

Lesson Plan

Name of faculty	:	Ashish Mehta
Discipline	:	Comp. Engg
Year	:	1st Semester
Subject	:	Computer workshop
Lesson Plan Duration	:	16 weeks

week	Practical Topic
1	Anatomy of a Computer, Foundations of Modern Information Technology, The Central Processing Unit, How Microprocessors and Memory Chips are Made, Memory, Buses for Input and Output, communication With Peripherals.
2	Desktop: Identification of desktop and its parts, Hardware, Software and Firmware Introduction to Mother board, IO and memory expansion slots, Drives, front panel and rear panel.Processors& Bus: Introduction and types of Processor, Introduction to BUS
3	Laptop: Introduction to Laptop, advantages over Desktops Laptop components: Adapter – types, Battery – types, Laptop Keyboard and Touchpad Power Supply: Introduction to online and offline UPS, Difference between online and offline UPS
4	SMPS: Introduction to SMPS, Study of SMPS Connectors
5	Primary Memory: Introduction and types of primary memory (SDRAM, DDR RAM) Secondary Storage: Hard Disk –Working Principle of IDE, HDD Partition – Formatting, Introduction to SATA and Solid-State Drives (SSD)
6	1st Internal Sessional exam
7	Removable Storage: Introduction to CD, DVD, reading & writing operations; Introduction to Blue-ray devices Flash memory: Flash drives (pen drives), Memory cards and its types
8	Inputting Text and Graphics, State of the Art, Input and Output, Pointing Devices, Foundations of Modern Output, Display Screens, Printers, Foundations of Modern Storage, Storage Media, Increasing Data Storage Capacity, Backing up your Data, The Smart Card Keyboard: Types of keyboards (wired and wireless Keyboard), keyboards connectors, troubleshooting
9	Mouse: types, connectors, operation of Optical mouse and Troubleshooting. Printers: Introduction – Types of printers- Dot Matrix, Inkjet, LaserJet, MFP (Multi-Function Printer), advantages, disadvantages, cables and connectors, Troubleshooting. I/O Ports: Introduction and identification of Serial, Parallel, USB, HDMI.
10	Displays: Introduction to LED, LCD and TFT Displays, cables and connectors Graphic Cards: Introduction to different types of Graphics cards
11	2nd Sessional exam

12	Bios-setup: Standard CMOS setup, Advanced BIOS setup, advanced chipset features, PC Bios communication, upgrading BIOS, Flash BIOS -setup. POST and BOOTING: Definition, POST Test sequence – beep codes. Diagnostic Software and Viruses: Computer Viruses, Precautions, Anti-virus Software, Working of Antivirus software's
13	General troubleshooting of various peripheral devices (printer, pc, laptop, keyboard, mouse, monitor, hard disk)
14	Assembling and Disassembling of PC DIPLOMA IN COMPUTER ENGINEERING NSQF LEVEL - 3 HARYANA STATE BOARD OF TECHNICAL EDUCATION 29 Installation and Troubleshooting: Formatting, Partitioning and Installation of OS: Windows and Linux Installation of peripheral devices: Printers, scanner Installation of software's: application software, systems software
15	3rd Sessional Exam

