Practical	CO1: Describe the basic principles of sterilization and media preparation. CO2. Differentiate organisms based on structural and biochemical properties. CO3. Develop skills associated with isolating and enumerating microorganisms from various sources. CO4. Apply knowledge and skills gained in this course to be useful in further research. CO5. Develop an understanding on the various aspects of Bacteria and Viruses.
20UBT2CC3	Cytology and cell biology	CO1: Gain Information literacy in basic concepts of cell biology and properties of cells. CO2: Analyse and interpret the behaviour of cells in their microenvironment in multiple CO3: Cellular organisms with emphasis on cell-cell interactions

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Course Code	Course Title	Course Learning Outcomes
		CO4: Understand the chemical and molecular processes that occur inside cells. CO5: Attain mastery in identifying the sub cellular organelles and describing their structure and function.
20UBT2C4P	Cytology and cell biology - Practical	CO1: Explain the structure of cells using microscopy and other analytical techniques. CO2: Develop their skills in the preparation and identification of cell structures and their functions using staining techniques. CO3. Gain expertise in cytochemical methods. CO4. Identify the different stages of mitosis and meiosis CO5. Design experiments to investigate a scientific problem and present advanced knowledge in the specialized fields of cell biology.
20UBT2AC3	Microbiology -II applied microbiology	CO1: Describe the basics of soil microbes and their role in biogeochemical cycle. CO2: Discuss the domains of microbiology and their applications in various industries. CO3: Evaluate methods of microbial control and apply the proper methods necessary in a given scenario. CO4: Explain about the medical and practical uses of microorganisms for the production of pharmaceutical products. CO5: Employ basic laboratory skills for research in microbiology using scientific methods to explore natural phenomena.
20UBT2AC4P	Microbiology- II applied microbiology - Practical	CO1: Technical know-how on versatile techniques in applied microbiology. CO2: Proficiency in designing and conducting experiments involving microbes. CO3: Demonstrate the safe methods for isolation of bacteria, fungi and determination of their antibacterial and antifungal activity. CO4: Illustrate the application of microbes in industries. CO5: Apply technical skills necessary to support microbiology research study.
20UBT3CC5	Genetics and Evolution	CO1: Explain the basic concept of principles of genetics and evolutionary concepts in plants, animals and microorganisms. CO2: Demonstrate the linkage and crossing over in genetics studies of living organisms. CO3: Develop skills associated with transposons and transposable elements. CO4: Understand the Genetics and evolutionary significance CO5: Understand the evolutionary concepts in living organisms.
20UBT3CC6P	Genetics and evolution practical	CO1: Acquire basic knowledge through genetics using Mendel's experiments. CO2: Ensure imparting the knowledge on the principles of genetics and evolutionary theories.

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Course Code	Course Title	Course Learning Outcomes
		C03: Analyze the gene transformation, Transduction, Conjugation in bacteria and viruses. CO4: Generate the knowledge through model experimental flow chart and modules. CO5: Describe the basic knowledge of evolutionary importance in living organisms.
20UBT3AC5	Biochemistry-I Biomolecules	CO1: Understand the classification and structure of carbohydrates. CO2: Ensure students gain knowledge about the structure, properties and functions of amino acids and proteins. CO3: Gain the knowledge about the classification, properties and biochemical functions of lipids. CO4: Enable the students to learn the basic functions, structures and biological importance of nucleic acids, vitamins and minerals. CO5: On successful completion of the course the students should have understood the significance of the complex bio-molecules, polysaccharides, lipids, proteins, nucleic acids, vitamins and minerals.
20UBT3AC6P	Biochemistry- I Biomolecules - Practical	CO1: Understand the principles, theory and calculations of each experiment. CO2: Gain hands on preparation of all the solutions and to standardize solutions individually. CO3: Acquire the concept of pH meter and preparation of Buffer solution. CO4: Asses the qualitative analysis of carbohydrates, amino acids and lipids. CO5: Ensure students to gain practical knowledge about the chromatographic technique.
20UBT3GE1	Edible Mushroom cultivation Technology	CO1: Relate, identify and discriminate edible mushroom from poisons. CO2: Develop an understanding on the different source of raw material for aseptic cultivation and mass production of mushroom. CO3: Explain the medicinal and nutritional value of mushroom. CO4: Describe the commercial importance of edible mushroom cultivation. CO5: Describe the marketing value and research findings of mushroom cultivation technology.
20UBT4CC7	Molecular Biology and Recombinant DNA Technology	CO1: Describe the mechanism of action and the use of restriction enzymes in Biotechnology research. CO2: Develop the skills associated with PCR, blotting techniques and its types. CO3: Develop the skills associated with plasmid preparations, DNA sequencing and how they are performed. CO4: Demonstrate practical and theoretical knowledge essential for pursuing higher studies. CO5: Analyse sequence data, gene expression data using Bioinformatics and to discuss the mechanisms associated

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		with regulation of gene expression at the level of transcription and translation.
20UBT4AC8P	Molecular biology and Recombinant DNA Technology- Practical	CO1: Comprehend the skills involved in isolation of genomic and plasmid DNA. CO2: Develop skills associated with isolation, restriction and ligation of the isolated DNA CO3: Explain the steps of a bacterial transformation. CO4: Acquire skills on selection of recombinants and analysis of cloned genes by sequencing methods. CO5: Understand the principles and applications of Polymerase Chain Reaction(PCR).
20UBT4AC7	Biochemistry- II bioenergetics and metabolism	CO1: Understand the energy transformation in living system. CO2: Acquire knowledge on mechanism of oxidative phosphorylation. CO3: Asses the metabolism of carbohydrates. CO4. Enable the students to learn about lipid metabolism. CO5. Gain the adequate exposure in amino acids, nucleic acid and porphyrins metabolism.
20UBT4C8P	Biochemistry -II bioenergetics and metabolism - Practical	CO1: To acquire the knowledge about the estimation of Carbohydrates. CO2: To enable the students to understand the basic principle and estimation of proteins. CO3: To evaluate the saponification number, Acid number and Iodine value of an edible oil. CO4: To assess the content of various biomolecules in food substances CO5: Ensure students to gain practical knowledge about the activity of Antioxidant enzymes in our body.
20UBT4GE2	Biofertilizer and Organic farming	CO1: Acquire knowledge on the properties of soil and soil pollution. CO2: Gaining the knowledge of different types of biofertilizer. CO3: To understand organic farming and kinds integrated Pest Management. CO4: Describing the manure and waste management. CO5: To find out animal based organic manure production and its importance.
20UBT5CC9	Plant and Animal Physiology	CO1: Ensure students to understand the metabolic activities of plants. CO2: Describe the role of enzymes in various metabolic activities of plants. CO3: Relate the integration of the cardiovascular and respiratory systems and their overall control. CO4: Comprehend the functions of different organs involved in human digestive and excretory system. CO5: Understand the reproductive cycles with hormonal control.
20UBT5CC10	Enzymology	CO1: Understand the basic concepts of enzymes and coenzymes. CO2. Acquire the knowledge on enzyme actions.

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Course Code	Course Title	Course Learning Outcomes
		CO3. Study the mechanism of enzyme kinetics. CO4. Ensure the basic knowledge on characterization of enzymes. CO5.Appraise the significance of enzymes.
20UBT5CC11	Immunology	CO1: Describe the function of the major components and mechanism of the immune system to protect the body from the pathogens. CO2: Familiar with the immunologic responses involved in preventing, combating infections and the concepts of nonspecific and specific immunity. CO3: Resourceful in the structure, function and characteristics of immunoglobulins. Co4: Intellectual literacy in the common immune diseases in terms of the underlying basic principles and preventive measures. CO5: Familiar in the modern techniques that aids human protection.
20UBT5CC12P	Plant and Animal Physiology, Enzymology, Immunology - Practical	CO1: Gain fundamental knowledge of animal physiology. CO2: Execute the roles of a biology teacher or medical lab technicians with training as they have basic fundamentals. CO3: Discuss the basic knowledge of enzymes, its components and their functional properties. CO4: Exposure of wide applications of enzymes and their future potential. CO5: Develop their skills in the understanding of immunological reactions.
20UBT5DE1A	Genomics and Proteomics	CO1: Identify the concepts and techniques applied in genomics, transcriptomics and proteomics. CO2: Gain the knowledge of fundamentals of genomics and proteomics. CO3: Analyse the biological techniques of genomic and proteomic CO4: Ability to discuss the key technological developments that enabled modern genomic and proteomic studies. CO5: Determine the category of experimental design for solving theoretical problems.
20UBT5DE1B	Ecology and Environment Management	CO1: Ensure imparting the knowledge on ecology and ecological dynamics. CO2: Acquire basic Knowledge on the effect of environmental pollution. CO3: Understand the principles and operations of waste water treatment using microbes and plants. CO4: Systematically understand the collection, transportation and Management of hazardous wastes. CO5: Describe the principles of various Environmental Acts and regulations.
20UBT5SE2A	Environmental Biotechnology	CO1: Acquire basic knowledge of fundamental concepts of environmental Biotechnology.

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Course Code	Course Title	Course Learning Outcomes
		CO2: Identify the importance of environmental biotechnology involved in treatment of pollutants and resource recovery. CO3: Ability to understanding biodegradation and bioremediation process. CO4: Gain the knowledge about microbial treatment of waste water. CO5: Determine the category of microbial life in extreme environmental microorganism.
20UBT5SE2B	Basics of Forensic Science	CO1: Discuss about the working and functioning of Forensic science laboratories. CO2: Learn the crime science its role in criminal investigation and Prevention of crime. CO3: Describe how the Principles of Forensic science used to solve criminal cases. CO4: Execute reports on different cases. Will learn the importance of various evidences and how they used to solve the criminal cases. CO5: Apply the Laboratory skills to participate in the career needs of Forensic community and work with different R&D organizations.
20UBT5SE3A	Industrial Fermentations	CO1: Comprehend the microbial exploitation in bioconversion technology. CO2: Understand the use of microorganism for industrial purposes and food production. CO3: Describe the microbial synthesis of primary metabolites. CO4: Explain about microbial synthesis of secondary metabolites. CO5: Demonstrate the downstream process and enzyme production.
20UBT5SE3B	Molecular Diagnostics	CO1: Ensure students to understand the clinical applications of molecular diagnostic in patients with infectious disease. CO2: Compare and contrast structure and functions of DNA and RNA. CO3: Understand the concept of chromosome banding pattern and cytogenetic analysis of various chromosomal disorders. CO4: Develop the skills associated with PCR based amplification techniques and its types CO5: Demonstrate practical and theoretical knowledge of DNA sequencing and Blotting techniques.
20UBT6CC13	Plant Biotechnology	CO1: Describe the basic principles and techniques involved in plant tissue culture Laboratory. CO2: Develop the skills associated with conservation and the importance of cell culture techniques in plant tissue culture research. CO3: Demonstrate industry appropriate applications of plant biotechnology in agricultural field.

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Course Code	Course Title	Course Learning Outcomes
		CO4: Develop the gene transformation techniques in modern agricultural practices and beneficiaries in genetically modified foods. CO5: Analyse the achievements in modern agriculture industry.
20UBT6CC14	Animal Biotechnology	CO1: Understand the basic techniques in animal cell culture and organ culture. CO2: Acquire the knowledge on genetic engineering in animals. CO3.Analyse the production of transgenic animal and its significance. CO4: Develop an understanding on embryo technology and animal breeding. CO5: Appraise the significance of sericulture and aquaculture.
20UBT6CC15	Bioinformatics and Biostatistics	CO1: Generate knowledge scope and history of Bioinformatics. CO2: Gain the knowledge of biological databases and information. CO3: Understand the biological information retrieval methods for DNA sequence. CO4: Design programs with interactive input and output program C. CO5: Determine the category of measures of central tendency, dispersion and correlation for analysis of data.
20UBT6CC16P	Plant Biotechnology, Animal Biotechnology and Bioinformatics and Biostatistics- Practical	CO1: Develop the skills of pilot scale production of secondary metabolites. CO2: Understand the processes involved in the planning, conduct and execution of Plant and animal biotechnology experiments. CO3: Employing the processes include traditional fermentation procedures and also those involving organisms modified by recombinant DNA technology. CO4: Design the programs with interactive Input and Output in C program. CO5: Understand the biological information and retrieval methods for DNA sequence.
20UBT6DE2A	Bioanalytical tools	CO1: Develop the skills to understand the theory and practice of bio analytical techniques. CO2: Understand the various approaches employed in spectroscopic characterization CO3: Study the working principle, techniques and applications of microscopy. CO4: Gain knowledge and apply the concept of electrophoretic techniques, their procedure, principle and applications CO5: Describe the concept of partition coefficient and perform various chromatographic techniques.
20UBT6DE2B	Medical Microbiology	CO1: Impart the knowledge of medically important human diseases with respect to their causative agent.

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Course Code	Course Title	Course Learning Outcomes
		CO2: Enable the students to study clinical symptoms and treatment of bacterial disease in various organ system CO3: Gain the knowledge on study of mode of transmission of viral diseases. CO4: Enable the students to study clinical symptoms and treatment of fungal and protozoan diseases. CO5: Evaluate the methods to identify infectious agents in the clinical microbiology lab.
20UBT6DE3A	IPR, Biosafety and Bioethics	CO1: Analyze different types of intellectual property rights in general and protection of products derived from biotechnology research and issues related to application and obtaining patents CO2: Organize policy of companies and other technology-intensive organizations to build, manage and govern technology based business CO3: Differentiate systemic and cross-functional identification, control and governance of IP assets in sourcing, collaboration and exploitation. CO4: Distinguish knowledge of biosafety and risk assessment of products derived from recombinant DNA research and environment release of genetically modified organisms, national and international regulations. CO5: Analyze ethical aspects related to biological, biomedical, health care and biotechnology research
20UBT6DE3B	Cancer and Stem Cell Biology	CO1: Gain deep understanding on the basic processes related to the cancer, growth, causes, and its differentiation. CO2: Understand the multistep, genetic alterations which enable the transformation of a normal cell to a cancer. CO3: Describe the multipotent and pluripotent stem cells from various sources, its application and regulation. CO4: Understanding the basic concepts of stem cells, types and its present and future challenges CO5: Elucidate the clinical applications of stem cells culture.

COURSE OUTCOMES

M.SC. BIOTECHNOLOGY

Course Code	Course Title	Course Learning Outcomes
20PBT1CC1	Bioinstrumentation	CO1: Integrate spectroscopic techniques in their research projects and utilize them to discriminate structure of novel compounds. CO2: Gain knowledge on the principles, instrumentation and applications of centrifugation. CO3: Understand the working principles, construction and applications of all separation techniques involved in purification. CO4: Understand the various Medical instrumentation.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO5: Gain knowledge on different scientific research designs and methods in field biology.
20PBT1CC2	Advanced Biochemistry	CO1: Acquire the knowledge about bioenergetics and its principles. CO2: Describe the metabolic pathways of carbohydrate and its regulatory mechanisms. CO3: Illustrate the structure, biological functions and metabolism of lipids. CO4: Intellectual about the structures of amino acids, their chemical properties and their metabolism. CO5: Assess the synthesis of purines and pyrimidines along with their regulation and explain and provide the inter-relationships of biomolecules and their consequences for interpreting & solving clinical problems.
20PBT1CC3	Immunology and Immunotechnology	CO1: Describe the function of the major components and mechanism of the immune system to protect the body from the pathogens CO2: Familiar with the immunologic responses involved in preventing, combating infections and the concepts of nonspecific and specific immunity. CO3: Resourceful in the structure, function and characteristics of immunoglobulins. CO4: Intellectual literacy in the common immune diseases in terms of the underlying basic principles and preventive measures. CO5: Familiar in the modern techniques that aids human protection.
20PBT1CC4P	Bioinstrumentation, Advanced Biochemistry, Immunology and Immunotechnology - Practical	CO1: Describe how scientific methods and instruments are used to explain natural phenomena. CO2: Generate hypotheses, evaluate data, and design experiments to investigate a scientific problem. CO3: Gain expertise in handling equipment for electrophoresis, spectrophotometer and chromatography. CO4: Gain skill-based knowledge on techniques associated with Biochemistry CO5: Develop their skills in the understanding of immunological reactions.
20PBT1DE1A	Biodiversity and Bioprospecting	CO1: Ensure imparting the knowledge on a concept of biodiversity and its advantages. CO2: Identify the application of micro and macro algae in different sectors. CO3: Determine the category and potentialities of biological products. CO4: Improve the new discovery and commercialization of new products based on biological resources. CO5: Appraise the resources or compounds can be important for and useful in many fields, including pharmaceuticals, agriculture.
20PBT1DE1B	Biofertilizer Technology	CO1: Ensure imparting the knowledge of chemical based agriculture.

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Course Code	Course Title	Course Learning Outcomes
		CO2: Identify the application of biofertilizer and organic farming. CO3: Determine the category of chemical fertilizers and organic manures. CO4: Improve the new live products (or latent cells of microbes) and require care in storage, transport, application and maintaining field conditions CO5: Develop skills management for best results uses both nitrogenous and phosphate bio fertilizers.
20PBT2CC5	Enzymology and Enzyme Technology	CO1: Acquire the knowledge about history, classification, purification and separation of enzymes CO2: Intellectual about enzyme kinetics. CO3: Describe the mechanism of enzyme action. CO4: Construct the knowledge on enzyme regulation. CO5: Appraise about the techniques of immobilization and application in enzymes in industries.
20PBT2CC6	Molecular Biology and Genetic Engineering	CO1: Outline and examine the mechanism of DNA replication and translation. CO2: Critically assess and predict the mechanism of gene expression and gene regulation CO3: Examine the appropriate selection and screening technique for a specific recombined DNA. CO4: Describe the applications of genetic engineering in microbial and animal improvement along with the ethical guidelines CO5: Demonstrate the specific techniques for developing transgenic plants and its Biosafety.
20PBT2CC7	Recombinant DNA Technology	CO1: Explain the principles of enzymes and vector which serves indispensable tools in recombinant DNA technology. CO2: Demonstrate the principle and the concept of cloning strategies. CO3: Develop skills associated with constructing cDNA libraries and finding right clone. CO4: Discuss the mechanism associated with PCR and sequence analysis. CO5: Understand the genome editing and societal concerns of recombinant DNA technology.
20PBT2CC8P	Enzymology and Enzyme Technology, Molecular Biology and Genetic Engineering, Recombinant DNA Technology - Practical	CO1: Discuss the basic knowledge of enzymes, its components and their functional properties. CO2: Exposure of wide applications of enzymes and their future potential. CO3: Technical know-how on versatile techniques in recombinant DNA technology. CO4: Describe the mechanism of action and the use of restriction enzymes in biotechnology research. CO5: Proficiency in designing and conducting experiments involving genetic manipulation.
20PBT2DE2A	Genomics and Proteomics	CO1: Understand the advanced level of genomes and their expressions from structure to functional level.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
		CO2: Explain the principle of genome through the process of plant and animal technology and computational analysis. CO3: Develop skill proteomics and the different approaches to analyses the proteomics. CO4: Determine the different concepts of microarray and their analysis. CO5: Asses the pharmacogenomics and Pharmacogenetics, drug design.
20PBT2DE2B	Biopharmaceuticals in Nanomedicine	CO1: Provide a comprehensive introduction to biopharmaceuticals in nanomedicine CO2: Gain an understanding of producing novel nano biologics and Nanopharmaceuticals CO3: Categorize and explain the role of Regenerative medicine and tissue engineering CO4: Develop their understanding of biological therapies. CO5: Expand their knowledge on Ethical, Safety and regulatory issues of Nanomedicine
20PBT3CC9	Plant Biotechnology	CO1: Describe the basic principles and techniques involved in plant tissue culture. CO2: Develop the skills associated with endangered plants conservation and the importance of cell culture techniques in medical and biochemical research. CO3: Demonstrate industry appropriate applications of plant biotechnology in agricultural field. CO4: Develop the gene transformation techniques in modern agricultural practices and beneficiaries in genetically modified foods. CO5: Analyze the achievements in modern agriculture and pharmaceutical industry.
20PBT3CC10	Animal Biotechnology	CO1: Expertise the concepts of animal cell culture. CO2: Acquire the knowledge of methods used in gene transfer technology in Animal. CO3: Ensure students to gain knowledge about IVF and transgenic animals. CO4: Enable the students to learn about stem cells, hybridoma technology and gene therapy. CO5: Gain knowledge about various types of vaccine production.
20PBT3CC11	Microbial Technology	CO1: Describe the role of bacterial and cell culture in protein product development. CO2: Describe how Biotechnological methods are being used to understand and protect the environment. CO3: Gain knowledge about the role genetically modified organisms in the environment. CO4: Discuss the role of probiotics in human health. CO5: Discuss the field of genomics and proteomics methods used for protein study and the potential benefits of proteomic research.
20PBT3CC12P	Plant Biotechnology, Animal Biotechnology,	DevCO1: develop the skills of pilot scale production of secondary metabolites.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
	Microbial Technology - Practical	2. CO2: To understand the processes involved in the planning, conduct and execution of Plant and animal biotechnology experiments. CO3: To use basic biotechnological techniques to explore molecular biology of plants, animals and microbes. CO4: Advanced knowledge of the underlying principles of tissue culture techniques and its application and the problems in biological systems. CO5: Employing the processes include traditional fermentation procedures and also those involving organisms modified by recombinant DNA technology.
20PBT3DE3A	Stem Cell Biology	Co1: Gain an understanding on the basic concepts of stem cells, types and its present and future challenges. Co2: Relate the aspects about the natural history of stem cells. Co3: DEVELOP an understanding about embryonic stem cells. CO4: Discuss the role of stem cells in regenerative medicine. CO5: Illustrate on the stem cells for tissue grafts and elucidate the details about stem cells culture.
20PBT3DE3B	Marine Biotechnology	CO1: Explain principle features of marine ecosystems and the microbial diversity CO2: Describe and discuss marine microbes in terms of physiological capability and their biogeochemical role. CO3: Acquire the knowledge on natural products of marine origin CO4: Discuss the mechanisms associated with marine byproducts. CO5: Learn the concept of microbes available in an aquatic environment, their role and interaction with the marine environment.
20PBT4CC13	Bioinformatics and Biostatistics	CO1: identify the scope of Computational Biology and Bioinformatics. CO2: Ability to design programs with interactive Input and Output program c. CO3: The Study of understanding biological information. Retrieval methods for DNA sequence. CO4: Gain the knowledge Major Biological Databases and Information. CO5: Determine the category of measures of central tendency, dispersion and correlation for analysis of data.
20PBT4CC14	Environmental Biotechnology	CO1: Understand the global environmental problems. CO2: Understand the principles and the applications of the treatment process for wastewater, sewage and solid waste in environmental management. CO3: Analyze the environmental significance of biotechnological methods for pollution detection and abatement. CO4: Describes the use of value added byproducts of environmental biotechnology

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO5: Understand the emerging techniques of eco-friendly bio products.
20PBT4CC15P	Bioinformatics and Biostatistics, Environmental Biotechnology - Practical	CO1: Ability to design programs with interactive Input and Output program c. CO2: The Study of understanding biological information. Retrieval methods for DNA sequence. CO3Gain the knowledge in Major Biological Databases and Information. CO4: Identify the pollutant degrading organisms from the environment. CO5: Describe the steps involved in complete analysis of organic matter, coliform bacteria and bio indicators in wastewater.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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PROGRAMME SPECIFIC OUTCOMES
PG & RESEARCH DEPARTMENT OF CHEMISTRY

B.Sc. Chemistry
Students will be able to

PSO1. Discuss the fundamental and application of current chemical and scientific theories in the core areas such as inorganic, organic and physical chemistry and applied areas of chemistry such as Agricultural chemistry, Nutritional chemistry, Drug Chemistry and Water Chemistry.

PSO2. Design, carry out chemical experiments in laboratory following using modern instruments and classical techniques safe use of equipment's and chemicals, interpretation and documentation of the results and communicate through thesis writing and research publications.

PSO3. Apply appropriate techniques for the analysis of chemicals in research and development laboratories and industries, leading to employment opportunities in chemical industries as a chemist.

PSO4. Formulate solutions to address current problems through chemical principles in a variety of fields and evaluate the potential impact chemistry may have on society, health, and the environment.

PSO5. Explain, integrate and apply relevant knowledge to problems that emerge from the broader interdisciplinary subfields and probable solutions for environmental problems.

M.Sc. Chemistry
Students will be able to

PSO1. Explain advanced concepts of Inorganic, Organic and Physical Chemistry and integrate knowledge in discipline specific areas.

PSO2. Design chemical reactions and their mechanism using a variety of chemical instrumentation, laboratory techniques, statistical and computational methods and interpret it as scientific reports through oral and written means.

PSO3. Apply modern instruments and technologies and classical equipment's in execution of chemical experiments, recognizing the uncertainties and error in experimental measurements following the ethical standards as chemists.

PSO4. Examine the importance of chemistry in dealing with political, social, environmental and societal problems due to chemicals and plausible remedial measures for sustainable society.

PSO5. Identify career prospects as chemists in research and development organizations or through entrepreneurial associate ship.

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M.Phil

Scholars will be able to

PSO1. Identify current topics of chemical research, and perform either basic, applied or trans disciplinary research based on theoretical concepts and facts.

PSO2. Examine the possibilities of solutions to societal problems caused through hazardous chemicals through scientific research conducted with appropriate use of safety measures and ethical considerations.

PSO3. Apply the teaching learning knowledge for personal and professional growth in the classroom and affiliated setup.

PSO4. Describe the instrumental and computational methods of chemical research.

PSO5. Devise employment openings, foundational on theoretical and applied understanding of chemicals and chemical reactions by getting through competitive exams or as an entrepreneur.

COURSE OUTCOMES

B.SC. CHEMISTRY

Course Code	Course Title	Course Learning Outcomes
20UCH1CC1	Inorganic, Organic and Physical Chemistry-I	CO1: Locate the destiny of an electron and categories the trend of periodic properties. CO2: Identify inorganic samples applying the principles of ionic equilibria and state the theories of indicators CO3: Apply the IUPAC rules for naming the organic compounds and construct the structure of the organic molecules. CO4: Report the mechanistic pathway of an organic reaction CO5: Validate the characteristics of ideal and real gases.
20UCH1CC2P	Volumetric and Photometric Estimation -Practical	CO1: Apply the principle of volumetric technique. CO2: Estimate the quantity of chemical substance to analyze in a solution. CO3: Understand the principle of photo colorimetric method. CO4: Convert the higher concentration to lower concentration of solution. CO5: Apply the photometric method analyze the commercial food items and medicines.
20UCH2CC3	Inorganic, Organic and Physical Chemistry-II	CO1: Construct MO diagrams of diatomic molecules and predict the existence of the molecule. CO2: Predict the hybridization and shapes of molecules. CO3: Produce the saturated hydrocarbons. CO4: Apply the concept and uses of liquids and colloids in the applied field. CO5: Compare crystal types and its structural determinations.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
20UCH2CC4P	Industrial Chemistry - Practical	CO1: Analyze the purity of commercial samples. CO2: Evaluate the total hardness of water. CO3: Understand the availability of chemical constituents in various commercial products. CO4: Plan, conduct the equipment's and interpret the experimental results. CO5: Detect and estimate the ions present in hard water.
20UCH3CC5	Inorganic, Organic and Physical Chemistry-III	CO1: Compare the properties of alkali, alkaline earth and zero group elements and them compounds CO2: Summarise the properties of Boron and Carbon group elements. CO3: Categorise alkenes, alkynes and alcohols by applying appropriate chemical tests. CO4: Interpret the mechanism of nucleophilic substitution and elimination reactions. CO5: Discuss the electrical and magnetic properties of chemical compounds.
20UCH3CC6P	Preparation of Domestic Products and their Quality Testing-Practical	CO1: Select the chemicals required for the domestic product preparation. CO2: Produce the products in small scale CO3: Appraise the quality of domestic products CO4: Formulate the combination for commercialisation CO5: Become an enterperuner
20UCH3GE1A	Chemistry in Daily Life	CO1: Understand the nature of essential oils and perfumes CO2: Formulate the cosmetic products CO3: Explain the chemistry of dyes and highlight their importance CO4: Appreciate the importance of polymers CO5: Compare the properties of fuels and fire protectors.
20UCH3GE1B	Agricultural Chemistry	CO1: Classify the soil based on its nature CO2: Understand the colloidal properties of soil CO3: Appraise the quality of soil CO4: Appreciate the importance of supplementary nutrients of soil. CO5: Recognize the role of pesticides in agriculture
20UCH4CC7	Inorganic, Organic and Physical Chemistry-IV	CO1: Describe the chemistry of binary compounds and alloys and metallurgy. CO2: Analyze the aromaticity of the organic compounds and their mechanism towards electrophilic substitution. CO3: Understand the properties of Carbonyl compounds and ethers. CO4: Infer the concepts of acids and bases. CO5: Explain the kinetics of chemical reactions.
20UCH4CC8P	Qualitative Analysis of Inorganic Salts-Practical	CO1: Understand the principles of inorganic qualitative analysis. CO2: Apply the appropriate methods for identifying the radicals in a mixture systematically. CO3: Prepare reagents required for the analysis CO4: Develop skills to execute reactions in micro level.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO5: Present the report of the analysis.
20UCH4GE2A	Food and Nutrition	CO1: Categorize the major components of foods in the environment. CO2: Investigate the biological functions of minerals and vitamins. CO3: Analyze the importance of meal planning and diet CO4: Explain the causes of food spoilage and principles of different techniques used in preservation of foods. CO5: Identify the adulterants added to foods and interpret government regulations for food safety and standards
20UCH4GE2B	Nanoscience and its Applications	CO1: Understand rudiments of nanoscience CO2: Synthesise nanomaterials using different methods CO3: Characterize nanomaterials using advanced techniques CO4: Appreciate the applications of nanomaterials CO5: Correlate nano technology and nature.
20UCH5CC9	Chemistry of p-block Elements and Radioactive nuclides	CO1: Describe the chemistry of oxygen and halogen family elements. CO2: Analyse the compounds of silicon and polyacids CO3: Infer the chemistry of nitrogen family CO4: Gain knowledge on nuclear models and isotopes CO5: Understand techniques used for the measurement of radioactivity
20UCH5CC10	Organic Compounds containing O, N & S and Name reactions	CO1: Understand the chemistry of heterocyclic and polynuclear hydrocarbons CO2: Know the properties of carboxylic acid and its derivatives CO3: Discuss the properties and uses of phenols CO4: Synthesize nitrogen containing organic compounds CO5: Identify the reagents for selective organic reactions
20UCH5CC11	Energetics and Properties of Solutions	CO1: Relate the different thermodynamic functions with nature of the chemical reaction. CO2: Understand the concepts of entropy and free energy. CO3: Apply the phase rule to study the behavior of one and two component systems. CO4: Validate the characteristics of ideal and non-ideal solutions CO5: Explain the behavior of dilute solutions.
20UCH5CC12P	Physical Chemistry Electrical Practical	CO1: Apply the principle of conductometric titrations. CO2: Understand the concept of potentiometry. CO3: Analyze the different types of electrodes. CO4: Evaluate electrode potential of the single electrode. CO5: Determine electro motive force (EMF) of a chemical reaction.

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Course Code	Course Title	Course Learning Outcomes
20UCH5DE1AP	Preparation and Analysis of Organic Compounds- Practical	CO1: Synthesise selected organic compounds independently. CO2: Analyse the nature and special elements present in an organic compound. CO3: Differentiate the aliphatic and aromatic nature of the organic compounds. CO4: Identify the functional group through systematic chemical analysis CO5: Report the analysis of organic compound
20UCH5DE1BP	Quantitative Analysis by Photometric method - Practical	CO1: Apply the concept of photometry to metal complex CO2: correlate the intensity of colour of a solution with variation in concentration CO3: Analyse optical density of a solution by varying concentration CO4: Assess the metal ligand ratio of complex by Job's Method CO5: Interpret the quantification of the complex
20UCH5SE2A	Analytical Techniques	CO1: Demonstrate the procedures of first-aid techniques CO2: Classify the types of precipitations CO3: Analyze the thermal stability of the compounds CO4: Explain the principle and techniques of separation CO5: Understand the features and significances of Intellectual Property Rights
20UCH5SE2B	Electro Analytical Techniques	CO1: Explain the principle of Polarography CO2: Understand the concept of potentiometric measurements CO3: Gain experimental skills on amperometric titrations. CO4: Understand the coulometric analysis CO5: Apply the electrolytic separation of metals.
20UCH5SE3A	Clinical Chemistry	CO1: Understand the basic knowledge on drugs and its applications CO2: Explain the structure of Antibiotics and uses CO3: Categorize the Anesthetics and Analgesics CO4: Predict the blood composition, mechanism and coagulants CO5: Understand the applications of nanomaterials in medicine
20UCH5SE3B	Water Quality Analysis	CO1: Realize the water pollution on environment. CO2: Identify the sources and harmful effects of marine and ground water pollution. CO3: Create the knowledge about water quality parameters. CO4: Predict sources and effects of trace elements. CO5: Apply the various techniques for waste water treatment.
20UCH6CC13	Chemistry of d, f-Block Elements and Metal Complexes	CO1: Describe the chemistry of transition elements CO2: Understand inner transition elements CO3: Compute CFSE of Coordination Compounds

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Course Code	Course Title	Course Learning Outcomes
		CO4: Know the types of isomerism and the stability of complexes CO5: Apply the principles of coordination chemistry in qualitative and quantitative analyses.
20UCH6CC14	Stereochemistry, Molecular Rearrangements and Natural Products	CO1: Acquire the comprehensive knowledge on stereochemistry CO2: Understand the concepts of isomerism and conformational analysis CO3: Apply the mechanism for various molecular rearrangements CO4: Know the importance of organic photochemistry and pericyclic reactions CO5: Elucidate the structure of terpenes and alkaloids
20UCH6CC15	Electrochemistry, Molecular spectroscopy and Group Theory	CO1:Understand the basic concepts of electrochemistry and its applications CO2: Compare the efficiency of various types of electrochemical cells CO3: Infer the concepts of molecular spectroscopy CO4: Solve the chemical structure using various spectral techniques CO5: Predict the point group of a molecule
20UCH6CC16P	Gravimetric Estimation and Spectrophotometric Study of Metal Complexes-Practical	CO1: Synthesize inorganic complexes CO2: Familiarize on the precipitating agents CO3: Assess the stoichiometry of the complex CO4: Understand the principle of photo colorimeter CO5: Examine the optical density of a solution with variation in concentration.
20UCH6DE2A	Essential Molecules for Life	CO1: Describe the classification, structure and uses of amino acids and protein. CO2: Explain the structure of mono and disaccharides. CO3: Categorize the vitamins based on their functions CO4: Illustrate the structure and functions of enzymes and hormones CO5: Understand the significance of nucleic acid and lipids.
20UCH6DE2B	Essentials of Bioinorganic Chemistry	CO1: Classify the essential and trace metals in biological system. CO2: Explain the role of metals in biological processes. CO3: Demonstrate the transformation of energy in cells. CO4: Describe the process of oxygen storage CO5: Paraphrase the kinetics of electron transfer in biology.
20UCH6DE3AP	Physical Chemistry Non- Electrical Practical	CO1: Detect the purity of a mixture using CST CO2: Analyze the colligative properties of organic compounds. CO3: Determine eutectic temperature and composition of given mixture.

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Course Code	Course Title	Course Learning Outcomes
		CO4: Measure the hydrophobicity of solute molecule CO5: Plan and perform the experiments along with their interpretation.
20UCH6DE3BP	Advanced Physical Chemistry- Practical	CO1: Determine the enthalpy change of a reaction between strong acids and strong bases CO2: Find the order of saponification reaction CO3: Investigate the velocity constant for inversion of cane sugar CO4: Evaluate equilibrium constant using the law of mass action CO5: Relate the quantity of gas adsorbed on a solid surface at gas pressure and constant temperature.
20UCH6EC2	Chemistry for Competitive Examinations	CO1: Understand the periodic properties, chemical bonding and role of metal ions. CO2: Analyze the electronic effects, aromaticity and functional groups of organic compounds. CO3: Identify the principle and applications of titrations CO4: Evaluate the chemical compounds using spectral techniques CO5: Describe the basics of kinetics and surface phenomenon.

COURSE OUTCOMES

M.SC. CHEMISTRY

Course Code	Course Title	Course Learning Outcomes
20PCH1CC1	Ionic, Coordinate Solids, Metallurgy and Nuclear reactions	CO1: Examine the crystal type and defects. CO2: Solve CFSE for co-ordination compounds. CO3: Design various processes in extraction of metals and manufacture of alloys. CO4: Apply various concepts of acids and bases to interpret the types of materials. CO5: Investigate radioactivity using detectors and analyze various nuclear reactions.
20PCH1CC2	Organic Reaction Mechanisms, Reagents and Natural Products	CO1: Apply the IUPAC nomenclature for different types of organic compounds. CO2: Formulate the reagents used for the synthesis of novel organic compounds. CO3: Analyse the role of substrate, solvent, and attacking nucleophile in the nuclophilic and electrophilic substitution reactions. CO4: Categorize different types of reaction mechanism in organic reactions. CO5: Examine the structure of steroids, carotenoids, flavones and their related compounds
20PCH1CC3P	Inorganic Estimation and Complex Preparations - Practical	CO1: Apply appropriate methods of precipitation to distinguish metal ions. CO2: Determine the concentration of analyte by

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		precipitation technique. CO3: Estimate the amount of metals present in the mixture. CO4: Synthesize the metal complexes. CO5: Perform the analysis of ores and industrial materials
20PCH1CC4P	Organic Preparations and Estimation - Practical	CO1: Design a reaction procedure for the synthesis of compounds CO2: Prepare the organic compounds and ensure the purity applying the appropriate techniques CO3: Perform recrystallization process for organic compounds CO4: Appraise the quantitative method for the essential organic compounds CO5: Understand the principle and estimation techniques of organic compounds
20PCH1DE1A	Quantum Chemistry, Kinetics of Solutions and Electrodes	CO1: Apply quantum mechanics in solving SWE to single and much particle system. CO2: Construct slaters determinant to molecules and to solve it. CO3: Evaluate HMO theory to organic molecules. CO4: Discuss the kinetics of solution, fast reactions and catalyzed reactions. CO5: Compare the different theories of multiple layers and appreciate their significance.
20PCH1DE1B	Quantum Chemistry and Spectroscopy	CO1: Apply quantum mechanics in solving SWE to single and much particle system. CO2: Evaluate HMO theory to organic molecules. CO3: Differentiate the principles of different spectroscopies. CO4: Assess the principles and applications of NMRI, FT-NMR and Solid state NMR. CO5: Compare the applications and advantages of conventional NMR and 2D-NMR
20PCH2CC5	Organic Reactions, Stereochemistry and Natural Products	CO1: Predict R, S and E, Z-notation in Organic compounds. CO2: Categorize stereo selective and enantio selective asymmetric synthesis. CO3: Differentiate aromatic, anti-aromatic and non-aromatic compounds. CO4: Conclude the structure and importance of alkaloids, terpenoids, heterocyclic compounds and to appraise their medicinal properties. CO5: Generate the mechanism for different types of novel synthetic methods.
20PCH2CC6	Theory and Applications of Group Theory and Spectroscopy	CO1: Construct the character table for molecules of different point groups. CO2: Appraise spectroscopic selection rules to molecules applying group theoretical concepts.

