

NIRMA UNIVERSITY

Institute:	Institute of Technology
Name of Programme:	Master of Computer Application (2-Years Programme)
Course Code:	3MCAD367
Course Title:	Dynamic Web Management
Course Type:	Departmental Elective
Year of Introduction:	2021-22

Credit Scheme

L	T	Practical Component				C
		LPW	PW	W	S	
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Course Learning Outcomes (CLO):

At the end of the course, students will be able to –

1. demonstrate server installation and configuration process
2. identify various issues relevant to web server administration
3. analyze and extend the web server capabilities
4. build cloud migration strategy

Syllabus:

Total Teaching hours: 45

Unit	Syllabus	Teaching hours
Unit-I	Introduction to Web Server and Web Server Administration: Basics of Web Server, Web Server Architectures, Types of Servers, Different Web Servers, Need of Web Server Administration, Roles and Responsibilities of Web Server Administrator	05
Unit-II	Preparing for Server Installation and Configuration: Basic Preparation for Server Installation, Identify Server Categories and Evaluate Server Components, Understand the Installation Process, Installation and Configuration of Various Web Servers, Set up IP Addressing and Configure TCP/IP	08
Unit-III	Managing a Web Server: Authenticating Users, Manage Users, Groups, and File System/Application Permissions, Share Resources in a Network, Enforce Network Policies, Backing up Web Server, Restoring and Restarting a Web Server, Application Deployment and Resource Management	07
Unit-IV	Securing a Web Server: Identify Threats and Vulnerabilities, Secure Applications and its Data, Setting up Secure Data Transmission, Web Users' Authentication, Need of Firewall, Proxy Server, Intrusion Detection Software, Manage and Configure Firewall, Proxy Server and Intrusion Detection Software	08
Unit-V	Performance Tuning: Monitor Web Servers and Web Applications, Analysis Tools for Web Servers	06
Unit-VI	Extending the Capabilities/Functionalities of Web Server: Add Support of E-mail, FTP, Digital Payment Gateways, Streaming Media Services, Various Programming Languages, Databases and Web Services	05

B

Unit-VII **Migration of Web Application to Cloud:** Introduction to the Cloud Environment, Installation of Web Server and Configuration in the Cloud Environment, Cloud Delivery Models, Web Server Migration from On Premise to Cloud 06

Self-Study: The self-study contents will be declared at the commencement of semester. Around 10% of the questions will be asked from self-study contents.

Suggested Readings/References:

1. ProTechGurus, Installing and Configuring Windows Server 2016 Hands-On Lab Manual guide
2. Thijs van Eembergen, Cloud Migration Method: From on-premise to the cloud
3. Syed Mutahar Aaqib, Lalit Sen Sharma, Performance, Scalability, & Security Analysis of Web Servers, LAP Lambert Academic Publishing
4. Steve Silva, Web Server Administration, Course Technology 2003 Cengage Learning
5. Ashraf Khan, Microsoft IIS 10.0 Cookbook, Packt
6. Derek Cameron, Modern Web Server Administration using Linux and Wordpress, Createspace Independent Pub
7. Jordan Krause, Mastering Windows Server 2019, Packt

Suggested List of Experiments:	Sr. No.	Title	Hours
	1.	To identify various components of a web server.	02
	2.	a) To set up IP addressing and configure TCP/IP b) To Install and Configure a Web server	04
	3.	To implement user authentication, user groups, and file permissions	04
	4.	To backup, restore and restart a Web Server	04
	5.	To explore the components of a firewall	02
	6.	To install and configure firewall, proxy server, and intrusion detection	04
	7.	To deploy, test, and monitor Internet-based applications such as e-mail, FTP, database, Web services, and e-business applications	04
	8.	To monitor a Web server using a tool	02
	9.	To install and configure a server on cloud	02
	10.	To demonstrate migration on Web server	02

Suggested Case List: -NA-