Lesson Plan

Name of Faculty:		Dr. BALRAJ
Discipline:		COMPUTER Engineering
Semester:		1st Semester
Subject:		Fundamental of IT
Duration:		16 WEEKS
THEORY		PRACTICAL
DAY	TOPIC (INCLUDING ASSIGNMENT/ TEST)	
1st	UNIT I basics of Computer	Introduction to the IT Computer Lab
2nd	Brief history of development of computers, Definition of Computer, Block diagram of a Computer, hardware, Software Importance of cache memory, CPU speed and CPU word length	Browser features, browsing, using various search engines, writing search queries
3rd	Bootting: Cold and hot Bootting, Interaction between the CPU and Memory with Input/output devices	Visit various e-governance/Digital India portals, understand their features, services offered
4th	Memory, Bit, Nibble, Byte, kB, MB, GB, TB, PB, Functions of memory	read Wikipedia pages on computer hardware components, look at those components in lab, identify them, recognize various ports/interfaces and related cables, etc.
5th	Use of storage devices in a Computer, List types of memory used in a Computer	Using administrative Tools/Control Panel Settings of Operating Systems
6th	Function of CPU and major functional parts of CPU	Connect various peripherals (printer, scanner, etc.) to computer; explore various features of peripheral and their device driver software.
7th	<i>Revision/ Assignment / Test</i>	Explore features of Open Office tools and MS-Office, create documents, create presentation, create spread sheet, using these features, do it multiple times
8th	UNIT II basic Internet Skills	working with Conversion Software like pdf To word, word To PPT, etc.
9th	Understanding browser, Introduction to www, efficient use of search engines	Working with Mobile Applications – Searching for authentic Mobile app, Installation and Settings, Govt. of India Mobile applications
10th	Awareness about Digital India portals (state and national portals) and college portals.	Creating email id, sending and receiving mails with attachments.

	advantages of Email, Various email service providers	
11th	Creation of email id, sending and receiving emails, attaching documents with email and drive. Effective use of Gmail	Using Google drive, Google calendar
12th	G-Drive, Google Calendar, Google Sites, Google Sheets	revision
13th	Online mode of communication using Google Meet & webEx.	revision
14th	<i>Revision/ Assignment / Test</i>	revision
15th	UNIT III Basic Logic Building	Revision
16th	Introduction to Programming, Steps involved in problem solving, Definition of algorithm, Definition of Flowchart	1. Create Flow chart and algorithm for the following : 2. addition of n numbers and display result 3. To convert temperature from Celsius to Fahrenheit 4. To find area and Perimeter of Square 5. Swap Two Numbers 6. Find the smallest of two numbers 7. Find whether given number is Even or Odd 8. To print first n even Numbers 9. Find sum of series $1+2+3+...+N$ 10. Print multiplication Table of a number 11. Generate first n Fibonacci terms $0,1,1,2,3,5 \dots n (n>2)$ 12. Sum and average of given series of numbers 13. Factorial of number n ($n!=1 \times 2 \times 3 \times \dots \times n$) 14. Armstrong Number 15. Find whether given number is Prime or not

Lesson Plan

Name of Faculty	: Dr. Surender Malan / Ms. Neeraj MOR
Discipline	: Computer Engineering
Semester	: 3 rd
Subject	: DBMS- Data Base Management System
Duration	: 16 Weeks
Work load (Lecture/Practical) per week (in hours): Lectures-02, Practicals-04/ Group	

Week	Lecture /Day	Theory Topic Covered (Including assignment/test)	Lab /Week	Practical Performed
1	1	Introduction to Database system Concepts	G1 /G2	Over view, features, function of MS -Access
	2	Introduction to Architecture Database Systems. Database and its purpose		
2	1	Characteristics of the database approach. Advantages and disadvantages	G1 /G2	Application developments in MS-Access
	2	Classification of DBMS Users, Actors on the scene		
3	1	Database Administrators, Database Designers. End Users, System Analysts and Application Programmers	G1 /G2	Practice in MS-Access
	2	Workers behind the scene (DBMS system designers and implementers, tool developers, operator and maintenance personnel)		
4	1	Data models, schemas, instances, data base state. DBMS Architecture; The External level.	G1 /G2	Exercises on Creation and Modification of structure of tables.
	2	The conceptual level, The internal level, Mappings. Data Independence. Logical data Independence, Physical data Independence.		
5	1	Database Languages and Interfaces Classification of Database Management Systems- Centralized, Distributed, parallel and object based.	G1 /G2	Exercises on Creation and Modification of structure of tables.
	2	Seminar Assignment-1		
6	1	Sessional Test-1	G1 /G2	Exercise on inserting and deleting values from table.
	2	Data Modeling using E.R. Model (Entity Relationship Model) and Relational Data Models Classification. File based or primitive models, traditional data models, semantic data models.		
7	1	Entities and Attributes, Entity types and Entity sets. Key attribute and domain of attributes, Relationship among entities, Database design with E/R model.	G1 /G2	Exercise on inserting and deleting values from table.
	2	Relational Model Concepts: Domain, Attributes, Tuples cardinality, keys (Primary, Secondary, foreign, alternative keys) and Relational constraints and relational database schemes		