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Course Code	Course Title	Course Learning Outcomes
		CO3: Differentiate molecular symmetry and crystallographic symmetry. CO4: Apply the theory of IR and Raman spectroscopy. CO5: Compare the principles and applications of NMR, NMRI and solid state NMR.
20PCH2CC7P	Inorganic Qualitative Analysis and Colorimetric Estimations - Practical	CO1: Analyse the elements in a mixture. CO2: Categorize the metals based on its nature. CO3: Spot a metal ion by carrying out a suitable reaction. CO4: Apply the principle of photo colorimetry for metal ion estimation. CO5: Appraise the principle of photo colorimetry in food product analysis
20PCH2CC8P	Qualitative Analysis of Organic Mixture and Chromatography Techniques-Practical	CO1: Apply pilot separation technique to the organic compounds based on the solubility CO2: Examine the components present in the given organic mixture CO3: Identify the functional group present in the components CO4: Understand the concept of TLC techniques and record the Rf value of given amino acids CO5: Apply thin layer chromatography techniques for the separation of amino acids
20PCH2DE2A	Chemistry of Complexes and Organometallics, IR, Electronic and Mossbauer Spectroscopy	CO1: Examine the stability of complexes and to apply various reactions of coordination compounds in their research. CO2: Design the synthesis, structure and bonding of carbon π–acceptor and donor complexes. CO3: Apply the different type of organometallic reactions to explain different catalytic reactions. CO4: Sketch the electronic transition in various dn-systems. CO5: Apply various spectroscopic principles to characterize inorganic and organometallic compounds
20PCH2DE2B	Spectroscopy of Inorganic Complexes and Organometallics	CO1: Sketch the electronic transition in various dn-systems CO2: Apply various spectroscopic principles to characterize inorganic and organometallic compounds CO3: Design various processes in extraction of metals and manufacture of alloys. CO4: Examine the stability of complexes and to apply various reactions of coordination compounds in research. CO5: Apply the different type of organometallic reactions to explain different catalytic reactions.
20PCH3CC9	Solid state, NMR, ESR, Photoelectron Spectroscopy and Bio-Medicinal chemistry	CO1: Examine the structure of inorganic compounds by NMR and photoelectron spectroscopy. CO2: Apply ESR spectroscopy to investigate the inorganic materials. CO3: Explain crystal structure of the solids by X-ray, neutron and electron diffraction studies. CO4: Understand the role of metal ions in biological functions.

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Course Code	Course Title	Course Learning Outcomes
		CO5: Describe the drugs for detoxification, chemotherapy and radiopharmaceuticals.
20PCH3CC10	Organic Spectroscopy and Natural Products	CO1: Analyse the nature of organic compounds based on the Electronic and vibrational transitions. CO2: Predict the Chemical environment of the protons of organic compounds based on its chemical shift values. CO3: Analyse the stereo chemical orientation of molecules using correlation spectroscopy. CO4: Solve the molecular structure of organic compounds by combined spectral data. CO5: Elucidate the structure of natural products by systematic chemical approach.
20PCH3CC11	Industrial Chemistry	CO1: Explain the processes involved in manufacturing of sugar, pulp and their byproducts. CO2: Differentiate the ingredients of paints and varnishes. CO3: Describe the manufacturing and properties of glass and cement. CO4: Appreciate the properties and uses of adhesives, lubricants and explosives. CO5: Appraise the quality of oils, fats and soaps.
20PCH3CC12P	Physical Chemistry Non-Electrical - Practical	CO1: Construct and explain phase diagram for multi-component system CO2: Investigate the mechanism of kinetics of reaction CO3: Determine molecular weight using Rast's macro method CO4: Explain the concept of adsorption isotherm CO5: Evaluate the concept of energy of activation and Arrhenius law
20PCH3DE3A	Medicinal Chemistry	CO1: Classify the sources, imbibe the important terminologies and assay of drugs. CO2: Sort out the metabolism of drugs and Drug Administration. CO3: Ascertain the activity of drugs by QSAR methods. CO4: Design the synthesis of drugs and Estimation of glucose and cholesterol. CO5: Examine the Antibacterial drugs and anti cancer drugs.
20PCH3DE3B	Chemistry of Materials	CO1: Describe the electric and magnetic properties of inorganic solids. CO2: Develop the superconductor materials. CO3: Apply the inorganic materials in biomedical field. CO4: Appreciate the uses of metal complexes in photochemistry. CO5: Explain the structure of crystal using diffraction studies.

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Course Code	Course Title	Course Learning Outcomes
20PCH4CC13	Classical, Statistical thermodynamics and Surface Phenomena	CO1: Explain the fundamentals of thermodynamics CO2: Interpret partition function and calculate thermodynamic properties CO3: Predict macroscopic properties of a system CO4: Construct and explain phase diagram for multi-component system CO5: Describe surface phenomena
20PCH4CC14	Chemistry of Macromolecules	CO1: Understand the rudiments of the polymers and mechanism of polymerization reactions : Calculate the molecular weight of polymers CO3: Appraise the properties of polymers CO4: Predict the structure of the polymers using FT-IR, UV-Visible and NMR spectral studies and investigate the surface morphology and crystalline lattice of polymers CO5: Highlight the application of polymers
20PCH4CC15P	Physical Chemistry Electrical - Practical	CO1: Estimate the strength of mixture of acids and bases using principles of conductometry and potentiometry. CO2:Determine the solubility product to apply the Ostwald's dilution law CO3: Apply the Kohlrausch's law to identify the nature of acid CO4: Determine the of strengths of acid mixtures and halide mixtures CO5: Explain the CMC and determine the hydrolysis constant using conductometry and potentiometry.
20PCH4DE4A	Green and Nano Chemistry	CO1: Apply the role of green chemistry and its importance in environment. CO2: Get familiar with carrying out chemical reactions in green approach. CO3: Revise the conventional method of preparation of chemical products applying green principles CO4: Understand the concepts of nanomaterials, their synthesis and characterization. CO5: Acquire knowledge on CNT and their applications.
20PCH4DE4B	Environmental Chemistry and Quality Control	CO1: Gain knowledge on food quality measurements CO2: Familiar with different types of renewable energy sources CO3: Analyse water quality parameters CO4: Describe the harmful effects of radioactive pollution. CO5: Produce value added products from waste materials.
20PCH4EC2	Chemistry for Career Examinations	CO1: Familiar with laboratory safety measures and regulations CO2: Categorize the nature of solvents CO3: Apply suitable reagents for organic synthesis CO4: Analyse the reaction progress and purity of the samples CO5: Solve and generate the molecular structure of the organic compounds.

PROGRAMME SPECIFIC OUTCOMES
PG & RESEARCH DEPARTMENT OF COMPUTER SCIENCE

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

B.Sc. Computer Science

Students will be able to

PSO1. Discuss the fundamental theories, concepts, Algorithms, Data Structures, Programming Languages, Compliers and Computer hardware and architecture and their applications in computer science.

PSO2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline and evaluate the impact of technological advances in the society and the social, legal, ethical and cultural ramifications of computer technology.

PSO3. Appraise computation and programming, the theoretical basis of the mathematics and symbolic concepts that underlie computing and communicate in a collaborative environment, present ideas, and document work at all stages of software development.

PSO4. Analyze problems and design algorithms, execution of programs written in C++ language, identify the components of a computer and the organization of those components, map statements and constructs in a high-level language into a sequence of machine instructions to solve real life problems.

PSO5. Use current techniques, skills, and tools necessary for computing practice for acquiring job in the field of computer science and its allied areas, engaging in continuous professional development through lifelong learning.

M.Sc.Computer Science

Students will be able to

PSO1. Exhibit proficiency in basic computer applications, theoretical dimensions and its application in various fields.

PSO2. Analyze the local and global impact of computing on individuals, organizations and society, blending analytical, logical and technical aspects and become lifelong learners and contributors to society.

PSO3. Apply analytical and computational approaches on changing societal and technological challenges to meet desired needs within realistic constraints with positive attitude and develop computer applications using modern tools and techniques.

PSO4. Discover employment possibilities through self employed entrepreneurship, jobs in computer and related companies or by qualifying competitive examinations.

PSO5. Transcribe concepts and results to a technical audience in the form of a technical report and/or an oral presentation on recognizing the professional, ethical, legal, security and social issues and responsibilities

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

M.Phil Computer Science

Scholars will be able to

PSO1. Express the social, cultural and ethical impact of the latest computer technologies on the society and the impact of research in environmental contexts that promotes societal developments.

PSO2. Apply and analyze research-based knowledge and research methods to provide valid conclusions and decisions and prepare a scientific report.

PSO3. Apply the modern concepts of computer science in research by utilizing the latest and advanced tools of computation concerning the moral, ethical and social values.

PSO4. Appraise the theoretical knowledge of teaching learning skills inside the classroom and personal development.

PSO5. Select employment provisions in the relevant field either through research or competitive exams and engage in independent and lifelong learning in the broadest context of technological change.

COURSE OUTCOMES

B .Sc. COMPUTER SCIENCE

Course Code	Course Title	Course Learning Outcomes
20UCS1CC1	Programming in C	CO1. Use C language as the base for higher level course in programming CO2. Acquire the basic constructs of programming languages CO3. Apply structured approach in program design CO4. Apply suitable logic in solving problems CO5. Develop applications to solve real world problems
20UMA1AC1	Calculus and Differential Equations	CO1. Recognize and Recall the basic concept of differentiation and develop the successive differentiation method with examples. CO2. Apply domain knowledge for properties of definite integration and integration by parts. CO3. Determine 1st order differential equations and Clairaut's form and illustrate the examples. CO4. Discuss linear Ordinary differential equation and Partial differential equations. CO5. Classify standard types of 1st order Partial differential equations with examples.
20UMA1AC2	Numerical Methods	CO1. Solve the algebraic equations of different methods with examples. CO2. Show and illustrate the examples of interpolation and finite difference methods. CO3. Find exact solution to the system of linear equations with examples CO4. Examine the numerical integration methods. CO5. Describe the numerical solution of ordinary

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		differential equations
20UCS2CC3	Object Oriented Programming with C++	CO1. Acquire skills in object oriented programming concepts CO2. Use object oriented concepts as the base for higher level course in programming CO3. Differentiate structured and object oriented programming CO4. Identify classes, objects, members of a class and the relationships among them needed for finding the solution to specific problem CO5. Develop object oriented programs to solve real life problems
20UMA2AC3	Operations Research	CO1. Recognize the features of operations research with applications and limitations with practical examples. CO2. Solve LPP by Graphical and Simplex methods. CO3. Discuss the Basic feasible solution of Transportation problem by different methods. CO4. Determine the optimum solution for Assignment Problems with illustrations. CO5. Construct Network scheduling and demonstrate critical path analysis with examples
20UMA2AC4	Statistics	CO1. Recall and Recognize the basic concepts of mean, median and mode and discuss its merits and demerits. CO2. Examine geometric and harmonic mean and discuss its merits and demerits. CO3. Determine the measures of dispersions and their coefficients. CO4. Interpret the different types of coefficient of correlation with examples CO5. Evaluate the properties of correlation and regression coefficients.
UCN2SE1	Soft Skills Development	CO1.Students will gain deeper understanding about the purpose of their life. CO2.Students will understand and start applying the essential steps to become good leaders. CO3.Students will emerge as responsible citizens with clear conviction to practice values and ethics in life.
20UCS3CC5	Database Management Systems	CO1. Identify the basic concepts and various data model used in database design CO2. Apply normalization techniques for the given database application CO3. Analyze the database using queries and manipulate records CO4. Apply PL/SQL for processing database CO5. Illustrate principles of client-server computing and mandatory access control
20UPH3AC5	Electricity and Magnetism	CO1. Use the principle of superposition and Gauss law to calculate the electrical forces and the intensity of the electric field in various electricity problems.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
		CO2. Understand the basics of electrical circuits, capacitors and resistors and analyze circuits using Kirchhoff ‘s laws. CO3. Understand the concepts of self induction and mutual induction, to solve problems using Faraday’s and Lenz’s laws. CO4. Apply the knowledge of Electricity and Magnetism to explain natural physical processes and related technological advances. CO5. Analyze different problems in Electromagnetism using vectors, simple differential and integral calculus, both analytically and numerically.
20UCS3GE1	Business Process Outsourcing	CO1. Acquire the necessary skills to manage various positions in the BPO sector CO2. Utilize in-depth knowledge related to BPO Industry CO3. Recognize various processes in BPO CO4. Acquire exposure to Finance, Insurance and Human Resource BPO CO5. Describe the different domains of BPO
20UCN3AE2	Environmental Studies	CO1.Appreciate the ethical, cross-cultural, and historical context of environmental issues and the links between human and natural systems. CO2.Understand the transnational character of environmental problems and ways of addressing them, including interactions across local to global scales. CO3.Apply systems concepts and methodologies to analyze and understand interactions between social and environmental processes.
20UCS4CC7	Java Programming	CO1. Realize the meaning of platform independence (Write Once Run Anywhere) and understand the concept of Java Environment CO2. Write reusable code using inheritance, interfaces, and packages CO3. Implement the ideas of Multithreading and Exception handling techniques CO4. Apply the concept of GUI using applets and streams CO5. Develop small projects for real-life applications using Java
20UPH4AC7	Electronics	CO1. Acquire the basic knowledge on semiconductor and their applications. CO2. Understand the concepts for solving real time problems related with electronic circuits. CO3. Acquire the ability to design digital circuit containing diode, transistor and operational amplifiers. CO4. Learn the lasing mechanism , types and applications of laser . CO5. Imbibe the basics of diode, transistor and FET characteristics
20UCS4GE2	Web Design	CO1. Describe the basics of the Internet CO2. Recognize the different Internet devices and their functions

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO3. Acquire the knowledge of HTML CO4. Apply the knowledge of Internet Technologies CO5. Develop Web Pages for real-world problems
20UCS5CC9	Web Technology	CO1. Understand the various web technologies. CO2. Analyze the concept of DHTML. CO3. Create interactive web pages using HTML and CSS. CO4. Develop knowledge of XML fundamentals and usage of XML technology. CO5. Apply the functionalities of scripting languages
20UCS5CC10	Data Structures and Algorithms	CO1. Understand the basic concept of data structures and arrays. CO2. Acquire the knowledge of stack and queue. CO3. Implement the use of linked list and their operations. CO4. Describe various applications of trees and graphs. CO5. Apply suitable algorithms for solving sorting and searching problems.
20UCS5CC11	Computer Organization and Architecture	CO1. Understand the various types of number systems and the usage of binary codes. CO2. Apply Boolean laws and theorems to simplify and implement Boolean expressions. CO3. Design and analyse combinational circuits. CO4. Design and analyse sequential circuits. CO5. Understand the architecture and functionality of a central processing unit.
20UCS5CC12	Operating Systems	CO1. Understand the basic concepts of Operating Systems. CO2. Analyse the different kinds of memory management techniques. CO3. Acquire the knowledge of process state, process scheduling and handling deadlocks. CO4. Realize the device functionalities and the relationships between the devices and the processor. CO5. Understand the basic concept of file, its various allocation strategies and access methods.
20UCS5DE1A	Software Engineering	CO1. Understand the different software process models. CO2. Acquire the knowledge of system engineering process. CO3. Realize the system design process and design quality. CO4. Understand the various software testing methods. CO5. Understand the software quality assurance and metrics.
20UCS5DE1B	VB.NET	CO1. Acquire the working knowledge of window-based application development. CO2. Use the controls and functions for creating user interface design. CO3. Utilize the various dialog controls for menu interactions. CO4. Apply the object oriented concepts in program development. CO5. Design and implement database connectivity using ADO .NET.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
20UCS6CC13	Computer Graphics and Multimedia	CO1. Understand the basics of Computer Graphics, Different Graphics Systems and Applications of Computer Graphics. CO2. Learn Algorithms for Scan Conversion and filling of Basic Objects and their Comparative Analysis. CO3. Use of Geometric Transformations on Graphical Objects and their Application in Composite form. CO4. Implement Image Manipulation and Enhancement. CO5. Create 2D animations using tools.
20UCS6CC14	Computer Networks	CO1. Understand the fundamental concepts of network topologies and protocols. CO2. Know the working principles of data communication and switching networks. CO3. Acquire the knowledge of protocols for datalink layers and internetworking devices. CO4. Analyse the various routing and congestion control algorithms. CO5. Implement the protocols for transport and application layers.
20UCS6CC15	Microprocessor Fundamentals	CO1. Understand the basics of microprocessors. CO2. Understand the architecture of a microprocessor and its internal operation. CO3. Classify the various instructions and study their usage. CO4. Demonstrate programming proficiency by developing simple assembly language programs. CO5. Identify the different ways of interfacing memory and I/O with a microprocessor.
20UCS6DE2A	Open Source Technology	CO1. Understand the fundamental knowledge of PHP. CO2. Illustrate the advanced concepts like strings, arrays and functions. CO3. Design Web based applications. CO4. Design Database applications. CO5. Develop AJAX based applications
20UCS6DE2B	Python Programming	CO1. Understand the building blocks of Python programming. CO2. Apply the various control structures and functions to real time problems. CO3. Perform the List, tuple and Dictionary concepts. CO4. Implement the MySQL queries and file handling operations with applications. CO5. Understand the concepts of classes and object-oriented programming

COURSE OUTCOMES

M.Sc. COMPUTER SCIENCE

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
20PCS1CC1	Mathematical Foundations	CO1. Remember the basic concept of Mathematical logics and Tautological implication with an example. CO2. Demonstrate and illustrate examples of sets, identities and Cartesian product. CO3. Analyze and computational approaches on Recurrence relation and Generating function. CO4. Applying domain knowledge for Graphs, operations on graphs with an example. CO5. Describe and discuss on Trees and Fundamental circuits with example
20PCS1CC2	Java Programming	CO1. Knowledge of the structure and model of the Java programming language, (knowledge) CO2. Use the Java programming language for various programming technologies (understanding) CO3. Develop software in the Java programming language, (application) CO4. Evaluate user requirements for software functionality required to decide whether the Java programming language can meet user requirements (analysis) CO5. Propose the use of certain technologies by implementing them in the Java programming language to solve the given problem (synthesis)
20PCS1CC3	Open Source Technology	CO1. Observe to install and configure the open source technology software CO2. Illustrate the various functions in PHP language CO3. Apply and to develop the small software using various components CO4. Learn to connect MySQL database with PHP program CO5. Develop a real time applications using with Open source technologies
20PCS1DE1A	Advanced Computer Architecture	CO1. To understand the different parallel computer models. CO2. To review the program flow mechanisms and network properties. CO3. To assess the advanced processor technology like super scalar, vector and pipeline processors. CO4. To explore multiprocessor system concepts and fine grain multi computers. CO5.To learn parallel programming models, languages and compilers
20PCS1DE1B	Embedded Systems	CO1. To acquire knowledge in embedded systems, processor and ICT Technology CO2. To explain Application specific instruction set processors and general purpose microprocessor design. CO3. To understand memory types, hierarchy and cache. CO4. To explore communication basics like interfacing, bus architectures and protocols.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
		CO5. To identify the requirement specifications of digital camera, control systems and PID
20PCS2CC5	Database Systems	CO1. Demonstrate an understanding of the elementary & advanced features of DBMS & RDBMS CO2. Attain a good practical understanding of the SQL CO3. Develop clear concepts about Relational Model. CO4. Examine techniques pertaining to Database design practices CO5. Execute various advance SQL queries related to Transaction Processing & Locking using concept of Concurrency control.
20PCS2CC6	Data Science and Python	CO1. Acquire knowledge in Data science, Data analysis, Big data CO2. Apply statistical methods for decision making. CO3. Express different Decision Making statements and Functions CO4. Gaining knowledge in file handling in Python programming. CO5. Develop applications using Python programming.
20PCS2CC7	Design and Analysis of Algorithms	CO1. Selecting appropriate data structures for any specified problem CO2. To implement the various operations (Traverse, Search, Insert, Delete) CO3. To learn mathematical background for analysing algorithm CO4. To apply the proper algorithm design method for problem solving. CO5. Evaluating the algorithms and data structures used in the problem to determine the time and memory consumption
20PCS2DE2A	Computer Networks and Cryptography	CO1. Basic understanding of Computer networks, OSI Reference Model, TCP Reference Model and Routing algorithms. CO2. Explain CSMA/CD, internetworking technologies, Routing, and Addressing. CO3. Develop current research problems and research methods in advance computer networks. CO4. Understand cryptography and network security concepts and application. CO5. Apply security principles to system design. Identify and investigate network security threat.
20PCS2DE2B	Object Oriented Analysis and Design	CO1. Design and implement projects using OO concepts. CO2. Use the UML analysis and design diagrams. CO3. Apply appropriate design patterns. CO4. Create code from design. CO5. Compare and contrast various testing techniques
20PCS3CC9	Principles of Compiler Design	CO1. Specify and analyse the lexical, syntactic and semantic structures of advanced language features CO2. Separate the lexical, syntactic and semantic analysis into meaningful phases for a compiler to undertake language translation CO3. Write a scanner, parser, and semantic analyzer without the aid of automatic generators

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
		CO4. Describe techniques for intermediate code and machine code optimization CO5. Design the structures and support required for compiling advanced language features.
20PCS3CC10	Machine Learning and R Programming	CO1. Understand Machine Learning and R CO2. Gain basic ideas on Types and Methods in ML CO3. Fetch insights on R Package CO4. Implement and apply the different categories of Machine Learning Algorithms CO5. Apply the machine learning concept using R Programming
20PCS3CC11	Web Programming	CO1. Acquire working knowledge of web applications development CO2. Display dynamic data from data sources CO3. Gain Knowledge on security in web services CO4. Develop Secured web applications CO5. Understand the Selection of appropriate programming language for the real world problems
20PCS3DE3A	Cloud Computing	CO1. Explain the core concepts of the cloud computing paradigm: how and why this paradigm shift came about, the characteristics, advantages, and challenges brought about by the various models and services in cloud computing. CO2. Apply fundamental concepts in cloud infrastructures to understand the tradeoffs in power, efficiency, and cost, and then study how to leverage and manage single and multiple data centers to build and deploy cloud applications that are resilient, elastic, and cost-efficient. CO3. Discuss system, network, and storage virtualization and outline their role in enabling the cloud computing system model. CO4. Illustrate the fundamental concepts of cloud storage and demonstrate their use in storage systems such as Amazon S3 and HDFS. CO5. Analyze various cloud programming models and apply them to solve problems on the cloud.
20PCS3DE3B	Distributed Operating Systems	CO1. Identify and characterize the fundamental principles of distributed system design. CO2. Recognize and explain message-passing techniques in distributed environments. CO3. Describe the concept of distributed shared memory and acquire knowledge in synchronization. CO4. Analyze how to store data in distributed file systems CO5. Analyze and categorize the concepts of security in distributed systems.
20PCS4CC13	Middleware Technology	CO1. Design a dynamic remote application with RMI and CORBA CO2. Understand how middleware facilitates the development of distributed applications in heterogeneous environments. CO3. Study how it helps to incorporate application portability, distributed application component interoperability and integration CO4. Gain the knowledge

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
		of the basic principles of Angular JS CO5. Understand the design of single-page applications and how AngularJS facilitates their development.

PROGRAMME SPECIFIC OUTCOMES
COMPUTER APPLICATIONS

BCA

Students will be able to

PSO1. Discuss the programming languages C, C+, Java, Python and other operating systems and database management systems.

PSO2. Apply the numerical and statistical methods and the principles of accountancy for computation and operations research and communicate them in written and oral mode.

PSO3. Illustrate scripting languages and practical application of data analytical tools and software testing tool to solve problems in computer operating systems.

PSO4. Employ multimedia, data communications, networking principles, office automation, image editing tools and the concept of software engineering in business contexts.

PSO5. Recognize the social and ethical issues in media operated systems and apply the knowledge of Mathematics and management in computer applications to advance in studies and professionalism.

MCA

Students will be able to

PSO1. Express computing fundamentals, basic Mathematics, Computing specialization, and domain Knowledge of proper computing models for defined problems.

PSO2. Develop and apply computer based applications to solve real problems and recognize the technological developments in the usage of modern design and development tools to design a variety of applications.

PSO3. Recall management principles and apply them to develop software as a team member and manage projects efficiently for multidisciplinary environments.

PSO4. Associate multidisciplinary knowledge through real-time projects, industry training and providing a sustainable competitive edge in R&D and meeting industry requirements.

PSO5. Choose career prospects in industry, government sectors, academia, research, consultancy firms and entrepreneurship pursuit.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

PGDCA

Students will be able to

PSO1. Explain the programming in C, principles of accountancy, office automation, visual programming, shell programming and web designing.

PSO2. Compute practical application of editing, programming, web designing and visual programming using domain knowledge.

PSO3. Demonstrate creativity, develop innovative ideas and to work in teams to accomplish a common goal.

PSO4. Define and solve problems individually and with groups, using a variety of resources and methods, including technology and scientific reporting.

PSO5. Conceive employability and entrepreneur skills bearing ethics and social responsibility.

COURSE OUTCOMES

B.C.A

Course Code	Course Title	Course Learning Outcomes
20UCA1CC1	Programming in C	CO1:Use C language as the base for higher level course in programming CO2. Acquire the basic constructs of programming languages. Co3. Apply structured approach in program design Co4. Apply suitable logic in solving problems Co5.Develop applications to solve real world problems
20UCA1AC1	Numerical and Statistical Methods	CO1. Examine methods for algebraic and transcendental equations with examples CO2. Demonstrate and discuss System of Linear Equations with examples CO3. Apply domain knowledge for Measures of Central Tendency and skewness. CO4. Remember and illustrate the examples of Conditional Probability. CO5.Classification and study of Bivariate distributions with examples.
20UCA1AC2	Digital Electronics	CO1. Perform number conversions from one number system to another and understand the usage of various binary codes CO2. Apply Boolean laws and theorems to simplify Boolean expressions CO3. Implement Boolean expressions using gate networks CO4.Understand the working of combinational circuits CO5. Understand the working of sequential circuits
20UCA2CC3	Programming in C++	CO1.Acquire skills in object oriented programming concepts CO2.Use object oriented concepts as the base for higher level course in programming

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
		CO3.Differentiate structured and object-oriented programming. CO4. Identify classes, objects, members of a class and the relationships among them needed for finding the solution to specific problem CO5.Develop object oriented programs to solve real life problems
20UCA2AC3	Operations Research	1.Demonstrate and study of operations research and illustrate the examples of mathematical formulation 2. Classification and study of Transportation problem and Assignment problems with examples 3. Analyze machine elapsed times with examples 4. Illustrate the Replacement Problems suitable examples. 5. Construct the networks and plan execution with examples.
20UCA2AC4	Entrepreneurship Development	1.Communicate the major concepts of entrepreneurship. 2. Understand Entrepreneurial Motivation and Mobility. 3. Innovate, prototypes or ideas by applying theory into practice. 4. Explain process of setting up of service unit/industry. 5. Describe about support institutions and schemes.
20UCA3CC5	Java Programming	CO1. Understand the basic building blocks, control statements, arrays and strings in Java Programming CO2. Implement the concepts of classes, objects, inheritance, polymorphism, packages and interfaces CO3. Apply the exception handling mechanism in single and multithreaded programming CO4. Develop the window based programs from basic level to file operations using Applet CO5. Develop the simple applications using awt components
20UCA3AC5	Principles of Accountancy	CO1. State/outline the nature of financial accounting CO2. Recognize the basics of financial accounting CO3. Analyze assigned questions, exercises and problems CO4. Participate in class, to complete written homework assignments and to interact with otherclassmates CO5. Participate in collaborative learning, problems and cases in financial accounting selected tofoster cooperative learning
20UCA3GE1	Office Automation	CO1. Understand the basic knowledge of computer and components of computer in education. CO2. Perform common functional operations in Windows and apply the menus in MS-Word. CO3. Understand the menus and Toolbars in MS-Excel. CO4. Understand the components of MS-PowerPoint. CO5. Understand the Database Create and usage of MS-Access.
20UCA4CC7	Data Structures	CO1. Acquire knowledge in the representation of arrays and linked lists CO2. Implement the application of arrays and linked lists in various structures

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO3. Evaluate the use of stack, queue, trees and graphs CO4. Describe the concept of graphs and their application CO5. Apply the appropriate structures in problem solving
20UCA4CC8	Multimedia and its Applications	CO1. Illustrate about Multimedia and its usage and about uses of Text in Multimedia. CO2. Understanding about various operations on Images and Sound. CO3. Examine the Animation and Videos techniques in Multimedia. CO4. Utilizing the Multimedia Project, Hardware, Software, and Skills. CO5. Applying Multimedia in Internet and Deliver the Content.
20UCA4AC7	Scripting Languages	CO1. Understand the basic concepts of HTML, CSS, JavaScript, VBScript and XML CO2. Analyze a web page and identify its elements and attributes CO3. Demonstrate the important HTML tags for designing static pages and separate design from content using Cascading Style Sheet CO4. Implement interactive web pages using html and JavaScript CO5. Develop web application software tools and identify the environments currently available on the market to design web sites.
20UCA4GE2	Image Editing Tools	CO1. Acquire the knowledge on photo editing. CO2. Learn basic idea in Editing Tools CO3. Learn the practical experience in editing video and animation CO4. Understand image cropping Operations CO5. Get idea on applying Filter and light effect
20UCA5CC9	Operating Systems	CO1. Understand the basic concepts of Operating Systems CO2. Analyse the different kinds of memory management techniques CO3. Acquire the knowledge of process state, process scheduling and handling deadlocks CO4. Realize the device functionalities and the relationships between the devices and the processor CO5. Understand the basic concept of file, its various allocation strategies and access methods
20UCA5CC10	Database Management Systems	CO1: Identify the basic concepts and various data model used in database design CO2: Apply normalization techniques for the given database application CO3: Analyse the database using queries to retrieve records CO4: Apply PL/SQL for processing database CO5: Illustrate principles of client-server computing and mandatory access control
20UCA5CC11	Python Programming	CO1. Understand the building blocks of python programming

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
		CO2. Apply the various control structures and functions to real time problems CO3. Perform the List, Tuple and Dictionary concepts CO4. Implement the MySQL queries and File handling operations with applications CO5. Understand the concepts of Classes and Object-Oriented Programming
20UCA5DE1A	VB.Net	CO1: Acquire the working knowledge of window-based application development CO2: Use the controls and functions for creating user interface design CO3: Utilize the various dialog controls for more interactions CO4: Apply the Object Oriented Concepts in program development CO5: Design and implement database connectivity using ADO.NET
20UCA5DE1B	C# .NET Programming	CO1. Design, formulate, and construct applications with .NET platform. CO2. Understand the various operators in C# programming CO3. Apply the object-oriented programming concepts. CO4. Understand and identify exception handling techniques and implement the real time applications CO5. Develop the web applications using various components in .Net
20UCA6CC13	Data Communications and Networking	CO1. To understand the fundamental concepts of computer networks. CO2. To realize and understand the different carriers used in computer networks. CO3. To impart the knowledge of switching and routing algorithms. CO4. To analyze the protocols used in various layers. CO5. To provide the basic knowledge of X.25 protocol and its layers
20UCA6CC14	Internet of Things	CO1. Identify the components of IoT. CO2. Comprehend the schemas for real time applications in IoT. CO3. Analyse the building blocks of internet of things and characteristics. CO4. Gain programming knowledge in Raspberry Pi with Python. CO5. Understand different IoT based digital twin applications.
20UCA6CC15	Software Engineering	CO1. Understand the different software process models CO2. Acquire the knowledge of system engineering process CO3. Realize the system design process and design quality CO4. Understand the various software testing methods CO5. Understand the software quality assurance and metrics.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
20UCA6DE2A	PHP Programming	CO1. Understand the use of data types, expressions, operators, control statements, functions, strings, and arrays CO2. Apply the object-oriented concepts with forms and files CO3. Understand the cookies and sessions CO4. Develop a website with the MYSQL database connectivity CO5. Develop a server-side scripting language for web application
20UCA6DE2B	R Programming	CO1. Acquire the basic constructs of R CO2. Understand the loading and retrieval techniques of data CO3. Understand how data is analyzed and visualized using statistic functions CO4. Use R programming in Linear Algebra and Set theory CO5. Identify how to interface R with other languages

COURSE OUTCOMES

M.C.A

Course Code	Course Title	Course Learning Outcomes
20MCA1CC1	Programming in Java	1. Describe the fundamental knowledge of Java language 2. Illustrate the advanced concepts like packages, interfaces, exception handling, multithreading, collection, I/O and Networking classes and database connectivity 3. Apply appropriate problem solving strategies 4. Design GUI based applications 5. Develop Java applications to solve real world problems
20MCA1CC2	Computer System Architecture	1. Understand the various types of number systems and binary codes 2. Apply Boolean laws and theorems to simplify and implement Boolean expressions 3. Design and analyze combinational circuits 4. Design and analyze sequential circuits 5. Understand the architecture and functionality of central processing unit
20MCA1CC3	Database Systems	1. Understand the basic concepts and various data models in database 2. Apply ER diagrams for real time applications, populate and query a database by SQL 3. Design the database effectively by using normalization techniques 4. Acquire the knowledge of basic database storage structures and access techniques 5. Illustrate the concepts of transaction, Concurrency and Recovery techniques in database

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
20MCA1CC4	Resource Management Systems	1. Discuss the various features and applications of Operations Research 2. Acquire the knowledge of mathematical formulation and use different methods to solve LPP 3. Apply the suitable optimization techniques for transporting quantities, assigning jobs and optimum utilization of inventory 4. Identify the activities, schedule the project and determine the minimum completion time 5. Describe the importance of queues and its applications
20MCA1CC5	Management Information Systems	1. Analyse a complex business problems and to apply principles of Information Technology to identify solutions 2. Design, implement and evaluate a computing-based solution to meet a given set of computing requirements 3. Recognize professional responsibilities and make appropriate judgment in computing practice based on legal and ethical principles including computer crimes and cyber laws 4. Communicate effectively in a variety of professional contexts related to Enterprise and Information Technology 5. Support the delivery, use and management of Information Systems within an Information Systems environment
20MCA2CC8	Data Structures and Algorithms	1. Describe how linear data structures are represented in memory and used by algorithms 2. Acquire the knowledge of non-linear data Structures and its implementation 3. Apply the concept of sorting, searching and algorithm design techniques effectively 4. Understand the performance analysis of algorithms 5. Design and implement an appropriate data structures for solving mathematical and real-world problems
20MCA2CC9	R Programming with Statistics	1. Describe the fundamental concepts of R Programming 2. Apply suitable functions to perform matrix manipulations, list operations and data frames 3. Acquire the knowledge of tables and related functions 4. Explore the ideas of files, strings and graphics in R 5. Apply simulation, statistical measures and probability distribution in solving real-world problems using R
20MCA2CC10	Operating Systems	1. Understand the services provided by the OS and the design of an operating system 2. Understand the different approaches to memory management 3. Apply the process scheduling and synchronization mechanisms 4. Create the structure and organization of the file system 5. Demonstrate an understanding of different I/O techniques
20MCA2DE1A	Computer Networks	1. Enumerate the layers of the OSI model and TCP/IP 2. Recognize the different types of network devices and their functions within a network

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
		3. Understand internetworking principles and how the Internet protocols IP, IPv6 operate 4. Understand internals of main protocols such as HTTP, FTP, SMTP, TCP, UDP and IP 5. Analyze to determine effective ways of securing, managing, and transferring data
20MCA2DE1B	Network Security and Cryptography	1. Analyze and design classical encryption techniques and block ciphers 2. Evaluate the authentication and public-key cryptography 3. Demonstrate the IPSec, Firewall, Web Security and Email Security 4. Comprehend the usage of firewalls and Intrusion Detection Systems for securing data 5. Analyze and compare different security mechanisms and services
20MCA2DE1C	Mobile Communication	1. Understand fundamentals of wireless communications. 2.Analyze the measures to increase the capacity in GSM systems 3. Understand architecture and its specifications of modern wireless LANs 4. Expose to the advances in ad-hoc network design concepts 5.Formulate advance principles and techniques to design wireless communication systems
20MCA2DE2A	Data Science	1. Describe the fundamentals concepts and process of data science 2. Apply suitable machine learning techniques for handling large volume of data 3. Understand distributing data storage and NoSQL concepts 4. Select text mining techniques and make use of graph databases 5. Design effective data visualizations and learn the basics of data ethics
20MCA2DE2B	Big Data Analytics	1. Explore the fundamental concepts of big data analytics 2. Understand big data, text analytics and different approaches to big data analysis 3. Develop a well-governed and secure big data environment 4. Analyze the cloud environment for big data 5. Recognize and Implement the applications using MapReduce concepts
20MCA2DE3C	Microprocessors, Interfacing and Applications	1. Understand the architecture and functionality of microprocessor 2. Classify the instruction set of a microprocessor and distinguish the functions of different instructions 3. Demonstrate programming proficiency by developing simple assembly language programs 4. Identify the different ways of interfacing memory and I/O with microprocessors

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
		5. Design microprocessor-based systems for real time applications
20MCA3CC13	Python Programming	1: Understand the building blocks of python programming 2: Apply the various control structures and functions to real time problems 3: Perform the List, Tuple and Dictionary concepts 4: Implement the MySQL queries and File handling operations with applications 5: Design and develop Client Server network applications using the GUI components
20MCA3CC14	.NET Technology	1: Understand the .NET framework. 2: Find insights of Decision making statements. 3: Identify the various components in .NET. 4: Understand the concept of Exception Handling in .NET. 5: Identify the concepts of ADO.NET.
20MCA3CC15	Artificial Intelligence and Machine Learning	1. Understand the problem-solving methods using state space search 2. Recognize the heuristic techniques and issues in knowledge representation 3. Apply the formal knowledge representation and reasoning for a problem 4. Implement and apply the clustering and reinforcement machine learning algorithms 5. Implement and apply the supervised and unsupervised machine leaning algorithms
20MCA3DE3A	Parallel Processing	1. Understand on structures, classifications and applications of parallel processing. 2. Acquire the knowledge of memory and input-output subsystems. 3. Learn the principles of Pipelining and Vector processing. 4. Acquire the knowledge about SIMD Array processors and Optimization methods. 5. Understand the concepts of Multiprocessor systems.
20MCA3DE3B	Grid Computing	1: To extend the Introduction on Grid Computing. 2: To explore the Grid Technology. 3: To identify the components of Grid Computing systems and Architecture. 4: To Visualize the Grid Computing standards. 5: To get into the supporting towards the standards in Grid Computing.
20MCA3DE3C	Cloud Computing	1: To understand the Roots of the Cloud computing. 2: To analyse the evolution of Cloud Platforms. 3: To Discuss the anatomy of Cloud Infrastructure. 4: To explore the workflow management systems and Clouds. 5: To identify the various issues in Cloud and some Case studies.
20MCA3DE4A	Software Testing	1: Identify the Models in Software Life Cycle. 2: Clarify the Testing Methods.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
		3: Understand the concepts of System, Acceptance, Performance testing and its Practices. 4: Clarify the Testing of Object Oriented Systems. 5: Infer the Perspectives of software quality errors in software Processes
20MCA3DE4B	Internet of Things	1. Recognize the underlying concepts of Internet of Things. 2. Identify the various IoT enabling technologies and comprehend the idea of M2M. 3. Apply the concept of IoT in real world scenarios. 4. Describe the IoT design methodology and IoT devices 5. Implement IoT applications using Python packages
20MCA3DE4C	Compiler Design	1. Understand the major phases of compilation and to understand the knowledge of Finite Automata. 2. Develop the parsers and experiment the knowledge of different parsers design without automated tools. 3. Construct the Syntax Directed Translation, intermediate code representations and generation. 4. Implement Symbol table, Error detection and Error correction. 5. Apply for various optimization techniques, convert source code into machine code.
20MCA3SE3	Innovation and Startup Skills	1: Understand the basic principles of entrepreneurship 2: Analyze and evaluate Business model and strategy 3: Acquire knowledge about innovation and creative problem solving 4: Well verse in idea generation and Intellectual Property Rights. 5: Enrich knowledge regarding Internal Policy and Organizational Culture.
20MCA4CC18	Distributed Technology	1. Understand the fundamental concepts of two tier and three-tier technologies in Java 2. Develop the simple applications using RMI, JavaMail API, JMS 3. Design the web based applications using Servlets and JSP 4. Create components based on real time problems using different types of Beans 5. Apply appropriate problem solving techniques in software development
20MCA4DE5A	Organizational Dynamics	1: Understand the basic principles of organizational behavior 2: Analyze and evaluate social systems and apply suitable methods 3: Acquire knowledge about leadership skills and interpersonal behavior 4: Well verse in developing informal, formal groups and team building 5: Enrich knowledge regarding change at work place, overcoming stress

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
20MCA4DE5B	Accounting and Financial Management	1: To learn book keeping and accountancy for financial management 2: To understand accounting principles, journal, Ledger, Trial Balance, and final accounts. 3: Understanding and analysis of financial statements and ratios 4: Establish the areas of application of managerial costing technique. Exhibit the relationship between cost and volume and profit analysis. 5: Apply different methodologies to prepare the budgets enhance the knowledge of students in establishing budgetary control system and integrate the learned skills for preparation of budgets.
20MCA4DE5C	Human Resource Management	1: Understanding Human resource management concept to organization relevance 2: Analyze the new strategic issues and strategies required to select and develop manpower resources. 3: Develop, analyze and apply advanced training strategies and specifications for the delivery of training programs 4: Appraise a job-based compensation scheme with organizational goals, mission, values and linked to the labor market. 5: Explain change in global scenario and summarize the causes and context of emerging changes.

