Lesson Plan

Name of the Faculty : Sh Shakti Raj
Discipline : Computer Engg.
Semester : 5th
Subject : **COMPUTER NETWORKS**
Lesson plan duration : 15 weeks (from Oct 2021to Jan 2022) Theory-3hr, Practical-3 hrs

Week	Theory Days	Syllabus	Practical Days	Practical
1	1	Concept of network, Models of network computing	Day 1 G1	Recognize the physical topology and cabling (coaxial, OFC, UTP, STP) of a network.
	2	Networking models, Peer-to –peer Network	Day 2 G2	Recognize the physical topology and cabling (coaxial, OFC, UTP, STP) of a network.
	3	Client-Server Network, LAN, MAN and WAN		
2	1	Network Services, Topologies	Day 1 G1	Recognition and use of various types of connectors RJ-45, RJ-11,BNC and SCST
	2	Techniques Switching	Day 2 G2	Recognition and use of various types of connectors RJ-45, RJ-11,BNC and SCST
	3	Revision		
3	1	OSI model: Definition, Layered Architecture Functions of various layers	Day 1 G1	Making of cross cable and straight cable
	2	OSI model: Definition, Layered Architecture Functions of various layers	Day 2 G2	Making of cross cable and straight cable
	3	Comparison between OSI and TCP/IP model		
4	1	Concept addressing of physical and logical	Day 1 G1	Install and configure a network interface card in a workstation.
	2	IPV4 addresses – Address space, Notations	Day 2 G2	Install and configure a network interface card in a
	3	Classful Addressing- Different IP address		

		classes, Classes & Blocks, Net-id & Host-Id, Masks, Address dep		workstation.
5	1	Classless Addressing – Address blocks, Masks	Day 1 G1	Identify the IP address of a workstation and the class of the address and configure the IP Address on a workstation
	2	Special IP Addresses	Day 2 G2	Identify the IP address of a workstation and the class of the address and configure the IP Address on a workstation
	3	Subnetting and Supernetting		
6	1	Loop back concept	Day 1 G1	Managing user accounts in windows and LINUX
	2	Network Address Translation	Day 2 G2	Managing user accounts in windows and LINUX
	3	IPV4 Header		
7	1	IPV6 Header	Day 1 G1	Sharing of Hardware resources in the network.
	2	Comparison between IPV4 and IPV6	Day 2 G2	Sharing of Hardware resources in the network.
	3	Revision		
8	1	Ethernet specification and standardization: 10 Mbps (Traditional Ethernet), 10 Mbps(Fast Ethernet) and 1000 Mbps (Gigabit Ethernet)	Day 1 G1	Use of Netstat and its options.
	2	Ethernet specification and standardization: 10 Mbps (Traditional Ethernet), 10 Mbps(Fast Ethernet) and 1000 Mbps (Gigabit Ethernet)	Day 2 G2	Use of Netstat and its options.
	3	Revision		
9	1	Network connectivity Devices	Day 1 G1	Connectivity troubleshooting using PING, IPCONFIG, IFCONFIG
	2	NICs	Day 2 G2	Connectivity troubleshooting using PING, IPCONFIG, IFCONFIG
	3	NICs Hubs, Switches, Routers, Repeaters, Modem, Gateway		

		Configuration		
10	1	NICs Hubs, Switches, Routers, Repeaters, Modem, Gateway Configuration	Day 1 G1	Installation of Network Operating System(NOS)
	2	Routers & Switches	Day 2 G2	Installation of Network Operating System(NOS)
	3	Routers & Switches		
11	1	Network Security Principles, Cryptography, using secure protocols	Day 1 G1	Visit to nearby industry for latest networking techniques
	2	Trouble Shooting Tools: PING,IPCONFIG, IFCONFIG, NETSTAT, TRACEROOT,Wireshark, Nmap, TCPDUMP, ROUTEPRINT	Day 2 G2	Visit to nearby industry for latest networking techniques
	3	DHCP Server Workgroup/Domain Networking		
12	1	Introduction to wireless LAN , IEEE 802.11, WiMax ad Li-Fi	Day 1 G1	Create a network of at least 6 computers.
	2	Wireless Security	Day 2 G2	Create a network of at least 6 computers.
	3	Introduction to bluetooth - architecture, application		
13	1	Comparison between bluetooth and Wifi	Day 1 G1	Create a network of at least 6 computers.
	2	Revision	Day 2 G2	Create a network of at least 6 computers.
	3	Revision		
14	1	Definition of Cloud Computing and advantages of Cloud Computing	Day 1 G1	Revision
	2	Cloud Computing service model- SaaS, PaaS, Iaas	Day 2 G2	Revision
	3	Deployment model-Private Cloud, Public Cloud, Hybrid, Community cloud.		
15	1	Revision	Day 1 G1	Revision