8	1	Domain constraints, Key constraints and constraints on Null. Relational databases and relational database schemes, Entity integrity, referential integrity and foreign key.	G1 /G2	Exercise on querying the table (using select command).
	2	Comparison b/w E/R model and Relational model Normalization Trivial and Non-trivial Dependencies		
9	1	Non-loss decomposition and functional dependencies. First, Second and Third normal forms, Boyce/Codd normal form, de normalization.	G1 /G2	Exercise on querying the table (using select command).
	2	Seminar/ Doubt Session Assignment-2		
10	1	Sessional Test-2	G1 /G2	Exercise on using various types of joins.
	2	Database Access and Security. Creating and using indexes		
11	1	Creating and using views	G1 /G2	Exercise on using various types of joins.
	2	Database security, process controls, database protection, grant and revoke.		
12	1	MYSQL/SQL (Structured Query Language)	G1 /G2	Exercise on using functions provided by database package.
	2	SQL* DDL (Data Definition Languages): Creating Tables, Creating a table with data from another table		
13	1	Inserting values into a table, updating columns of a Table, Deleting Rows, Dropping a Table. DML (Data Manipulation Language)	G1 /G2	Exercise on using functions provided by database package.
	2	Database Security and Privileges, Grant and Revoke Command, Maintaining Database Objects, Commit and Rollback, various types of select commands		
14	1	Various types of joins, sub query, aggregate functions. Challenges of My SQL.	G1 /G2	Exercise on commands likes - Grant, Revoke, Commit and Rollback etc.
	2	Introduction to Big Data. Understanding Big Data with samples		
15	1	Assignment-3 Interaction on Syllabus Covered	G1 /G2	Exercise on commands likes - Grant, Revoke, Commit and Rollback etc.
	2	Sessional Test-3		

NAME OF THE FACULTY : Aayush
 DISCIPLINE : Computer Engineering
 SEMESTER : 3rd
 SUBJECT : DIGITAL ELECTRONICS
 LESSON PLAN DURATION : 16 Weeks
 WORK LOAD PER WEEK (IN HOURS) : LECTURE-03, PRACTIACL-03 PER GROUP