PROGRAMME SPECIFIC OUTCOMES
INFORMATION TECHNOLOGY

B.Sc. Information Technology
Students will be able to

PSO1. Apply modern technical concepts and practices in the core information technologies and integrate IT-based solutions into the user environment.

PSO2. Identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems and solve business world problems using information technology.

PSO3. Recognize the professional, ethical, legal, security and social issues and responsibilities and creation of an effective project plan.

PSO4. Transcribe in business environments in a variety of contexts and make effective presentations.

PSO5. Demonstrate working knowledge of programming, data structures, computer network paradigms, data mining, software testing and multimedia animation .

M.Sc. Information Technology
Students will be able to

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

PSO1. Demonstrate foundational knowledge on .NET technology. Data structures, Algorithms, Java programming, Web services and software testing.

PSO2. Develop and implement optimal solutions to complex computing problems using industry-recognized best practices and standards.

PSO3. Apply ethical decision making and societal concerns in the development, implementation, and management of IT systems and cyber security.

PSO4. Combine analytical logical and technical aspects to resolve issues in artificial intelligence, machine learning and real time problems.

PSO5. Identify employment prospects in local and international companies or business enterprise and/or competitive exams.

Course Code	Course Title	Course Learning Outcomes
20UIT1CC1	Programming Foundations	CO1. Use C language as the base for higher level course in programming CO2. Acquire the basic constructs of C programming. CO3. Apply structured approach in program design CO4 Apply suitable logic in solving problems CO5. Develop applications to solve real world problems
20UIT1AC1	Numerical Methods and Statistics	CO1. Examine methods for algebraic and transcendental equations with examples CO2. Demonstrate and discuss the System of Linear Equations with examples CO3. Apply domain knowledge for Measures of Central Tendency and skewness. CO4. Remember and illustrate the examples of Conditional Probability. CO5. Classification and study of bivariate distributions with examples.
20UIT1AC2	Entrepreneurship Development	CO1. Know the parameters to assess opportunities and constraints for new business ideas. CO2. Understand the systematic process to select and screen a business idea. CO3. Design and evaluate strategies for the successful implementation of ideas. CO4. Identify the elements of success of entrepreneurial ventures and write a business plan. CO5. Consider the legal and financial conditions for starting a business venture.
20UCN1AE1	Value Education	CO1.Students will gain deeper understanding about the purpose of their life. CO2.Students will understand and start applying the essential steps to become good leaders. CO3.Students will emerge as responsible citizens with clear conviction to practice values and ethics in life.
20UIT2CC3	C++ Programming	CO1. Know and apply the concepts of OOP. CO2. Implement Object Oriented programming concept using basic syntaxes

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
		CO3. Increases the skill of problem-solving CO4. Identify classes, objects, members of a class and the relationships among them needed for finding the solution to specific problem CO5. Analyse a problem and design C++ coding to solve it.
2UIT2AC3	Optimization Techniques	CO1. Demonstrate and study of operations research and illustrate the examples of mathematical formulation CO2. Classification and study of Transportation problem and Assignment problems with examples CO3. Analyse machine elapsed times with examples CO4. Illustrate the Replacement Problems suitable examples. CO5. Construct the networks and plan execution with examples.
20UIT2AC4	Digital Logics	CO1. Perform number conversions from one number system to another and understand the usage of various binary codes CO2. Apply Boolean laws and theorems to simplify Boolean expressions. CO3. Implement Boolean expressions using gate networks CO4. Understand the working of combinational circuits CO5. Understand the working of sequential circuits
20UIT3CC5	Data Structures	CO1. Acquire knowledge in the representation of arrays and linked lists CO2. Implement the application of arrays and linked lists in various structures CO3. Evaluate the use of stack, queue, trees and graphs CO4. Describe the concept of graphs and their applications CO5. Apply the appropriate structures in problem solving
20UIT3AC5	Java Programming	CO1. Understand the basic building blocks, control statements, arrays and strings in Java Programming CO2. Understand the concepts of classes, objects, inheritance, polymorphism, packages and interfaces CO3. Apply the exception handling mechanism in single and multithreaded programming CO4. Develop the window based programs from basic level to file operations using Applet and Swing CO5. Understand the usage of networking classes and access the remote objects using RMI
20UIT3GE1	Fundamentals of IT	CO1. Understand and remember the foundations and use of information systems CO2. Understand about Database, Sorting, Searching, and Data mining CO3. Examine the Computer Graphics, Multimedia, and Animation techniques CO4. Utilize the concept of Computer Networks CO5. Apply Information Technology in Real- Time Applications
20UCN3AE2	Environmental Studies	CO1.Appreciate the ethical, cross-cultural, and historical context of environmental issues and the links between human and natural systems.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
		CO2. Understand the transnational character of environmental problems and ways of addressing them, including interactions across local to global scales. CO3.Apply systems concepts and methodologies to analyze and understand interactions between social and environmental processes.
20UIT4CC7	RDBMS	CO1. Understand the architecture and data model of DBMS CO2. Apply relational database, design ER modeling and describe formal language CO3. Recognize and identify the use of normalization using FD and Constraints CO4. Write advanced SQL queries in a relational database CO5. Perform curser management, Error Handling, package, and trigger in PL/SQL
20UIT4AC7	Linux Basics	CO1. Acquire skills in fundamentals of Linux and Shell Programming CO2. Use of Linux Files structure as a base for building Linux programs CO3. Apply skills in the working environment of Linux CO4. Know the advancement tools of LINUX CO5. Understand the concept of inter process communication
20UIT4GE2	IT Infrastructure Management	CO1. Acquire knowledge of IT Infrastructure and management CO2. Apply Service Delivery and Service Support Process in IT infrastructure management CO3. Discuss about various storage levels in IT CO4. Discuss various security techniques in information technology CO5. Develop a new communication mechanism based on emerging trends in information technology
20UIT5CC9	Web Programming	CO 1. Understand, analyze and build dynamic web pages CO 2. Realize the current and evolving web development Libraries and Frameworks CO 3. Create interactive components in web pages CO 4. Incorporate best practices in navigation, usability in website design CO 5. Design websites adhering to current web standards
20UIT5CC10	Operating System	CO 1. Understand the basic concepts of Operating Systems CO 2. Analyse the different kinds of memory management techniques CO 3. Acquire the knowledge of process state, process scheduling and handling deadlocks CO 4. Understand the device functionalities and the relationships between the devices and the Processor CO 5. Understand the basic concepts of file, its various allocation strategies and access methods
20UIT5CC11	Python Programming	CO 1. Understand the building blocks of Python Programming CO 2. Apply the various control structures and functions to real time problems CO 3. Perform the List, Tuple and Dictionary concepts

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
		CO 4. Implement the MySQL queries and File handling operations with applications CO 5. Understand the concepts of Classes and Object-Oriented Programming
20UIT5CC12	Multimedia	CO 1. Understand the usage of multimedia in various areas CO 2. Understand the various operations on Text, Images and Sound CO 3. Examine the animation and video techniques in multimedia CO 4. Utilize multimedia project, hardware and software CO 5. Apply multimedia products in the Internet
20UIT5DE1A	Software Engineering	CO 1. Understand the different software process models CO 2. Acquire the knowledge of software system requirements CO 3. Understand the system design process CO 4. Analyse the various software testing methods CO 5. Understand the software quality assurance and metrics
20UIT5DE1B	VB .NET	CO 1. Acquire the working knowledge of window-based application development CO 2. Use the controls and functions for creating user interface design CO 3. Utilize the various dialog controls for more interactions CO 4. Apply the Object Oriented Concepts in program development CO 5. Design and implement database connectivity using ADO.NET
20UIT6CC13	Computer Networks	CO1. Understand the fundamental concepts of network topologies and protocols. CO2. Know the working principles of data communication and switching networks. CO3. Acquire the knowledge of protocols for datalink layers and internetworking devices. CO4. Analyse the various routing and congestion control algorithms. CO5. Understand the protocols for transport and application layers
20UIT6CC14	PHP Programming	CO 1. Understand the use of datatypes, expressions, operators, control statements, functions, strings and arrays CO 2. Apply the object-oriented concepts in handling with forms and files CO 3. Understand the cookies and sessions CO 4. Develop a website with the MySQL database connectivity CO 5. Develop a server-side scripting language for web applications
20UIT6CC15	Cyber Forensics	CO 1. Identify various types of cyber-attacks CO 2. Understand different types of Attacker Techniques and Motivations

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
		CO 3. Understand the various exploitation and malicious codes CO 4. Analyze the defence techniques suitable for the system CO 5. Apply the techniques for securing the systems
20UIT6DE2A	Data Mining	CO 1. Understand the concept of data warehouse CO 2. Understand Data Mining concepts and knowledge discovery process CO 3. Understand the various issues and challenges in Datamining CO 4. Analyze various data mining algorithms CO 5. Apply various techniques to solve real time problems
20UIT6DE2B	R Programming	CO 1. Acquire the basic constructs of R CO 2. Understand the loading and retrieval techniques of data CO 3. Understand how data is analyzed and visualized using statistic functions CO 4. Use R programming in Linear Algebra and Set theory CO 5. Identify how to interface R with other languages

PROGRAMME SPECIFIC OUTCOMES
DEPARTMENT OF FASHION TECHNOLOGY

B.Sc. Fashion Technology

Students will be able to

PSO1. Express the basic concepts of designing, drafting, methods of pattern making and its alteration with techniques for garment construction and skills on Photoshop and Corel Draw.

PSO2. Explain the conceptual theories of textile science and fabric construction and to expertise in merchandising, quality control and its specification in apparel industry.

PSO3. Illustrate draping and visual display of merchandise.

PSO4. Analyze recent trends and design market friendly, sustainable, ethical and viable design textile products and use modern design in apparel product and process development.

PSO5. Identify employability as a fashion designer either self employed or work in fashion designing sectors.

M.Sc. Fashion Technology
Students will be able to

PSO1. Analyze and develop their own style in designing fabrics and designing of different brands.

PSO2. Adapt new eco-friendly technologies in textile designing and skills for professional growth and transform into able administrator and educators with enriched social and ethical values.

PSO3. Apply the theories and skills to solve real time problems in apparel design and work as a team in an organization and become accomplished successful designers, entrepreneurs or industry ready professionals.

PSO4. Discuss fashion styling in the design world, explore and learn new sketching in unique theme.

PSO5. Demonstrate knowledge in fashion designing software such as rich peace fashion studio, rich peace pattern making CAD, Photoshop and Corel Draw.

COURSE OUTCOMES

B.Sc. FASHION TECHNOLOGY

Course Code	Course Title	Course Learning Outcomes
20UFT1CC1	Fashion Designing	CO1: Knowledge about design and fashion CO2: Recognize following elements and principles of designs CO3: State concepts related to color, theory and color harmony. CO4: Relate design garments for people with different figure structure in fashion way. CO5: Inquire plan a wardrobe.
20UFT1CC2P	Fashion Illustration Practical -I	CO1: Illustrate the apparel design for elements of designs. CO2: Classify and prepare colour charts. CO3: How to Sketch the basic shadings and fashion figures. CO4: Select the apparel using colour harmony and types of charts. CO5: Find the human body in proportions relevant to fashion illustration.
20UFT1AC1	Basic Garment Construction	CO1: Knowledge about various components of garment construction and its application. CO2:Classify the facing, fullness, plackets and fasteners. CO3: Classify the pattern making, drafting and importance of draping. CO4: Identify the sleeves and collars and its types. CO5: Knowledge about garment finishing.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
20UFT1AC2P	Basic Garment Construction – Practical	CO1: Inquire the knowledge in components of Garment construction. CO2: Examine the fullness and hems CO3: Classify the Garment Binding and Fasteners CO4: Analyze the Sleeves and Yokes CO5: Experiment with collar and pocket.
20UFT2CC3	Textile science	CO1: Classify the basic textile fibers and fabrics CO2: Define fibers yarn and Fabric CO3: Develop the knitted Woven and Nonwoven Fabric structures CO4: Describe the manufacturing process of fibers yarn and Fabric CO5: Describe the chemical process in manmade fibers.
20UFT2CC4P	Fashion illustration II practical	CO1: Acquire the types design CO2: Illustrate the garment design for elements of design. CO3: Illustrate garment designs for the principle of design CO4: Illustrate garment designs for the different shapes. CO5: Classify dresses for figure irregularities.
20UFT2ACCP	Pattern making - practical	CO1: Define and acquaint the students with the Importance of taking body measurements and size chart. Acquire the types design CO2: Classify and gain knowledge about pattern making and grading CO3: Explain and they would have acquired knowledge on creation of styles CO4: Classify the women's garments CO5: Classify the men's garments.
20UFT2AC4	Garment manufacturing technology	CO1: Understand the of garment manufacturing unit CO2: Develop Spreading, and Cutting techniques CO3: Identify the Special attachments in Sewing machines CO4: Gain Knowledge about stitch Mechanism CO5: Analyse Garment Finishing and Fusing
20UFT3CC5	Indian traditional costumes and embroidery	CO1: Acquire knowledge about ancient costumes CO2: Analyze the different state wise costumes CO3: Explain the concepts related to traditional embroidery CO4: Understand the traditional designs for woven textiles CO5: Identify the types of printed, painted and dyed textiles
20UFT3CC6P	Garment construction for children - practical	CO1: Draft and construct the garments of various components as per the designs CO2: Analyze and apply the various measurements in pattern making. CO3: Distinguish the use various tools and equipments as per requirements. CO4: Modify the pattern for required designs. CO5: Apply the standard measurements to create the required garment
20UFT3AC5	Fabric structure	CO1: Acquire knowledge about design and draft CO2: Understand the structure of the fabric and make a draft for the design

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
		CO3: Discover the design by identifying the weave structures CO4: Examine the fabric by using the draft design CO5: Observe different fabric by finding the new structure
20UFT3AC6P	Fabric Structure-Practical	CO1: Examine the weave structure for the given fabrics CO2: Identify the weave design by using the draft CO3: Develop the peg plan, draft for the given weave fabric. CO4: Develop the peg plan, draft for the given weave fabric. CO5: Demonstrate the design and make a count of yarns in the fabric.
20UFT3GE1P	Hand Embroidery - Practical	CO1: Create design for basic hand stitches. CO2: Understand and identify the color combinations for basic embroidery stitches. CO3: Develop and create new designs for advance stitches CO4: Apply the types of other surface embroidery in fabric CO5: Interpret the Different techniques of other surface embroidery with basic and advanced embroidery
20UFT4CC7P	Fashion photography-Practical	CO1: Describe knowledge in creative designs in fashion photography CO2: Understand the fundamentals of photography CO3: Identify the techniques for in videography CO4: Demonstrate the actions of photography CO5: Adapt the ethics in lighting and editing
20UFT4CC8	Fashion Clothing and Psychology	CO1: Describe the basic concepts of fashion design CO2: Acquire knowledge in fashion psychology CO3: Interpret the fashion victim and innovators CO4: Categorize fashion designers CO5: Enumerate the world wide fashion center
20UFT4AC7	Knitting	CO1: Understand the concepts of Knitting CO2: Observe the elements of knitting CO3: Acquire knowledge in Types of knits CO4: Discuss the types of knits. CO5: Enumerate the knit structures
20UFT4AC8P	Fashion Draping – Practical	CO1: Create design and idea for draping CO2: Understand and identify the basic draping CO3: Develop basic bodies pattern by using draping CO4: Analyze the manipulating techniques CO5: Interpret the Different techniques for draping.
20UFT4GE2P	Painting Techniques Practical	CO1: Create design and idea for painting CO2: Understand and classify the difference sources in painting CO3: Construct matchable motifs for painting CO4: Analyze the difference color combination in painting CO5: Interpret the Different techniques for painting
20UFT5CC9	Wet Processing	CO1: Identify the different types of pre-paratory process in textile CO2: Differentiate the dyes and dyeing methods CO3: Analyse the different types of printing techniques CO4: Understand the finishing techniques for textiles CO5: Evaluate the eco-friendly process

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
20UFT5CC10P	Wet Processing - Practical	CO1: Understand the different types of Preparatory process CO2: Discuss the types of fabric dyeing CO3: Describe the methods of printing CO4: Create designs through printing methods CO5: Explain the new methods of printing or dyeing
20UFT5CC11P	Garment Construction For Adult practical	CO1: Draft and construct the garments of various components as per the designs CO2: Analyze and apply the various measurements in pattern making CO3: Distinguish the use of various tools and equipments as per requirements CO4: Modify the pattern for required designs CO5: Apply the standard measurements to create the required garment.
20UFT5CC12	Internship	CO1: Understand various components of textile and apparel unit. CO2: Observe the production processes for various styles. CO3: Knowledge in management opportunities of apparel industries CO4: Exposure in textile industries CO5: Identify the opportunities in textile and apparel industries.
20UFT5DE1A	Garment Quality And Cost Control	CO1: Explore the concepts of quality control CO2: Gain knowledge in the aspects of quality. CO3: Describe the stages and system of production. CO4: Relate the factors that decide the cost of apparel Production CO5: Discuss the techniques involved in apparel manufacturing process
20UFT5DE1B	Home Science	CO1: Explain the basic concept of home science CO2: Knowledge about the importance of nutrition CO3: Understand the process of home management CO4: Explain the stages in life span CO5: Focus on the stages of child development
20UFT5SE2AP	Surface Embellishment Practical	CO1: Understand the concept designing embroidery by different stitches CO2: Explore creative designs in embroidery and prepare dresses by using embroidery stitches CO3: Capable of identifying new opportunities in craft, textile art and fashion design markets CO4: Identify various color schemes and their application in dress making CO5: Elaborate the techniques of create different stitch with hand.
20UFT5SE2BP	Accessories Making – Practical	CO1: Design fashionable accessories such as earrings, Chain and Bracelets CO2: Apply Knowledge about the Construction of cloth bags CO3: Create and design the mobile accessories CO4: Explain about the Construction of Mask using treated fabric

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
		CO5: Analyze the design for food industry accessories
20UFT5SE3A	Textile Science	CO1: Understand the basic concept of Textiles CO2: Knowledge in the manufacturing of textiles CO3: Describe the concepts of spinning CO4: Discuss about dyeing and printing CO5: Apply the Concepts as a business
20UFT5SE3B	Textile Dyeing	CO1: Enhance the students with Textile Knowledge CO2: Knowledge in the manufacturing of textiles CO3: Understand the concepts of spinning CO4: Discuss about dyeing and printing CO5: Apply the Concepts as a business
20UFT6CC13	Textile Testing	CO1: Understand the methods and techniques used to analyze textile fibres, yarns and fabrics CO2: Identify natural and synthetic textile fibres CO3: Acquire knowledge in various properties of textile and related CO4: Knowledge about fabric quality, performance and products CO5: Examine the fabric coloration in all conditions
20UFT6CC14P	Textile Testing Practical	CO1: Identify natural and synthetic textile fibres CO2: Evaluate samples with physical test for yarn and fabrics CO3: Compare the physical testing of fabrics CO4: Knowledge about fabric quality using testing equipments CO5: Examine the fabric coloration in all conditions
20UFT6CC15P	Computer Aided Designing Practical	CO1: Illustrate the basic small designs as motifs. CO2: Construct the garments for children's using suitable Croquis CO3: Design the women's garment with suitable color theory CO4: Develop the Textured garments for men. CO5: Formulate the familiar logos for Indian and International Apparel Branded company .
20UFT6CC16P	Fashion Portfolio Presentation Practical	CO1: Understand and communicate the fashion forecasting CO2: Gain knowledge on the selection of the raw material and accessories. CO3: Apply and produce a garment as per designs or based on requirements CO4: Develop a portfolio for individual designs and garment. CO5: Explore the significance of photography
20UFT6DE2A	National and International Marketing	CO1: Describe the importance of export and import procedures CO2: Gain knowledge in export documents and trade CO3: Evaluate the importance of foreign exchange market CO4: Develop the domestic and international knowledge CO5: Understand the significance of e business
20UFT6DE2B	Interior Decoration	CO1: Know how to choose and design floor finishes

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO2: Gain knowledge in lighting and its effects and its uses CO3: Recognize the importance of cleaning equipment's and agents CO4: Develop the importance of arrangement procedures and alignments CO5: Discuss about style creations and presentations.
20UFT6DE3A	Apparel Merchandising	CO1: Impart knowledge about Apparel marketing CO2: Learn about concept of Merchandising CO3: Understand the functions of Visual merchandising CO4: Discuss knowledge about the Pricing CO5: Analyze the Product promotion
20UFT6DE3B	Costumes and personal Appearance	CO1: Understand the personal appearance and personality development CO2: Enhance the students with personal values and style CO3: Develop the knowledge about expressing personality through costume CO4: Discuss on good costume and colour matching CO5: Develop wardrobe building
20UFT6EC2	Fashion Technology for competitive examinations	CO1: Identify the types of fiber and learn spinning operations CO2: Knowledge to appear in Handloom, Textile Ministry, CSB, SITRA, NITRA,Khadi exams CO3: Understand the basic concepts of Trade and Exports CO4: Discuss knowledge about the Textile Policies and Schemes CO5: Analyze the textile Tests and Calculations

COURSE OUTCOMES

M.Sc. FASHION TECHNOLOGY

Course Code	Course Title	Course Learning Outcomes
20PFT1CC1	Advanced Textile Production	CO1. Acquire the recent developments in the field of textiles CO2. Apply knowledge in yarn manufacturing process. CO3. Categorize the techniques of weaving and woven fabrics. CO4. Construct knowledge in knitting CO5. Interpret the nonwoven and its manufacturing process
20PFT1CC2	Quality Standards and Specifications	CO1. Identify the quality standards and importance of quality control in textile industry CO2. Indicate quality parameters in textiles CO3. Propose the quality factors in apparel and textiles CO4. Appraise quality control programs and techniques CO5. Estimate quality control in labelling
20PFT1CC3P	Fashion Illustration and Emellishment – Practical	CO1. Acquire fashion figures using Head theory. CO2. Draw the different states, countries and seasons. CO3. Design the sketch for different wears. CO4. Illustrate the sketch for different occasions. CO5. Design a garment for Embellishment work.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
20PFT1CC4P	Fashion Draping and Construction – Practical	CO1. Create design and idea for draping. CO2. Understand and identify the basic draping CO3. Design and develop the individual parts of the garment in draping CO4. Apply the types of garments in draping. (Party wear, princess wear). CO5. Interpret the Different techniques for draping.
20PFT1DE1A	Fashion Marketing and Retailing	CO1.Identify the marketing techniques CO2.Analyze and develop the Marketing segments CO3.Understand fashion Retailing CO4.Apply the Business Ethics CO5.Systemize the Merchandise
20PFT1DE1B	Computer Application in Fashion Designing	CO1.Interpret the essentials of CAD software in fashion industry. CO2.Explain the practical knowledge with CAD theory. CO3.Develop knowledge in selection of colour and selection of fabric related to current fashion trends. CO4.Discover the opportunities and applications of CAD in textile industry. CO5.Show the importance about presentations and graphics in fashion industry.
20PFT2CC5	Research Methods and Statistics	CO1. Explain the fundamental principles and techniques of methodology concerning research. CO2. Analyze the statistical procedure, numerical data and draw inferences. CO3. Demonstrate the knowledge about sampling and scaling techniques for the research study. CO4. Show the importance of measure of tendency, dispersion and correlation for the research study. CO5. Knowledge about parametric and non-parametric signification in research study.
20PFT2CC6	Technical Textile	CO1. Acquire the fibers in technical textiles. CO2. Identify the recent development in technical textiles. CO3. Understand the concept of textile technology. CO4. Categorize the minor and allied industries. CO5. Analysis the different research organization.
20PFT2CC7P	Computer Aided Fashion Designing Practical – I	CO1. Develop the Principles of related fields into the use of Rich peace softwares. CO2. Analyze relationship between design elements for parametric modelling CO3. Prepare and Evaluate design solutions based on defined criteria CO4.Design and Modify the fundamentals of Richpeace software. CO5.Demonstrate digital proficiency, use of computer, basic operating system functions, network drive and drive navigation) etc.
20PFT2CC8P	Design With Prints - Practical	CO1. Construct designs with discharge, resist and various print methods CO2. Contrast and design garments based on prints CO3. Illustrate the direct print methods

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO4.Develop the Accessories with direct prints CO5.Choose various methods of print technique
20PFT2DE2A	Entrepreneurial Development	CO1.Acquire the parameters to assess opportunities and constraints for new business ideas, market strategies. CO2.Discuss the strategies for implementation of ideas. CO3.Schedule the finance for business. CO4.Develop and lead a business in successful manner. CO5.Analyze challenges facing by entrepreneur and labor recruitment.
20PFT2DE2B	Home Textiles	CO1.Recognize the different types of home furnishing. CO2.Design the production method of different types of home textile products. CO3.Practice the student of interior design knowledge on the foundation in various aspects of fabrics can be applied in design of interiors. CO4.Experiment the finishing process to enhance the fabric end-use potential. CO5.Improve the product with colour and pattern into fabric to enhance the sale ability of textile products.
20PFT3CC9	Advanced Textile Testing	CO1. Identify the standards of testing CO2. Understand the textile testing methods CO3. Acquire knowledge in advanced properties of textile CO4. Analyse the microbial activity and tests CO5. Evaluate the tests in performance textiles
20PFT3CC10P	Textile Testing-Practical	CO1. Determine the fiber properties tests CO2. Demonstrate the tests for fiber and Yarn CO3. Summarize the antimicrobial tests CO4. Categorize the fabric test with various properties CO5. Calculate the test results with coefficients
20PFT3CC11P	Home textiles-practical	CO1. Compose design and construct home textile products. CO2.Acquire knowledge in different types of home textile products. CO3.Compile the range of textile products used for home furnishing. CO4. Summarize the future forecast and advanced technology in interior designing. CO5.Predict and extend apparels used for home furnishing.
20PFT3CC12P	Computer Aided Pattern Making and Grading - Practical - II	CO1. Demonstrate the basic concept of CAD software. CO2. Apply the standard measurements of patterns for different garments. CO3. Manipulate the pattern with grading software. CO4. Design and modify the functional garments using CAD software. CO5. Demonstrate digital proficiency.
20PFT3DE3A	Home Science	CO1. Acquire knowledge on basic food science. CO2. Understand the functions and source of nutrients values. CO3. Discuss the basic principles of planning a house and designing life space.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO4.Analyse the principles and stages of child development. CO5. Explain about extension education and formal education.
20PFT3DE3B	Digital Marketing	CO1. Enumerate about Digital Marketing CO2. Examine the types of Digital Marketing CO3. Discriminate the Media Marketing CO4. Acquire Knowledge about E-Marketing CO5. Recommend the use of Operational Digital Marketing
20PFT4CC13	Advanced Wet Processing	CO1. Understand the recent developments in the field of textiles wet processing. CO2.Summarize water treatments followed in dyeing industries. CO3. Compare the techniques of dyeing. CO4. Predict knowledge about printing and finishing. CO5.Discuss the eco-friendly process in chemical processing.
20PFT4CC14	Export Documentation	CO1. Paraphrase the overview of trade. CO2. Enumerate the International trade documents. CO3. Distinguish export and import documentation procedures. CO4. Explain the trade regulations and foreign exchange market. CO5. Categorize the recent developments in foreign trade.
20PFT4CC15P	Fashion Portfolio Presentation – Practical	CO1. Develop the abilities to support the design careers. CO2. Predict different types of boards. CO3. Evaluate various techniques related to drafting, draping, and constructing of garments. CO4. Develop and apply an individual style. CO5. Design and construct an own style for different occasions.
20PFT4EC2	Fashion Technology for Career Examinations	CO1. Knowledge on food science, human nutrition and healthy foods. CO2. Better Portfolio Management, dividend decisions, Motivated Workforce and reduced Employee Grievances. CO3. Gain knowledge in textile production and processing, Develop entrepreneurial skills in textiles and fashion. CO4. To learn about the basic communication and challenges in contemporary society. CO5. To enable the students to acquire knowledge of research methods

PROGRAMME SPECIFIC OUTCOMES

DEPARTMENT OF HOTEL MANAGEMENT & CATERING SCIENCE

B.Sc.

Students will be able to

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

PSO1. Discuss the basic of cookery and variety of cookeries such as Asian cookery, European Cookery, Food and beverage services.

PSO2. Outline the entry level management operations with a specific focus on individual, social and environmental perspectives and professional preparation, presentation and service of quality food.

PSO3. Evaluate and apply vocationally relevant concepts of operational and strategic management.

PSO4. Integrate human, financial and physical resources for in providing service to the customers and food service operations practicing industry defined work ethics.

