

Semester	Course Code	Course Category	Hours	Credits	Marks for Evaluation		
					CIA	ESE	Total
III	24UCAVAC1	Value Added Course	30	-	-	100	100
<b>Course Title</b>		Ubuntu Basics					

SYLLABUS		
Unit	Contents	Hours
I	Introduction to Linux – Problems with windows – Benefits of Linux – Different flavors of Linux – Ubuntu: African Philosophy – Uses of Linux – Understanding how Linux differs from windows – Using Ubuntu – Installing Ubuntu – Pre installation steps – Installing Ubuntu	6
II	Desktop elements – Shutting down or restarting Ubuntu – Ensuring Ubuntu Hardware support – Configuring Ubuntu – Getting Online – Using Power management preferences – How to secure your computer – Windows security vs. Linux security – Root and Ordinary users	6
III	Ubuntu replacements for windows programs – Available software – A Quick start with common Ubuntu programs – Other handy applications	6
IV	Introducing the bash shell – The bash shell – Getting started with the shell – Working with files – Users and file permissions – File System Explained – File searches – File Size and free space – Viewing Text Files	6
V	Using a command line text editor – Piping and directing the output – In depth: Writer – In depth: Calc – In depth: Impress – In depth: Base – Managing Users – Understanding user and group accounts – adding and deleting users and groups – adding and changing password	6

<b>Text Book(s):</b>
Keir Thomas and Andy Channelle, Beginning Ubuntu Linux from novice to professional, Fourth Edition
<b>Reference Book(s):</b>
Matthew Hlemke, Amber Graner, The Official Ubuntu Book, 7 <sup>th</sup> Edition
<b>Web Resource(s):</b>
<a href="https://www.tutorialspoint.com/ubuntu/ubuntu_overview.htm">https://www.tutorialspoint.com/ubuntu/ubuntu_overview.htm</a>

Course Outcomes		
Upon successful completion of this course, the student will be able to:		
CO No.	CO Statement	Cognitive Level (K-Level)
CO1	Understand the basic concepts of Linux concept's	K2
CO2	Understand the core concepts of Ubuntu software	K2
CO3	To know the various the applications of Ubuntu operating systems	K1
CO4	Using the File commands, copy one file into another	K3
CO5	Apply Ubuntu commands using Command Line Text Editor	K2

**Course Coordinator: Dr. O.S. Abdul Qadir**

Semester	Course Code	Course Category	Hours/ Week	Credits	Marks for Evaluation		
					CIA	ESE	Total
V	24UCAVAC2	Value Added Course	30	-	-	100	100
<b>Course Title</b>		Node JS					

SYLLABUS		
Unit	Contents	Hours
I	Introduction – First Application – REPL Terminal: Online REPL Terminal – REPL Commands – Stopping REPL	6
II	Installing Modules using NPM - Attributes of Package.json - Uninstalling a Module - Updating a Module - Search a Module - Create a Module Callback Concept: What is Callback - Blocking Code Example - Non-Blocking Code Example	6
III	Event Loop : Event-Driven Programming - Example - How Node Applications Work - Event Emitter: EventEmitter Class – Methods - Class Methods – Events – Example	6
IV	Streams: What are Streams - Reading from a Stream - Writing to a Stream - Piping the Streams - Chaining the Streams. Web Module - What is a Web Server - Web Application Architecture - Creating a Web Server using Node - Make a request to Node.js server - Creating a Web client using Node.	6
V	File System: Synchronous vs Asynchronous - Open a File - Get File Information - Writing a File - Reading a File - Closing a File - Truncate a File - Delete a File- Create a Directory - Read a Directory - Remove a Directory- Methods Reference	6

<b>Text Book(s):</b>
Beginning Node.js, Express & MongoDB Development, Greg Lim, 2020
<b>Reference Book(s):</b>
Node.js 8 the Right Way, Jim Wilson, Pragmatic Bookshelf, 2018
<b>Web Resource(s):</b>
Node JS, Tutorials Point, <a href="http://www.tutorialspoint.com">www.tutorialspoint.com</a> <a href="https://www.w3schools.com/nodejs">https://www.w3schools.com/nodejs</a>

Course Outcomes		
Upon successful completion of this course, the student will be able to:		
CO No.	CO Statement	Cognitive Level (K-Level)
CO1	Recognize the basics of web applications	K1
CO2	Understand the installation of Node JS software	K2
CO3	Understand the role of stream classes in Node Js.	K2
CO4	Design a new web applications using Node JS concept	K5
CO5	Design the websites using Server-side web technologies	K5

**Course Coordinator: Mr. M. KAMAL**

Semester	Course Code	Course Category	Hours/ Week	Credits	Marks for Evaluation		
					CIA	ESE	Total
III	24MCAVAC1	VALUE ADDED COURSE	6	-	-	100	100

<b>Course Title</b>	MEAN Stack Web Development
---------------------	----------------------------

SYLLABUS		
Unit	Contents	Hours
I	Introduction to MEAN – Three tier web application development – The evolution of JavaScript – MEAN – Installing MongoDB – Installing Node.js – NPM	6
II	Introducing AngularJS – AngularJS Modules – Two-way data binding – Dependency injection – AngularJS Directives – Bootstrapping an AngularJS application	6
III	Introduction to Express – Installing Express – Creating First Express Application – The application, request and response objects – External middleware – Implementing the MVC pattern	6
IV	Introducing MongoDB – Key features – Shell – Databases – Collections – CRUD operations	6
V	Introduction to Node.js – JavaScript Closures – Node Modules – Developing Node.js web applications	6

<b>Text Book(s):</b>
Amos Q.Haviv, “ <i>MEAN Web Development</i> ”, PACKT Publishing, First Edition, 2014
<b>Web Resource(s):</b>
1. <a href="https://www.javatpoint.com/mean-stack-tutorial">https://www.javatpoint.com/mean-stack-tutorial</a>
2. <a href="https://www.geeksforgeeks.org/introduction-to-mean-stack/">https://www.geeksforgeeks.org/introduction-to-mean-stack/</a>

Course Outcomes		
Upon successful completion of this course, the student will be able to:		
CO No.	CO Statement	Cognitive Level (K-Level)
CO1	Apply the concept of MEAN	K3
CO2	Summarize the features of MongoDB	K2
CO3	Simplify the knowledge on Express	K4
CO4	Explain the concept of scopes in Angular JS	K5
CO5	Solve the concept of Node.js with real time examples	K6

**Course Coordinator: Dr. S. Mohamed Iliyas**