WEEK S.N.	THEORY		PRACTICAL		
	Lecture Hours	TOPIC (Including Assignment/Test)	Practical Hours	Experiment	
1 st	1	Introduction to Digital Electronics: Distinction between analog and digital signal.	Group-1	1	Verification and interpretation of truth tables for AND, OR, NOT NAND, NOR and Exclusive OR (EXOR) and Exclusive NOR(EXNOR) gates
				2	
				3	
	2	Applications and advantages of digital signals.	Group-2	1	Verification and interpretation of truth tables for AND, OR, NOT NAND, NOR and Exclusive OR (EXOR) and Exclusive NOR(EXNOR) gates
				2	
				3	
2 nd	3	Number System: Binary, octal and hexadecimal number system	Group-1	1	Verification and interpretation of truth tables for AND, OR, NOT NAND, NOR and Exclusive OR (EXOR) and Exclusive NOR(EXNOR) gates
				2	
				3	
	4	Conversion from decimal and hexadecimal to binary and vice-versa.	Group-2	1	Verification and interpretation of truth tables for AND, OR, NOT NAND, NOR and Exclusive OR (EXOR) and Exclusive NOR(EXNOR) gates
				2	
				3	
3 rd	5	Binary addition and subtraction including binary points. 1's and 2's complement method of addition/subtraction	Group-1	1	Verification and interpretation of truth tables for AND, OR, NOT NAND, NOR and Exclusive OR (EXOR) and Exclusive NOR(EXNOR) gates
				2	
				3	
	6	Codes and Parity: Concept of code, weighted and non-weighted codes	Group-2	1	Verification and interpretation of truth tables for AND, OR, NOT NAND, NOR and Exclusive OR (EXOR) and Exclusive NOR(EXNOR) gates
				2	
				3	
4 th	7	Examples of 8421, BCD, excess-3 and Gray code	Group-1	1	Realization of logic functions with the help of NAND or NOR gates
				2	
				3	
	8	Concept of parity, single and double parity and error detection	Group-2	1	Realization of logic functions with the help of NAND or NOR gates
				2	
				3	
5 th	9	Logic Gates and Families: Concept of negative and positive logic.	Group-1	1	To design a half adder using XOR and NAND gates and verification of its operation
				2	
				3	
	10	Definition, symbols and truth tables of NOT, AND, OR Gates	Group-2	1	To design a half adder using XOR and NAND gates and verification of its operation
				2	
				3	
5 th	11	Definition, symbols and truth tables of NAND, NOR, EXOR Gates	Group-1	1	Construction of a full adder circuit using XOR and NAND gates and verify its operation
				2	
				3	
	12	Definition, symbols and truth tables of NAND and NOR as universal gates.	Group-2	1	Construction of a full adder circuit using XOR and NAND gates and verify its operation
				2	
				3	
5 th	13	Introduction to TTL and CMOS logic families	Group-1	1	Construction of a full adder circuit using XOR and NAND gates and verify its operation
				2	
				3	
5 th	14	Assignment-1	Group-2	1	Construction of a full adder circuit using XOR and NAND gates and verify its operation
				2	
				3	

5 th			Group-2	1	Construction of a full adder circuit using XOR and NAND gates and verify its operation
	15	Sessional Test-1		2	
				3	
6 th	16	Logic Simplification: Postulates of Boolean algebra, De Morgan’s Theorems	Group-1	1	Revision Experiment Performed
	17	Implementation of Boolean (logic) equation with gates		2	
				3	
	18	K-Map (up to 4 variables)	Group-2	1	Revision Experiment Performed
				2	
				3	
7 th	19	Simple application in developing combinational logic circuits	Group-1	1	Verification of truth table for positive edge triggered, negative edge triggered, level triggered IC flip-flops (At least one IC each of D latch , D flip-flop, JK flip-flops)
	20	Arithmetic circuits: Half adder and Full adder circuit		2	
				3	
	21	Half adder and Full adder circuit, design and implementation	Group-2	1	Verification of truth table for positive edge triggered, negative edge triggered, level triggered IC flip-flops (At least one IC each of D latch , D flip-flop, JK flip-flops)
				2	
				3	
8 th	22	Decoders, Multiplexers, Multiplexers and Encoder: Introduction	Group-1	1	Verification of truth table for encoder and decoder ICs, Mux and DeMux
	23	Four bit decoder circuits for 7 segment display and decoder/driver ICs		2	
				3	
	24	Basic functions and block diagram of MUX and DEMUX with different ICs	Group-2	1	Verification of truth table for encoder and decoder ICs, Mux and DeMux
				2	
				3	
9 th	25	Basic functions and block diagram of Encoder	Group-1	1	To design a 4 bit SISO, SIPO, PISO, PIPO shift registers using JK/D flip flops and verification of their operation
	26	Latches and flip flops: Concept and types of latch with their working and applications		2	
				3	
	27	Operation using waveforms and truth tables of RS, T, D, Master/Slave JK flip flops.	Group-2	1	To design a 4 bit SISO, SIPO, PISO, PIPO shift registers using JK/D flip flops and verification of their operation
				2	
				3	
10 th	28	Difference between a latch and a flip flop.	Group-1	1	Revision Experiment Performed
	29	Assignment-2		2	
				3	
	30	Sessional Test-2	Group-2	1	Revision Experiment Performed
				2	
				3	
11 th	31	Counters: Introduction	Group-1	1	To design a 4 bit ring counter and verify its operation
	32	Introduction to Asynchronous counters		2	
				3	
	33	Introduction to Synchronous counters	Group-2	1	To design a 4 bit ring counter and verify its operation
				2	
				3	