PSO5. Identify problems in the work field and management strategies to work with people from diverse cultural background

COURSE OUTCOMES

B.Sc. HOTEL MANAGEMENT & CATERING SCIENCE

Course Code	Course Title	Course Learning Outcomes
20UHM1CC1	Basics of Cookery	CO1: Acquire knowledge about nature, aims and quality standards of cooking and apply appropriate sanitation, health and safety practices in cooking CO2: Select and use different food production equipment and understand about ingredients used for cooking and how their characteristics are used to design, formulate and prepare dishes CO3: Understand the characteristics and methods of cooking of Indian and International cuisines. CO4: Gain knowledge about the appropriate pre-preparation, cooking, decorating and presenting the food dishes CO5: Comprehend the preparation of stocks, soups and sauces and method of preparing basic gravies in Indian cuisine.
20UHM1CC2	Foundation Course in Food & Beverage Service	CO1: Know the basics of catering establishments and their types, and appraise the important role of F&B service and its outlets CO2: Describe the hierarchy of F&B service department and state the types of equipment used and methods of services applied CO3: Categorize the courses and sequence of French Classical Menu and understand the basics of designing and compiling menus CO4: Identify the methods of preparing restaurant for service and describe the procedures of order taking and billing CO5: Distinguish the types and cover set-ups of breakfasts and illustrate the operations of room service and need of hygiene practices in F&B operations

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
20UHM1AC1	Front Office Operations	CO1: Understand the role and functions of Front office. CO2: Identify and apply the types of tariffs and room reservations. CO3: Know and explain the procedures followed in various operations of guest services and handling guest complaints. CO4: Acquire knowledge on handling front office accounting records, Night auditing and emergency situations. CO5: Recognize the applications of computers and PMS in Front office operations.
20UHM1AC2P	Basics of Food Production Practical	CO1: Gain skills and ability to select appropriate equipment and ingredients for preparation of dishes CO2: Apply the practical skills and techniques used to produce food. This will include planning a production run, pre-preparation of raw materials and use of appropriate methods CO3: Prepare basic Indian masalas, gravies and international sauces CO4: Compile appropriate menus and prepare dishes in Indian cuisine. CO5: Develop value added food dishes with better nutrition
20UHM2CC3	Housekeeping Operations	CO1: Describe the role of the housekeeping department in hotel operations, and explain the organizational structure of the department. CO2: Identify the typical cleaning responsibilities of the housekeeping department, and explain how area inventory lists, frequency schedules, performance standards and productivity standards are used to plan and organize the housekeeping department. CO3: Classify the types of linen and apply the techniques of laundering. Understand the managerial skills necessary to efficiently operate an on-premises laundry operation CO4: Understand the safety and security needs of hospitality operations and how safety and security issues affect Housekeeping personnel. CO5: Apply the techniques of flower arrangements and attain ability to control the pests in hotel premises.
20UHM2CC4P	Foundation Course in Food & Beverage Service Practical	CO1: Recognize the role of areas and sections of food and beverage service department. CO2: Identify the types and usage of various food and beverage service equipment. CO3: Understand and apply the cleaning and handling techniques of service equipment. CO4: Employ the technical skills of basic F & B operations. CO5: Produce and serve the beverages with appropriate techniques.
20UHM2AC3P	Front Office Operations Practical	CO1: Communicate effectively with guests, colleagues and staff from other departments of the hotel verbally including on telephone, in writing and body language.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO2: Use various forms, formats and registers maintained in the front office department of a large hotel in paper form or on the PMS. CO3: Apply techniques on handling various operations of guest services and guest complaints. CO4: Apply the skills in handling reservations and registration of guests. CO5: Understand the procedures applied in checking-in and checking-out of guests.
20UHM2AC4	Principles of Management	CO1: Predict the different approached to management in general and system approaches. CO2: Formulate the managerial planning constitute a rational approach to setting objectives and selecting plans periodically. CO3: Prioritize the organizational structures of various levels and its relationship to other managerial functions. CO4: Construct the function of staffing in the external and internal environment. CO5: Organize the nature of leadership and importance of creativity and innovation in managing.
20UHM3CC5	Asian Cookery	CO1: Acquire knowledge about different cuisines of Asia and understand their importance CO2: Identify and illustrate the development history and unique cooking methods of Asian cookery CO3: Understand the basic ingredients used in different cuisines of Asia. CO4: Gain knowledge about the appropriate pre-preparation, cooking, decorating and presenting the food dishes of Asian cookery CO5: Analyze in detail about various equipment used and method of handling them in Asian cookery.
20UHM3CC6P	Asian Cuisine Practical	CO1: Gain skills and ability to select appropriate equipment and ingredients for preparation of Asian cuisine dishes CO2: Apply the practical skills and techniques used to prepare Asian cookery dishes. This will include planning production, pre-preparation of raw materials and use of appropriate methods CO3: Demonstrate the methods of presenting and plating of Asian Cuisine CO4: Compile appropriate menus and prepare dishes in Asian cuisine. CO5: Develop value added food dishes with low cost nutrition
20UHM3AC5	Room Division Management	CO1: Understand the methods of evaluating the operations of room sales CO2: Identify and apply the concepts of revenue management of room sales functions CO3: Analyze the need and importance of customer relationship management

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO4: Recognize the concepts related to planning of man power in room division operations CO5: Explain techniques of inventory and budgetary controls applied in room sales operations.
20UHM3AC6P	Housekeeping Operations Practical	CO1: Identify the cleaning equipment and agents suitable to the nature of task and requirement. CO2: Carry out the various cleaning operations and techniques applicable to housekeeping. CO3: Apply the systematic procedures and techniques of controlling the housekeeping department of a hotel CO4: Handle the emergency situation and problems arose during housekeeping functions. CO5: Create a clean, aesthetic, safe and comfortable environment for guests of hotel.
20UHM3GE1	Basic Front Desk Operation	CO1: Understand the basics of hotel and Front Office department. CO2: Recognize the organizational structure and functions of Front Office. CO3: Know and explain the procedures followed in room reservations CO4: Acquire knowledge on handling guest's registration and provision of information. CO5: Handle the procedures involved in guest's check-in and check-out.
20UHM4CC7	European Cookery	CO1: Explain the nature and importance of cuisines followed in European countries CO2: Appraise the development history and unique cooking methods of European cookery CO3: Understand the basic ingredients used in different cuisines of Europe. CO4: Select the appropriate tools and equipment to produce European cuisine dishes CO5: Identify and apply the emerging trends in producing and presenting European dishes.
20UHM4CC8P	European Cuisine Practical	CO1: Gain skills and ability to select appropriate equipment and ingredients for preparation of European cuisine dishes CO2: Apply the practical skills and techniques used to prepare European cookery dishes. CO3: Demonstrate the methods of presenting and plating of European Cuisine CO4: Compile appropriate menus and prepare dishes in European cuisine. CO5: Develop value added food dishes with better nutrition
20UHM4AC7	Specialized Food & Beverage Service	CO1: Describe the operations of specialized dining services of hotel CO2: Summarize the techniques and methods handled in food and beverage service CO3: Demonstrate the planning functions applied in food service operations

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO4: Analyze the ways of handling guest complaints CO5: Outline the importance of customer relationship management in F&B outlets
20UHM4AC8	Nutrition and Food Science	CO1: Predict the functions of and importance of nutrition for human beings CO2: Appraise the functions of vitamins and minerals and role of energy metabolism. CO3: Construct a balanced diet and compile a menu according to groups. CO4: Understand the importance of food microbiology and to find out the beneficial effects of microorganism and flavours. CO5: Acquire knowledge about oils and fats, effects of food processing and identify its new trends.
20UHM4GE2	Basic Baking	CO1: Understand the basics of baking. CO2: Identify the equipment and ingredients used for producing bakery products. CO3: Explain the methods of producing basic bakery products CO4: Acquire knowledge on handling guest's registration and provision of information. CO5: Handle the procedures involved in guest's check-in and check-out.
20UHM5CC10	Tourism Management	CO1: Define the emerging concepts of tourism contributions of tourism CO2: State the role of distribution channels of tourism CO3: Explain the existence of air transportation services CO4: Describe the development of road and rail transport in India CO5: Identify the functions of travel agencies and tour operators
20UHM5CC11	Bakery and Confectionary	CO1: Know the technical skills related to bakery section of the hotel. CO2: Understand the working atmosphere in the bakery section CO3: Gain knowledge about all types of Bakery and confectionery products CO4: Develop the skills in processing method of chocolate and sugar. CO5: Apply the food hygiene practices being followed by a bakery personal.
20UHM5CC12P	Specialized Food & Beverage Service Practical	CO1: Perform the advanced techniques applied in Restaurant Operations CO2: Understand the Standard Operation Procedures of various activities in F&B outlets. CO3: Handle the techniques and methods used in beverage service CO4: Analyse the ways of handling guest complaints CO5: Maintain a good customer relationship in F&B outlets

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
20UHM5DE1	Hospitality Marketing	CO1: Predict the nature and meaning of marketing and determine the ideas of market segmentation and positioning. CO2: Formulate the product and pricing decisions prevailed in hotel industry and classify the products and product mix. CO3: Understand the channels of distribution and promotion decisions. CO4: Construct the need of marketing research in hospitality industry and organization's marketing department. CO5: Organize the legal aspects of marketing and various marketing strategies.
20UHM5SE2	India Tourism Facts for Competitive Examinations	CO1: Define the existence and contributions of tourism resources CO2: State the various types of tourism activities CO3: Explain the wildlife tourism of India CO4: Describe the cultural tourism resources CO5: Identify the present status of cultural resources
20UHM5SE3	Entrepreneurship in Tourism & Hospitality Industry	CO1: Understand basic concepts, characteristics and functions of entrepreneurship. CO2: Know the types of entrepreneurship and factors that affecting the growth of entrepreneurship. CO3: Identify the various governmental and non-governmental organizations working for the development of entrepreneurship. CO4: Learn the techniques of start-ups, venture promoting, idea generation for prosperous business. CO5: Acquire knowledge on project development.
20UHM6CC13	Maintenance Operations of Hotel	CO1: Acquire knowledge about the Maintenance Department in a Hotel and its types and Functions. CO2: Understand the importance of electrical and electronics equipment in the maintenance department. CO3: Know the characteristics and performance of fuel and its sources. CO4: Gain knowledge about water distribution and sanitary system. CO5: Handle fire prevention system in hotel operations.
20UHM6CC14	Food and Beverage Management	CO1: Critically evaluate the types of commercial food service operations and understand the steps involved in the management process. CO2: Examine and analyse all aspects of budgeting and cost control in food and beverage operations. CO3: Analyse and debate legislation which governs the purchasing, storage and sale of food and beverages. CO4: Study and critique menu engineering and contrast subjective and objective menu pricing methods, incorporate profit requirements in menu prices CO5: Know the effective marketing principles and show the advantages and disadvantages of advertising.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
20UHM6CC15	Hotel Accounts	CO1: Understand the accounting principles and basic accounting procedures and formats CO2: Know the concept of accounting and know the accounting terminologies CO3: Handle and prepare journal, ledger and trial balance CO4: Explain the procedures followed in preparation of final accounts CO5: State the elements of cost and prepare budgets
20UHM6CC16P	Bakery and Confectionary Practical	CO1: Gain skills and ability to select appropriate equipment and ingredients for preparation of bakery products CO2: Apply the practical skills and techniques used to produce baked foods CO3: Prepare basic recipes of bakery and confectionery CO4: Compile appropriate menus and prepare dishes CO5: Develop value added food dishes with better nutrition
20UHM6DE2	Human Resource Management	CO1: Predict the nature and objectives of HRM and its importance and steps in planning human resource. CO2: Formulate the need of communication and analyse the various principles of motivation and leadership. CO3: Understand the process of recruitment, training, selection and performance appraisal in an organization. CO4: Construct the various incentive plans to the employees and disciplinary actions against employees. CO5: Know the importance of organizational development and process of HR audit.
20UHM6DE3P	Computer Application in Hospitality Services Practical	CO1: Recognize the role of Computers and its Components in Hospitality Services. CO2: Understand the utilizations of MS Excel and Power Point CO3: Apply the word processing techniques in Hospitality Services. CO4: Acquire technical skills in basic computer operations. CO5: Handle internet services required in hotel operations.
20UHM6EC2	Hotel Management facts for Competitive Examinations	CO1: Define the typologies and emerging dimensions of accommodation sector CO2: Analyze the present status and trends of hospitality industry CO3: Understand the marketing strategies applied in air industry CO4: Know and handle air ticketing techniques and processes CO5: Learn the fundamentals of foreign exchange trading

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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PROGRAMME SPECIFIC OUTCOMES

PG & RESEARCH DEPARTMENT OF MATHEMATICS

B.Sc. Mathematics

Students will be able to

PSO1. Discuss the foundation and history of mathematics, perform computations in calculus, Trigonometry, Algebra and number theory.

PSO2. Apply analytical and theoretical skills and mathematical ideas to solve mathematical problems and to model real-world problems.

PSO3. Recognize a variety of examples where mathematics or statistics helps accurately explain abstract or physical phenomena.

PSO4. Utilize technology to address mathematical ideas, and mathematical programming using C++ and statistical calculations.

PSO5. Demonstrate an ability to use working knowledge of mathematics in their careers and progress to higher education.

M.Sc. Mathematics

Students will be able to

PSO1. Describe the origin of Graph Theory, different types of graph theory and advanced operations on graphs.

PSO2. Discuss the topology in mathematics, differential equations, numerical analysis and fuzzy analysis and their applications to perform mathematical calculations.

PSO3. Recognize and appreciate the connections between theory and applications and mathematical methods in Biology and Python programming.

PSO4. Apply quantitative methods such as the modern probability theory, measure theory fluid dynamics and integral equations to solve mathematical and real world problems.

PSO5. Create employment prospects through application of mathematical concepts and work independently and be a perpetual learner.

M.Phil Mathematics

Scholars will be able to

PSO1. Analyse and judge the validity of rigorous mathematical arguments and carry out research in mathematical problems and formulate complete, concise, and correct mathematical proofs.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

PSO2.Utilize a variety of teaching techniques and classroom strategies to positively influence student learning and also for one's own development.

PSO3. Transcribe mathematical ideas, terminology and notation as a report and oral also make oral presentations.

PSO4. Apply domain knowledge, conceptual and practical knowledge of mathematics in various fields and real time situations and execute a research study ethically.

PSO5. Conceive employability and professional development through problem solving skills and become a continual learner.

COURSE OUTCOMES

B.Sc. MATHEMATICS

Course Code	Course Title	Course Learning Outcomes
20UMA1CC1	Differential Calculus & Trigonometry	CO1: Apply domain knowledge for derivatives and Trigonometrically transformation of functions with examples. CO2: Evaluate the maxima, minima and Lagrange's method of undetermined multipliers CO3: Demonstrate the give examples for curvature, evolutes and involutes CO4: Discuss the expansion of trigonometric multiple functions. CO5: Classify hyperbolic functions with examples.
20UMA1CC2	Solid Geometry	CO1: Remember the basic concept of direction cosines and direction ratios, general equation of plane with examples. CO2: Demonstrate and illustrate examples of the intersection of two planes. CO3: Analyze the various forms of lines and measure the shortest distance. CO4: Determine the radius and centre of a sphere. CO5: Describe and discuss about a circle on a sphere with examples.
20UMA2CC3P	Mathematical Computations using C++	CO1: Remember and understanding the concepts of basic data types, variables and operators. CO2: Illustrate expressions, control structures and functions. CO3: Find relation between arrays, structures and class with examples. CO4: Describe constructors, destructors, and operator overloading. CO5: Make Use of inheritance in the mathematical problems.
20UMA2CC4	Classical Algebra	CO1: Recognize the concepts of inequalities with examples. CO2: Show and illustrate Cauchy Schwartz inequality. CO3: Find relation between roots and coefficients of equations and symmetric functions of the roots with examples CO4: Describe transformation of equation and reciprocal equation with examples.

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Course Code	Course Title	Course Learning Outcomes
		CO5:MakeUse of Descarte's rule, Newton's method of divisors and Horner's method to nature of roots in a Problematic Situation
20UMA3CC5	Multi variate Calculus	CO1: Recall and discuss the double integral and application to area with examples. CO2: Apply domain knowledge for triple integral with examples. CO3: Determine gamma and beta functions with the examples. CO4: Determine the gradient, divergent and curl CO5: Demonstrate line, surface and volume integrals.
20UMA3CC6	ODE & Laplace Transforms	CO1: Retrieve the elementary ordinary differential equations. CO2: Interpret the concept of solving differential equations. CO3: Illustrate and evaluate the differential equation with initial conditions. CO4: Discuss various formulae for Laplace and inverse Laplace transforms. CO5: Apply the concept of Laplace transforms to solve ordinary differential equations
20UMA3AC5	Mathematical Statistics-I	CO1: Recall the basic concept of measures of central tendencies with illustrate the examples. CO2: Make use of measures of dispersion and coefficient of variation with examples CO3: Apply domain knowledge for classical probability and prove Baye's theorem. CO4: Discuss the distribution function and probability density function. CO5: Examine the mathematical expectation and moment generating function with examples.
20UMA3AC6	Mathematical Statistics-II	CO1: Apply domain knowledge for Binomial distribution and Poisson distribution with examples. CO2: Determine the concepts of continuous distribution and area property with illustrate the examples CO3: Examine the gamma distribution and exponential distribution. CO4: Demonstrate the give examples for fitting of a straight line and change of origin CO5: Discuss about fitting of a power curve and fitting of exponential curves with examples.
20UMA4CC7	Advanced Calculus	CO1: Recall and discuss the basic concepts of sets, elements and functions with examples. CO2: Explain the sequences and series with examples CO3: Examine the concept of Limit of a function on a real line with illustrate the examples CO4: Investigate convergent and divergent series of real numbers. CO5: Explain the convergence and divergence of the improper integrals.

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Course Code	Course Title	Course Learning Outcomes
20UMA4CC8	PDE & Fourier Series	CO1: Discuss the basic concepts in Partial Differential Equation of first order and Classification of integrals CO2: Solve the first order PDE using standard forms I, II, III, IV and Charpit's method. CO3: Discuss and solve the Partial Differential equations of higher orders. CO4: Define the concept of Fourier series and find the Fourier co-efficients for different functions. CO5: Discuss the half range Fourier series and change of intervals by illustrating some examples.
20UMA4AC7	Mathematical Statistics-III	CO1: Interpret the different types of correlation and regression with examples. CO2: Demonstrate the give examples for sampling parameter and significance CO3: Discuss the Application of $\chi 2$ – distribution and $\chi 2$ - test for populations CO4: Determine the concept of Students t-distribution with illustrate the examples CO5: Analyze the application of F-distribution
20UMA5CC9	Mechanics	CO1: Apply domain knowledge for finding the resultant of forces. CO2: Evaluate the equilibrium of a rigid body under coplanar forces. CO3: Demonstrate the equilibrium of a hanging string. CO4: Discuss the kinematics of Projectile projected on the surface. CO5: Classify impact of two smooth spheres.
20UMA5CC10	Real Analysis	CO1: Demonstrate an understanding of the functions continuous on a metric space. CO2: Discuss the discontinuous on the real line. CO3: Give the definition of concepts related to metric space such as uniformly continuity, compactness and completeness. CO4: Define and recognize the Riemann integral. CO5: Give the essence of the proof of fundamental theorem of calculus.
20UMA5CC11	Algebra	CO1: Understand the concept of groups and its related subgroups. CO2: Analyse the results to find the order of elements in permutation group. CO3: Apply the concept of groups to create a new structure namely rings. CO4: Creating new fields using ring theory field of quotients in an integral domain. CO5: Evaluate a given subset of a ring to be either subring or ideal.
20UMA5CC12	Numerical Methods	CO1: Understand the nature of solution of algebraic and transcendental equations through different numerical methods. CO2: Learn various interpolation methods and finite difference concepts.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO3: Find out the numerical integration and differentiation through trapezoidal and Simpson's Rule. CO4: Solve problems in linear system of equations through different Gaussian methods. CO5: Solve ordinary differential equations through different numerical methods.
20UMA5DE1A	Graph Theory	CO1: Demonstrate the knowledge of fundamental concepts in graph theory, including properties and characterization of graphs. CO2: Use graphs for solving real life problems. CO3: Find out degree sequence and connectivity in graph theory. CO4: Distinguish between planar and non-planar graphs and solve problems. CO5: Understand graph theory in coherent and matrix representation techniques.
20UMA5DE1B	Combinatorics	CO1: Demonstrate a working knowledge of multisets and compositions, Apply the inclusion and exclusion principle. CO2: Analyze the power series, generalized binomial coefficients, set up and solve a linear recursions relation. CO3: Compute a generating function and apply them to combinatorial problems. CO4: Recognize the cycle structure of permutations, solve counting permutations with respect to inversions. CO5:Describe the Unimodality and Log-concavity, Apply the project property and the real zeros property.
20UMA5SE2AP	Maple	CO1: Using Maple as a scientific calculator. CO2: Implement and illustrate 2 -D graphs and 3-D graphs. CO3: Understanding of linear algebra, Differential equations and Statistics. CO4: Evaluate, analyze and plot results using Maple. CO5: Make use of theoretical concepts to solve problems and visualize the output.
20UMA5SE2B	Fuzzy Sets	CO1: Apply domain knowledge for fuzzy sets and its property. CO2: Discuss the operations on fuzzy sets. CO3: Understand the concept of fuzzy compliments CO4: Demonstrate the concept of fuzzy graphs and fuzzy relations with examples CO5: Evaluate a given Decision Making in Fuzzy Environment.
20UMA5SE3BP	PageMaker	CO1: Understand the fundamentals of PageMaker. CO2: Acquire knowledge on basic Digitally Signed CO3: Work with graphics and formatting. CO4: Create essential documents. CO5: Obtain proficiency in electronic publishing.
20UMA5EC1	General Intelligence for Competitive Examinations	CO1: Analyze the problems and to identify the appropriate blood relations. CO2: Solve the arrangements, coding and symbols. CO3: Demonstrate the concepts of Venn diagram, calendar and clocks with illustrations.

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Course Code	Course Title	Course Learning Outcomes
		CO4: Solve the problems on configuration, cube and dices and also to understand the concepts of mirror, reflection and analogy. CO5: Gain confidence to appear for career examinations.
20UMA6CC13	Linear Algebra	CO1: Have knowledge of the concepts in vector space, linear span, linear dependence and independence CO2: Construct an orthonormal basis for an inner product space by using the Gram-Schmidt process CO3: Be exposed to concepts in linear transformations with examples. CO4: Explain the concept of dual spaces with examples CO5: Calculate the Characteristic values by using Cayley Hamilton theorem
20UMA6CC14	Complex Analysis	CO1: Recognize the concepts of Limits, Continuous and Differentiable functions with examples. CO2: Apply the Domain knowledge of Conformal Mappings, Bilinear Transformation with examples. CO3: Show and Illustrate Cauchy's Theorem and Cauchy's integral formula. CO4: Discuss the expansions of Taylor's series, Laurent's Series and Singularities. CO5: Describe residues and definite integrals.
20UMA6CC15	Number Theory	CO1: Gain knowledge and understanding the topics including, but not limited to divisibility, prime numbers, congruences and Diophantine equations. CO2: Learn methods and techniques used in Euclidean Algorithm. CO3: Understand the meaning and role of different conjectures in number theory. CO4: Apply the theory of congruences for solving problems in number theory. CO5: Solve problems with the help of number theoretic functions.
20UMA6CC16	Operations Research	CO1: Demonstrate and study of operations research and graphical solution method illustrate the examples CO2: Classification and study of artificial Variables and Simplex Method CO3: Analyse the Dual Simplex Method with illustrate the examples CO4: Illustrate the transportation problem and Assignment problems with examples. CO5: Construct the network and plan execution with examples.
20UMA6DE2A	Astronomy	CO1: Recall and Recognize the basic concepts of trigonometry and discuss spherical trigonometry. CO2: Examine Astronomical refraction and Tangent and Cassini's formulas for refraction. CO3: Determine the Newton's deductions. CO4: Interpret the different types of Seasons. CO5: Evaluate the properties of Eclipses.

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Course Code	Course Title	Course Learning Outcomes
20UMA6DE2B	Data Structures and Algorithms	CO1: Recognize the Basic Concepts of Data Structures and Algorithms. CO2: Discuss the concepts of Arrays and Stacks. CO3: Apply the Domain knowledge of Arrays to study Queues and Linked list. CO4: Discuss the Graph Theory ideas on Trees and Matrices. CO5: Describe Sorting and Searching.
20UMA6DE3A	Mathematica and MATLAB	CO1: Using Mathematica and MATLAB as a scientific calculator CO2: Implement and illustrate 2 -D graphs and 3-D graphs CO3: Understanding of linear algebra, Differential equations and Operations Research CO4: Evaluate, analyze and plot results using both Mathematica and MATLAB. CO5: Make use of theoretical concepts to solve problems and visualize the output.
20UMA6DE3B	Z and Fourier Transform	CO1: Recognize the knowledge for Z-Transforms with examples. CO2: Discuss the Z-transform with their properties. CO3: Evaluate the Integral and Fourier transforms with Fourier Cosine and Sine Integrals. CO4: Demonstrate the Convolution Theorem and Parseval's Identity for Fourier Transforms. CO5: Analyze the Fourier transforms of the derivatives of a function with examples.
20UMA6EC2	Mathematics for competitive examinations	CO1: Utilize the concept of groups, rings, fields and vector spaces to solve the problems. CO2: Be exposed to concepts in real analysis to solve the problems in various entrance examinations. CO3: Apply the concepts of complex differentiability and integrability CO4: Use integral calculus, vector calculus and related theorems to solve the problems in various entrance examinations. CO5: Understand and solve the problems based on exact differential equations and LPP002E
20UMA1AC1	Calculus and Differential Equations	CO1: Recognize and Recall the basic concept of differentiation and develop the successive differentiation method with examples. CO2: Apply domain knowledge for properties of definite integration and integration by parts. CO3: Determine 1st order differential equations and Clairaut's form and illustrate the examples. CO4: Discuss linear Ordinary differential equation and Partial differential equations. CO5: Classify standard types of 1st order Partial differential equations with examples.
20UMA1AC2	Numerical Methods	CO1: Solve the algebraic equations of different methods with examples.

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Course Code	Course Title	Course Learning Outcomes
		CO2: Show and illustrate the examples of interpolation and finite difference methods. CO3: Find exact solution to the system of linear equations with examples CO4: Examine the numerical integration methods. CO5: Describe the numerical solution of ordinary differential equations.
20UMA2AC3	Operations Research	CO1: Recognize the features of operations research with applications and limitations with practical examples. CO2: Solve LPP by Graphical and Simplex methods. CO3: Discuss the Basic feasible solution of Transportation problem by different methods. CO4: Determine the optimum solution for Assignment Problems with illustrations. CO5: Construct Network scheduling and demonstrate critical path analysis with examples .
20UMA2AC4	Statistics	CO1: Recall and Recognize the basic concepts of mean, median and mode and discuss its merits and demerits. CO2: Examine geometric and harmonic mean and discuss its merits and demerits. CO3: Determine the measures of dispersions and their coefficients. CO4: Interpret the different types of coefficient of correlation with examples CO5: Evaluate the properties of correlation and regression coefficients.
20UMA3AC5:2	Differential and Integral Calculus	CO1: Examine methods for Higher Derivatives with illustrate the examples. CO2: Demonstrate and discuss Jacobian – Curvature with examples. CO3: Apply domain knowledge for Integration by parts - Reduction formulae. CO4: Recall and illustrate the examples of Multiple Integrals. CO5: Study of Application of multiple integrals with suitable examples.
20UMA3AC6:2	Algebra and Trigonometry	CO1: Recall the basic concept of binomial series and exponential series with illustrate the examples. CO2: Apply domain knowledge for Relation between the coefficients and the roots of an algebraic equation with illustrate the examples. CO3: Determine the concepts of Eigen values and Eigen vectors. CO4: Examine Expansions of cosnθ and sinnθ CO5: Discuss about Hyperbolic functions
20UMA4AC7:2	Differential Equations	CO1: Apply domain knowledge for solving first order linear differential equations. CO2: Discuss and solve the linear differential equations with constant coefficients with examples.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO3: Show different integrals of partial differential equations and Lagrange's equations with illustrate the examples. CO4: Investigate Laplace transform of periodic functions and some general theorems with examples. CO5: Determine results under inverse transforms of functions with illustrative examples and solve differential equations with constant co-efficient.
20UMA4AC8:2	Vector Calculus and Fourier series	CO1: Recognize and Recall the basic concept of vector and operators with examples. CO2: Show and illustrate the line, volume and surface integral. CO3: Fine the solution of the simple problem using existing theorems. CO4: Determine the Fourier series with examples. CO5: Describe and discuss about the sine and cosine series in change of interval.
20UMA3AC5:3	Differential Calculus	CO1: Find the nth derivatives of a function and apply the Leibnitz's theorem for finding nth derivative of product of two functions. CO2: Discuss the partial derivatives of a function of functions depending on two independent variables and to understand the concepts of homogeneous function, Euler's theorem, total differentiation and implicit functions. CO3: Solve maxima and minima for a function of one, two variables. CO4: Explain the concept of curvature of a curve and to find the radius and centre of curvature of a given curve. CO5: Understand the concept of evolute, involute and to find radius of curvature using polar co-ordinates and forming pedal equation of a curve.
20UMA3AC6:3	Algebra and Trigonometry	CO1: Recall the basic concept of binomial series and exponential series with illustrate the examples. CO2: Apply domain knowledge for Relation between the coefficients and the roots of an algebraic equation with illustrate the examples. CO3: Determine the concepts of Eigen values and Eigen vectors. CO4: Examine Expansions of cosnθ and sinnθ. CO5: Discuss about Hyperbolic functions.
20UMA4AC7:3	Ordinary and Partial Differential Equations	CO1: Recall and understand the concept of exact differential equations. CO2: Discuss the equations of the first order but of higher degree and homogeneous equations with illustrate the examples. CO3: Show linear equations with constant coefficients and particular integrals with examples. CO4: Apply domain knowledge for solving equations reducible to the linear equations and method of variation of parameters

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO5: Determine Lagrange's method of solving the linear equation with illustrative examples.
20UMA4AC8:3	Statistics and Vector Calculus	CO1: Apply domain knowledge for Measures of Central Tendency CO2: Recall and illustrate the examples of Measures of Central Tendency CO3: Demonstrate and discuss Measures of Dispersion CO4: Determine and study of bivariate distributions with examples. CO5: Examine methods for the vector differential operator with examples

COURSE OUTCOMES

M.Sc. MATHEMATICS

Course Code	Course Title	Course Learning Outcomes
20PMA1CC1	Algebra-I	CO1: Discuss Sylow's theorems, Solvability of Symmetric group with examples. CO2: Construct new groups from existing groups using direct products and illustrate with some examples. CO3: Recognize the concept of vector spaces as R-module. CO4: Describe some of the canonical forms of linear transformations such as triangular and nilpotent transformations. CO5: Solve problems based on different kinds of transformations.
20PMA1CC2	Real Analysis	CO1: Discuss the basic concepts of topology and illustrate with examples. CO2: Apply domain knowledge for Riemann - Stieltjes integral. CO3: Explain the sequences and series of functions with the examples. CO4: Determine the partial derivatives and directional derivatives. CO5: Prove the chain rule, inverse function theorem and Implicit function theorem.
20PMA1CC3	Classical Dynamics	CO1: Discuss the basic concepts of Mechanical System. CO2: Derivation of Lagrange's Equation for holonomic and non-holonomic system and solve simple problems. CO3: Analyze the applications of Impulsive Motion. CO4: Examine the concept of Hamilton's principle and other variational principles. CO5: Express the ideas of separability, Reason, Jacobi's Theorem and solving problems.
20PMA1CC4	Ordinary Differential Equations	CO1: Apply domain knowledge for solving second order linear differential equations and method of variation of parameters. CO2: Demonstrate and discuss Oscillations, Sturm separation and comparison Theorem with examples.

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Course Code	Course Title	Course Learning Outcomes
		CO3: Show regular singular points and solve Gauss's Hyper geometric equation with examples. CO4: Investigate Legendre polynomials and Bessel functions with examples. CO5: Determine linear systems with illustrative examples and Prove Picard's theorem.
20PMA1DE1A	Mathematics of Finance	CO1: Recall basic concepts of simple interest, simple discount, equivalent rates and discount value CO2: Expain an accumulated and discount values for fractional interest period. CO3: Apply the mathematical idea of annuities with examples. CO4: Analyze the Amortization of a debit. CO5: Bring out bounds and related properties with illustrations.
20PMA1DE1B	Control Theory	CO1: Discuss the basic concepts of Observability and illustrate the examples. CO2: Explain controllability and nonlinear systems with the examples. CO3: Apply the domain knowledge of asymptotic stability of linear systems and perturbed linear systems. CO4: Analyze the stabilization via linear feedback control. CO5: Solve the matrix Riccati equations
20PMA2CC5	Algebra-II	CO1: Discuss the algebraic concepts of finite and infinite fields and its illustrations. CO2: Analyze the fundamental concepts of algebra and their role in modern mathematics. CO3: Recognize and Recall the algebraic expressions, using the commutative, associative and distributive properties. CO4: Explain the accurate and efficient use of advanced algebraic techniques CO5: Demonstrate mathematical ideas through analyzing, proving and explaining concepts from advanced algebra
20PMA2CC6	Complex Analysis	CO1: Recognize the basic concept of Line integrals, rectifiable arcs with examples and prove Cauchy's theorems. CO2: Demonstrate the homology in complex plain and prove Taylor's theorem. CO3: Discuss argument principle and evaluate the definite integrals. CO4: Describe the properties of Harmonic functions and prove Poisson's formula. CO5: Explain the canonical product of entire functions with examples.
20PMA2CC7	Topology	CO1: Illustrate and Describe the origin of topological spaces. CO2: Apply domain knowledge for metric space and connected spaces with examples. CO3: Prove the Tychonoff theorem with examples. CO4: Determine the countability axioms, separation axioms and prove the Urysohn lemma.

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Course Code	Course Title	Course Learning Outcomes
		CO5: Explain the Baire category theorem in topological point of view.
20PMA2CC8	Numerical Analysis	CO1: Recall the iteration methods to solve the problems. CO2: Identify the approximate solution to the given problems. CO3: Find the interpolation value with illustrations. CO4: Examine the convergence of the solution for the given problems. CO5: Compare various methods and choose the best method to solve the problems.
20PMA2DE2A	Fuzzy Analysis & its Applications	CO1: Apply domain knowledgefrom classical sets to fuzzy sets with illustrations. CO2: Describe the fuzzy arithmetic, Linguistic variables and examine Fuzzy equations. CO3: Determine fuzzy logic and fuzzy propositions. CO4: Examine fuzzy Decision making problem and Fuzzy Linear programming problem. CO5: Classify fuzzy relations and properties of fuzzy relations.
20PMA2DE2B	Mathematical Methods in Biology	CO1: Discuss the sequence alignments, alignment graphs and CDNA matching with illustrations. CO2: Demonstrate the Multiple sequence alignments and Multifunction tools for sequence analysis. CO3: Explain the Phylogenetic analysis, Evolutionary Trees and Phylogeny with examples. CO4: Apply the domain knowledge for SQL, DDL, DML and TLC commands. CO5: Determine the bioinformatics tools for database search using engines.
20PMA3CC9	Functional Analysis	CO1: To acquire more knowledge on Banach space through Hahn Banach theorem CO2: Demonstrate and discuss Open mapping theorem and Conjugate of an operator. CO3: Apply domain knowledge for Hilbert Space. CO4: Remember the theorem based on the Hilbert space with an operator. CO5: Classification and study of finite dimensional spectral theory.
20PMA3CC10	Partial Differential Equations	CO1: Recognize and recall the basic concept of first order P.D.E and classification of integrals with examples. CO2: Show and illustrate the examples of Jacobi's method and quasi-linear equations CO3: Demonstrate the examples for one dimensional wave equations and vibrations of a string CO4: Discuss the boundary value problems in second order PDE's CO5: Classify heat conduction and wave equation with examples.
20PMA3CC11	Modern Probability Theory	CO1: Recall and discuss the Booles inequality and discrete probability space with examples.

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Course Code	Course Title	Course Learning Outcomes
		CO2: Examine Study Jordan decomposition theorem and inequalities with examples. CO3: Investigate the convergence of random variables and convergence in distribution. CO4: Determine the laws of large numbers and SLLN for i.i.d case with illustrate the examples. CO5: Prove central limit theorem and Lindeberg-Feller theorem.
20PMA3CC12	Advanced Graph Theory	CO1: Apply domain knowledge connectivity and edge-connectivity with illustrations. CO2: Demonstrate and discuss matching and stable matching. CO3: Bring out Independent sets and prove Vizing's Theorem. CO4: Determine the predecessor and successor algorithm. CO5: Discuss the concepts of perfect graphs and interval graphs.
20PMA3DE3AT	Python Programming	CO1: To provide introduction to comments, operators, variables and Python Objects. CO2: Explain Standard Type operators, numbers and built-in Functions in python programming. CO3: Learn strings, lists and tuples in Python programming. CO4: Implement conditionals and loops for Python Programs. CO5: To construct regular expressions and network programming in Python.
20PMA3DE3AP	Python Programming - Practical	CO1: To provide introduction to comments, operators, variables and Python Objects. CO2: Explain Standard Type operators, numbers and built-in Functions in python programming. CO3: Learn strings, lists and tuples in Python programming. CO4: Implement conditionals and loops for Python Programs. CO5: To construct regular expressions and network programming in Python.
20PMA4CC13	Measure theory and integration	CO1: Apply domain knowledge for Measure on a real line and illustrate with examples. CO2: Discuss the concepts of Borel and Lebesgue measurability with suitable examples CO3: Explain the abstract measure space with the examples. CO4: Determine the Almost uniform convergence and study decomposition of measure. CO5: Prove the Radon Nikodym theorem and Fubini's theorem.
20PMA4CC14	Fluid Dynamics	CO1: Demonstrate and discuss fluid flows, stream lines, vorticity vector and equation of continuity with examples. CO2: Derive the Euler's equation of motion and Bernoulli's equation with the examples. CO3: Distinguish sources, sinks and doublets and analyze the axis-symmetric flows and stokes stream function.

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Course Code	Course Title	Course Learning Outcomes
		CO4: Determine the concept of two-dimensional flows and complex potential flows. CO5: Acquire the Milne-Thomson circle theorem and theorem of Blasius and illustrate some applications of the circle theorem.
20PMA4CC15	Integral Equations and Calculus of Variations	CO1: Discuss the basic concepts of eigen values and eigen functions with illustrate the examples. CO2: Determine the method of successive approximations and Volterra integral equations with suitable examples. CO3: Study of applications to ordinary differential equations and solve the Abel integral equations. CO4: Applying domain knowledge for maxima and minima illustrate the examples. CO5: Bring out natural boundary conditions and transition conditions with Illustrations.
20PMA4DE4A	Advanced Operations Research	CO1: Discuss the basic concepts of integer linear programming and sensitivity analysis with examples. CO2: Construct the goal programming problem and general goal programming model. CO3: Investigate the decision making environments and games with illustrate examples. CO4: Demonstrate the inventory problems and EOQ models with examples. CO5: Determine dynamic programming with illustrative examples and study dynamic programming models.
20PMA4DE4B	Stochastic Processes	CO1: Define Stationary processes and transition matrix. CO2: Classification of States and Chains and Communication Relations CO3: Describe stability of a Markov System, limiting behavior. CO4: Define poisson processes, renewal processes and density – renewal Equation. CO5: Classify queueing processes and prove Little's formula. CO6: Demonstrate queueing Model M/M/1.

PROGRAMME SPECIFIC OUTCOMES

PG & RESEARCH DEPARTMENT OF MICROBIOLOGY

B.Sc. Microbiology
Students will be able to

PSO1. Demonstrate a rational understanding of the diversity of microorganisms, structure, functions, their role in the biosphere, bioinformatics and biostatistics.

PSO2. Identify the microorganisms, classify them based on their morphological characteristics and the relationship between them and the environment.

PSO3. Explain the fundamental concepts, processes, core theories and practices within microbiology, immunology and clinical microbiology.

PSO4. Apply the tools, technologies and scientific methods for laboratory and conventional investigations safely and formulate valid conclusions based on the results in the field of microbiology and its associated areas.

PSO5. Describe the role of microbes in human, food and diary technology, agriculture, the process of heritable information in microorganisms and forming new genetic combinations through recombinant DNA

M.Sc. Microbiology
Students will be able to

PSO1. Describe the cell structure, functions, their characteristics, cultivation methods, concept of culture, type of culture and microbial techniques.

PSO2. Construct the use of microbial knowledge in genetics, genetic engineering, fermentation technology, medical microbiology and waste management.

PSO3. Identify the ways microorganisms play an integral role in disease, and microbial and immunological methodologies, are used in disease treatment and prevention.

PSO4. Devise and execute safe laboratory experiments following the research ethics and presentation of reports.

PSO5. Locate career options in and related field of microbiology either through competitive examinations or entrepreneurial activities.

M.Phil Microbiology
Scholars will be able to

PSO1. Recognize and critically use the theoretical understanding of the subject in questioning and plausible explanations.

PSO2. Design and implement effective strategies in carrying out a research in microbiology, possible solutions for the benefits of the biosphere.

PSO3. Transcribe research reports for the advancement in career and journal publications.

PSO4. Utilize the knowledge of teaching learning skills into one's own professional life.

PSO5. Locate the use and implementation of modern technologies in research.