	2	Revision	Day 2 G2	Revision
	3	Revision		Revision

Lesson Plan

Name of the Faculty :Sh. Yashvir Singh
Discipline : Computer Engg.
Semester : 5th
Subject : **Software Engg.**
Lesson plan duration : 15 weeks (from Oct 2021to Jan 2022) Theory-3hr

Week	Theory Days	Syllabus
1	1	Concept of systems: Types of systems : open, closed, static and dynamic systems.
	2	Concept of systems: Types of systems : open, closed, static and dynamic systems.
	3	Concept of systems: Types of systems : open, closed, static and dynamic systems
2	1	Introduction, Programmes v/s Software Products
	2	Emergence of Software Engineering- Early Computer Programming
	3	High-level Language Programming
3	1	Control flow based Design
	2	Data Structure Oriented Design, Object Oriented Design
	3	Data Structure Oriented Design, Object Oriented Design
4	1	Revision
	2	Revision
	3	Requirement of Life Cycle Model
5	1	Classic Waterfall Model
	2	Prototyping Model, Evolutionary Model
	3	Prototyping Model, Evolutionary Model
6	1	Spiral Model, introduction to angle methodology
	2	Spiral Model, introduction to angle methodology
	3	Comparison of different Life Cycle Models
7	1	Revision
	2	Revision
	3	Responsibilities of Software Project Manager
8	1	- Metrics for Project Size Estimation- LOC(Lines of Code), Function Point Metric
	2	- Project estimation Techniques- Using COCOMO Model.

	3	Revision
9	1	Requirement gathering and Analysis
	2	Software Requirement Specifications(SRS
	3	Characteristics of good SRS
10	1	Characteristics and features of good Software Design Cohesion and Cupling
	2	Characteristics and features of good Software Design Cohesion and Cupling
	3	Software design Approaches- Function Oriented Design(Data flow diagrams, Data dictionary
11	1	Software design Approaches- Function Oriented Design(Data flow diagrams, Data dictionary
	2	Object Oriented Design, Structured Coding Technique
	3	Object Oriented Design, Structured Coding Technique
12	1	documentation Coding Styles
	2	documentation Coding Styles
	3	Revision
13	1	Concept of Testing
	2	Verification v/s Validations
	3	Verification v/s Validations
14	1	Unit Testing, Black Box Testing
	2	White Box Testing
	3	Integration testing, System testing, Configuration management
15	1	Revision
	2	Revision
	3	Revision

Lesson Plan

Name of faculty : Reenu

Discipline : Computer Engineering

Semester : 5

Subject : PHP

Lesson Plan Duration : 15 Weeks (from Oct 2021 to Jan 2022)

Week	Theory		Practical	
	Lecture day	**Topic (including assignment / test)**	**Practical day**	**Topic**
1st	1st	Introduction to PHP	1	Design PHP based web pages using correct PHP, CSS, and XHTML syntax, structure
	2nd	How PHP Works		
	3rd	The php.ini File, Basic PHP Syntax		
2nd	4th	PHP Tags	2	Design PHP based web pages using correct PHP, CSS, and XHTML syntax, structure
	5th	PHP Statements and Whitespace		
	6th	PHP Statements and Whitespace		
3rd	7th	Variable Types	3	Design PHP based web pages using correct PHP, CSS, and XHTML syntax, structure
	8th	Variable Names (Identifiers		
	9th	Type Strength, Variable Scope		
4th	10th	Constants, assisgnment	4	Create Web forms and pages that properly use HTTP GET and POST protocol as appropriate
	11th	Variable-Testing		
	12th	Manipulation Functions		
5th	13th	Operators: Strings	5	Create Web forms and pages that properly use HTTP GET and
	14th	Arrays, comments		

	15th	Sessional test		POST protocol as appropriate
6th	16th	Methods and Functions	6	Create Web forms and pages that properly use HTTP GET and POST protocol as appropriate
	17th	Built in functions		
	18th	User-defined functions		
7th	19th	Function arguments, Returning values	7	Design SQL language within MySQL and PHP to access and manipulate databases
	20th	Variable functions		
	21st	Anonymous functions		
8th	22nd	Control statements	8	Design SQL language within MySQL and PHP to access and manipulate databases
	23rd	Conditional Processing		
	24th	If Conditions , assignment		
9th	25th	Loops : while loop	9	Install and configure both PHP and MySQL
	26th	do...while, for loops		
	27th	break and continue		
10th	28th	PHP forms	10	Install and configure both PHP and MySQL
	29th	Login Security Authentication(User logins)		
	30th	Sessional test		
11th	31st	Authorization (Permissions)	11	Create PHP code that utilizes the commonly used API library functions built in to PHP.
	32nd	Encryption		
	33rd	Session Cookies		
12th	34th	PHP Mail	12	Create PHP code that utilizes the commonly used API library functions built in to PHP.
	35th	PHP Mail		
	36th	File Handling		
13th	37th	File Handling	13	Design and create a complete web site that demonstrates good PHP/MySQL client/server design
	38th	File Uploading		
	39th	File Uploading, assignment		
14th	40th	Introduction to MySQL	14	Design and create a complete web site that demonstrates good
	41st	Database design		

	42nd	Database Development using MySql		PHP/MySQL client/server design
15th	43rd	PHP Connectivity with MySQL	15	Design and create a complete web site that demonstrates good PHP/MySQL client/server design
	44th	PHP Connectivity with MySQL		
	45th	Sessional Test		

Lesson Plan

Name of the Faculty: Sh. Vivek Dahiya

Discipline: COMPUTER ENGG.