12 th	34	Binary counters	Group-1	1	Use of Asynchronous Counter ICs (7490 or 7493)
				2	
				3	
	35	Divide by N ripple counters	Group-2	1	Use of Asynchronous Counter ICs (7490 or 7493)
	36	Decade counter, Ring counter		2	
3					
13 th	37	Shift Register: Introduction and basic concepts including shift left and shift right. Serial in parallel out, serial in serial out	Group-1	1	Revision Experiment Performed
				2	
				3	
	38	Parallel in serial out, parallel in parallel out. Universal shift register.	Group-2	1	Revision Experiment Performed
	39	A/D and D/A Converters: Working principle of A/D and D/A converters, Stair step Ramp A/D converter, Dual Slope A/D converter.		2	
3					
14 th	40	Successive Approximation A/D Converter, detail study of : Binary Weighted D/A converter, R/2R ladder D/A converter. Applications of A/D and D/A converter	Group-1	1	Revision Experiment Performed
				2	
				3	
	41	Semiconductor Memories: Memory organization, classification of Semiconductor memories	Group-2	1	Revision Experiment Performed
	42	(RAM, ROM, PROM, EPROM, EEPROM), static and dynamic RAM		2	
3					
15 th	43	Introduction to 74181 ALU IC	Group-1	1	Revision Experiment Performed
				2	
				3	
	44	Assignment- 3	Group-2	1	Revision Experiment Performed
	45	Sessional Test- 3		2	
3					

Name of Faculty : Sh. Narender Kumar/ Ms. Neeraj Mor
 Semester : 3rd
 Subject : Operating System
 Department : Computer Engg.
 Lesson Plan : 15 Weeks
 Work load (Lecture / Practical) per Week: Lectures-03, Practical -04

Week	Theory		Practical	
	Lecture Day	Topic(including assignment/Test)	Practical Day	Topic
1st	1st	UNIT-1--Overview of Operating Systems Definition of Operating Systems, Types of Operating Systems	1st	Demonstration of all the controls provided in windows control panel.
	2nd	Operating System Services, User operating system interface,		
	3rd	System Calls, Types of System Calls,		
2nd	4th	System Programs, Operating System Structure	2nd	Exercise on Basics of windows
	5th	Virtual Machine, Benefits of Virtual Machine		
	6th	UNIT-2 Process Management (Principles and Brief Concept)--- Process concept , Process State, Process Control Block		
3rd	7th	Scheduling Queues, Scheduler, Job Scheduler, Process Scheduler	3rd	Installation of Linux Operating System
	8th	Context Switch, Operations on Processes, Interprocess Communication		
	9th	Shared Memory Systems, Message Passing Systems		
4th	10th	CPU Scheduler, Scheduling Criteria, Scheduling Algorithms, Preemptive and Non Preemptive	4th	Usage of directory management commands of Linux: ls, cd, pwd, mkdir, rmdir
	11th	First come first serve (FCFS), Shortest Job first(SJF), Round Robin (RR)		
	12th	Multiprocessor Scheduling, Process Synchronizatin		
5th	13th	Deadlocks (Principles and Brief Concept)-Deadlock, Conditions for Dead lock	5th	Usage of directory management commands of Linux: ls, cd, pwd, mkdir, rmdir
	14th	Methods for handling deadlocks, Deadlock Prevention,		
	15th	Deadlock Avoidance, Deadlock detection, Recovery from deadlock		
6th	16st	UNIT-III Memory Management Function (Principles and Brief Concept) Definition – Logical and Physical address Space	6th	Usage of File Management commands of Linux: cat, chmod,cp, mv, rm, pg, more, find
	17th	Swapping, Memory allocation		