COURSE OUTCOMES

B.Sc. MICROBIOLOGY

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
20UMB1CC1	Introduction to Microbiology and Microbial Diversity	CO 1: Explicit the historical inventions, scope of Microbiology and Principles of Microscopy. CO2:Systematize the taxonomy of Microorganisms. CO 3: Demonstrate the bacterial growth by using various measurement techniques. CO 4: Illustrate the methods of sterilization, media preparation, pure culture, preservation and decontamination techniques. CO 5: Describe the microbial diversity and their economic importance.
20UMB1CC2P	Introduction to Microbiology and Microbial Diversity Practical	CO 1: Assess the biosafety measures and aseptic techniques. CO 2: Illustrate the methods of sterilization, media preparation and pure culture techniques. CO 3: Detect the microorganisms from various samples. CO 4: Recapitulate the bacteria by counting methods. CO 5: Execute the various staining techniques.
20UMB1AC1	General Biochemistry I: Biomolecules	CO 1: Describe the structure of atoms, unit concentrations and stabilizing interactions of Biomolecules. CO 2: Restate the structure, classification, function and sources of Carbohydrates. CO 3: Explain the classification, structure, properties of Aminoacids and Proteins. CO 4: Summarize the classification, structure and functions of Lipids. CO 5: Determine the classification and structure of Vitamins and Nucleic acids.
20UMB1AC2P	General Biochemistry I: Biomolecules Practical	CO 1: Prepare different Buffers. CO 2: Perform qualitative analysis of sugars and Amino acids. CO 3: Demonstrate the amino acid and ascorbic acid quantitatively. CO 4: Predict the amount of proteins and Lipids. CO 5: Create an entrepreneurship in biomolecules extraction.
20UMB2CC3	Bacteriology and Virology	CO1: Investigate the Ultra structure of Bacteria. CO2: Comment the various bacteria and interpret staining techniques. CO3: Grasp the knowledge on cultivation and economic importance of bacteria. CO4: Describe the general characteristics of viruses. CO 5: Explain the plant and animal virology.
20UMB2CC4P	Bacteriology and Virology Practical	CO 1: Examine the motility of bacteria. CO 2. Perform different staining techniques. CO 3. Determination of bacterial growth by different methods. CO 4. Demonstrate the isolation of bacteriophages. CO 5: Justify the amount of bacteriophages in sewage.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
20UMB2AC3	General Biochemistry II: Bioenergetics and Enzymology	CO1: Explicit the concepts of bioenergetics. CO2:Acquire the knowledge on energy conversions. CO3: Describe the enzymes and its source. CO4: State the mechanisms of enzyme action. CO5: Interpret the enzyme kinetics.
20UMB2AC4P	General Biochemistry II: Bioenergetics and Enzymology Practical	CO :1Estimate the protein by different methods. CO2:Separate the amino acids by using chromatography. CO3:Determine the various influencing factors on enzymes CO4:Demonstrate the method of immobilization of enzymes. CO 5:Perform the rate of anaerobic respiration.
20UMB3CC5	Microbial Physiology and Metabolism	CO :1Examine the effects and types of nutritional transport on bacteria. CO :2Acquire the knowledge on bacterial growth and the influence of various factors on the growth. CO 3:Explain the energy metabolism and prominent features of bacteria. CO 4:Summarize the protein metabolism in bacteria. CO 5:Acquire the relevant knowledge about nitrogen fixation.
20UMB3CC6P	Microbial Physiology and Metabolism Practical	CO1:Examine the effect of abiotic factors on the growth of microorganisms. CO2:Acquire the knowledge about microorganism and its physiology. CO3:Compare the factors affecting bacterial growth. CO4:Report the reproducible data from biochemical experiments. CO 5:Examine the photosynthetic bacteria.
20UMB3AC5	Immunology I: Principles of Immunology	CO 1:Describe the immune system and organs of human. CO 2:Acquire the knowledge on different types of the immune response against pathogens. CO 3:Describe the transplantation and its immunological significance. CO 4:Acquire the knowledge of different types of vaccines and tumour biology. CO 5:Explain the various immune techniques applicable indiagnostics.
20UMB3AC6P	Immunology I: Principles of Immunology Practical	CO 1:Identify the human blood groups. CO 2:Examine the antibodies against the target pathogen. CO 3:Analyze the process of immunodiffusion. CO4:Demonstrate the mechanism of immune electrophoresis. CO 5:Determine the antigen and antibody interactions.
20UMB4CC7	Clinical Microbiology	CO 1:Identify the Epidemiology and pathogenicity of diseases. CO 2:Summarize the characteristics and pathogenicity of various types of bacteria. CO 3:Describe the characteristics and mechanism of pathogenesis of different fungi.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO 4:Illustrate the morphology, pathogenesis and clinical manifestations of viruses. CO 5:Determine the structure, life cycle, clinical manifestations and diagnosis of parasites
20UMB4CC8P	Clinical Microbiology Practical	CO 1:Describe the epidemiology of diseases. CO 2:Illustrate the methods for isolation and identification of microorganisms from various specimens. CO 3:Predict the susceptibility of microorganisms to drugs. CO 4:Identify the minimum inhibitory and bactericidal concentration of antibiotics. CO 5:Demonstrate the methods for examination of fungi, yeast and protozoa from different specimens.
20UMB4AC7	Immunology II: Immunohaematology	CO 1:Explicit the historical inventions in Immunohematology and blood grouping. CO 2:Acquire the knowledge on components, preservation and storage of blood. CO 3:Describe the methods for counting of blood cells. CO 4:Gain the comprehensive knowledge on basics of blood transfusion. CO 5:Report the hemolytic diseases of new born, prevention and treatment.
20UMB4AC8	Immunology II: Immunohaematology Practical	CO 1:Demonstrate the collection and separation of components of blood. CO 2:Perform the ABO blood grouping and Rh typing. CO 3:Describe the methods for counting of blood cells. CO 4:Estimate the amount of hemoglobin in blood. CO 5:Determine the presence of specific antibodies by various techniques.
20UMB3GE1	Microbial Food Products	CO 1:Acquire the knowledge on microbes as food and its products. CO 2:Explicit the concept of Probiotics. CO 3:Comment the various productions of microbial products. CO 4:Identify the appropriate unit operations required to produce different types of food products. CO 5:Grasp the knowledge on the importance of food safety hazards.
20UMB4GE2	Cosmetic Microbiology	CO 1:Graspthe knowledge on Cosmetic Microbiology CO 2:Explicit the various product forms in cosmetics CO 3:Acquirethe knowledge on cosmetic ingredients CO 4: Investigate the antimicrobial preservative testing in cosmetics. CO 5:Describe the Cosmetic product regulations.
20UMB5CC9	Microbial Genetics	CO1: Explicit the historical inventions and the basic concept of genetics CO2: Explain the system of replication methods on DNA.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO3: Describe the gene transfer mechanisms and its regulations. CO4: Acquire the knowledge on transcription and translation process. CO5: Describe the molecular approaches on Gene regulation.
20UMB5CC10	Molecular Biology And Recombinant DNA Technology	CO 1:Acquire the knowledge on structure and organization of nucleic acids CO 2: Describe the principles on mutation. CO 3: Explore the knowledge of DNA repair mechanism CO 4: Acquire the knowledge on gene cloning and DNA Analysis CO 5: Describe the knowledge on Genetic recombination
20UMB5CC11	Industrial Microbiology	CO :1 Acquire the knowledge on screening techniques CO 2: Describe the principles of fermentation media formulation strategies. CO 3: Explore the knowledge of fermenter configurations and types. CO 4: Determine the microbes involved in Industrial products. CO 5: Investigate the knowledge on downstream processing.
20UMB5CC12P	Microbial Genetics, Molecular Biology And Recombinant DNA Technology And Industrial Microbiology Practical	CO 1: Extract the Genomic DNA and Plasmid DNA. CO 2: Determine the DNA by DPA method. CO 3: Examine the differentiation of Protoplast and Spheroplast. CO 4: Acquire the knowledge on screening technique. CO 5: Determine the mechanism of Citric acid production.
20UMB5DE1A	Bioinformatics and Biostatistics	CO 1: Acquire the knowledge on basic principles and concepts of bioinformatics. CO 2: Gain the knowledge on biological databases. CO 3: Examine the essential existing bioinformatics software effectively. CO 4: Describe the variables in a dataset, and classify variables as quantitative. CO 5: Acquire the relevant knowledge on statistical inference
20UMB5DE1B	Medical Entomology	CO1: Explain the history, classification and distinguished features of Arthropods. CO2: Examine the role of insects as vectors of diseases and their effects on human populations CO3: Summarize the structure, morphology and anatomy of insects. CO4: Analyze the public health importance and the epidemiology of the disease pathogens CO5: Describe the integrated pest management (IPM) techniques that are helpful in diagnosing, preventing, and controlling disease vectors.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
20UMB5SE2A	Biofertilizers And Biopesticides	CO 1: Acquire the knowledge on symbiotic Nitrogen fixers. CO 2:Explore the knowledge on Non-Symbiotic Nitrogen and Phosphate fixers. CO 3: Determine the field application of Ecto and Endo mycorrhizae. CO 4:Summarize the comprehensive knowledge on Mass production technology of bio-pesticides. CO 5: Analyze the importance of Impediments and limitations in production and use of Biopesticide.
20UMB5SE2B	Analytical Techniques	CO 1: Describe the analytical instrumentation principles. CO 2: Examine the contemporary instrumental applications. CO 3: Acquire the knowledge on techniques skills and necessary for biological analysis. CO 4: Examine the different biological samples for profound studies. CO 5: Gain a comprehensive knowledge of the basics of macromolecules analysis.
20UMB5SE3A	Textile Microbiology	CO 1: Acquired knowledge of the microbiology concepts as applicable to textile. CO 2: Describe the natural fiber requirements for the textile industry CO 3: Examine the various bio enzymes required for the development of textile processing. CO 4: Gain knowledge of a variety of antimicrobial biomaterials in the healthcare system. CO 5 : Differentiate the textile antimicrobial testing.
20UMB5SE3B	Mycology	CO1: Summarize the history, characteristics and importance of various types of Fungi CO2: Determine the metabolism, structure and life cycle of fungi CO3: Acquire the knowledge on fermented products production by fungi. CO4: Introspect the knowledge on nutrients transport and its growth conditions. CO5: Examine the knowledge on medically important fungi and its diagnosis methods.
20UMB5CC13	Food and Dairy Microbiology	CO 1: Summarize history and the characteristics and importance of various types of Fungi CO 2: Determine the metabolism, structure and life cycle of fungi CO 3: Acquire the knowledge on fermentation process for production of useful products. CO 4: Introspect the knowledge on nutrients transport mechanism CO 5: Examine the knowledge on medically important fungi and its diagnosis methods.
20UMB6CC14	Environmental Microbiology	CO1:Describe the vital role and application of microbes in various ecosystems.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO::Identify the airborne microorganism and air sampling techniques. CO3:Apply the mechanism used in water purification techniques. CO4:Explain the working principles of sewage treatment. CO5:Examine the process of bioleaching and treatment of waste materials.
20UMB6CC15	Soil and Agricultural Microbiology	CO1:Describe the distribution and association of microorganisms in various types of soil. CO2: Identify the role of microbes and nutrient cycles prevailing in environment. CO3:Acquire the knowledge on interaction of microbes with various regions. CO4:Examine the plant diseases and their control methods. CO5:Describe the production and applications of bioinoculants.
20UMB6CC16P	Food And Dairy Technology, Environmental Microbiology, Soil and Agricultural Microbiology Practical	CO1:Examine the quality of Milk by Methylene blue reduction test. CO2:Detect the food borne pathogens from various sample. CO3:Describe the antagonistic effect of microbes. CO4:Isolate the microorganisms from soil, air and plant root. CO5:Predict the knowledge on algae as indicator of water pollution.
20UMB6DE2A	Plant Pathology	CO 1:Acquire the knowledge on economic losses and social impact of plant disease. CO 2: Explore the knowledge on polycyclic and polyetic diseases. CO 3: Describe the Virulence factors of pathogens. CO 4: Determine the comprehensive knowledge on concept of resistance. CO 5: Analyze the basic principles of the disease management.
20UMB6DE2B	Applied Phycology	CO 1:Acquire the knowledge on ultrastructure of prokaryotic and eukaryotic algal cells. CO 2: Explore the knowledge on Vegetative reproduction in algae. CO 3: Examine the Collection and preservation of algal samples. CO 4: Demonstrate the comprehensive knowledge on economic importance of Algae. CO 5: Analyze the Environmental effects of algae.
20UMB6DE3A	Social And Preventive Medicine	CO1: Acquire the knowledge on basic concepts of medicine, health and diseases. CO2: Explain the principles and methods of Epidemiology. CO3: Determine the disease transmission, diagnosis and prevention of diseases. CO4: Describe the genetic diseases and methods of health management. CO5: Acquire the knowledge on mental health and its preventive measures.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
20UMB6DE3B	Biosafety and Intellectual property rights	CO 1: Acquire knowledge on Biosafety and risk assessment of products and ethical issues. CO 2: Acquire adequate knowledge in the use of genetically modified organisms. CO 3: Describe more insights into the regulatory affairs. CO 4: Examine the technology up-gradation and enhancing competitiveness. CO 5: Acquire knowledge on Intellectual Property Rights (IPRs).
20UMB6EC2	Microbiology For Competitive Examinations	CO1: Describe the evolution, contribution scope and human health of Microorganisms. CO2: Illustrate the properties, structure and classification of prokaryotes, Eukaryotes and Viruses. CO3: Explain the chemistry of microbial growth and its measurements. CO4: Acquire the knowledge on nucleic acids and its application in genetic engineering. CO5: Determine the role of microbes in various fields.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

COURSE OUTCOMES

M.Sc. MICROBIOLOGY

Course Code	Course Title	Course Learning Outcomes
20PMB1CC1	General Microbiology	CO1: Examine the characteristics and applications of microbial adaptations in planet. CO2: Identify the group and proper name of organisms through standardized system. CO3: Explain the evolutionary history, classification and distinguished features of bacteria. CO4: Summarize the characteristics, structures and life cycle of fungi. CO5: Acquire the relevant knowledge about the structure, life cycle and characteristics of microalgae.
20PMB1CC2	Microbial Cell Physiology	CO1: Describe the synthesis of bacterial cell wall and its transport mechanism. CO2: Observe the specific growth rate of microbes under different physicochemical conditions. CO3: Determine the distribution, classification and applications of archae bacteria. CO4: Acquire knowledge on photosynthesis and its pigments produced by microorganism CO5: Identify the catabolic and anabolic reactions occurring in the organism.
20PMB1CC3	Chemistry of Biomolecules	CO1: Acquire knowledge on living organism and its physico chemical regulation. CO2: Explain the role of carbohydrates and proteins, their chemical alterations and maintenance in living cells. CO3: Explain the types, structure, property, and biosynthesis regulation of lipids and nucleic acids. CO4: Describe the chemical nature of hormones and vitamins in the cell. CO5: Identify the types of molecules that act in cell signaling pathway.
20PMB1CC4P	General Microbiology, Microbial Cell Physiology and Chemistry of Biomolecules Practical	CO1: Examine the principles and methodologies for isolation and characterization of microorganisms. CO2: Acquire knowledge about microorganism and its biochemical regulation. CO3: Compare the factors affecting bacterial growth. CO4: Report the reproducible data from biochemical experiments. CO5: Apply the principles governing the structure of macromolecules and their participation in chemical reaction.
20PMB1DE1A	Virology	CO1: Explain the concepts studied in virus classification, taxonomy, properties and structure, life cycle and replication strategies. CO2: Introspect the knowledge on virus infecting plants and its economic importance. CO3: Acquire knowledge on human and animal viruses. CO4: Describe the structure and characteristics of various bacteriophages.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
		CO5: Demonstrate the different types of virus cultivation methods and biosafety.
20PMB1DE1B	Microbial Diversity	CO1: Describe the history and development of evolutionary relationships. CO2: Report the evidence of biodiversity and its energy production. CO3: Explore the different adaptations of microbes in stressful environment. CO4: Acquire basic idea on marine diversity. CO5: Analyze marine microbial association and its products applications.
20PMB2CC5	Microbial Genetics and Molecular Biology	CO1: Describe the knowledge on nucleic acids. CO2: . Explain the system of DNA replication and DNA repair. CO3: Analyze the principle of gene transfer mechanism and its regulations. CO4: Acquire knowledge on mutation and its effect. CO5: Demonstrate the molecular aspects of gene regulation.
20PMB2CC6	Genetic Engineering	CO1: Acquire knowledge on basic properties and classification of vector. CO2: Examine the mode of action of various enzymes used in genetic engineering. CO3: Explain the concept of cloning strategies and techniques. CO4: Apply the rDNA by using advanced techniques. CO5: Conclude the applications of rDNA technology and its safety guidelines.
20PMB2CC7	Environmental and Agricultural Microbiology	CO1: Identify the role of microbes and nutrient cycles prevailing in environment. CO2: Apply the acquired knowledge on recycling of solid and liquid waste. CO3: Acquire the basic idea of biodegradation and its applications. CO4: Describe the mechanism of nitrogen fixation and nif gene regulation. CO5: Design the production and applications of bioinoculants and biopesticides.
20PMB2CC8P	Microbial Genetics and Molecular Biology, Genetic Engineering, Environmental and Agricultural Microbiology Practical	CO1: Examine the isolation and characterization of plasmid and chromosomal DNA. CO2: Demonstrate the principle and characterization of SDS PAGE. CO3: Analyze the amplification of DNA by PCR. CO4: Compare the estimation of BOD and COD in polluted water. CO5: Identify the indicator organism and cellulase producing microorganism.
20PMB2DE2A	Microbial Ecology	CO1: Describe the distribution and association of microorganisms in microbial environment. CO2: Acquire the knowledge of aerobic atmosphere, air sampling devices and airborne diseases.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO3: Analyze the various techniques used to treat aquatic microbes. CO4: Demonstrate the microbiological examination of water and indicator organism. CO5: Acquire the knowledge of genetic population and genetic variation of microbial ecology
20PMB2DE2B	Bioremediation and Waste Management	CO1: Analyse various wastes and associated risks on environment. CO2: Apply the knowledge on recycling and disposal of wastes. CO3: Examine the types of soil treatment and methods of aerobic bioremediation. CO4: Identify the process of anaerobic bioremediation. CO5: Assess the methods of radioactive and hazardous wastes.
20PMB3CC9	Medical Microbiology	CO1: Introspect the knowledge on infectious diseases and its mode of transmission to various stages of infectivity. CO2: Identify the study of pathogenic bacteria and its significant factors for causing diseases. CO3: Examine the knowledge on medically important fungi and its diagnosis methods. CO4: Determine the disease pathogenesis, lab diagnosis, prophylaxis, control of viral diseases. CO5: Report the life cycle of protozoan diseases.
20PMB3CC10	Immunology and Immunotechnology	CO1: Acquire the knowledge on immune system and its biological mechanism that prevent diseases. CO2: Determine the antigen and antibody reaction and its effect on the organisms. CO3: Examine the immune reaction of B-cell, T-cell, cancer cell and autoimmunity CO4: Analyze the hypersensitivity reaction with undesirable reactions produced by the normal immune system including allergies. CO5: Apply the antigen and antibody interaction by using advance technology to generate large number of identical antibodies that stimulates an immune response.
20PMB3CC11	Bioenergetics and Enzymology	CO1: Describe the knowledge on energy level. CO2: Acquire the knowledge idea about energy transfer and its synthesis. CO3: Determine the basic idea of nomenclature, classification and assay of enzymes. CO4: Demonstrate the mechanism of enzyme action. CO5: Observe the enzyme kinetics and velocity equations.
20PMB3CC12P	Medical Microbiology, Immunology and Immunotechnology, Bioenergetics and Enzymology Practical	CO1: Observe the isolation and identification of pathogenic bacteria. CO2: Determine the drug resistant and sensitive bacteria. CO3: Analyze the antigen and antibody interaction. CO4: Examine the enzyme assay. CO5: Apply the knowledge on enzyme immobilization.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
20PMB3DE3A	Bioinstrumentation and Bioethics	CO1: Acquire the knowledge on analytical techniques. CO2: Apply the principles of equipment used in biological and medical field CO3: Design the ethical aspects related to the biological research. CO4: Introspect the knowledge on biosafety and risk assessment of products. CO5: Observe the basic idea about IPR Policy and patent regulations.
20PMB3DE3B	Endocrinology	CO1: Acquire knowledge on the hormones and mechanism of hormone action. CO2: Explain the principles and function of pituitary and thyroid glands. CO3: Determine the hormone regulation and metabolism. CO4: Describe the knowledge on hormonal control metabolism. CO5: Examine the basic idea about reproductive growth and family planning system.
20PMB4CC13	Fermentation Technology	CO1: Acquire the knowledge on industrial fermentation processes and its scope. CO2: . Design the framework to establish a Bioreactor set up and Integrate upstream and Downstream processing after upscale execution. CO3: Introspect the knowledge on media component preparation and formulation. CO4: Determine the raw material and process of primary metabolites. CO5: Analyze the product formation of secondary metabolites.
20PMB4CC14	Food and dairy Microbiology	CO1: Apply the various preservative on the food product. CO2: Describe the types of spoilage on the food material. CO3: Examine the knowledge on food borne infection and intoxication. CO4: Acquire the knowledge of fermented food production. CO5: Identify the product nutritive value and its culture preservation.
20PMB 4CC15	Bioinformatics and Biostatistics	CO1: Describe the basic computer and its mode of peration. CO2: Analyze the various sequence alignment with scoring matrix. CO3: Acquire the knowledge on phylogenetic and protein structure prediction. CO4: Determine the knowledge of basic of Biostatistics, data collection and classification methods. CO5: Analyze the concept and methods of Correlation and Regression.
20PMB4EC2	Microbiology for career Examinations	CO1: Describe the evolution, contribution scope and human health of Microorganisms. CO2: Illustrate the properties, structure and classification of prokaryotes, Eukaryotes and Viruses.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
		CO3: Explain the chemistry of microbial growth and its measurements. CO4: Acquire the knowledge on nucleic acids and its application in genetic engineering. CO5: Determine the role of microbes in various fields.

PROGRAMME SPECIFIC OUTCOMES

DEPARTMENT OF NUTRITION & DIETETICS

B.Sc. Nutrition and Dietetics
Students will be able to

PSO1. Recognize the interrelationship between food, nutrition and health and the food choices to make that will optimize the health and prevents diseases.

PSO2. Utilize nutrition care process to make decisions to identify nutrition-related problems, and determine and evaluate nutrition interventions.

PSO3. Describe the governance of nutrition and dietetics practice, such as the Scope of Nutrition and Dietetics Practice and the Code of Ethics for the Profession of Nutrition and Dietetics; and describe inter-professional relationships in various practice settings.

PSO4. Organize the translation of food, nutrition and diet towards promotion of health and nutritional well-being of society, bearing social responsibility and ethics.

PSO5. Deduce careers opportunities as caring, innovative nutritionists, dietitians and entrepreneurs and meet the complex needs of the evolving health care system.

M.Sc. Nutrition and Dietetics
Students will be able to

PSO1. Explain the concepts of Nutrition and Dietetics in enhancing health among the people and diet planning and counseling for general and specific diseases as a dietitian.

PSO2. Identify problems associated with nutrition and health and evolve strategies to overcome them within appropriate ethical, legal limits and food safety measures.

PSO3. Generate efficient methods for providing information, advice and professional opinion to individuals, groups and communities on nutrition and dietetic for healthy living.

PSO4. Illustrate the role of microorganisms in creation or contamination of food and preservation of food products using latest advancements.

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PSO5. Devise employability in various sectors such as food industry, hospitality industry or independent workers as nutritionists.

M.Phil Nutrition and Dietetics

Scholars will be able to.

PSO1. Integrate knowledge of research principles and methods associated with nutrition and dietetics practice in solving problems in the disciplinary area.

PSO2. Utilize the principles of nutrition and dietetics, identifying appropriate literature, execute data collection and interpretation and dissemination of the findings as a project report.

PSO3. Apply various teaching and learning techniques for effective teaching in the classroom and obtain career prospects in the specific discipline, qualifying competitive exams and/or self employment.

PSO4. Outline the recent trends and advancements in Nutrition and dietetics and examine ways to improve food products for societal wellbeing.

PSO5. Develop as responsible citizens with ethics and societal concerns.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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COURSE OUTCOMES

B.Sc. NUTIRITION AND DIETETICS

Course Code	Course Title	Course Learning Outcomes
20UND1CC1	Food Science	1. Understand to use the four food groups in daily life 2. Apply various preparation methods for various foods 3. Explain the nutrient in foods and the specific functions in maintaining health. 4. Apply food science knowledge to describe the functions of ingredients in food. 5. Identify various changes in cooking the food
20UND1CCP2	Food Science Practical	1. Know the basic principle of cooking 2. Explain the basic principle involved in cooking of different food groups 3. Understand the different method of cooking 4. Identify the changes that occur during cooking of different food groups 5. Prepare and evaluate the recipes based on the principles
20UND1AC1	Human Physiology	1. Able to understand the composition and functions of blood and lymph 2. Understand the physiology of Respiratory system and Cardiovascular system 3. Able to integrate the physiological functions of the digestive system and excretory system 4. Apply the physiological concepts of the reproductive system and endocrine system 5. Analyse the vital organ functions in respect to maintenance of human health
20UND1ACP2	Human Physiology Practical	1. Know the composition of Blood 2. Understand the features of tissues, muscles and organs. 3. Acquire skills in estimating the haemoglobin and measuring the blood pressure. 4. Determine the normal and abnormal value of blood constituent 5. Demonstrate the organ functions using apparatus
20UND2CC3	Nutrition : Life Cycle Approach	1. Understand to use the food groups and RDA to plan the balanced diet 2. Understand the nutritional needs during pregnancy and lactation. 3. Describe the growth and development of infancy and importance of breast feeding 4. Study the need of nutritional requirements to school going children, Adolescence and to overcome their Nutritional problems. 5. Understand the physio and psychosocial changes during old age and to overcome their health problems
20UND2CCP4	Nutrition : Life Cycle Approach Practical	1. Know the principles of menu planning for different age groups 2. Describe the nutrient need for different age group 3. Acquire skills in planning menu for different age groups

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
		4. Identify the food source based on the requirement and able to prepare a menu for physiological stress period and throughout lifecycle 5. Design, standardize and prepare weaning food for Infancy.
20UND2AC3	Fundamentals of Nutrition	1. Understand the role of nutrients in human health 2. Provide scientific knowledge on the signs and symptoms of nutrient deficiency and Toxicity 3. Acquire knowledge in energy determination and expenditure 4. Able to differentiate the functions and deficiency of vitamins. 5. Know the role of water and electrolyte balance in the human body
20UND2ACP4	Fundamentals of Nutrition Practical	1. Know the source of food content 2. Understand the identification of different types of sugars, proteins and minerals. 3. Know the principles of analytical instruments 4. Demonstrate competency in the use of standard techniques of food analysis 5. Acquire skills to analyse various nutrients.
20UND3CC5	Diet Therapy -I	1. aware about the role and responsibilities of dietitian and diet counseling process 2. apply various methods and techniques in the therapeutic modification of diet 3. relate the principles of diet for Allergy, burns, obesity and underweight 4. modify dietary management for Gastrointestinal disorder and Malabsorption syndrome 5. describe the dietary treatment for liver, gall bladder and pancreatic disorder
20UND3CC6P	Diet Therapy I - Practical	1. able to plan and modify the diet for the deficiency disorder and diseases 2. appraise the diet principles in the management of disease condition 3. acquire skills in imparting diet counseling for the treatment of disease condition 4. aware about the food to be included and avoided according to the deficiency disorder 5. Know the mechanism of deficiency disorder
20UND3AC5	Nutritional Biochemistry	1. gain knowledge on metabolism of carbohydrate, protein and lipids 2. acquire knowledge on functions and mode of action of different hormones. 3. relate metabolism of different nutrients with dietary intake.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
		4. suggest preventive measures to overcome metabolic abnormalities. 5. get an insight into interrelations between various metabolic pathways.
20UND3AC6P	Nutritional Biochemistry - Practical	1. Acquire skill in collection of blood and urine samples for test 2. Competence to perform quantitative and qualitative analysis of nutrients. 3. Perform quantitative estimation of cholesterol. 4. Competence to perform quantitative estimation of urea, creatinine in blood. 5. Examine and interpret analytical results
20UND3GE1	Nutrition For Health and Wellbeing	1. understand the importance of nutrients in food. 2. explain the nutrient in foods and the specific functions in maintaining health. 3. apply the principles of nutrition in various deficiency conditions. 4. describe various food requirements of human body. 5. know the importance of functional foods in human health.
20UND4CC7	Diet Therapy-II	1. Understand the pathogenesis and causes of diabetes mellitus 2. Able to plan a diet for hypertension and atherosclerosis patient. 3. Describe the etiological factors of kidney disease. 4. Explain the dietary modification and nutritional problems of cancer therapy. 5. Know about the functional foods and its role in disease.
20UND4CC8P	Diet Therapy II - Practical	1. know the principle of planning therapeutic diet 2. understand the nutritional needs for chronic disease. 3. acquire the skills to calculate the nutritive value for disease condition. 4. know the difference between normal diet and therapeutic diet. 5. gain knowledge about the special condition diet such as autism, epilepsy.
20UND4AC7	Food Microbiology	1. To acquire the basic knowledge in microbial of foods 2. To gain knowledge about the microbial activity of foods 3. To acquire the basic knowledge about microbial growth and sterilization 4. To understand the relevance of microbial spoilage of various foods and its intoxication 5. To know about the microbial activity of soil and water.
20UND4AC8P	Food Microbiology Practical	1. Ability to relate the theoretical knowledge with the current situation of microbes in environment 2. Provide frame work to examine the relevance of microbial spoilage of various foods. 3. Apply the food safety and quality control in suggest situation. 4. To know the different types and morphology of microorganisms

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		5. To know the magnification capacity of different types of microscope
20UND4GE2	Nutrition For Women	1. Understand the role of nutrients in women's health 2. Understand the nutritional needs during pregnancy and lactation 3. Apply the dietary guidelines for women 4. Acquire knowledge about needs of nutritional requirements during menstrual cycle 5. Understand physiological changes in elder women
20UND5CC9I	Diet Therapy Internship	1. develop skills in planning and preparing therapeutic diets. 2. learn techniques in diet counseling and feeding of patients. 3. plan and prepare appropriate diets for therapeutic conditions 4. acquire skill in planning and preparation for diet counselling. 5. learn the role and responsibilities of dietitian
20UND5CC10	Physical Facilities for Food Service	1.gain knowledge on ideal food service layout 2.gain knowledge in handling equipment and maintenance 3.develop skills in menu planning for quantity preparation 4.gain knowledge on systems, types and styles of food service in catering establishments. 5.gain knowledge about the employable opportunities in food service institutions.
20UND5CC11	Food Preservation and Bakery Techniques	1. Develop the knowledge on various methods of food preservation. 2. Acquire the science of bakery 3. Acquire skills to develop the processed food 4. Gain knowledge about principles and methods of food packaging. 5. Know the different types bread and cake preparation method
20UND5CC12P	Food Preservation and Bakery Techniques - Practical	1. Prepare different types of preserved product from fruits and vegetables 2. Know the functions and different types of packaging materials. 3. Know the techniques to prepare various kinds of bread 4. Prepare various types of cakes and know icing methods. 5. Prepare different types of pastry, biscuits and cookies
20UND5DE1A	Food Chemistry	1. explain the properties and reaction of various food components 2. Gain sufficient knowledge about chemistry of starch. 3. apply the products with minimum nutritional loss based on the knowledge of food chemistry 4. understand the properties of fats and lipids and rancid reaction in food 5. explain the reactions of volatile compound during cooking
20UND5DE1B	Functional Foods	1. gain knowledge about functional foods and Nutraceuticals 2. have thorough understanding about the health effects

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		3. to develop Comprehensive understanding of different Nutraceuticals and functional foods 4. to understand the potential of various functional foods in promoting human health 5. to recognize factors that increase the risk of developing metabolic syndrome.
20UND5SE2AP	Computer Application in Nutrition and Dietetics -Practical	1. understanding of the basic operation of computer. 2. develop the practice of browsing in internet about nutrition. 3. utilize the tools of MS word. 4. prepare the presentation in MS Power point. 5. utilize the MS excel in tabulation for nutritive value calculation.
20UND5SE2BP	Food Adulteration - Practical	1. educate about common food adulterants and their detection 2. gain knowledge in the legislator aspects of adulteration 3. educate about standards and composition of foods and role of consumer 4. get skill in analysis of adulterants in various food 5. expose the students to the use of different chemical additives in foods products
20UND5SE3AP	Techniques in Bakery - Practical	1. Prepare the bread using various common dividing and panning techniques 2. Prepare high ratio cakes and product finishes such as icing 3. Prepare high flaked puff pastry 4. Prepare different types of biscuits 5. Prepare variety of cookies
20UND5SE3BP	Interior Design - Practical	1. Know the use of various elements and principles in the design 2. Identify drawing tools and mediums used and their respective functions 3. Use various accessories to decorate the room 4. Develop an art of flower arrangement style 5. Develop skill in layout design for Interiors
20UND6CC13	Food Service Management	1.Gain knowledge about various types of food service. 2.Gain knowledge about the entrepreneurship in food service management 3.Gain knowledge about the Principles and functions of Management. 4.Understand about personnel Management, financial management and legal aspects of catering. 5.Realize the importance of sanitation and hygiene in food service institutions
20UND6CC14	Public Health Nutrition	1. understand the terms related to health and nutrition. 2. gain knowledge on the assessment of nutritional status of the community. 3. understand the nutritional problems in the community. 4. know the role of national and international organizations towards combatting nutritional problems.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		5. learn and implement nutrition education in the community
20UND6CC15P	Food Service Management - Practical	1.gain knowledge about Common ingredients used in various regions of Indian and Western menu 2.gain knowledge about menu planning, compiling of different regions . 3.acquire skills in preparing different types of menu. 4.gain skills in the standardization, serving size and cost calculation of the recipes. 5 acquire skills through internship training in the food service unit.
20UND6CC16	Food Product Development and Quality Control	1. learn the concept of food product development. 2. learn about different food packaging and labeling technique. 3. acquire knowledge on food standards and food laws. 4. gain knowledge to assess the quality of food. 5. develop skill on sensory evaluation of food.
20UND6DE2A	Life Span Development	1. Understand the field of human development: concepts, scope, dimensions and interrelations 2. Know the management of pregnancy, prenatal and postnatal care 3. Acquire the knowledge about the different stages of infancy 4. Understand developmental stages of early and late childhood 5. Know the physical and psychological changes, problems faced by the adolescents, adulthood and old age
20UND6DE2B	Food Packaging	1. understand the different packing materials available. 2. explain the new advances and State-of the art in food packing. 3. apply how to use appropriate packaging materials for varied food products. 4. understand the use of various techniques in food packaging. 5. explain the regulations followed in food packaging.
20UND6DE3A	Sports Nutrition	1. understand the importance of nutrition during sports. 2. gain knowledge on the role of carbohydrates during exercise and sports. 3. understand the role of lipids as an energy source for sports. 4. know the role of protein, vitamins, minerals and antioxidants in achieving fitness 5. learn about the water balance and performance influencing factors.
20UND6DE3B	Traditional Foods	1. Have basic knowledge about various traditional foods available regionally, worldwide 2. Acknowledge on the nutritive components foods , cooking methods

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		3. Have in depth knowledge on functional properties which are available, which can be applied along with the dietary management. 4. Acquire a sound knowledge on diversities of foods, food habits and patterns in India with focus on traditional foods.
20UND6EC2	Nutrition and Dietetics For Competitive Examinations	1.Acquire knowledge in the field of food science and food service management 2.Analyse the nutrition and diet approach in the span of life 3.Know the concept of Textiles and Apparel design 4.Apply the principles of resource management and interior design 5.Know stage of human development and aware about the purpose of extension education

COURSE OUTCOMES

M.Sc. NUTIRITION AND DIETETICS

Course Code	Course Title	Course Learning Outcomes
20PND1CC1	Advanced Food Science	1. Understand the nutrient content, different stages of milling process and by products of cereals, millets, pulses and oil seeds. 2. Ability to develop various fruit and vegetable products with quality assurance and safety and understand principles and methods of preservation of fruits and vegetables. 3. Able to understand the different processing and preservation methods in milk, meat, poultry egg and fish. 4. Depict the functions and types of packaging and packaging materials, labelling. 5. The students once they complete their academic projects, shall get an adequate knowledge on patent and copyright for their innovative research works. During their research career, information in patent documents provide useful insight on novelty of their idea from state-of-the art search. This provide further way for developing their idea or innovations
20PND1CC2	Advanced Nutrition	1. Acquire knowledge the physiological role of energy and carbohydrates in the human body. 2. Outline the features of proteins, lipids and their functions. 3. Acquire in depth knowledge of macro and micro minerals and their role in human health. 4. Able to differentiate the functions, deficiency and toxicity of vitamins. 5. Understand the role of water and electrolytes in the human body and apply the knowledge in determining the nutrition during special conditions

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
20PND1CC3	Therapeutic Nutrition – I	1. Assess the nutritional status and support for patient care 2. Apply various methods and techniques in the field of therapeutic nutrition 3. Modify dietary management for Pulmonary and Gastrointestinal disorder 4. Describe the pathophysiology and dietary regimen for liver, gall bladder and pancreatic disorder 5. Interrelate the interactions of nutrients and drugs
20PND1CC4P	Food Analysis - Practical	1. Understand the principles behind in analytical techniques when presented with a practical problem 2. Demonstrate competency in the use of standard techniques of food analysis 3. Apply modern instrumental methods to analyse chemical and physical properties of foods 4. Compare the purposes and methods of food analysis in research, government and food industry
20PND1DE1A	Food Chemistry	1.Identify the chemical properties of the compounds present in foods 2.Explain the chemical changes and reactions that occurs during cooking of food 3. Learn various procedures for the quality of food. 4. Understand the role of chemical constituents present in foods. 5. Acquire the knowledge of artificial chemicals used in preservation of food
20PND1DE1B	Nutraceuticals and Nutrigenomics	1. Know about Functional foods and its sources 2. Understand about the effects of pre & probiotics on human health and potential applications in risk reduction of diseases. 3. Gain knowledge about Herbal Supplements and their effects on health. 4. Interrelations of Nutrigenomics in Human Health. 5. Role of Nutrigenomics and Disease Condition
20PND2CC5	Nutrition in Life Span	1. Be able to design food plans to meet the needs of humans at various life cycle stages 2. Acquire the knowledge about the physiological basis for nutritional needs of pre-conception, pregnancy, lactation 3. Understand to overcome the feeding problem during infancy 4. Be able to understand the nutritional issues from preschool to adolescent 5. Identify and understand the health problems and health benefit of adult and old age
20PND2CC6	Chemistry for Nutritionist	1. Describe and express the biochemical structure and metabolism of protein & carbohydrate metabolism. 2. Illustrate the metabolism of lipids and lipoproteins. 3. Discuss the structure and functions of nucleic acid & explain the mechanism of enzyme action. 4. Integrate and apply the knowledge on spectroscopy. 5. Integrate and apply the techniques in Analytical biochemistry, Distillation and extraction process.