Semester: 5th

Subject: CLOUD COMPUTING

Lesson Plan: 14Weeks (from Oct 2021 to Jan 2022) Theory-3hrs, Practical-6hrs.

Week	Theory		Practical	
1st Week	Day 1	**Introduction** Evolution of Cloud Computing	Day2 G2	Introduction to Cloud Vendors: Amazon, Microsoft, IBM
	Day 3	Cloud Computing Overview,		
	Day 5	Cloud Computing Characteristics	Day4 G1	Introduction to Cloud Vendors: Amazon, Microsoft, IBM
2nd Week	Day 1	Cloud Computing Applications	Day2 G2	Introduction to Cloud Vendors: Amazon, Microsoft, IBM
	Day 3	Cloud Computing Benefits		
	Day 5	Cloud Computing Challenges	Day4 G1	Introduction to Cloud Vendors: Amazon, Microsoft, IBM
3rd Week	Day 1	**Service and Deployment Models** Cloud Computing Service Models: Infrastructure as a Service	Day2 G2	Setting up Virtualization using Virtualbox/VMWare Hypervisor
	Day 3	Platform as a Service		
	Day 5	Software as a Service;	Day4 G1	Setting up Virtualization using Virtualbox/VMWare Hypervisor
4th Week	Day 1	Cloud Computing Deployment Models: Private Cloud, Public Cloud	Day2 G2	Setting up Virtualization using Virtualbox/VMWare Hypervisor
	Day 3	Community Cloud, Hybrid Cloud		
	Day 5	Major Cloud Service providers	Day4 G1	Setting up Virtualization using Virtualbox/VMWare Hypervisor
5th Week	Day 1	**Service Level Agreement (SLA) Management** : Overview of SLA	Day2 G2	Introduction to OwnCloud
	Day 3	Types of SLA		

	Day 5	SLA Life Cycle, SLA Management Process.	Day4 G1	Introduction to OwnCloud
6th Week	Day 1	**Virtualization Concepts** Overview of Virtualization,	Day2 G2	Introduction to OwnCloud
	Day 3	Overview of Virtualization		
	Day 5	Types of Virtualization	Day4 G1	Introduction to OwnCloud
7th Week	Day 1	Types of Virtualization	Day2 G2	Installation and configuration of OwnCloud software for SaaS
	Day 3	Hypervisors		
	Day 5	Hypervisors	Day4 G1	Installation and configuration of OwnCloud software for SaaS
8th Week	Day 1	**Cloud Security** Infrastructure Security	Day2 G2	Installation and configuration of OwnCloud software for SaaS
	Day 3	Data Security		
	Day 5	Data Security	Day4 G1	Accessing Microsoft AZURE cloud-services
9th Week	Day 1	Privacy Issues	Day2 G2	Accessing Microsoft AZURE cloud-services
	Day 3	Privacy Issues		
	Day 5	Legal Issues in Cloud Computing	Day4 G1	Accessing Microsoft AZURE cloud-services
10th Week	Day 1	**Cloud Storage** Overview	Day2 G2	Accessing Microsoft AZURE cloud-services
	Day 3	Storage as a Service		
	Day 5	Benefits	Day4 G1	Accessing Microsoft AZURE cloud-services
11th Week	Day 1	Challenges	Day2 G2	Familiarization of different keys of 8085 microprocessor kit and its memory map
	Day 3	Storage Area Networks (SANs)		
	Day 5	Storage Area Networks (SANs)	Day4 G1	Accessing Microsoft AZURE cloud-services
12th Week	Day 1	**Scheduling in Cloud** Overview of Scheduling problem	Day2 G2	Accessing Microsoft AZURE cloud-services
	Day 3	Different types of scheduling		
	Day 5	Different types of scheduling	Day4 G1	Cloud Simulation Software Introduction: CloudSim
13th Week	Day 1	Scheduling for independent tasks	Day2 G2	Cloud Simulation Software Introduction: CloudSim
	Day 3	Scheduling for independent tasks		
	Day 5	Scheduling for dependent tasks	Day4 G1	Cloud Simulation Software Introduction: CloudSim
14th	Day 1	Scheduling for dependent tasks	Day2	Cloud Simulation Software

Week	Day 3	Static vs. Dynamic scheduling	G2	Introduction: CloudSim
	Day 5	Static vs. Dynamic scheduling	Day4 G1	Cloud Simulation Software Introduction: CloudSim