	18th	Contiguous Memory allocation, Fixed and variable partition		
7th	19th	Internal and External fragmentation and Compaction	7th	Usage of File Management commands of Linux: cat, chmod, cp, mv, rm, pg, more, find
	20th	Paging – Principle of operation		
	21st	Page allocation		
8th	22nd	Hardware support for paging, Protection and sharing	8th	Use the general purpose commands of Linux: wc, od, lp, cal, date, who, whoami
	23rd	Disadvantages of paging		
	24th	Segmentation, Virtual Memory		
9th	25th	Revision Class test	9th	Use the general purpose commands of Linux: wc, od, lp, cal, date, who, whoami
	26th	Sessional Test		
	27th	Revision		
10th	28th	UNIT-IV-I/O Management Functions & File Management (Principles and Brief Concept) Dedicated Devices, Shared Devices	10th	Using the simple filters: pr, head, tail, cut, paste, nl, sort
	29th	I/O Devices, Storage Devices		
	30th	Buffering, Spooling.		
11th	31st	Types of File System; Simple file system Basic file system, Logical file system	11 th	Using the simple filters: pr, head, tail, cut, paste, nl, sort
	32nd	Physical file system, Various Methods of Allocating Disk Space		
	33rd	Types of File System; Simple file system		
12th	34th	UNIT-V-Linux Operating System History of Linux and Unix, Linux Overview	12th	Write a shell program that finds the factorial of a number.
	35th	Structure of Linux, Linux releases		
	36th	Open Linux, Linux System Requirements		
13th	37th	Linux Commands and Filters: mkdir, cd, rmdir, pwd, ls, who, whoami, date	13th	Write a shell program that finds whether a given number is a prime number or not.
	38th	cat, chmod, cp, mv, rm, pg, more, pr, tail		
	39th	head, cut, paste, nl, grep, wc, sort		
14th	40th	kill, write, talk, mseg, wall, merge, mail, news	14th	Write a shell program to find the average of three numbers
	41st	Shell: concepts of command options		
	42nd	I/O redirection, pipes		
15th	43rd	Redirecting and piping with standard errors	15th	Write a shell program that will convert all the text of the file from lowercase to uppercase
	44th	Shell scripts		
	45th	vi editing commands		

Name of the Faculty**: Ms. Neeraj Mor****Department****: Computer Engineering****Semester****: 3rd****Subject****: Programming in C****Duration****: 16 Weeks****Work load (Lecture/Practical) per week (in hours)****: Lectures-03, Practical -04**

Week	Day	Theory Topic (Including assignment / test)	Group	Practical Topic
1st	1st	Algorithm and Programming Development: Introduction, Steps in development of a program	G-I	P.E on executing and editing a C program
	2nd	Flow charts, Algorithm development		
	3rd	Algorithm and Flowchart writing for practical	G-II	P.E. on executing and editing a C program
2nd	4th	Programme Debugging, Practice of error detection and corrections in examples.	G-I	P.E. on defining variables and assigning values to variables
	5th	Program Structure: Introduction to structure of C program		
	6th	Keywords, assign statements	G-II	P.E. on defining variables and assigning values to variables
3rd	7th	I/O statements: Printf and Scanf,	G-I	P.E. on arithmetic and relational operators
	8th	Constants, variables and data types		
	9th	Operators and Expressions	G-II	P.E. on arithmetic and relational operators
4th	10th	Unformatted and Formatted IOS	G-I	P.E. on arithmetic Expressions and their evaluation
	11th	Data Type Casting		
	12th	Class Test	G-II	P.E. on arithmetic expressions and their evaluation
5th	13th	Control Structures: Introduction and use	G-I	P.E. on formatting input/output using printf and scanf and their return type values
	14th	Decision making with IF – statement		
	15th	IF – Else and Nested IF	G-II	P.E. on formatting input/output using printf and scanf and their return type values
6th	16th	While and do-while, for loop	G-I	P.E. using if, if-else statement
	17th	Break. Continue statements		
	18th	Go to and switch statements	G-II	P.E. using if, if-else statement
7th	19th	Revision of unit III	G-I	P.E. on switch statement
	20th	Sessional Test I		