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Course Code	Course Title	Course Learning Outcomes
20PND2CC7	Therapeutic Nutrition – II	1. Apply the principle of diet and role of Glycemic Index and Glycemic load food to overcome or manage Diabetes 2. Interpret the risk factors associated with Cardiovascular disease and dietary management 3. Review the renal disorders, clinical symptoms and treatment by nutritional therapy 4. Assess the nutritional care in metabolic disorders and disabilities 5. Plan nutritional care for cancer therapy and nervous disorder
20PND2CC8P	Therapeutic Nutrition - Practical	1. Plan, prepare and modify the therapeutic diets for disease condition 2. Justify and recommend the nutrient allowance to maintain the nutritional status.
20PND2DE2A	Life Span Development	1. Be able to understanding of different stages of development through the lifespan. 2. Describe physical developmental changes occurring throughout the lifespan. 3. Describe changes in cognitive development and moral reasoning throughout the lifespan 4. Understand the critical thinking and communication skills. 5. Explain family interactions and relationships and describe the change in lifespan.
20PND2DE2B	Food Packaging	1. Understand the concept and advance knowledge of properties of packaging 2. Comprehend advance knowledge production of various packaging materials and effect of various indicators used in supply chain management to indicate the food quality 3. Understand various types of scavengers and emitters for improving the food shelf life and food-package interaction between package- flavour, gas storage systems for food storage, recycling and use of green plastics for reducing the pollution and their effect on food quality. 4. Learn about consumer response about new packaging systems 5. Acquire knowledge about safety and legislative requirements packaging
20PND3CC9I	Dietetics Internship	1. aware about the hospital diets 2. apply the dietary principles based on the disease conditions 3. depict the diet tray setup according to the menu prescribed by the dietitian 4. plan and prepare the therapeutic diets and calculate the nutrient content according to diet prescription 5. acquire the skills to conduct counseling according to the disease conditions
20PND3CC10	Advanced Food Microbiology and Food Safety	1. know the role of microbes in food 2. identify microbial spoilage of various foods 3. prevent microbial spoilage of various foods. 4. apply quality control in food preparation and service

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
20PND3CC11	Research Methodology and Statistics in Nutrition and Dietetics	1. Comprehend the different types of research and various tools of data collection. 2. translate the knowledge gained on types of data and tools of data collection in compiling editing and coding of data and hypothesis 3. analyse the Statistical tool for compute the research data for interpretation 4. interpret and justify the significance of research findings 5. able to Design, execute and document a research and research proposal.
20PND3CC12P	Advanced Food Microbiology and Food Safety & Nutritional Biochemistry - Practical	1. apply the pure culture techniques & staining techniques in food products 2. examine the bacterial count & bacteriological examination food product. 3. acquire skills to analysis various bloods parameters using different methods 4. apply the techniques to estimate the urine for various parameters. 5. understand and examine the urine by qualitative methods
20PND3DE3A	Nutritional Biochemistry	1. describe and express the biochemical structure and metabolism of carbohydrate metabolism. 2. discuss and express the biochemical structure and metabolism of protein and lipids 3. explain the Illustrate an understanding knowledge about nucleic acid, Enzymes and acid base balance 4. illustrate an understanding of Immunoglobulins and Liver and kidney functions tests. 5. illustrate about the role of hormones in the body
20PND3DE3B	Nutritional Counselling and Education	1. understand the counselling psychology and principles and methods of counselling. 2. ability to get insight knowledge on different counselling sessions. 3. be able to become familiarise in the stages in counselling process and the types of Counselling 4. ability to gain in-depth knowledge on counselling and educating patients 5. understand the role of computer in counselling process
20PND4CC13	Food Service Management	1. Understand and acquire the knowledge about the various service systems, current trends in food service industry 2. Develop skills to obtain the various managerial function in food service units. 3. Gain confidence to work in food purchase, production and service departments in food service industry. 4. Know to manage the financial concept in food service units 5. Apply concept of Food waste management, Hygiene and sanitation Guidelines by FSSAI in food service institutions
20PND4CC14	Public Health and Community Nutrition	1. disseminate the nutrition for National development. 2. assess the nutritional status and health problems in the community.

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Course Code	Course Title	Course Learning Outcomes
		3. know the various organizations related with food and nutrition with its functions 4. apply the strategies for improving the nutritional status and dissemination of nutrition education. 5. know about epidemiology and apply the nutrition process during disasters.
20PND4CC15P	Computer Application - Practical	1. acquire skill in basic techniques in the computer. 2. able to work with MS word, excel and PowerPoint on nutrition related topics. 3. acquire skill to Statistical analysis of data – mean and standard deviation. 4. know about the application of SPSS in nutrition related research. 5. gain knowledge in online article publication in journal.
20PND4EC2	Nutrition and Dietetics For Career Examinations	1. Update their knowledge to face their competitive aptitude in the field of Nutrition and Dietetics. 2. Acquire knowledge in facing government competitive exam in the field of Nutrition and Dietetics 3. Apply and update knowledge in nutrition and dietetics related research 4. Compete their knowledge and skills in the teaching profession 5. Gain wide knowledge to face competitive competition as registered dietitian

PROGRAMME SPECIFIC OUTCOMES

PG & RESEARCH DEPARTMENT OF PHYSICS

B.Sc. Physics

Students will be able to

PSO1. Demonstrate conversance in properties of matter, mechanics, relativity, thermal physics, atomic physics, nuclear physics, general physics and medical physics.

PSO2. Create scientific temperament and inquisitiveness and an awareness of the impact of Physics on the environment, society, and development outside the scientific community.

PSO3. Summarize interdisciplinary and relationship between the concepts of Physics with Chemistry, and Mathematics representing multiple representation of scientific information.

PSO4. Apply advanced tools, equipments and laboratory skills in Physics experiments, draw logical conclusions and interpret the results into a research report.

PSO5. Adopt physics concepts to solve simple problems in electronic devices and perform jobs in the relevant field.

M.Sc.Physics

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Students will be able to

PSO1. Describe the advanced concepts of classical Physics, General Physics, Nuclear and Particle Physics, Medical Physics, their corollaries and application of them in natural phenomena.

PSO2. Apply problem solving skills, computer programming and numerical simulations to solve problems and appreciate the innate beauty of Physics.

PSO3. Develop a spirit of scientific reasoning, undertaking scientific research beneficial for the world and people who live in and propagation of results as a written report.

PSO4. Devise leadership strategies and find ways to apply working knowledge of Physics in advancement to higher education and career coupled with desire to be a life- long learner.

PSO5. Evaluate the role of Physics in enhancing the life of the people and involve in community building activities.

M.Phil Physics

Scholars will be able to

PSO1. Apply basic computational techniques for modeling physical systems, systematically explore physical phenomena by setting up experiments, collecting and analyzing data, and interpreting their results.

PSO2. Develop scientific reasoning and scientific outlook in addressing the problems of the society and evolving solutions on the theoretical foundation of Physics.

PSO3. Adopt Mathematical, analytical, simulation tools in carrying out basic, applied and interdisciplinary research and unravel scientific mysteries thorough conscientious efforts.

PSO4. Transcribe the results as a scientific report and propagate the scientific ideas through publication.

PSO5. Demonstrate an ability to handle the classroom teaching effectively, using teaching and learning skills and find employment through entrepreneurial endeavor and competitive exams.

COURSE OUTCOMES

B.Sc. PHYSICS

Course Code	Course Title	Course Learning Outcomes
20UPH1CC1	Properties of Matter and Acoustics	CO 1. acquire the basic principle of properties of matter and the underlying concepts of bending behaviour of beams.

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Course Code	Course Title	Course Learning Outcomes
		CO 2. learn the practical experiments and laboratory skills. CO 3. familiarise with general terms in acoustics. CO 4. understand the theory and practical applications of elasticity in their day to day life. CO 5. learn the fundamental ideas for pursuing higher studies.
20UPH1CC2P	Properties of Matter – Practicals	CO 1. acquire the basic principles of properties of matter and underlying the concepts of bending behaviour beams. CO 2. learn the practical skills essential for experimentation. CO 3. familiarise themselves the concept of heat, optics and acoustics. CO 4. understand the theory and practical applications of properties of matter and electronics in their day to day life. CO 5. acquire the basic concepts required for their higher studies.
20UPH2CC3	Mechanics and Relativity	CO 1. Assimilate the theoretical knowledge and principle of mechanics which enable the student to become self-reliant on learning advanced level leanings CO 2. Know the concept of mechanics enhanced the laboratory skills and problem solving ability in relevant area and induce the inquisitiveness. CO 3. Lead to better understanding of the subjects in higher studies by knowing limitation and applications of mechanics CO 4. Obtain sound knowledge in Mechanics which provide self-confidence and in turn encourage to enter into self-jobs in area concerneds CO 5. behave in a matured way and become more Ethical
20UPH2CC4P	Heat and Optics - Practicals	CO 1. acquire the basic principles of properties of matter and underlying the concept of bending behaviour beams. CO 2. learn the practical skills necessary for experimentation. CO 3. familiarise the concepts of heat, optics and acoustics and understood the measurements of some physical quantities through heat and optical experiments CO 4. understand the characteristics of the semiconductor diodes and practical applications of properties of matter and optics in their day to day life. CO 5. acquire the basic concepts for their higher studies.
20UPH3CC5	Thermal Physics	CO1. acquire the basic principles of heat, heat conduction and their properties. CO2. Obtain the capacity of solving problems related to thermal conductivity and entropies. CO3.Imbibe the ability to understand the laws of radiation and its visualization in day to day life.

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Course Code	Course Title	Course Learning Outcomes
		CO4. explore the ideas of lowering the temperature. CO5. be motivated to carryout research in Heat and Thermodynamics related fields.
20UPH3CC6P	Thermal and Electricity - Practical	CO1: Acquire the basic principles of properties of matter and the underlying concepts of bending behavior of beams. CO2: Learn the experimental skills. CO3: Understand the measurements of some physical quantities through electrical and magnetism experiments CO4: Understand the characteristics of the semiconductor diodes and the practical applications of properties of matter and electronics in their day to day life. CO5: Acquire the basic requirements for their higher studies and learned the circuit construction in the electricity and electronics experiments .
20UPH3GE1	Physics for Home Appliances	CO1. acquire knowledge about the fundamental principles and classification of electrical appliances. CO2. attain the ability to analyze and test various electrical home appliances. CO3. understand the efficiencies of various electrical home appliances. CO4. analyze different working mechanism of home appliances. CO5. be capable of trouble shooting the varieties of problems and issues in electric home Appliances.
20UPH4CC7	Optics	CO1: Understand the various types of aberrations that can occur in the lenses and the limitations that arise in eyepieces because of them. CO2: Realize the concept of dispersion, the means of calculating dispersive power, know the instruments to observe it and as an illustrative example its real world application in the explanation of the formation of rainbows CO3: Comprehend the concepts of interference, the various applications of it. CO4: Have a clear idea of the concept of diffraction, and its applications in optical instruments. CO5: Understand the concept of polarization and realize its consequences in real world situations such as in finding the optical activity of substances and their rotatory power.
20UPH4CC8P	Measurement and Calibration - Practical	CO1: Acquire the basic principles of properties of matter and underlying the concepts of bending behavior of beams. CO2: Learn the experimental skills. CO3: Familiarise the concept of heat, optics and acoustics. understood the measurements of some physical quantities through heat and optical experiments. CO4: Learn the measurements and calibration techniques of various instruments. CO5: Acquire the basic requirements for their higher studies.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
20UPH4GE2	Medical Physics	CO1: Identify the symptoms related to the pressure in various parts of the body to be measured by medical indicators. CO2: Understand the theory and construction of instrument intended for diagnosis and therapy. CO3: Understand the basic concept of Laser and to apply newer technology to treat the diseases. CO4: Learn the knowledge of ultrasound to detect the diseases. CO5: Acquire a scientific awareness on the disease prevention and treatments.
20UPH5CC9P1	Optics and Numerical Programming - Practicals	CO 1. acquire the basic principles of properties of matter and underlying the concepts of bending behaviour beams. CO 2. learn the practical skills essential for experimentation. CO 3. familiarise themselves the concept of optical experiments. CO 4. understand the theory and practical applications of numerical programming. CO 5. acquire the basic concepts required for their higher studies.
20UPH5CC9P2	Analog Electronics and Microprocessor - Practicals	CO 1. develop the skills in analog experiments CO 2. learn the applications of operational amplifier. CO 3. gain a clear understanding of operations of electronic circuits. CO 4. practice the assembly language programs of 8085 microprocessor using trainer kit. CO 5. acquire the basic concepts required for their higher studies.
20UPH5CC10	Electricity, Magnetism and Electromagnetism	CO 1: Acquired the knowledge of electric and magnetic fields. Apply the concepts to calculate electric fields due to various charge distributions and magnetization of a material. CO 2: Understood the theoretical concepts of various magnetic materials. CO 3: Knowledge gained in an understanding of magnetic fields and their relationship to electrical fields. CO4: Able to perform quantitative calculations involving electric and magnetic fields. CO 5: Able to demonstrate electrical equipment to measure the electrical parameters.
20UPH5CC11	Spectroscopy	CO 1. acquire the basic principle of spectroscopy CO 2. understand the concepts of Microwave, Raman and Resonance Spectroscopy. CO 3. familiarise with general terms in spectroscopy. CO 4. understand the theory and practical applications of Mossbauer Spectroscopy CO 5. learn the fundamental ideas for pursuing higher studies.
20UPH5CC12	Atomic Physics	CO 1. study about the properties of positive rays and photo electric effect and its applications.

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Course Code	Course Title	Course Learning Outcomes
		CO 2. learn the practical experiments and laboratory skills. CO 3. understand the evolution of different atomic models and their merits and limitations. CO 4. analyse the effect of applied magnetic and electric fields of atomic spectra and X-rays. CO 5. learn the fundamental ideas for pursuing higher studies.
20UPH5DE1A	Semiconductor Devices and Circuits	CO1. Learn some basic semiconductor devices, means of identifying them from their coding schemes and finding out their terminals. CO 2. Acquire a knowledge of the principles and functioning of these semiconductor devices and their individual or standalone characteristic features using mathematical and graphical analysis so that they may be helpful in predicting their behavior and functioning when incorporated in circuitry. CO 3. Learn the essential techniques of circuit design employing these devices, the analysis of the circuits so constructed and the means of evaluating their parameters and performance using mathematical and graphical tools. CO 4. Obtain a sound knowledge of the essential theoretical features and concepts such as modulation and demodulation, regulated power supplies, amplification, switching operations so that they may be useful not only for higher studies but also in providing theoretical framework for possible applications beneficial to the society. CO 5. Acquire technical skills to wire the circuits and to trouble shoot them as well as to construct of new circuits for specific tasks thereby helping them to become entrepreneurs.
20UPH5DE1B	Fundamentals of Nanoscience	CO1. Acquire knowledge about the structure and properties of nanomaterials CO 2. Develop the skills to synthesis and analyze the nanomaterials CO 3. Understand quantum and biological nanostructures CO 4. Learn the applications of nanomaterials CO5. Learn the evaluation techniques for nanomaterials by spectroscopies and microscopes
20UPH5SE2A	Scientific Programming in C	CO1: Able to install and run the c program on computer. CO2: Design, implement, test and debug programs that use different data types, such as simple variables, strings, arrays CO3: Acquire a skill to write his own program for simple problems in general Physics in particular

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO4: Got self-confidence to self-learning any other programming languages and using it to solve numerical problems CO5: Enhancing students chance in the job haunt
20UPH5SE2B	Programming in C++	CO 1: Able to get general idea about object oriented languages CO 2: Design, implement, test and debug programs that use different data types, such as simple variables, strings, arrays CO3: Acquire a skill to write his own program for simple problems CO4: Got self-confidence to self-learning any other programming languages and using it to solve umerical problems CO5: Enhancing students chance in the job haunt
20UPH5SE3A	Electrical and Electronic Instrumentation	CO 1. Identify the various parameters that are measurable in electronic instrumentation CO 2. Analyze the performance characteristics of each electronic instrument CO 3. Understand the principles of various types of transducer CO4. Apply the complete knowledge of various electronics instruments to measure the Physical quantities in the field of science and technology CO 5. Disseminate knowledge on semiconductor circuit layout design protection and their registration aspects
20UPH5S3B	Electrical and Electronic Appliances	CO 1: Identify the various parameters that are measurable in electronic instrumentation CO 2: study Signal Generators and Waveform analysis CO 3: learn the principle of transducers and their classifications CO4: Diagnose the problem of the mobile phone and understanding possible problem CO 5: Understand the network problems and SIM card problems and to learn the trouble shooting process
20UPH6CC13P1	General Physics and Scientific Programming– Practicals	CO 1. practice the determination of coefficient and measurement of physical quantities in optical, electricity and magnetic experiments. CO 2. learn the practical skills essential for experimentation. CO 3. familiarise themselves the computational experiments. CO 4. understand the theory and practical applications of numerical programming. CO5. acquire the basic concepts required for their higher studies.
20UPH6CC13P2	Digital Electronics and Microprocessor– Practicals	CO 1. develop the skills in analog experiments CO 2. learn the applications of operational amplifier. CO 3. gain a clear understanding of operations of electronic circuits.

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Course Code	Course Title	Course Learning Outcomes
		CO 4. practice the assembly language programs of 8085 microprocessor using trainer kit. CO 5. acquire the basic concepts required for their higher studies.
20UPH6CC14	Wave Mechanics	CO 1. acquire the basic principle of properties wave mechanics CO 2. learn applications of the Schrodinger equation. CO 3. practice Eigen value problems and matrix formulation. CO 4. understand the theory and practical applications and laboratory skills of wave mechanics and to solve some quantum mechanical problems. CO 5. learn the fundamental ideas for pursuing higher studies.
20UPH6CC15	Nuclear Physics	CO1: Acquire the knowledge of fundamentals of nuclear properties and apply the concepts to calculate various parameters of nucleus. CO2: Understood the theoretical concepts of various nuclear models. CO3: Analyse the working of nuclear reactors and their application *in daily life.* CO4: Able to perform quantitative calculations involving nuclear power. CO5: Able to demonstrate the effect of nuclear radiation.
20UPH6CC16	Lasers and Medical Physics	CO1: study the basic concept of Laser and pumping mechanism. CO2: learn the working principle of different types of Lasers, holography and their applications. CO3: apply the principle of Laser intended for use in surgery and treatment. CO4: acquire the awareness of radiation exposure using ionizing radiation during treatment. CO5: understand the working mechanism of advanced instrumentation to use in diagnosis.
20UPH6DE2A	Digital Electronics and Microprocessor	CO1: understand the principles and operations of analog and digital instruments CO2: understand the digital principles and its applications CO3: learn the principle of combinational and Flip-flops. CO4: study about the architecture of Intel 8085 Microprocessor CO5: study about the instructions of Intel 8085 its programming.
20UPH6DE2B	Materials Science	CO1. basic concepts of crystallography such as crystal lattices CO2. Learnstructures of crystals and their imperfection CO3. electron theory of solids ,distinction between conductors insulators and semi conductors CO4. Properties of Dielectric and Magnetic materials CO5. Mechanical behavior of materials
20UPH6DE3A	Non Conventional Energy Physics	CO 1. acquire the basic concepts of solarradiation and the principle ofsolar radiation measuring instruments.

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Course Code	Course Title	Course Learning Outcomes
		CO 2. learn the practical applications and laboratory skills. CO 3. Awareness about energy resources and technologies. CO 4. understand the theory and practical applications of various energies in day to day life. CO 5. Recognize current and possible future role of non-conventional energy resources.
20UPH6DE3B	Astrophysics	CO 1: understand the principles galaxy systems. CO 2: impart an understanding of the great number of diverse phenomena in the Universe through Physics CO 3: understand the solar system CO 4: understand the life in universe CO 5: learn the solar systems
20UPH6EC2	Physics for Competitive Examination	CO1. develop the skills and quantitative knowledge in physics concepts to face the competitive examination CO2. Understand the core concept of Physics subjects CO3. Acquired the basic concepts required for their higher studies CO4. Prepare the students to pursue research careers, careers in academics, in industries in Physical science and in allied fields. CO5. Confident to take up competitive exams and Trained to take up jobs in allied fields.
20UPH1AC1	Fundamentals of Physics	CO1. the understand the basic principles of certain physical properties of the materials around us CO2. the ability to compare different constants of different materials CO3. the ability to analyze viscosity, surface tension, diffusion, osmosis, properties of liquid CO4. learn to measure centre of gravity of objects CO5. enhance their talents to analyze the physical properties of new materials
20UPH1AC2P	Properties of Matter – Practicals	CO 1. acquire the basic principles of properties of matter and underlying the concept of Bending behaviour beams. CO 2. learn the practical skills necessary for experimentation CO 3. familiarise the concepts of heat, optics and electronics and understood the experimental skills and determination of the physical coefficients of matters CO 4. understand the theory and practical applications of properties of matter and electronics in their day to day life. CO 5. acquire the basic requirements for higher studies.
20UPH2AC3	Essentials of Physics	CO 1. the understand the basic principles and contempory concepts on various fields on physics like Atomic and Nuclear physics. CO2. develop their skills to handle the electronic components in their day to day life CO3. enhance their knowledge to handle the optical instruments.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO4. structure themselves to construct circuit using current carrying components. CO5. understand the basic requirements for their higher studies
20UPH2AC4P	Optical, Thermal and Electricity - Practicals	CO1. acquire the basic principles of properties of matter and underlying the concept of bending behaviour beams. CO2. learn the practical the experimental skills and demonstrate laboratory skills. CO3. familiarize the concept of heat, optics and electronics. Understood the characteristics of the semiconductor diodes CO4. understand the theory and practical applications of properties of matter and electronics in their day to day life and learnt the circuit construction in the electricity and electronics experiments CO5. acquire the basic concepts required for their higher studies.
20UPH3AC5	Electricity and Magnetism	CO1: Use the principle of superposition and Gauss law to calculate the electrical forces and the intensity of the electric field in various electricity problems. CO2: Understand the basics of electrical circuits, capacitors and resistors and analyze circuits using Kirchhoff 's laws. CO3: Understand the concepts of self induction and mutual induction, to solve problems using Faraday's and Lenz's laws. CO4: Apply the knowledge of Electricity and Magnetism to explain natural physical processes and related technological advances. CO5: Analyze different problems in Electromagnetism using vectors, simple differential and integral calculus, both analytically and numerically
20UPH3AC6P	Applied Physics I - Practical	CO1: Understand the basic principles of Electricity and Magnetism CO2: Acquire the experimental skills. CO3: Understand the characteristics of the semiconductor diodes and operational amplifiers. CO4: Understand the practical applications of Electricity, Magnetism and Electronics in their day to day life. CO5: Acquire the basic requirements for their higher studies.
20UPH4AC7	Electronics	CO1: Acquire the basic knowledge on semiconductor and their applications. CO2: Understand the concepts for solving real time problems related with electronic circuits. CO3: Acquire the ability to design and analyse the circuit containing diode, transistor and operational amplifiers. CO4: Learn the lasing mechanism, types and applications of laser. CO5: Imbibe the basics of diode, transistor and FET

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Course Code	Course Title	Course Learning Outcomes
		characteristics.
20UPH4AC8P	Applied Physics II - Practical	CO1: Acquire the basic principles of Electricity, Heat and Electronics. CO2: Learn the experimental skills. CO3: Understand the characteristics of the semiconductor diodes transistors and operational amplifiers. CO4: Learn the Electricity and Electronics circuit construction. CO5: Acquire the basic requirements for their higher studies.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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COURSE OUTCOMES

M.Sc. PHYSICS

Course Code	Course Title	Course Learning Outcomes
20PPH1CC1	Classical Dynamics and Relativity	CO1. relate the underlying merits and demerits in the concept of Newton, Lagrangian, Hamilton and Hamilton-Jacobi theory. CO2. understand the need for action and angle variables and the applications of canonical transformation CO3. examine the normal modes of small oscillations and the dynamics of a rigid body CO4. debate the need for special theory of relativity and the Minkowski 4D-space CO5. construct mathematical models for dynamical problems in the wide research area
20PPH1CC2	Mathematical Methods for Physicists	CO1. orthogonal curvilinear coordinates, gradient, divergence, curl and Laplacian operators in these and their applications. CO2. basic concepts of linear vector spaces, orthogonalization process, matrices and matrix manipulations. CO3. tensors and their applications in the study of physical phenomena. CO4. concepts of complex analysis, Cauchy-Riemann condition, calculus of residues and evaluation of definite integrals. CO5. Statistical tools and statistical distributions.
20PPH1CC3	Electronic Devices and Circuits	CO1. Acquire the basic principle and underlying concepts of electronic devices. CO2. gain a clear understanding of operations of electronic circuits. CO3. the ability to design and analyze electronic circuits. CO4. learn the applications of operational amplifier and IC 555and can demonstrate them timer. CO5. motivate towards research in this field towards the applications according to the social needs.
20PPH1CC4P1	Advanced General Physics - I : Practicals	CO1: the principles of elasticity and magnetism. CO2: the concepts of Fourier Transforms and Fourier Decomposition of waves. CO3: handling of equipments finding their accuracy and precision. CO4: construction of circuits to perform as desired. CO5: observational skills and analysis using them.
20PPH1CC4P2	Advanced General Physics - II : Practicals	CO1: the principles of Optics, Thermal Physics, Polarization and spectrometry. CO2: in handling of equipments finding their accuracy and precision. CO3: initial adjustments of the equipments. CO4: observational skills and analysis. CO5: the application of the experimental skills developed to solve newer problems.

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Course Code	Course Title	Course Learning Outcomes
20PPH1DE1A	Medical Physics and Ultrasonics	CO1. learn to measure the electrical signals from human body and analyze the recorded bio-Potential signals. CO2. the ability to develop a physiological assist device for monitoring and treatment proposes for society. CO3. The ability to design and demonstrate a newer technology for laser based diagnostic methods and treatment. CO4. understand the concepts of ultrasonic interferometery and to measure the acoustical parameters of liquids. CO5. learn the applications of the ultrasonic instruments in industry.
20PPH1DE1B	Advanced Topics in Physics	CO 1: Explain the basic principles of Kerr and non- Kerr media and their underlying rules in recent research. CO 2: Compare the telescopes used in the astronomy. CO 3: Know the ideas needed to produce nonlinear waves like soliton. CO 4: Learn quantum theory for scattering. CO 5: Operate the astronomical instruments in our lab.
20PPH2CC5	Advanced Mathematical Physics	CO1: acquire knowledge of methods for solving partial differential equations and familiarized themselves with separation of variables method. CO2: learn the special functions like the Hermite polynomials, the Legendre polynomials, Bessel differential equations and their applications in various physical problems. CO3: learn the Dirac delta function and its properties, which have applications in various branches of Physics CO4: understand the Fourier analysis of periodic functions and their applications in physical problems such as vibrating strings. CO5: gain the ability to apply group theory to Physics problems, which is a prerequisite For a deeper understanding of crystallography, Particle Physics, Quantum mechanics and Energy bands in solids.
20PPH2CC6	Atomic and Molecular Spectroscopy	CO1. acquire the basic, principle and underlying quantum concepts of spectroscopy. CO2. familiarize to differentiate various types of spectra. CO3. learn the spectroscopic instrumentation CO4. understand the spectroscopic applications in allied fields. CO5. motivate towards research in spectroscopy
20PPH2CC7	Electromagnetic Theory	CO1: acquire the basics, principles of static electricity, magnetostatics and field theory. CO2: learn the skills of problem solving in areas of electrostatics, magnetostatics and electromagnetism. CO3: understand the interactions of EM waves with different medium and acquired the knowledge of various modes of propagation of EM waves in wave guides using Maxwell's equations.

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Course Code	Course Title	Course Learning Outcomes
		CO4: analyze the basic laws of reflection and refraction and understand the kinematic and dynamic properties. Understood the generations and radiations of EM waves and their applications. CO5: learn the principles and applications of relativistic electrodynamics.
20PPH2CC8P1	Solid State Physics Practicals	CO1: the principles of Solid State Physics. CO2: initial adjustments of CRO, sensitive balance etc. CO3: experimental skills. CO4: methods of analysis. CO5: apply the skills developed to future problems.
20PPH2CC8P2	Analog Electronics Practicals	CO1: the principles of Analog Electronics. CO2: identification of components and their tolerances. CO3: principles of design and construction of electronic circuits. CO4: measuring output using CRO, ammeters, voltmeters etc. CO5: troubleshoot deficiencies and rectify problems that may occur.
20PPH2DE2A	Computational Physics	CO1. acquire the basic knowledge and familiarise computational methods of physics problem solving techniques CO2. the capacity of solving problems of type polynomial, simultaneous, linear one dimensional equations and numerical Integration CO3. the ability to construct the mathematical models of the physical problems CO4. learn to numerically simulate problems in physics using the mathematical models so constructed CO5. be motivated towards research by the understanding gained by mathematical modelling and numerical simulations
20PPH2DE2B	Nanoscience and Technology	CO1: Acquired the basic principles and fundamental concepts of nanotechnology CO2: The ability to evaluate nanostructures in quantum mechanical approaches CO3: Learnt the importance of nanotechnology in various fields CO4: The capacity to convey their views on the implication of nano sciences for the society CO5: Been motivated towards research in Nanotechnology
20PPH3CC9	Nuclear and Particle Physics	CO1: Acquire essential knowledge on nuclear models and related theories. CO2: Can understand the conservation laws for any nuclear reaction CO3: Apply the nuclear theory to explain the radioactive decays. CO4: Learn the nuclear fission and fusion along with the related theories. CO5: Analyze the classification and the details of elementary particles .

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Course Code	Course Title	Course Learning Outcomes
20PPH3CC10	Quantum Mechanics	CO1: Conceptualize the abstract nature of the wave function and its interpretation in a statistical sense, the admissibility conditions that the wave function should obey and realize the importance of conservation laws and equation of continuity in quantum dynamics CO2: Reason out the equivalence between the classical concepts and quantum ideas under suitable restraining conditions CO3: Apply the theory of Wave Mechanics to understand simple exactly solvable problems like Linear Harmonic Oscillator, Hydrogen Atom etc., and find how the Matrix Mechanics developed by Heisenberg complements the Wave Mechanics theory developed by Schroedinger CO4: Introduce the various approximation methods developed to study higher order systems, interactions of matter with waves and radiations, as well as to understand the concepts of angular momenta and spin and how these lead to the concept of Pauli's exclusion principle CO5: Understand the behaviour of physical systems in the relativistic limits using the methods developed by Klein-Gordan and Dirac which lead to the concept of negative energy states.
20PPH3CC11	Statistical Mechanics	CO1. Acquire the Basic Principles of Statistical Mechanics In Physics CO2. Ability to understand the fifth state of matter under condensation. CO3. Capacity to Visualize the behavior pattern of identical groups. CO4. Explore new avenues in phase transition. CO5. Get motivated to carryout research in frontier areas Astrophysics, condensed matter physics.
20PPH3DE3A	Microprocessor and Microcontroller	CO1: Learn the hardware and software functions of Intel 8085 microprocessor and 8051 microcontroller. CO2: Develop the assembly language programming skills. CO3: Learn the functions of memory and I/O peripherals for interfacing of Intel 8085 Microprocessor and Intel 8051 microcontroller. CO4: Understand the microprocessor/microcontroller architectures and programming concepts. CO5: Acquire the talent to implement the applications of microprocessor/microcontroller for data processing, electronic instrumentation and control systems according to the social needs.
20PPH3DE3B	Physics of Liquid Crystals	CO1. understand the basic principles of crystal structure and their underlying rules in recent research. CO2. compare the telescopes used in the know the advanced concepts in liquid crystals. CO3. learn the classifications, theories and optical properties of Liquid Crystals.

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Course Code	Course Title	Course Learning Outcomes
		CO4. learn quantum theory for crystal structure. CO5. understand and operate the instruments used for structural studies.
20PPH3CC12P1	Digital Electronics–Practical	CO1: Logic gates, their construction and their truth tables CO2: De Morgan's Theorems, their verification and simplification of Boolean expressions CO3: Construction of digital circuits, flip-flops, registors and counters CO4: Construction of adders, subtractors, comparators, multiplexers and demultiplexers and IC Regulated Power Supplies required for these CO5: Digital principles to apply them to newer problems that they may encounter in future
20PPH3CC12P2	Numerical Programming in Physics – Practical	CO 1: Some basic numerical methods for solving quadratic and polynomial equations CO2: The solution of matrices and regression analysis using least square fitting CO3: The evaluation of statisitcal parameters and random number generation CO4: The implementation of these methods using C language CO5: Application these techniques and programming knowledge to solve certain problems in Physics
20PPH4CC13	Solid state Physics	CO1: Acquire a knowledge of various crystal systems, Reciprocal lattice, and crystal effects. CO2: Learn the principle of semiconductors, lattice vibrations and demonstrate the theories of lattice specific heats. CO3: Understand the thermal and electrical conductivity as Well learnt Free Electron theory and Bandtheory of solids. CO4: Understand the concept of Dielectrics and Magnetism in solids. CO5: Acquire the knowledge of superconductivity and their applications
20PPH4CC14	Electronic Communication	CO1: Understand the fundamental concepts of digital modulation and transmission. CO2: Identify the configuration of optical fiber cable and its uses in digital communication system. CO3: Understand the basic principle of antenna and its use according to its radiation pattern. CO4: Explain the satellite orbital pattern, satellite positions and possibility of line sight for communication between earth station and satellite. CO5: Improve social communication in remote areas and Research activities such as space science, remote sensing and weather prediction.
20PPH4DE4A	Crystal Growth and Thin Films	CO1: Understand various nucleation theories in crystal growth.

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Course Code	Course Title	Course Learning Outcomes
		CO2: Apply the knowledge of solution growth and experiment methods to grow crystals. CO3: Conceptualize the methods of crystal growth from melt and vapour. CO4: Understand various thin film techniques and apply to various fields. CO5: Be capable analyzing the thin films by microscopic and spectroscopic methods.
20PPH4DE4B	Fibre optics and its Applications	CO1. understand the basic principles of fibre optics and their underlying rules in recent research. CO2. learn the various optical fibre modes and configurations. CO3.To study the various opticalfibre sources and their us ein the optical communication system. CO4. understand the working of a modern optical fibre communication system. CO5. understand and operate the instruments used for optical systems.
20PPH4EC2	Physics for Career Examinations	CO1: Solve MCQ types of questions related to CSIR syllabus CO2: Motivate to think the need of problem solving skills in Physics concepts CO3: Learn, prepare for JRF examinations CO4: Enhance the knowledge in Physics CO5: Gather materials for competitive examinations and excel in them.
20PPH4CC15P1	Microprocessor and Microcontroller - practical	CO1: Number systems and conversion from one system to another CO2: Interfacing principles and wave form generation CO3: Basic arithmetic operations and explore possible applications beneficial to the society CO4: Stepper motor control and traffic light control and Other some similar projects CO5: To carry out simple electronic, microprocessor and Micro controller projects not only as a hobby. But also to help the society with their applications
20PPH4CC15P2	Numerical Simulations in Physics – Practical	CO1: For the evaluation of the Special Functions like Hermite Polynomials to simulate the behaviour of LHO CO2: Of Random Number Generation to simulate Brownian Motion, Radioactivity Decay and Integration using Lagrange's Method to simulate nuclear scattering, and finding out the nuclear cross-section CO3: Of Euler Method and RK4 Method to solve differential equations to stimulate projectile motion, and oscillations of a LCR circuit CO4: Numerical integration using Simpson's 1/3 Rule to study the motion of a particle in a central field potential CO5: To simulate more such problems so as to improve the understanding of concepts and applications of Physics

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PROGRAMME SPECIFIC OUTCOMES

DEPARTMENT OF VISUAL COMMUNICATION

B.Sc. Visual Communication

Students will be able to

PSO1. Explain the scope of visual communication, its meaning, significance, basics of advertising, graphic design and communication theories with the sense of aesthetics.

PSO2. Create various art forms and develop as interactive designers, website developers, motion graphics designers and mobile app designers by way of effective transference of ideas.

PSO3. Discover and analyze visual persuasion, photography, graphic design, cultural and ethical issues, visualization of ideas within a specific historical, cultural, and commercial context.

PSO4. Utilize professional equipment and techniques to capture images and video adhering to industry standards, analysis of visuals, adding visual effects, production of audios and videos abiding to the media laws and ethics.

PSO5. Devise employment projection as media personnel, photographer, advertising agencies and any other position relevant to the field and/or pursue higher education.

