

Maharashtra State Board of Technical Education, Mumbai
TEACHING PLAN (TP)

K-1

Academic Year: 2025-26

Date: 10/12/2025

Institute Name & Code: K. K. Wagh Polytechnic, Nashik-3 (0078)

Program & Code: Artificial Intelligence & Machine Learning (AN) **Course Code & Abbr.:** 316007 (NMA)

Course Name: Network Management and Administration

Name of Faculty: Ms. H. M. Somaia

Class: TYAN

Course Index: 605

Semester: VI

Scheme: K

Total Hrs: 30

• Teaching-Learning and Assessment Scheme:

Course Code	Course Title	Abbr	Course Category/s	Learning Scheme			Credits	Paper Duration	Assessment Scheme								Total Marks		
				Actual Contact Hrs/Week					SLH	NLH	Theory			Based on LL Practical			SLA		
				CL	TL	LL					FA-TH	SA-TH	Total	FA-PR	SA-PR				
				Max	Max	Max					Max	Min	Max	Min	Max	Min			
316007	Network Management and Administration	NMA	AEC	2	-	4	-	-	6	3	-	-	-	25	10	25@	10	-	50

Abbreviations: CL- Class Room Learning, TL- Tutorial Learning, LL-Laboratory Learning, SLH-Self Learning Hours, NLH-Notional Learning Hours, FA - Formative Assessment, SA -Summative assessment, IKS - Indian Knowledge System, SLA - Self Learning Assessment

Legends: @ Internal Assessment, # External Assessment, *# On Line Examination , @\\$ Internal Online Examination

• Course Outcomes (COs) & Theory Learning Outcomes (TLOs):

By learning course, Network Management an Administration (NMA-316007) Third Year students will be able to:

CO No.	TLO No.	Course Outcomes (COs) / Theory Learning Outcomes (TLOs)
CO605.1		Explain critical features of Windows Server and Linux Operating System.
	TLO 1.1	Explain the features of Network Operating Systems.
	TLO 1.2	Differentiate the features of different editions of Windows Server.
	TLO 1.3	Explain the features of Linux Environment w.r.t. Server Management and Administration.
CO605.2		Configure Active Directory for managing objects.
	TLO 2.1	Explain the process of configuring Active Directory.
	TLO 2.2	Illustrate the process of deploying Domain Controller.
	TLO 2.3	Describe the significance of group policies.
CO605.3		Configure different web services.
	TLO 3.1	Configure Web Server.
	TLO 3.2	Install DNS, DHCP Server.
	TLO 3.3	Manage Remote access services.
CO605.4		Configure virtual environment.
	TLO 4.1	Explain Virtualization.
	TLO 4.2	Install Virtual Machine.
	TLO 4.3	Implement Active Directory to the Cloud for Hybrid environments.
CO605.5		Apply Backup and Recovery services.
	TLO 5.1	Deploy file sharing permissions.
	TLO 5.2	Configure disk volumes.
	TLO 5.3	Apply backup and recovery strategy.

• Teaching Plan:

Unit No. (Allotted Hrs.)	TLOs	Title/Topic Details with CO	Plan (From-To & No. of Lectures)	Actual Execution (From-To & No. of Lectures)	Pedagogy used (Teaching Method/Media)	Remark
1 (4 hrs)		Unit-1: Introduction to Network Server Environment				
	1.1	1.1 Network Operating Systems (NOS), Key features of NOS	19/12/25 (01)		Lecture Using Chalk-Board Demonstration	
	1.2	1.2 The Windows Server family(and editions), Key features - Security features, support for hybrid cloud environments, performance and scalability, Hardware requirements	20/12/25 to 26/12/25 (02)			
	1.3	1.3 Overview of Linux Environment w.r.t. Server Management and Administration	27/12/25 (01)			
2 (8 hrs)		Unit-2: Server Deployment				
	2.1	2.1 Active Directory and Domain Services (ADDS) - Fundamentals -Domain, tree domain, Forest, Organizational Units (OUs), Comparing a domain with a workgroup	02/01/26 to 09/01/26 (03)		Lecture Using Chalk-Board Demonstration	
	2.2	2.2 Installing and configuring ADDS - Promoting a server to a domain controller, Managing domain users, groups, and computers, Organizational Units	10/01/26 To 17/01/26 (03)			
	2.3	2.3 Group Policy - Managing, Configuring and Processing Group Policy Objects, Group Policy Editors	23/01/26 To 24/01/26 (02)			
3 (6 hrs)		Unit-3: Role Assignment for Server Environment				
	3.1 3.2. 3.3	3.1 IP address –IPV4, Classification of IP address, overview of IPV6, Subnetting, Supernetting a network	30/01/26 To 31/01/26 (02)		Hands-on Demonstration	
	3.2	3.2 Server Roles – Web Server, FTP, DNS, DHCP, telnet	06/02/26 (01)			
	3.1	3.3 Installing Server Roles Using Server Manager – Add Roles and Features Wizard, Select Server Role and features	07/02/26 To 13/02/26 (02)			
	3.3	3.4 Post installation tasks for server roles, Managing and Removing Roles	14/02/26 (01)			
4 (6 hrs)		Unit 4: Introduction to Server Virtualization				
	4.1	4.1 Hyper-V Architecture, Installing and Configuring Hyper-V	20/02/26 To 21/02/26 (02)		Hands-on Demonstration	
	4.2	4.2 Creating a Virtual Machine (VM), Managing a VM's memory	27/02/26 To 28/02/26			