	21st	Pointers: Introduction to pointers	G-II	P.E. on switch statement
8th	22nd	Signed and unsigned short and long integer variable concepts	G-I	P.E. on do – while statement
	23rd	Address operator and pointers, Declaring and initializing pointers		
	24th	Single pointer	G-II	P.E. on do – while statement
9th	25th	Revision of unit IV	G-I	P.E. on for loop statement
	26th	Introduction to functions		
	27th	Global and local variables	G-II	P.E. on for loop statement
10th	28th	Function Declaration	G-I	Simple programs using pointers
	29th	Standard functions		
	30th	Parameters and Parameter Passing	G-II	Simple programs using pointers
11th	31st	Call - by value/reference	G-I	Programs on one-dimensional array
	32nd	Sessional II		
	33rd	Arrays and Strings: Introduction to Arrays, Array Declaration, Length of array	G-II	Programs on one-dimensional array.
12th	34th	Single and Multidimensional Array, Arrays of characters	G-I	Programs on two-dimensional array.
	35th	Introduction of Strings: String declaration and definition, String Related function i.e. strlen, strcpy, strcmp		
	36th	Passing an array to function	G-II	Programs on two-dimensional array.
13th	37th	Pointers to an array and strings	G-I	Programs for putting two strings together and comparing two strings
	38th	Structures and Unions: Introduction		
	39th	Declaration of structures	G-II	Programs for putting two strings together and comparing two strings
14th	40th	Accessing structure members	G-I	Simple programs using functions
	41st	Structure Initialization		
	42nd	Pointer to structures	G-II	Simple programs using functions
15th	43rd	Introduction, Difference between Structures and unions	G-I	programs using structures and union
	44th	Concept of File Handling		

	45th	Opening and Closing of File	G-II	programs using structures and union
16th	46th	Modes of Accessing Files	G-I	Program on Reading and Writing data to a file.
	47th	Reading and Writing in the File	G-II	Program on Reading and Writing data to a file.
	48th	Sessional III		

Lesson Plan

Name of the Faculty : Aayush Bhardwaj
Discipline : Computer Engineering
Semester : 5TH
Subject : PHP
Lesson Plan Duration : 16 Weeks

Work Load (Lecture / Practical) per week (In hours): Lecture-3, Practical-3)

Week	Theory		Practical	
	Lect. Day	Topic Covered	Pract . 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, BasicPHP 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, assignment	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		
	33th	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	43th	PHP Connectivity withMySQL	15	Design and create a complete web site that demonstrates good PHP/MySQL client/server design
	44th	PHP Connectivity withMySQL		
	45th	Sessional Test		

Lesson Plan				
Name of the Faculty			Aayush Bhardwaj	
Discipline			Computer Engg.	
Semester			5th	
Duration			16 Weeks	
Subject			Computer Network	
Work Load (Lecture / Practical) per week (in hours)			Lectures -03, Practical- 04	
Week	Theory		Practical	
	Lecture day	Topic (including assignment / test)	Practical Day	Topic
1 st	1 st	Networks Basics	1 st	Recognize the physical topology and cabling (coaxial, OFC, UTP, STP) of a n/w
	2 nd	Concept of network ,Models of network computing		
	3 rd	Networking models		
2 nd	4 th	Peer-to –peer Network	2 nd	Recognition and use of various types of connectors RJ-45, RJ-11,BNC and SCST
	5 th	Server Client Network Network Services		
	6 th	Concept of switching Switching Techniques		
3 rd	7 th	OSI Model	3 rd	Recognition of network devices (Switches, Hub, Routers of access points for Wi-Fi
	8 th	OSI Reference Model		
	9 th	OSI Reference Model		
4 th	10 th	OSI Reference Model	4 th	Making of cross cable and straight cable
	11 th	OSI Reference Model		
	12 th	OSI Reference Model		
5 th	13 th	OSI Reference Model	5 th	Install and configure a network interface card in a workstation
	14 th	Function of various layers in OSI Reference Model		
	15 th	Function of various layers in OSI Reference Model		
6 th	16 th	- Function of various layers in OSI Reference	5 th	Install and configure a network interface card in a workstation
	17 th	- Function of various layers in OSI Reference Model		
	18 th	- Function of various layers in OSI Reference Model		