COURSE OUTCOMES

B.Sc. VISUAL COMMUNICATION

Course Code	Course Title	Course Learning Outcomes
20UVC1CC1	Introduction of visual communication	CO 1: Need of communication and stages CO 2: Identify the model of communication CO 3: Remember the visual process CO 4: Apply the principal of design and elements CO 5: Analysis the visual image and graphics
20UVC1CC2	Advertising Basics	CO 1: Acquire knowledge in basics of advertising CO 2: Create the layout design CO 3:Interpert the media relations CO 4: Plan the budget and investment CO 5: Evaluate the various media advertising
20UVC1AC1P	Drawing	CO 1 :Sketching the visual elements CO2: Visualize the design for advertising CO3: Illustrate the human anatomy CO4: Create the story board for the concept CO5: Summaries the still life outcomes
		CO 1: Sketching the line, shape and form CO2: Organizing space for design

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
20UVC1AC2P	Graphic Design	CO3: Interpreting the typograph for text CO4: Design awareness material CO5: Create advertising design
20UVC2CC3	Media, Culture and Society	CO1: Acquire the knowledge of Media Culture and Society. CO2: Construct the various forms of Media. CO3: Practice the rules of Media Culture. CO4: Categorize the Media in Society. CO5: Interpret the meanings of development and representation of media in society.
20UVC2CC4	New Media	CO1: Summarize the life and history of New media CO2: Discuss the importance of socialization in Digital age. CO3: Interpret the Characteristic of social Networking - positive and negative factors of social networking. CO4: Scope and characteristic of new media five C's. CO5: Review the Publishing, mobile communication in new media
20UVC2AC3P	Painting Practical	CO1: Apply the rules of Acquire the colour mixing skill. CO2: Demonstrate the Rules of creative. CO3: Practice the rules of colors. CO4: Interpret the meanings of history and real of art. CO5: Illustrate the meanings of Painting skill.
20UVC2AC4P	Digital Art Practical	CO1: Acquire the skills of Digital industry. CO2: Discuss the importance of using the right tool for Graphic Design. CO3: Identify the Oraganize the pages for a web. CO4: Practice the rules of colors and theories CO5: Evaluate advertising and digital design.
20UVC3CC5	Communication Theories	CO1: Know the theories of communication CO2: List the theories of media CO3: Explain the Sociological theories of mass communication CO4: Interpret the Normative theories CO5: Evaluate the Media audience
20UVC3CC6P	2D Animation Practical	CO1: Know the tools for creating 2D images CO2: Illustrate the characters for the story CO3: Manage the background and concept art CO4: Apply the principles of animation CO5: Create and animate the images using open source software
20UVC3AC5	Photography Practical	CO1: Describe the fundamentals for photography. CO2: Identifies the basic composition rules of sample photographs. CO3: Development of Skill and Technique in photography. CO4: Identifies cameras according to formats CO5: Describes the qualities of light in terms of photography.
20UVC3AC6	Basic Media Psychology	CO1: Classify the school of Psychology CO2: Explain the approaches to media

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Course Code	Course Title	Course Learning Outcomes
		CO3: Simplify the Psychology in advertising CO4: Comment on impact of media and adolescents CO5: Illustrate the social psychology of media
20UVC3GE1P	Pencil Sketching	CO1: Handling pencil for drawing CO2: Illustrate the visual elements CO3: Know the colour theory CO4: Draw the images using light and shade CO5: Write letters using typography
20UVC4CC7	Media Production	CO 1: Understanding the project work of media CO 2: Learning the stages of Production CO 3: Know the color temperature and color balance CO 4: Know the basics of Media production CO 5: Apply the knowledge in Post production work
20UVC4CC8	Media Research Orientation	CO 1: Know the fundamentals in research CO 2: List the types of research design CO 3: Classify data collection method CO 4: Explain the sampling CO 5: Write the research report
20UVC4AC7P	Radio Production Practical	CO 1 : Conducting interview for Radio CO 2 : Handling the recording equipment CO 3: Recording the talk and documentary CO 4: Creating Jingles and PSA CO 5: Writing audio content for the visual radio
20UVC4AC8P	Writing for Mass Media Practical	CO 1: Writing script for aural media CO 2: Outline the script for documentary CO 3: Differentiate the PSA and Advertisement CO 4: Simplify the script writing for digital media CO 5: Develop the Script using the digital platform.
20UVC4GE2P	Generic Elective-II: Art from Anything	CO 1: Creating useful things from waste materials CO 2: Making shapes using paper craft CO 3: Designing toys for science concepts CO 4: Sculpting shapes using eco-friendly materials CO 5: Mixed media to create collage
20UVC5CC9	Media Law and ethics	CO 1: Knowing the fundamental rights and freedom of speech CO 2: Recall the press law and representation women in media CO 3: Ethics of media CO 4: Ethics of Broadcasting
20UVC5CC10	Film Studies	CO 1: Know the film as the medium CO 2: List the genres of film CO 3: Importance of cinema CO 4: Impact the audiences CO 5: Movie making
20UVC5CC11P	3D animation	CO1: Create basic forms CO2: Texturing object CO3: Lighting the object CO4: Animate the object for the concept CO5: Create the titles and animation
	Domain study	CO 1: Select and area of interest work CO2: Methods of media production

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
20UVC5CC12P2		CO3: Compose and new ideas CO4: Explore the wave of story telling CO5: Create a experimental output
20UVC6CC13T	Communication for Development	CO1: Know the theories of communication CO2: List the theories of media CO3: Explain the Sociological theories of mass communication CO4: Interpret the Normative theories CO5: Evaluate the Media audience
20UVC6CC13P	Communication for Development	CO1: Know the tools for creating 2D images CO2: Illustrate the characters for the story CO3: Manage the background and concept art CO4: Apply the principles of animation CO5: Create and animate the images using open source software
20UVC6CC14	Visual Analysis	CO1: Describe the fundamentals for photography. CO2: Identifies the basic composition rules on sample photographs. CO3: Development of Skill and Technique in photography. CO4: Identifies cameras according to formats CO5: Describes the qualities of light in terms of photography.
20UVC6CC15P	Visual Effects	CO 1. Modelling the objects using forms CO 2. Use textures for the objects CO 3. Lighting the objects CO 4. Modify the objects using rot scoping CO 5. Apply the Visual effects using green matte
20UVC6CC16P	Visual Storytelling Practical	CO1: Differentiate the story and screenplay CO2: Know the basics of visual story telling CO3: Write a story CO4: Write a screenplay CO5: Apply the visual story telling ideas

PROGRAMME SPECIFIC OUTCOMES

PG & RESEARCH DEPARTMENT OF ZOOLOGY

B.Sc. Zoology

Students will be able to

PSO1. Describe the basic concepts of animal science, biology of invertebrates and chordates, cell biology, molecular biology, and physiological features of animals.

PSO2. Correlate the complex interactions among the organisms in the environment, the microbes, animals and plants, explicates their relationship with the environment and enhance their employability by entrepreneurial skills and competitive exams.

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PSO3. Perform laboratory experiments using observational and computational techniques appropriately for the specialized area in biology, safely and ethically.

PSO4. Apply the ideas and concepts of Zoology in various fields such as agriculture, medicine, apiculture, aquaculture for balancing ecosystems and sustainability of the environment.

PSO5. Integrate information on various sources, formulate arguments, claims the results scientifically and communicate the scientific information as research reports.

M.Sc. Zoology

Students will be able to

PSO1. Explain recent advances in developmental Biology, genetics, cell and molecular biology, microbiology and applied entomology.

PSO2. Adopt eco-friendly techniques to address biodiversity and conservation of the environment thereby solving real time problems with ethical consideration.

PSO3. Apply the theories and interdisciplinary approaches to access literature on the identified problem, formulate hypothesis and employ statistical techniques and present the results as scientific description in oral and written form.

PSO4. Examine the use of fundamental zoological sciences in other related disciplines such as Biophysics, Nanotechnology, Bioinstrumentation, Bioinformatics and Farm management to structure growing, population, pollution and other environmental issues.

PSO5. Develop scientific personality, a pursuit for continuous learning and capture employability as independent worker or as enriched researchers and teachers.

M.Phil Zoology

Scholars will be able to

PSO1. Express the advances in Biological research, latest equipments, technical tools used in zoological experiments and handling of animals as model organisms.

PSO2. Identify, analyze and propose newer solutions to problems in the biological systems based on the legislation of animal research and ethics.

PSO3. Adopt teaching and learning skills in the classroom for efficient teaching and in their own life for professional development and to excel in academics.

PSO4. Extend the knowledge of zoological sciences for career advancement on

entrepreneurship, scientific undertaking or qualify competitive exams.

PSO5. Transcribe the scientific information, execute the findings orally in professional settings and grow as socially responsible citizens.

COURSE OUTCOMES

B.Sc. ZOOLOGY

Course Code	Course Title	Course Learning Outcomes
20UZOICC1	Biology of Invertebrates	CO1: Acquire knowledge on animal taxonomy and biology of Protozoans. Ability to classify Protozoans. CO2: Classify Porifera and Coelenterata and acquire knowledge on Poriferans and Coelenterates. CO3: Describe taxonomy of Platyhelminthes and Aschelminthes and acquire knowledge on the biology of Platyhelminthes and Aschelminthes. CO4: Classify Annelida and Arthropoda and acquire knowledge on the biology of Annelids and Arthropods. CO5: Report the classifying features of Mollusca and Echinodermata and acquire knowledge on the biology of Molluscs and Echinoderms
20UZO1CC2P	Practical-I: Biology of Invertebrates	CO1: Understand the different functional systems of Cockroach, Silk moth through dissection CO2: Identify and prepare slides of various Invertebrate species to study their structures CO3: Classify providing apt features for the taxonomy, draw labelled sketches along with their biological significance CO4: Relate the structure and functions of selected Invertebrate organelles' CO5: Culture a few live feed organisms: make a thorough study on given ecosystem
20UZO2CC3	Biology of Chordates	CO1: Understand the general and specific characteristics of different classes and organization of Chordates CO2: Describe the general characters of Amphibians and relate them to their lifestyle. CO3: Understand the taxonomy and morphology of Reptiles with reference to snakes in South India. CO4: Classify Aves and acquire knowledge on the biology and adaptations of Birds. CO5: Discuss the Mammalian features with systems and significant adaptations
20UZO2CC4P	Practical-II: Biology of Chordates	CO1: Understand the different functional systems of Frog through virtual laboratory techniques CO2: Evaluate the patterns of Contents of scales in different fishes: and describe the types of Feathers in birds CO3: Classify and provide reasons for taxonomy. Sketch and label parts together with their biological significance CO4: Relate the structure and function of fishes, birds and mammals CO5: Observe and report the ecosystem

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
20ZO3CC5	Cell & Molecular Biology	CO1: Understand the basic Structural organization of Prokaryotic, Eukaryotic cells, Plasma membrane and cytoplasm. CO2: Apply the knowledge, skill, and awareness to topics like Ultra Structure of cell components. CO3: Integrate the knowledge of Nucleus and chromosomes and cell cycle. CO4: Analyse the most important of DNA and RNA structure, replication of DNA and interpret the RNA protein synthesis. CO5: Understand the Cancer cell and analyse the important of oncogenes and knowledge about tumor suppressor gene.
20UZO3CC6P	Practical-III: Cell & Molecular Biology	CO1: Acquire skill on Microscopy and Micrometry CO2: Enhance knowledge and skill on experimenting Mitotic and Meiotic division. CO3: Isolate and identify the different cells and tissue types CO4: Generate knowledge on RNA and DNA extraction CO5: Standardize and design the Mounting of muscle fibers
20UZO3GE1	Human Health and Hygiene	CO1: Understand the dimensions of Health education, importance of Balanced diet and Food hygiene. CO2: Demonstrate the relationship between Environment and Health and control measures of Life style diseases. CO3: Summarize the common infectious disease & control and preventive measures. CO4: List the basic principles of medical microbiology, it covers mechanisms of disease transmission, diagnosis and control. CO5: Acquire knowledge on Human Mental Health and able to apply these principles to understanding and provide First Aid.
20UZO4CC7	Animal Physiology	CO1: Record the significance of nutrition and balanced diet: report the physiology of digestion, absorption and assimilation. CO2: Appraise the components of the respiratory and circulatory systems and their role. CO3: Summarize the excretory products: demonstrate the structure and functions of kidney and homeostatic mechanisms. CO4: Interpret the muscle types, mechanisms in neurotransmission and muscle coordination. CO5: Distinguish the types and functions of endocrine glands and justify hormonal role in reproductive physiology.
20UZO4CC8P	Practical-IV: Animal Physiology	CO1: Analyze the physiological processes that regulates body functions. CO2: Understand and evaluate the physiology of circulation, respiration and excretion.

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Course Code	Course Title	Course Learning Outcomes
		CO3: Analyse the adaptations, mechanism of homeostasis in invertebrates and vertebrates. CO4: Estimate the quantum of different nutrients and the determine nitrogenous waste products. CO5: Analyse sugar, albumen and urea: Calculate TC and DC: BMI
20UZO4GE2	Vermiculture Technology and Organic Farming	CO1: Acquire the ability to classify earthworm: define and describe the biology, collection and diversity of earthworms. CO2: Describe Vermiculture technology in detail: relate the role of earthworms to soil fertility. CO3: Determine the role of earthworms in waste management: interpret earthworms as farmer's friend in organic farming: review the economic importance of earthworms. CO4: Indicate the significance of microorganism in earthworms (for decomposition). CO5: Apply and analysis the effects of vermicompost in soil, plant growth etc…
20UZO5CC9	Biostatistics, Bioinformatics & Computer Application in Biology	CO1: Explain descriptive statistics CO2: Describe and discuss inferential statistics in biology CO3: Acquire and analyze the different biological databases and their applications CO4: Evaluate and apply the tools of bioinformatics and their methods of application in molecular Biology CO5: Illustrate computers and their applications in biology
20UZO5CC10	Genetics	CO1: Describe the basic principles of Mendelian inheritance CO2: Explain the cell division & chromosome segregation and sex determination. CO3: Understand and debate the various concepts in genetics, Chromosome structure. CO4: Analyze the microbial genetics with special reference to bacteriophages. CO5: Investigate the different kinds of disease affecting genes in Man and his welfare.
20UZO5CC11	Microbiology	CO1: Describe the history, scope and applications of Microbiology. CO2: Comment on the basic structure and salient features of microbe and Staining techniques. CO3: Discuss the theoretical skill in culture media, sterilization and Bacterial Culture. CO4: Transform the knowledge on Industrial, Agricultural and Food Microbiology CO5: Asses the basic principles of medical microbiology and infectious diseases
20UZO5CC12	Developmental Biology	CO1: Describe the sequential changes from cellular organization to organ level CO2: Explore the various events taking place during fertilization. CO3: Apply the Organizer concepts and Induction process

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Course Code	Course Title	Course Learning Outcomes
		CO4: Investigate the development of body organs in animals C05: Understand infertility and highlight the relevance and uses of modern fertility techniques
20UZO5DE1A P	Practical – V : Biostatistics & Bioinformatics & Computer application in Biology, Genetics, Microbiology and Developmental Biology	CO1: Acquire knowledge about softwares of statistics, bioinformatics and CO2: Explore the Biological applications of computers CO3: Understand the Human genetics and culture methods of Drosophila. CO4: Learn the Microbial Culture Staining methods CO5: Explore developmental stages of frog and chick
20UZO5DE1B	Bio Instrumentation	CO1: Acquire knowledge on basic instruments and apparatus used in Laboratories CO2: Explore the different kinds of microscope used in biological research labs CO3: Apply the techniques involved in microtome sectioning and radiation counters CO4: Analyze the principles and working of PCR and blotting techniques CO5: Comprehend and apply the principle and uses of medical equipment
20UZO5SE2 A	Applied Zoology	CO1: Understand the classification of earthworm, vermicomposting and biowaste management CO2: Describe the basics of Lac culture, Apiculture and their uses CO3: Apply the knowledge on Sericulture and reap its benefits CO4: Develop an Aquaculture unit CO5: Manage a Dairy farm.
20UZO5SE2 B	Water Pollution Management	CO1: Describe the ill effects of water pollution threatening the existence of men, animals and plants CO2: Comprehend the nature of heavy metals and their existence in water and their ill effects CO3: Estimate the various water quality parameters and their significance CO4: Apply the methods of developing water resources and water shed management CO5: Recommend pollution abatement legislations and enactments
20UZO5SE3 A	Poultry Science	CO1: Acquire Knowledge on Poultry industry and the general principles involved CO Describe the Rearing of Fowl and the techniques in Chick & Duck Culture CO3Apply Poultry nutrition, the types of feeds and feeding methods CO4: Comprehend Poultry diseases and curative measures CO5:Develop Entrepreneurial skills and become fit to earn livelihood
20UZO5SE3 B	Pisciculture	CO1: Define the scope and significance of aquaculture

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Course Code	Course Title	Course Learning Outcomes
		CO2: Estimate and assess water quality: evaluate nutrition in aqua farming CO3: Explain the breeding habits of fishes and prawn CO4: Discuss the methods of rearing and disease management CO5:Design aquarium and apply the use of aquarium accessories
20UZO6CC13	Biochemistry and Biophysics	CO1: Define and explain the scope and principles of Biochemistry CO2: Relate and differentiate biochemical molecules and vitamins CO3: Comprehend the various enzymes and their activities CO4: Describe the principles and properties of light and instrumentation CO5: Estimate and evaluate the working procedure and uses of bioinstrumentation
20UZO6CC14	Immunology	CO1: Define the cells and organs of the Immune system CO2: Comment on the structure and properties of Antigens and Antibodies CO3: Discuss the concepts of humoral and cell mediated immune response CO4: Explore the significance of the Immune system upon health CO5:Familiarize and apply the basic Immunological techniques
20UZO6CC15	Economic Entomology	CO1: Identify and classify the insects and their preservation CO2: Explain and interpret the beneficial and harmful insect CO3: Report the various pests of agricultural crops CO4: Understand and manage the pests of medical importance CO5: Recommend the suitable method of pest management
20UZO6CC16	Environmental Biology and Evolution	CO1: Analyze and relate the significance of abiotic factors and their ecological effects CO2: Discuss the biotic community and ecosystem dynamics CO3: Investigate the different Natural Resources, Biodiversity & Conservation CO4: Understand and Explain the Concept and Theories of Evolution CO5:Appraise the Evolutionary Time Scale and Evolution of Man
20UZO6DE2AP	Practical – VI: Biochemisty and Biophysics, Immunology, Economic Entomology and Environmental Biology and Evolution	CO1: Acquire knowledge on the basic procedures in biochemical estimation CO2: Describe the procedure and working principles in Biophysics CO3: Demonstrate the immunological techniques CO4: Categorize the different types of pests and the significance of beneficial insects

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Course Code	Course Title	Course Learning Outcomes
		CO5:Estimate water quality parameters and examine Intertidal fauna
20UZO6DE2B	Wildlife Biology	CO1: Understand the importance of Wildlife resources CO2: Acquire knowledge on wildlife habitats for better conservation CO3: Describe the various breeding techniques CO4: Evaluate the density of wildlife population CO5 Apprise and assess the wildlife laws and amendments
20UZO6DE3A	Biotechnology	CO1: Describe the scope and importance of Biotechnology CO2: Apply the concepts of Recombinant DNA technology and Cloning techniques CO3: Illustrate the molecular techniques involved in Biotechnology CO4: Evaluate and apply the techniques of Industrial Biotechnology CO5:Analyse and appraise the mechanism of Enzymes action, immobilization and applications
20UZO6DE3B	Recombinant DNA Technology	CO1: Acquire knowledge on Recombinant DNA technology CO2: Apply the concepts of enzymes involved in Recombinant DNA technology CO3: Examine the cloning vectors used in Biotechnology CO4: Evaluate and apply the knowledge on gene transfer methods in different organisms CO5:Justify and value Genetic selection and the Screening methods
20UZO6EC2	Zoology for competitive examinations	CO1: Understand the basic Structural organization of Prokaryotic, Eukaryotic cells, Plasma membrane and cytoplasm. CO2: Apply the knowledge, skill, and awareness to topics like Ultra Structure of cell components. CO3: Integrate the knowledge of Biomolecules and statistical knowledge. CO4: Analyze the importance Human Physiology and Immune system. CO5:Understand the development of gametes to entire animals
20UZO3AC5	General Principles in Zoology	CO1: Understand the emergence and diversity of Invertebrate fauna and to realize the structural features and physiological processes in Invertebrates. CO2: Practice classification and taxonomy among chordates and to study the structure and function of chordate systems. CO3: Understand the physiological processes in human beings and role of organ systems. CO4: Explain the integrated functions of endocrine glands in reproduction. CO5: Discuss the biological processes involved in development and describe the fundamental complex processes leading to evolutionary changes.

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Course Code	Course Title	Course Learning Outcomes
20UZO3AC6P	General Principles in Zoology – Practical	CO1: Dissect and observe the anatomy and physiology of selected animal systems. CO2: Acquire skill in blood grouping and the components of blood and nitrogenous wastes testing. CO3: Classify chordates and determine the characteristics of chordates. CO4: Discuss the biological processes involved in embryo development and describe the fundamental processes leading to evolutionary changes. CO5: Evaluate the integrated functions of endocrine glands.
20UZO4AC7	Commercial Zoology	CO1: Understand the concepts of poultry farming and vermiculture. CO2: Learn the benefits and economic value of animal products from apiculture and sericulture. CO3: Record the significance of Aquaculture and fish farming. CO4: Classify insects vectors and pests: create awareness of spread of diseases and control methods. CO5:Apply entrepreneurial skill and illustrate pest management types.
20UZO4AC8P	Commercial Zoology - Practical	COI: Understand the different functional systems of earthworm and honey bee through dissection. CO2: Identify and prepare slides of fish scales and compare the appendages of prawn. CO3: Classify giving reasons, draw labelled sketch and bring out their biological significance. CO4: Relate the nature of damage and the life cycle of pests. CO5:Report the economic importance of animal products and their significance

COURSE OUTCOMES

M.Sc. ZOOLOGY

Course Code	Course Title	Course Learning Outcomes
20PZO1CC1	Biology of Invertebrates & Chordates	CO1: Describe animal organization, locomotion and the process of nutrition in Invertebrates. CO2: Acquire Knowledge and compare respiration, excretion and reproductive ability in Invertebrates. CO3: Analyzethe larval life of Invertebrates and biology of organisms of minor phyla. CO4: Differentiate and relate the integumentary system, digestive systems and circulatory systems among Vertebrates. CO5: Appreciate the organization of respiratory systems, excretory systems, reproductive systems and structure of appendicular skeleton in Vertebrates
20PZO1CC2	Developmental Biology	CO1: Understand the key concepts, including mechanisms by which differential gene activity controls development,

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Course Code	Course Title	Course Learning Outcomes
		mechanisms that determine cell fate, and mechanisms that ensure consistency and reliability of development CO2: Summarize the basic concepts of development and the role of genes in sex determination CO3: Analyse and apply the concept of organizer and induction in the development of limb and metamorphosis CO4: Relate and apply the concept of differentiation in gene knock out and abnormal differentiation CO5: Apply the knowledge of understanding of basic concepts in Stem Cells and Assisted Reproductive Technologies (ART)
20PZO1CC3	Environmental Biology, Evolution and Palaeontology	CO1: Understand the diversity of animals in various ecosystems and demographic analysis in their habitats CO2: Analyse the characteristics of different kinds of resources and anthropogenic activities responsible for degradation of natural resources CO3: Adopt measures to protect environment and maintain sustainability of natural resources CO4: Acquire knowledge on modern theories and principles related to evolution of animal populations CO5: Discuss Geological time scale of animal evolution and relate the major events leading to fossilization
20PZO1CC4P	Biology of Invertebrates and Chordates, Developmental Biology, Environmental Biology, Evolution and Palaeontology-Practical-I.	CO1: Recognize Invertebrate species based on their general characters. CO2: Practice and acquire knowledge on mounting and dissection of Invertebrates. CO3: Describe estrous cycle and analyse bull sperm smear preparation: Investigate Induced ovulation in Fishes. CO4: Appraise the concept of water quality analysis and plankton studies. CO5: Justify the evidences supporting evolution.
20PZO1DE1 A	Biophysics, Radiation Biology and Nanotechnology	CO1: Understand and apply Thermodynamic principles in biology: Acquire knowledge on the Principles and applications of microscopy CO2: Apply the uses of various biological instruments by understanding their Biophysical principles C03: Understand and evaluate the impact of Natural Radiations C04: Apply Radio isotopes in Energy Production and Industry CO5: Analyze the significance of nano-materials in biomedical science
20PZO1DE1 B	Occupational Health and Safety	CO1: Understand the basic knowledge about occupational health and safety. CO2: Analyse and apply the safety measures. CO3: Understand the definition of hazards and risks, evolution of methodical analysis CO4: Analyse good practices in industries. CO5: Apply fire safety measures.
20PZO2CC5	Genetics	CO1: Acquire knowledge on chromosome structure, chromatin organization and variation

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO2: Understand Mendelian inheritance and Gene regulation factors CO3: Discuss the concepts of Gene and gene interactions, DNA transcription and translation process CO4: Explore various kinds of mutations and genetic transfers in man CO5: Explain and diagnose the diseases & disorders related to Genes and Metabolism: apply the uses of Genetics in human welfare
20PZO2CC6	Cell and Molecular Biology	CO1: Understand the basic Structural organization of Prokaryotic, Eukaryotic and Intracellular organelles CO2: Analyse the methods of Cell communication and signaling CO3: Apply and acquire knowledge on DNA replication, damage, mutation and repair mechanisms CO4: Describe transcription in Prokaryotes & Eukaryotes: Regulation of Protein Synthesis and RNA processing CO5: Explain Cell cycle: acquire knowledge on oncogenes and cancer cells
20PZO2CC7	Animal Physiology	CO1: Record the importance of nutrients and digestion in animal wellbeing CO2: Understand and evaluate the physiology of circulation and cardiovascular system in animals CO3: Acquire knowledge on physiology of effectors, neural conduction and receptors CO4: Discuss homeostatic mechanisms, osmoregulation and excretion. CO5: Analyse and apply the biology of endocrine glands to human reproductive physiology
20PZO2CC8P	Genetics, Cell and Molecular Biology and Animal Physiology-Practical-II.	CO1: Acquire skill on Drosophila genetics, Chromosome and staining techniques and Calculation of gene Frequency. CO2: Identify tissue types: Isolate cells and sub cellular organelles & acquire knowledge on DNA and Plasmids CO3: Estimate amylase activity, ammonia, urea and blood chlorides CO4: Understand and design microtechnique: apply histochemical staining of tissues CO5: Visit to Research Institutes and acquire knowledge on natural environment and ecosystems
20PZO2DE2	Biotechnology	CO1: Acquire knowledge on recombinant DNA technology CO2: Apply the concepts of molecular techniques involved in Biotechnology CO3: Acquire knowledge on Animal and Medical Biotechnology CO4: Evaluate and apply knowledge on Industrial biotechnology CO5: Discuss Bioremediation: Apply Biological Treatment Systems and acquire knowledge on IPR
20PZO2DE2	Endocrinology	CO1: Understand the general principles and scope.

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Course Code	Course Title	Course Learning Outcomes
		CO2: Explain the integrated function of endocrine glands in regulation of body functions. CO3: Relate the role of hormones in reproduction. CO4: Substantiate the intrinsic relationship existing between hormones and metabolism. CO5: Evaluate and apply the impact of hormones in response to internal and external environmental changes.
20PZO3CC 9	Biochemistry	CO1: Differentiate biomolecules and macromolecules: review protein configuration. CO2: Discuss the nucleic acids: chemical structure and biosynthesis. CO3: Describe the role of vitamins and hormones: their deficiency diseases. CO4: Examine cellular respiration and report carbohydrate metabolism. CO5: Evaluate and apply protein and lipid metabolism at optimal health.
20PZO3CC10	Immunology	CO1: Acquire knowledge on the functional organization of the immune system CO2: Understand and identify the cellular and molecular basis of immune responsiveness CO3: Explain the complement and their essential functions, and effects on the immune system. CO4: Evaluate the roles of the immune system in both maintaining health and contributing to disease including Allergy, hypersensitivity and autoimmunity CO5: Apply the role of antibodies in immunological techniques and to familiarize the modern laboratory techniques
20PZO3CC11	Biostatistics and Bioinformatics	CO1: Understand and apply practical knowledge of theoretical distribution and correlation in Biological Sciences. CO2: Acquire knowledge on Regression, Hypothesis testing and ANOVA. CO3: Apply statistical knowledge such as making graphs, index numbers and interpolation. CO4: Estimate and Evaluate biological databases. CO5: Generate sequence alignment and prepare Molecular phylogenetic analysis and construction of phylogenetic tree.
20PZO3CC12P	Practical III - .Biochemistry, Immunology, Biostatistics and Bioinformatics	CO1: Acquire knowledge on the preparation of solutions, buffers: estimate the quantum of protein, amino acids and lipids. CO2: Learn and relate the techniques of immunodiffusion, immunoelectrophoresis and blotting. CO3: Analyze biological data using biostatistical tools. CO4: Understand and apply basic knowledge on bioinformatics. CO5: Exposure to R&D labs and planning career.

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Course Code	Course Title	Course Learning Outcomes
20PZO3DE3A	Animal Behaviour and Biodiversity Conservation	CO1: Understand the concepts of behavioural patterns of various organisms and their lifestyle. CO2: Describe visual and chemical mode of communication among insects and birds. CO3: Investigate the role of biodiversity on maintenance of ecosystem. CO4: Visualise threats and values of biodiversity and conservations. CO5: Educate and apply the Laws on protection of wildlife and biodiversity.
20PZO3DE3A	Aquaculture and Farm Management	CO1: Understand the concepts of fish farming and their associated conditioning factors and how they can be manipulated. CO2: Describe basic culture methodologies, problems and solutions in aquaculture practice and farm management. CO3: Design and apply improved seed production techniques. CO4: Understand and validate the therapeutic and nutritional importance in fish health management. CO5: Formulate and derive genetic improvement of fish stock
20PZO4CC13	General and Applied Entomology	CO1: Classify insects using morphological information. CO2: Relate the structure and physiology of insect systems, including their functional mechanisms. CO3: Discuss and evaluate the damages caused by insect pests on agriculture: report disease causing vectors and their control measures. CO4: Analyse and apply the significance of insects in economy: examine the culture techniques. CO5: Validate the various control methods employed in the successful management of insect pests.
20PZO4CC14	Microbiology	CO1: Understand the basic microbial structure of bacteria and Virus, Demonstrate theoretical skills in Culture media, sterilization, Bacterial Culture and staining techniques. CO2: Analyse the role of microorganisms in fermented foods and know the spoilage mechanisms in foods, thus identify methods to control deterioration and basis of food safety regulations. CO3: Evaluate microbiological role in the manufacture of industrial products: understand the designing of bioreactors. CO4: Examine the basic principles of microbiology to solve environmental problems. CO5: Apply the basic principles, mechanism of transmission, diagnose and control of infectious diseases.
20PZO4CC15P	General and Applied Entomology and	CO1.Understand the classification and identification of insects based on morphology.

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Course Code	Course Title	Course Learning Outcomes
	Microbiology-Practical-IV	CO2. Analyse the behaviour, importance and physiology of insects. CO3. Acquire knowledge onthe impact of pests and the damages caused. Evaluate the importance of beneficial insects. CO4. Describe and demonstrate the different techniques in microbiology. CO5. Apply the knowledge on preparation of microbial media and bacterial staining: determine the motility, antibiotic sensitivity of Bacteria.
20PZO4DE4 A	Research Methodology& Bioinstrumentation	CO1: Describe the objectives, types and Importance of Research: Identify the difference between Impact Factor and Citation index: Relate Reviews and Monographs. List the use of internet in literature survey. Explain experimental design, thesis preparation and writing. CO2: Acquire knowledge on Model Organism, CPCSEA Regulation, Patent review and Report, Spectrophotometry and Centrifugation. CO3: Demonstrate Microtechnique, Histochemistry and Electron Microscopy. CO4: Apply the methods in Microbiological studies to prepare the different Culture Media. CO5. Identify, Infer and Interpret the different Statistical Methods
20PZO4DE4 B	Clinical Lab Technology	CO1. Examinethe essential pre-requisites of clinical laboratory: describe safe disposal of medical wastes. CO2. Describe the principle and working mechanism of laboratory instruments. CO3. Demonstrate staining procedure, media preparation for bacterial culture: understand diagnostic techniques of pathogens. CO4. Evaluate clinical assay and estimate blood and urine parameters. CO5. Analyse Sputum & CSF: report microscopic examination of sperm: verify pregnancy: demonstrate & schedule histopathology.
20PZO4EC2	Zoology for career examinations	CO1: Acquire knowledge on classification of Invertebrata upto phyla with the salient features and examples. Identify the general characters of chordate and classify vertebrata upto classes with examples. Examine the different systems in cockroach and frog. CO2: Record the physiology of digestion, absorption, respiration and excretion. Discuss the composition and functions of blood. Explain the types of muscles, nerve impulse conduction and physiology of vision. Record the functions of pituitary and reproductive system. CO3: Appraise the concepts of gene, gene regulation and genetic code. Detect the use of stem cells in human welfare. Illustrate Mendalian laws, Linkage, Pedigree

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Course Code	Course Title	Course Learning Outcomes
		and Mutations. Distinguish the Theories of Evolution and Speciation. CO4: Observe and explain the structure and function of Cells and its inclusions. Investigate cell division and Chromosome types. Create and design nucleic acid topology, DNA replication, transcription and translation. CO5: Validate the use of Apiculture, Sericulture, Carp, Prawn and Vermiculture. Investigate and Examine the major infections and communicable diseases. Record the pests of sugarcane, rice and oil seeds. Define Transgenesis.

PROGRAMME SPECIFIC OUTCOMES
APPAREL AND FASHION DESIGNING

B.Voc.

Students will be able to

PSO1. Discuss design process, clothing psychology, fabric manufacturing, marketing and functioning of a fashion industry.

PSO2. Demonstrate sewing techniques, and apparel designing for girl's wear, boy's wear, women's wear and men's wear.

PSO3. Apply technical knowledge in making accessories, apparel draping, materials selection, embroidery and fabric painting.

PSO4. Employ computer technologies in fashion designing and develop an entrepreneurial skill to meet market demands.

PSO5. Assess market and consumer factors that influence apparel and textile merchandising and marketing decisions.