			(02)			
	4.3	4.3 Hybrid cloud environments, Active Directory and Hybrid Identity, Hybrid cloud environments, Active Directory and Hybrid Identity	06/03/26 To 07/03/26 (02)			
	Unit-5: File and Storage Management					
5 (6 hrs)	5.1	5.1 File Server Role-Configuring file sharing, File permissions and NTFS vs Share permissions, Advanced file sharing features (Access-based enumeration)	13/03/26 To 14/03/26 (02)	Hands-on Demonstration		
	5.2	5.2 Storage Management – Introduction to storage technologies, Creating and managing volumes using Disk Management, Dynamic Disks and RAID configurations (RAID 0, 1, 5, etc.)	20/03/26 To 21/03/26 (02)			
	5.3	5.3 Backup and Data Recovery - Configuring Windows Server Backup, Restoring data from backups, File and Folder Backup, Recovery options (VSS, system state backup)	27/03/26 To 28/03/26 (02)			
	30 Hrs.	Total	30 Hrs.			

- COs-POs & PSOs Matrix:**

Course Outcomes (COs)	Programme Outcomes (POs)							Programme Specific Outcomes* (PSOs)		
	PO-1 Basic and Discipline Specific Knowledge	PO-2 Problem Analysis	PO-3 Design/ Development of Solutions	PO-4 Engineering Tools	PO-5 Engineering Practices for Society, Sustainability and Environment	PO-6 Project Management	PO-7 Life Long Learning	PSO-1	PSO-2	PSO-3
CO1	2	-	-	3	1	-	3			
CO2	2	2	2	2	2	2	3			
CO3	2	2	2	3	1	3	2			
CO4	2	2	3	3	2	3	3			
CO5	2	2	2	3	1	2	3			

Legends :- High:03, Medium:02, Low:01, No Mapping: -
*PSOs are to be formulated at institute level

- Formative Assessment(FA-TH):**

There is no Formative Assessment for subject

- Summative Assessment(SA-TH):**

There is no Summative Assessment for subject

SUGGESTED LEARNING MATERIALS / BOOKS

Sr.No	Author	Title	Publisher with ISBN Number
1	Jordan Krause	Mastering Windows Server 2022	Packt Publishing; 4th ed. edition ISBN-10 - 1837634505
2	Bekim Dauti	Windows Server 2022 Administration Fundamentals	Packt Publishing; 3rd ed. edition ISBN-1803232153
3	Alexandru Calcatinge	Mastering Linux Administration	Packt Publishing; 2nd ed. edition, ISBN-10-1837630690

4	Wale Soyinka	Linux Administration A Beginner's Guide	McGraw Hill Education, ISBN-10-1259061183
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• **LEARNING WEBSITES & PORTALS**

Sr.No	Link / Portal	Description
1	https://youtu.be/uFWaxzk6VfU?si=1dKiDehJ1RrCdjYu	Practical guidance
2	https://learn.microsoft.com/en-us/windows-server/get-started/get-started-with-windows-server	Windows Server Administration
3	https://www.tutorialspoint.com/linux_admin/index.htm	User Management, FTP, Disk Management, Backup and Recovery
4	https://www.serveracademy.com/blog/active-directory-101-a-step-by-step-tutorial-for-beginners/	Active Directory Object Management
5	https://learn.microsoft.com/en-us/windows-server/virtualization/hyper-v/get-started/install-hyper-v?pivots=windows	Hyper-V

Ms. H.M.Somaiya
(Subject Teacher)

Mrs. R. Y. Thombare
(HOD-AN)

CC- 1. Course File-NMA