COURSE OUTCOMES

B.Voc. APPAREL & FASHION DESIGN

Course Code	Course Title	Course Learning Outcomes
18BAF1C1	Apparel Designing and Clothing Psychology	CO1: Build of fashion design CO2: List out of elements of art and principles of designs. CO3: Illustrate the Garment Designing for types of figures CO4: Build of fashion inspiration

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
		CO5: Motivate an Indian culture and understand about fashion designer and make use of current fashion and world fashion
18BAF1C2	Sewing Techniques	CO1: List the name of sewing machineries parts CO2: Classify the cutting technology and equipment's used for cutting. CO3: Classify the sewing machines. CO4: Explain about the care and maintenance of the sewing machines. CO5: Define the garment finishing.
18BAF1C3P	Apparel Designing and Sketching - Practical	CO1: Illustrate apparel designs for elements of designs. CO2: Demonstrate the apparel using colour harmony and types of charts. CO3: How to Sketch the basic shadings and techniques and fashion figures. CO4: Sketch the human body in proportions relevant to fashion illustration. CO5: Creating quick sketches of clothing items on the human body.
18BAF1C4P	Sewing Techniques - Practical	CO1: Estimate about the Fundamentals components of Garment construction CO2: Demonstrate with the elements for Garment Decoration such as Fullness CO3: Comparison about Garment casing and facing CO4: Construct various forms of Plackets and Pockets CO5: Categorize about the different types of Sleeves
18BAF1C5I	Internship	CO1: Show the knowledge about Working environment by giving real-time exposure in the Industry CO2: Demonstrate the various opportunity in the Boutique/retail store CO3: Explain the students to relate their theoretical knowledge with the application domain of the garment industry CO4: Illustrate the different styles of garment CO5: Interpret the knowledge about computer aided designing
18BAF2C6	Apparel Technology and Entrepreneurship	CO1: Explain about Spreading, Marking and Cutting techniques. CO2: Develop knowledge about sewing machines and stitching mechanisms. CO3: Identify the special attachments in sewing machines. CO4: To adapt new concepts of entrepreneurship. CO5: Analyzing the agency support to ED
18BAF2C7	Fiber to Fabric	CO1: Define the basic fibres CO2: Classify the fibres and its types CO3: Compare to the natural fibers and manmade fibers CO4: Define the methods of yarn manufacturing CO5: Utilize the recent techniques in processing
18BAF2C8P	Apparel Designing for Girl's Wear - Practical	CO1: Illustrate different designs and styles for girls. CO2: Construct and rephrase basic and modify patterns.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO3: Examine suitable fabrics, colors and designs for patterns. CO4: Construct the garment as per the pattern and drafting procedure. CO5: Summarize the cost calculation for the garment
18BAF2C9P	Computer Aided Fashion Designing – Practical	CO1: Illustrate the basic small designs as motifs CO2: Construct the garments for children's using suitable Croquis. CO3: Design the women's garment with suitable texture CO4: Develop the Textured garments for men CO5: Formulate the familiar logos for Indian and International Apparel Branded company
18BAF2C10I	Internship	CO1: Show the knowledge about Working environment by giving real-time exposure in the Industry CO2: Demonstrate the various opportunity in the Boutique/retail store CO3: Explain the students to relate their theoretical knowledge with the application domain of the garment industry CO4: Illustrate the different styles of garment CO5: Interpret the knowledge about computer aided designing
18BAF3C11	Fabric Manufacturing Technology	CO1: Explain the methods of fabric formation of weaving, Knitting and Nonwoven CO2: Classify the types of weaves and knitting CO3: Demonstrate the weaving and loom's parts and functions CO4: Interpret the knitting terms and machine functions CO5: Discover the techniques for preparing non woven and uses of non woven
18BAF3C12	Fabric Structure and Design	CO1: Create designs, draft and peg plan for the types of weave. CO2: Discuss the feature of different weaves CO3: Analyze the definitions for various types of weaves. CO4: Explain about heavy fabrics. CO5: List out uses of types of weave.
18BAF3C13	Chronicles of Textiles and Costumes	CO1: Appreciate the finer nuances of embroidery. CO2: Classify the regional embroideries of India. CO3: Identify a specific embroidery style of India on the basis of colours, motifs, layouts. CO4: Identify the influencing factors for development and evolution of a specific embroidered textile. CO5: The evolution of embroidered textiles over a period time.
18BAF3C14P	Apparel Designing for Boy's Wear - Practical	CO1: Illustrate different designs and styles for boys. CO2: Construct and rephrase basic and modify patterns. CO3: Examine suitable fabrics, colors and designs for patterns. CO4: Construct the garment as per the pattern and drafting procedure. CO5: Summarize the cost calculation for the garment

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
18BAF3C15P	Fabric Structure and Design - Practical	CO1: Define basic concept of making point paper for the basic and fancy weaves CO2: Identify the different types of weaves CO3: Develop peg plan and point paper for the basic, fancy weaves CO4: Discover the purpose, uses of basic and fancy weaves CO5: Explain the different fabric structure in textile industry
18BAF3C16P	Hand Embroidery - Practical	CO1: Choose capable of designing embroidery by different stitches. CO2: Enable the trainees to make creative designs in embroidery and prepare dresses by using those embroidery stitches. CO3: Capable to identifying new opportunities in craft, textile art and fashion design markets CO4: Identify various color schemes and their application in dress making. CO5: Elaborate the techniques of create the different stitch with hand.
18BAF3C17I	Internship	CO1: Explain the knowledge about Working environment by giving real-time exposure in the Industry CO2: Demonstrate the various opportunity in the Apparel Industry CO3: Explain the students to relate their theoretical knowledge with the application domain of the spinning unit/knitting/weaving CO4: Experiment with various styles of garment construction for children CO5: Develop skills about Work ethics, garment construction etc
18BAF4C18	Textile Wet Processing	CO1: Select the basic processing for fabrics CO2: Classify the dyes and its types CO3: Define the methods and types of printing CO4: Make use of the finishing techniques and special finishers CO5: Make use of the finishing techniques and special finishers
18BAF4C19	Export Trade	CO1: Explain the International trade in garment industry CO2: Explain the International trade in garment industry CO3: Assess the export and import documentation and procedures CO4: Demonstrate the logistics and supply chain management in export trade CO5: Show the recent developments in foreign trade
18BAF4C20	Apparel Merchandising and Marketing	CO1: Analyze the fashion consumer and market trends CO2: Manage your own learning-evaluate your own progress as you work individually (or) in teams. CO3: Use research skills and analysis methods in order to produce a range of fashion products relevant to set assignments.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
		CO4: Communicate the design development and research process effectively through verbal presentations. CO5: Evaluate trends in the fashion industry and their impact on overall business operations.
18BAF4C21P	Apparel Designing for Women's Wear – Practical	CO1: Illustrate different designs and styles for Women's wear. CO2: Construct and rephrase basic into modify patterns. CO3: Examine suitable fabrics, colors and designs for patterns. CO4: Construct the garment as per the pattern and drafting procedure. CO5: Summarize the cost calculation for the garment
18BAF4C22P	Textile Wet Processing - Practical	CO1: Recall and experiment the basic preparatory processing for fabrics CO2: Relate the dyes and fabrics CO3: Defining the methods and types of printing CO4: Categorize the dyeing method by printing techniques CO5: Make use of surface ornamentation by using different printing methods
18BAF4C23P	Accessories Making - Practical	CO1: Build the fashionable accessories such as earrings, Chain and Bracelets CO2: Construct Apparel accessories such as Handbag and belts CO3: Inspect about the Construction of Footwear CO4: Develop the design for construct the Baby hat CO5: Design the fashionable apparel accessories Men's Tie
18BAF4C24I	Internship	CO1: Show the knowledge about Working environment by giving real-time exposure in the Industry CO2: Interpret the knowledge about dyeing and printing CO3: Demonstrate the ability to work effectively as a team member and/or leader in an ever changing garment industry CO4: Explain the students to relate their theoretical knowledge with the application domain of the garment industry CO5: Design and develop various styles of garments for women
18BAF5C25	Garment Quality and Cost Control	CO1: Identify the quality concepts and importance of quality control in textile industry CO2: Explain the quality parameters of textile and clothing CO3: Analyze the quality specifications in textile CO4: Examine the quality control in finished garments, packaging and warehousing CO5: Discuss about cost control and types of control forms.
18BAF5C26	Textile Testing	CO1: Identify the quality concepts about the components of textile CO2: Classify about the Quality analysis of fibers CO3: Explain about the Quality parameters of yarns CO4: Measure about the Quality components of fabric

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO5: Discuss about the Basic color fastness test and its factors
18BAF5C27	Apparel Home Furnishing	CO1: Select the fabrics for home furnishing CO2: Survey of the colour and fabric for furnishing product CO3: Identify the theme of home furnishing product CO4: Design the products CO5: Develop to the product design.
18BAF5C28P	Apparel Designing for Men's Wear – Practical	CO1: Illustrate different designs and styles for Men's Apparel. CO2: Construct and rephrase basic and modify patterns. CO3: Examine suitable fabrics, colors and designs for patterns CO4: Construct the garment as per the pattern and drafting procedure CO5: Summarize the cost calculation for the Men's garment
18BAF5C29P	Textile Testing - Practical	CO1: Classify the textile fibers CO2: Explain about natural and man-made fibers CO3: Test for the identification of fibers CO4: Importance of fibers used in textiles CO5: Discuss about microscopic test and chemical test for textile fibers
18BAF5C30P	Apparel Home Furnishing - Practical	CO1: Demonstrate the purpose and uses of Home textiles CO2: Construct the Home textile products for various applications CO3: Make use of wealth from waste materials CO4: Discover new trends for Home furnishings CO5: Develop the innovative things for Home
18BAF5C31I	Internship	CO1: Show the knowledge about Working environment by giving real-time exposure in the Industry CO2: Interpret the knowledge about fashion photography CO3: Explain the students to relate their theoretical knowledge with the application domain of the visual merchandising CO4: Demonstrate the ability to work effectively as a team member and/or leader in an ever changing Home furnishing industry CO5: Design and develop various styles of garments for men
18BAF6C32	Visual Merchandising	CO1: Explain about the Fundamentals and Features of Visual Merchandising CO2: Discuss about Different Methods of Floor planning and fixtures CO3: Comparison of the boutique and its features CO4: Discuss about the Merchandise presentation and its principle CO5: Classify various types of Window display
18BAF6C33	Wardrobe Planning and Fabric Care	CO1: Summarize about the Basic knowledge about the Water and its softening methods

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO2: Identify about the principles of washing and finishing CO3: Explain about the Factors in fabric laundering and wardrobe planning CO4: Discuss about the stains and its common methods of removal CO5: Distinguish study about various care labeling system
18BAF6C34	Home Science	CO1: Summarize about the Basic knowledge about the home science CO2: Categorize the different types of food groups CO3: To know the important of nutrition's CO4: Discuss about the management factors CO5: To know the principles of child development
18BAF6C35P	Apparel Draping - Practical	CO1: Explain the tools and needs for draping CO2: Experiment with different kinds of designs in draping CO3: Analyze the advantages in draping CO4: Estimate the fabric usage for draping of garments CO5: Design and develop creative designs and new patterns for garment in draping
18BAF6C36P	Aari Embroidery – Practical	CO1: Choose capable of designing aari embroidery by different stitches CO2: Enable the trainees to make creative designs in aari embroidery and prepare dresses by using these aari embroidery stitches CO3: Capable to identifying new opportunities in craft, textile art and fashion and design markets CO4: Identify various color schemes and their application in dress making CO5: Elaborate the techniques of create the different stitch with hand
18BAF6C37P	Fabric Painting - Practical	CO1: Illustrate different designs and styles for new painting techniques. CO2: Create the new Fabric painting techniques CO3: Develop new designs for sand painting CO4: Improve the Designing techniques CO5: Modify the fabric design styles
18BAF6C38I	Internship	CO1: Demonstrate the difficulties in the Textile Industry CO2: Explain the students to relate their theoretical knowledge with the application domain of the garment industry CO3: Show the knowledge about Working environment by giving real-time exposure in the boutique CO4: Experiment with different styles of garment draping CO5: Interpret the knowledge about process sequence in boutique

PROGRAMME SPECIFIC OUTCOMES

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

FOOD PROCESSING AND SAFETY

B.Voc.

Students will be able to

PSO1. Increases employability of the graduates and meet industry demand for human resources.

PSO2. Provide a robust and vibrant eco-system for students with excellent skills in the Food Processing Sector in the country.

PSO3. Demonstrate an ability to pursue higher education as an independent learner and become entrepreneurs in the relevant discipline.

PSO4. Devise strategies to meet community requirements and serve as responsible citizens.

PSO5. Increases the scope for self-employment as small, medium or large scale entrepreneur in food industry.

COURSE OUTCOMES

B.Voc. FOOD PROCESSING & SAFETY

Course Code	Course Title	Course Learning Outcomes
18BFP1C1	Food Science	Understand the major chemical reactions that occur during food preparation and storage . Able to describe the techniques that can be used to monitor quality of raw ingredients and final products.
18BFP1C2	Bakery and Confectionery-I	1.Equip the students to gain basic knowledge relating to the principles of baking 2.Introduce them to the techniques of bread and bun making
18BFP1C3P	Food Science Practical	1.Occurring knowledge to identify the major chemical components of food 2.Able to conduct basic sensory analysis of food 3.Gain training to manufacture a range of simple food products
18BFP1C4P	Bakery and Confectionery-I Practical	1.Understand to describe properties and functions of the basic ingredients used in baked goods. 2.Students will learn the Weigh and measure ingredients used in baking. 3.Gain practical knowledge to prepare high ratio, chiffon cakes and genoise.washes, glazes, icings, frostings and fillings.
18BFP2C6	Principles of Nutrition	1.Educate others about holistic Nutrition, life style ,wellness and healthy living. 2.Design and critique evidencebased nutrition intervention for prevention and control of chronic diseases

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
18BFP2C7	Bakery and Confectionery-II	1. Students will understand the basic terms and concepts related to bakery and confectionary products. 2.Students will gain the knowledge related to various machineries used in bakery. 3. Learn the role of different ingredients in bakery products. 4.To know the manufacturing details of bakery and confectionary products 5.Learn about the different parameters for setting up bakery unit. 6.Understand cost components like fixed cost and learn how to do the costing of the product
18BFP2C8P	Principles of Nutrition Practical	Assess the structure and component of food system and analyze the relationships between nutritional health and food selection . Use appropriate laboratory techniques and chemicals to enumerate, and identify the nutrients and micro organism in food.
18BFP2C9P	Bakery and Confectionery-II Practical	1.The student will experience different baking procedures. 2.The student will integrate human management skills into the classes. 3.The student will compare various employability skills. 4.The student will apply sanitation procedures in food service operations. 5.The student will identify procedures relating to cost controls. 6.The student will differentiate various baking and pastry service operations
18BFP2C10I	Bakery and Confectionery -II Internship	1.Students of all age groups and backgrounds can learn the art of professional baking. 2.This course benefits everyone from school children to working professionals; and the unemployed youths. 3.Art of baking includes techniques and right tips for Baking breads to cookies, creating various cakes and Pastries and other snacks . 4.This course will make you ready to start your career in the field of bakery ,one can join the industry in an entry level or can start home bakery. 5.Own a Highly Profitable Successful, Easy to Run Franchise with a low investment.
18BFP3C12	Food Processing-I	1.They will get the knowledge about processing of canning, spoilage of canned food, different packaging materials used for canned food. 2.They will learn about processing of different fruits and vegetables product like fruit beverages, squash, cordial, nectar, jam, jelly, marmalade and defects in preparation of products. 3.They will learn the processing and types of different pickles, chutney, sauces and tomato products. 4.They will get knowledge about drying and dehydration of fruit and vegetable.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
18BFP 3C13	Food Chemistry	1.Students will learn about classification and properties of carbohydrates and examples 2.They will understand different classification of amino acids based on Nutrition. 3.They will have knowledge about different test used for estimation of protein in food industry. 4. They will learn about classification of lipids, Rancidity, Autoxidation of fats. 5.They will acquire knowledge about basics of nutrition, balanced diet, vitamins and minerals
18BFP 3C14	Food Microbiology	1.Understand the nature of micro organisms involved in food spoilage,food infections and intoxications. Students will understand the basic concepts in microbiology and they will understand the principle and working of different instruments used in microbiology lab along with its application. They will learn about different equipment's used in lab. 2.They will learn how to clean equipment's and sterilize them. 3. They will learn about handling of compound microscope.
18BFP3C15P	Food Processing-I Practical	1.They will understand different unit operations used in food processing. 2.They will understand the basic of heat transfer and energy requirement in food industry, physical properties of water, water activity.
18BFP3C16P	Food Chemistry and Food Microbiology Practicals	**Food Chemistry** 1.Acquire skills on preparation of solutions 2. Colorimetric estimation of biochemical molecules 3. Acquire the skills on analysis of blood and urine samples **Food Microbiology:** 1. Understand the morphology and structural features of micro organisms . 2. Comprehend various principles of various preservation and control techniques. 3.understand microbial safety in various food operations.
18BFP4C18	Food Processing-II	1.Students will have a thorough understanding of various food processing techniques. 2.The students will know the importance of various preservation techniques.
18BFP4C19	General Biochemistry	To enable students to 1. Capable of describing biochemical pathways relavent in nutrient metabolism 2. Capable of using selected biochemical techniques that are relavent for the investigation of the nutrient metabolism 3. Capable of using selected biochemical techniques relavent in nutritional biochemical research 4. Provide nutritional advice based on sound scientific findings. 5. Critically evaluate and apply current scientific findings in Nutrition and Health

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
18BFP4C20	Food Service Management	To enable students to 1.Assess leadership, supervisory and human relation skills within the restaurant and food service Industry 2.Perform training and communication skills relevant to the restaurant, food industry etc
18BFP4C21	Entrepreneurship Skill in Food Industry	1.They will understand about different food laws, different certifications required for food industry. 2.They will learn about how auditing and accreditation is carried out
18BFP4C22P	Food Processing-II Practical	1.The student should able to understand end point of frying, roasting, and grilling. 2.The student should able to learn estimation of chlorophyll pigments. 3. The student should able to understand techniques of clarification of juices. 4. The student should able to select specific food additives for specific food. 5.The student should able to detect adulteration in different foods.
18BFP4C23P	General Biochemistry and Food Service Management Practicals	**General Biochemistry** To enable students to 1. Acquire skills on preparation of solutions 2. Colorimetric estimation of biochemical molecules **Food Service Management** To enable students to 1.Acquire skill to plan, compile and prepare meals based on the different region. 2.Gain experience to standardize the recipes and to calculate the cost per yield
18BFP5C25	Food Processing-III	1.Acquire systematic knowledge of basic and applied aspects of recent methods of food processing. 2.Know the basic principles in the production of important food products. 3.Understand the potential and use of various by-products of food industry.
18BFP5C26	Food Product Development	1.They will learn different objectives of creative product and innovative products, different stages involved in new product development like idea generation, idea screening, business analysis, product development and commercialization. 2.They will get knowledge about ingredients used for product development, quality and quantity of ingredients, cost of ingredients,
18BFP5C27	Nutrition Through Life Cycle	To enable students to 1.Familiarize nutritional assessment, RDA and Recommendations & Guidelines. 2.Gain knowledge on changes during various stages of growth and development throughout life cycle. 3.Thorough understanding of basis of human nutritional requirements and recommendations throughout human life cycle.
18BFP5C28	Marketing Management	1.Understand and apply various aspects of food product development including Food Science and Technology,

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		Marketing and Consumer research, finance and communication. 2.Develop products which meet consumer needs, and are nutritionally and commercially
18BFP5C29P	Food Processing-III Practical	To enable students to 1.gain knowledge about the specific paramaters in milk processing 2.To detect the adulterants in diary produtc
18BFP5C30P	Food Product Development and Nutrition Through Life Cycle Practicals	**Food Product Development** This course will enable students to: 1. Understand concepts about sensory evaluation of food. 2. Use different sensory methods for evaluating variety of foods. 3. Analyze and interpret sensory evaluation data. 4. Understand the requirements for product development **Nutrition Through Life Cycle** To enable students to 1.Understanding the nutritional requirements through the life cycle. 2.Practically gain knowledge to plan diet for each stage of life according to the guidelines for dietary needs.
18BFP6C32	Human Physiology	To enables the students to 1. Gain of knowledge on different parts of the body. 2. Gain knowledge on parts of the body and its diseases and disorders. 3.Explain the basic knowledge of human anatomy and physiology
18BFP6C33	Diet Therapy	To enable students to 1.Recognize the disease and prevention of the disease. 2.Apply the principles of diet for the management of metabolic diseases. 3Use the nutrition care process for special conditions like allergy and obesity.
18BFP6C34	Food Packaging and Labelling	1.Be skilled in the various aspects including shelf life assessment, testing of quality parameters and acceptability, packaging and labeling of a product Gain knowledge about various packaging materials and importance of packaging 2.Be familiar with packaging laws/regulations and tests used for evaluation 3. Be able to select appropriate packaging material for a variety of food stuffs vis-à-vis the need for preventing environmental degradation.
18BFP6C35	Food Standards and Safety	To enable students to 1.Gains knowledge on the importance of quality assurance in food industry. 2.Thorough knowledge on various tests and quality assessment, using standards for quality assessment and food safety.

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

Course Code	Course Title	Course Learning Outcomes
		3.Awareness on regulatory and statutory bodies in India and the world
18BFP6C36P	Diet Therapy and Application of Computer Practicals	**Diet Therapy**: To enable students to 1.Acquire skills to plan a diet for metabolic diseases based on the dietary modification 2.Evaluate the related food source for the special conditions. 3.develop skills in planning, calculating, modifying the nutrient requirements and in preparation of therapeutic diets. **Application of Computer:** To enable the students to 1. Gain knowledge on computer operations and applications 2. Facilitate students to design and use computer based projects and programs. 3. Enable utilization of existing health and nutrition based software.
18BFP6C37P	Food Packaging and Labelling Practical	1.The student will be able to acquaint with various food packaging materials, various aspects of packaging methods and technology. 2.The students will have a clear understanding of various methods of storage and different packaging techniques for food
18BFP6C38I	Food Packaging and Labelling Internship	To enable students to 1.select the appropriate packaging material for the appropriate food 2.will gain knowledge on packaging while developing new food product 3.Hepls them to start a new business

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

PROGRAMME SPECIFIC OUTCOMES
MEDIA PRODUCTION

B.Voc.

Students will be able to

PSO1. Explain the scope of Media and Entertainment, its meaning, significance, basics of advertising, graphic design, visual communication, media production with the sense of aesthetics.

PSO2. Create various art forms and develop as interactive designers, social media managers, motion graphics designers and managing events by way of effective transference of ideas.

PSO3. Discover and analyze visual persuasion, photography, graphic design, cultural and ethical issues, visualization of ideas within a specific historical, cultural, and commercial context.

PSO4. Utilize professional equipment and techniques to capture images and video adhering to industry standards, analysis of visuals, adding visual effects, content creating for print, electronic, new media content by abiding to the media laws and ethics.

PSO5. Devise employment projection as media personnel, photographer, sound designer, social media manager, digital marketing manager, advertising agencies and any other position relevant to the field and/or pursue higher education.

COURSE OUTCOMES

B.Voc. MEDIA PRODUCTION

Course Code	Course Title	Course Learning Outcomes
20BMP1CC1	Introduction of media and entertainment	CO 1:Knowing the fundamental of media and communication and effect usages CO 2: Identify the types of media CO 3: Interpret the usages of media for effect communication CO 4: Classified the types of media and communication CO 5: Explain the type of new media entertainment
20BMP1CC2	Basic Photography	CO 1: Know the basics of photography CO 2 : Type of composition CO 3: Types of lens and its movement CO 4: Basics of lighting CO 5: Image editing
20BMP1CC3	Art and print media production	CO1 : Know the visual image CO2: Principles & element of design CO3: Paper and printing material CO4: Publication design CO5: Printing Process and E-publishing

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
20BMP1CC4P	Graphic Design	CO 1: Sketching the line, shape, and form CO2: Organizing space for design CO3: Interpreting the typograph for text CO4: Design awareness material CO5: Create advertising design
20BMP2CC5	Media Production	CO1: Production Process CO2: Discuss the Digital age. CO3: Interpret the Characteristic of social Networking - positive of social networking. CO4: Scope and characteristics of Media CO5: Review the Publishing, mobile communication in new media
20BMP2CC6	Fundamentals of Advertising	CO1: Know the basics of advertising CO2: Classify the layout and the design CO3: Types of Audience CO4: Types of Advertising Agency CO5: Advertising Campaign
20BMP2CC7	Sound Design	CO1: To know the science of sound CO2: Discuss the sound effects Co 3: Types of Microphones CO4: Types of sound recorded CO5: Master Mixing
20BMP2CC8P	Radio Production Practical	CO1: To know the interview for radio CO2: Learn about recording equipments Co 3: Record the documentary CO4: Jingles and PSA CO5: Content of Visual Radio
20BMP3CC9	News Reporting	CO1: Practice the rules of Media CO2: Discuss the importance of socialization in Digital age. CO3: Interpret the Characteristic of social Networking - positive and negative factors of social networking. CO4: Scope and characteristic of new media Internship. CO5: Review the Publishing, mobile communication in new media
20BMP3CC10	Basics of Media Psychology	CO1: Acquire the skills of society through Media Psychology . CO2: Discuss the importance of society and Media Psychology CO3: Identify the Media Psychology CO4: Practice the rules of Media Psychology CO5: Evaluate of society through Media Psychology.
20BMP3CC11	Writing for Media	CO1: Acquire the skills of Film industry in Story Writing CO2: Discuss the importance of using the right tool for Editing. CO3: Identify the Organize the pages for a web. CO4: Practice the rules of Editing CO5: Evaluate of Film industry.
20BMP3CC12	Radio Jockeying	CO1: Acquire the skills of Radio industry.

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Course Code	Course Title	Course Learning Outcomes
		CO2: Discuss the importance of using the right tool for FM, AM. CO3: Identify the organize the pages for a Radio Script. CO4: Practice the rules of air CO5: Practice the rules of Mind language.
20BMP3CC13	Script Writing	CO1: Acquire the skills of Film industry in Story Writing. CO2: Demonstrate the Rules of creative writing. CO3: Practice the rules of Writing. CO4: Interpret the meanings of history and navels. CO5: Illustrate the meanings of writing skill.
20BMP3CC14P	Television Production Practical	CO1: Acquire the skills of Film And Television industry. CO2: Discuss the importance of using the right tool for Editing. CO3: Identify the Organize the pages for a Television. CO4: Practice the rules of Editing Television Production Practical CO5: Evaluate of Film and TV industry.
20BMP3IN	Electronic Media Internship	CO1: Acquire the skills of Electronic Media & Digital industry. CO2: Discuss the importance of using the right tool for Graphic Design and Content. CO3: Identify the organize the pages for a web. CO4: Practice the rules of colours and theories CO5: Evaluate advertising and digital design.
20BMP4CC15	E- Learning	CO 1: Know the concept of e-learning CO 2: List the training steps for learning CO 3: Differentiate learning and e-learning CO 4: Explain the importance of motivational learning CO 5: Summarize the Learning Management system
20BMP4CC16	Media Culture and Society	CO 1: Know the media, culture CO 2: Explain the uses of media CO 3: List the media organization CO 4: Illustrate the cultural context of media CO 5: Write the importance of Media literacy
20BMP4CC17	New Media	CO 1: Know the basics of New Media CO 2: Explain the digital media functions CO 3: List the social networking and its positive factors CO 4: Simplify the e-news CO 5: Summarize the role of new media technology in various fields
20BMP4CC18	Art and Aesthetics	CO 1: Know the Indian Artduring various period. CO 2: Explain the Indo-Islamic Architecture CO 3: List the types of sculptures and paintings CO 4: Differentiatethe Western art and Modern art CO 5: Tell the importance of Rasa
20BMP4CC19	Social Media Production	CO 1: Design the ads on Social media CO 2: Illustrate the pictures for Social Media CO 3: Know the script writing for Social Media CO 4: Simplify the content for web CO 5: Creating stories for society based on real life
20BMP4CC20P	2D Animation Practical	CO 1: Know the tools for creating 2 Dimension images

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		CO 2: Illustrate the characters for story CO 3: Manage the background and concept art CO 4: Apply the principles of animation CO 5: Create stories with values for children using 2d animation
20BMP5CC21	Media Laws & Ethics	CO 1. Know the Freedom of Press CO 2. Tell the Press related Acts CO 3. Write the Ethics of Advertising CO 4. Follow the Code of ethics for Media CO 5. Know the Cyber laws
20BMP5CC22	Event Management	CO1: Know the basics of an event management CO2: Design the concept of an event CO3: Follow the ethics in event management CO4: Manage the team for a task CO5: Coordinate the event as a Team member.
20BMP5CC23	Media Presentation skills	CO1. Know the basics of presentation CO2. Apply the presentation methods CO3. Handle the equipments for presentation CO4.Write the audience behaviour CO5. Prepare a presentation for a topic
20BMP5CC24	Elements of Film	CO1: Know the basics of film CO2: Tell the importance of cinematography CO3: List the types of mic CO4: Explain the elements of film CO4: Illustrate the editing method
20BMP5CC25	Visual Story Telling	CO1: Know the visual components and progression CO2: Write the Visual structure CO3: Mange the space in Visual Story CO4: Apply the principles of Composition CO5: Summarize the movement of visuals
20BMP5CC26P	3D Animation Practical	CO1: Know the tools for 3D animation CO2: Create 3D Text CO3: Modelling the characters for the story CO4: Illustrate the scene for the story CO5: Apply the principles of animation
20BMP5IN	Post Production - I Internship	CO1: Acquire the skills of Film industry. CO2: Discuss the importance of using the right tool for Editing. CO3: Identify the Organize the pages for a web. CO4: Practice the rules of Editing CO5: Evaluate of Film industry.
20BMP6CC27	Media Relation	CO 1: know the Visual Component and progression CO 2: Write the visual structure CO 3: Manage the space in visual story CO 4: Principles of composition CO 5: Summarize the movement of visuals
20BMP6CC28	Media Management	CO 1: know the management structure CO 2: Explain the media organization CO 3: Interpret the convergence of media and financial CO 4: Managing the media selection scheduling CO 5: Modify the marketing model

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Course Code	Course Title	Course Learning Outcomes
20BMP6CC29	Digital Intermediate	CO 1: know the colour grading CO2: Correct colour correction CO3: Evaluate the color temperature and balance CO4:Manage the under exposure of color CO5: Summarize the color time recycling grades
20BMP6CC30	Script Editing	CO 1: Know the script structure CO2: Various Methods of script writing CO3: Structure of story CO4: Story Anatomy CO5: Able to edit the script
20BMP6CC31	Visual Effects	CO1: Basics of visual elements CO2: Image Manipulation CO3: Image compositing CO4: Manage the matte creation and manipulation CO5: Create visual effects
20BMP6CC32P	Digital Marketing	CO 1: Know the various social media CO2: Creating the content for social media CO3: Managing the digital marketing using suitable medium CO4: Illustrate the promotional activity CO5: Content of B2B audiences

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Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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PROGRAMME SPECIFIC OUTCOMES
TOURISM & HOSPITALITY MANAGEMENT

B.Voc.

Students will be able to

PSO1. Understand and demonstrate the core technical, analytical and conceptual skills appropriate for tourism and hospitality.

PSO2. Comprehend and articulate the written and oral communication as appropriate for tourism and hospitality environments.

PSO3. Develop fundamental in-depth knowledge and understanding of the techniques, principles, concepts, values, substantive rules and development of the core areas of tourism and hospitality.

PSO4. Apply the work-readiness knowledge and skills in different levels of management operations with a specific focus on individual, social and environmental perspectives relevant to Tourism and Hospitality.

PSO5. Function effectively as an individual and as a member or leader in teams, and in multidisciplinary settings by demonstrating life skills, coping skills and human values.

COURSE OUTCOMES

B.Voc. TOURISM & HOSPITALITY MANAGEMENT

Course Code	Course Title	Course Learning Outcomes
20BTH1CC1	Introduction to Tourism Industry	CO1: Understand and explain the basic concepts of tourism industry CO2: Demonstrate and communicate the fundamental components of tourism CO3: Explain the importance of travel agents and tour operators in tourism CO4: Enumerate the international travel requirements CO5: Analyze the role of tourism organizations in development of travel and tourism
20BTH1CC2	Fundamentals of Hospitality Operations	CO1: Understand the nature and importance of hotel industry. CO2: Identify the classification of hotels CO3: Explain the need of room division operations CO4: Know the role of front office and housekeeping departments CO5: State the important departments of hotel
20BTH1CC3	Basic Front Office Operations	CO1: Understand the role and functions of front office CO2: Identify and apply the types of tariffs and room reservations. CO3: Know and explain the procedures followed in various operations of guest services and handling guest complaints. CO4: Acquire knowledge on handling front office accounting records, Night auditing and emergency situations.

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Course Code	Course Title	Course Learning Outcomes
		CO5: Recognize the applications of computers and PMS in Front office operations.
20BTH1CC4P	Front Office Functions and Procedures - Practical	CO1: Understand the role and functions of Front office. CO2: Identify and apply the types of tariffs and room reservations. CO3: Know and explain the procedures followed in various operations of guest services and handling guest complaints. CO4: Acquire knowledge on handling front office accounting records, Night auditing and emergency situations. CO5: Recognize the applications of computers and PMS in Front office operations.
20BTH2CC5	Tourism Products	CO1: Explain the nature and unique characteristics of tourism products CO2: Identify the various tourism resources found in India CO3: Evaluate the role of architecture and heritage in tourism promotions CO4: Enumerate the abundance of nature based tourism activities undertaken in India CO5: Know the important tourism destinations in Tamil Nadu
20BTH2CC6	Principles of Management	CO1: Predict the different approached to management in general and system approaches. CO2: Formulate the managerial planning constitute a rational approach to setting objectives and selecting plans periodically. CO3: Prioritize the organizational structures of various levels and its relationship to other managerial functions. CO4: Construct the function of staffing in the external and internal environment. CO5: Organize the nature of leadership and importance of creativity and innovation in managing.
20BTH2CC7	Housekeeping Operations	CO1: Explain the nature and importance of housekeeping in hotels CO2: Identify and know the uses of various housekeeping equipment CO3: Understand the types of linen used in hotels and methods of laundering them CO4: Perform the clean, safe and secured services to guests CO5: Know and prepare the different types of flower arrangements
20BTH2CC8P	Housekeeping Operations of Hotel - Practical	CO1: Perform housekeeping operations CO2: Manage housekeeping services and maintain material inventory CO3: Supervise housekeeping work CO4: Manage guest complaints CO5: Manage to communicate with customer and colleagues
20BTH3CC9	Travel Geography	CO1: Know the importance of travel geography CO2: Use the methods and procedures of calculating travel time CO3: Identify the physical geography of Pacific region's destinations CO4: Understand the existence and location of tourist spots

Criterion I - Curricular Aspects **1.1 Curriculum Design and Development**

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Course Code	Course Title	Course Learning Outcomes
		CO5: Explain the attractions and accessibilities of countries
20BTH3CC10	Basics of Food Production	CO1: Acquire knowledge about nature, aims and quality standards of cooking and apply appropriate sanitation, health and safety practices in cooking CO2: Select and use different food production equipment and understand about ingredients used for cooking and how their characteristics are used to design, formulate and prepare dishes CO3: Understand the characteristics and methods of cooking of Indian and International cuisines. CO4: Gain knowledge about the appropriate pre-preparation, cooking, decorating and presenting the food dishes CO5: Comprehend the preparation of stocks, soups and sauces and method of preparing basic gravies in Indian cuisine.
20BTH3CC11	Food and Beverage Service	CO1: Know the basics of catering establishments and their types CO2: Describe the hierarchy of F&B service department and state the types of equipment used in F&B Service CO3: Understand the basics of designing and compiling menus CO4: Identify the methods of preparing restaurant for service and describe the procedures of order taking and billing CO5: Distinguish the types and cover set-ups of breakfasts and illustrate the operations of room service
20BTH3CC12	Tourism Transport Operations	CO1: Understand the significance of transport in tourism CO2: Classify the types of transport systems CO3: Know the contributions of railways in India CO4: Identify the water transport routes of India CO5: Measure the development of air transportation
20BTH3CC13	Tour Packaging and Itinerary Planning	CO1: Explain the nature of tour packages CO2: Understand the methods of constructing a tour CO3: Acquire the knowledge of procedures of tour costing CO4: Analyze the Tourist's Preferences in Package tour CO5: Know the outcome of case studies done by tour operators
20BTH3CC14P	Tour Operations - Practical	CO1: Acquire the customer service skills CO2: Handle administration and staff CO3: Administer tour company operations CO4: Apply the business development skills CO5: Maintain Personal grooming/ hygiene
20BTH4CC15	Tourism Marketing	CO1: Understand the nature and importance of marketing CO2: Know need of applying marketing mix CO3: Apply the various marketing promotion tools CO4: Manage the distribution systems and channels CO5: Evaluate the role of media in promotion of tourism
20BTH4CC16	Advanced Food Production Operations	CO1: Explain the nature and classification of stock and soups CO2: Describe the various cuts of meat, poultry and Fish CO3: Differentiate the various types of Larder preparations CO4: Organize a kitchen with regard to resources and man power CO5: Understand the basic concept of product research and development

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Course Code	Course Title	Course Learning Outcomes
20BTH4CC17	Tourism Ethics, Laws and Regulations	CO1: Understand the need of following ethics in tourism activities CO2: Know about the special permits required to visit wildlife destinations CO3: Acquire knowledge of adventure tour regulations CO4: Identify the formalities to offer and avail travel insurance CO5: Apply the safety and security precautions to protect the tourists
20BTH4CC18	Tourism and Hospitality Entrepreneurship	CO1: Understand the need of following ethics in tourism activities CO2: Know about the special permits required to visit wildlife destinations CO3: Acquire knowledge of adventure tour regulations CO4: Identify the formalities to offer and avail travel insurance CO5: Apply the safety and security precautions to protect the tourists
20BTH4CC19	Tour Guiding and Escorting	CO1: Recognize the nature and importance of tour guide CO2: Apply the procedures and techniques of tour guiding CO3: Know the responsibilities of tour guide CO4: Execute a effectively planned and organized tour CO5: Handle the emergencies situation during the tour period
20BTH4CC20P	Indian Cuisine - Practical	CO1: Assist in food preparation and Set up and close kitchen CO2: Monitor stock movement and communicate with colleagues CO3: Maintain standard of etiquette and hospitable conduct CO4: Maintain IPR of organization and customer CO5: Maintain health and hygiene
20BTH5CC21	Business Research Methods	CO1: Analyze the objectives and types of research CO2: Construct and create the research design CO3: Understand the sampling techniques applied in research CO4: Enumerate the ways of processing the data CO5: Acquire knowledge in report writing
20BTH5CC22	Event Management	CO1: Assess the role of events in business, leisure, and tourism CO2: Examine the significance of event planning CO3: Understand the organizational structure of Event management CO4: Identify how to manage event processes CO5: Elucidate the concept of event marketing
20BTH5CC23	Customer Relationship Management	CO1: Understand the importance of customer relationship management CO2: Apply the customer relationship strategies effectively CO3: Know the applications of customer relationship management in different services CO4: Explain the role CRM in E-Commerce CO5: Evaluate the contributions of CRM in customer loyalty
20BTH5CC24	Human Resource Management	CO1: Understand the nature of human resource management

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Course Code	Course Title	Course Learning Outcomes
		CO2: Measure the need of planning in human resource management CO3: Follow the systematic procedures in recruitment and selection CO4: Analyze the benefits of training CO5: Apply the effective methods in evaluation job performance
20BTH5CC25	Food Production Management	CO1: Identify the famous international cuisines CO2: Understand the basics of bakery and confectionery CO3: Acquire knowledge in bread and chocolate making CO4: Know the controlling methods adopted in production management CO5: Apply the French terminologies in kitchen operations
20BTH5CC26P	European Cuisine - Practical	CO1: Manage kitchen operations in a section CO2: Train and guide section staff CO3: Maintain customer-centric service orientation CO4: Maintain IPR of organization and customer CO5: Gain knowledge in French vocabulary related to cookery
20BTH6CC27	Ecotourism	CO1: Analyze the impacts of pollution of pollution on environment CO2: Evaluate the present scenario of eco-tourism CO3: Classify the types of ecotourism resources CO4: Identify the ecotourism planning and development strategies CO5: Know the present status of ecotourism projects
20BTH6CC28	Managerial Accounts and Finance in Tourism	CO1: Know the basic principles of accounting CO2: Utilize the techniques of preparing final accounts CO3: Evaluate the importance of financial management CO4: Analyze the role of planning financial management CO5: Understand the ways of handling working capital management
20BTH6CC29	Organisational Behaviour	CO1: Evaluate the importance of organizational behaviour CO2: Know the components and basics of behaviour theories CO3: Understand the organization structure & group dynamics CO4: Analyze the nature of leadership and its styles CO5: Acquire knowledge about organizational culture and climate
20BTH6CC30	India Tourism facts for Competitive Examinations	CO1: Define the existence and contributions of tourism resources CO2: State the various types of tourism activities CO3: Explain the status of wildlife tourism of India CO4: Describe the cultural tourism resources CO5: Identify the existence of cultural resources in our country
20BTH6CC31	Airfares and Ticketing	CO1: Define the usage of Air Geography CO2: Know the air transport regulations CO3: Apply the terminologies used in air transportations

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Course Code	Course Title	Course Learning Outcomes
		CO4: Know the types of air ticket systems followed CO5: Use the different types of air fares appropriately
20BTH6CC32P	International Cuisine - Practical	CO1: Manage food resources in the kitchen CO2: Perform administrative work CO3: Maintain standard of etiquette and hospitable conduct CO4: Follow gender and age sensitive service practices CO5: Maintain safety at workplace