Week	Theory		Practical	
	Lecture day	Topic (including assignment / test)	Practical Day	Topic
7 th	19 th	Introduction to TCP/IP	5 th	Install and configure a network interface card in a workstation
	20 th	Concept of physical and logical addressing - IPV4 addressers- Address .		
	21 st	Notations, Classful Addressing, Classless Addressing, Network Address Translation	6 th	Identify the IP address of a workstation and the class of the address and configure the IP
8 th	22 nd	- Different classes of IP addressing, special IP address		
	23 rd	- Different classes of IP addressing, special IP address		
	24 th	- Sub netting and super netting		
9 th	25 th	- Sub netting and super netting	7 th	Managing user accounts in windows.
	26 th	- Loop back concept - IPV4 and IPV6 packet Format		
	27 th	- Loop back concept - IPV4 and IPV6 packet Format		
10 th	28 th	Network Architecture	8 th	Study and Demonstration of sub netting of IP address
	29 th	Ethernet Specification and Standardization:		
	30 th	10 Mbps (Traditional Ethernet),		
11 th	31 st	10 Mbps (Fast Ethernet) and 1000 Mbps (Gigabit Ethernet), Introduction to Media)		
	32 nd	Connectivity (Leased lines, ISDN, PSTN, RF,	9 th	Use of Netstat and its options.
	33 rd	DSL, VSAT, Optical and IPLC		
12 th	34 th	Connectivity devices		
	35 th	- NICs - Hubs, bridges - Repeaters, switches - Gateways		
	36 th	Multiplexers		
13 th	37 th	Network Security Principles, Cryptography, using secure protocols	10 th	Connectivity troubleshooting using PING, IPCONFIG, IFCONFIG
	38 th	Trouble Shooting Tools: PING, IPCONFIG, IFCONFIG, NETSTAT, TRACEROUT, Wireshark, Nmap, TCPDUMP, ROUTEPRINT □ DHCP Server □ Workgroup/Domain Networking		Installation of NetworkOperating System (NOS)
	39 th	□ Introduction to wireless LAN IEEE 802.11, WiMax ad Li-Fi □ Wireless Security		viva

14 th	40 th	☐ Introduction to bluetooth - architecture, application	11 th	viva
	41 st	☐ Comparison between bluetooth and Wifi		viva
	42 nd	Definition of Cloud Computing and advantages of Cloud Computing. ☐ Cloud Computing service model- SaaS, PaaS, Iaas.		viva
15 th	43 rd	☐ Deployment model-Private Cloud, Public Cloud, Hybrid, Community cloud.		viva
	44 th	Revision	12 th	viva
	45 th	Revision		viva

Lesson Plan

Name of Faculty:

Dr. Balraj

Discipline:

Computer Engg.

Semester:

5th

Subject:

Cloud Computing

Lesson Plan Duration:

16 Weeks

Work Load (Lecture / Practical) per week (In hours): Lecture-3, Practical-3)

WEEK NO.	DAY	THEORY TOPIC COVERED	WEEK NO.	PRACTICAL	
1	1	Evolution of Cloud Computing	1	Introduction to Cloud Vendors: Amazon, Microsoft, IBM.	
	2	Evolution of Cloud Computing			
	3	Cloud Computing Overview			
2	1	Characteristics	2		
	2	Applications			
	3	Benefits and Challenges.			
3	1	Revision	3		
	2	Cloud Computing Service Models			
	3	Infrastructure as a Service			
4	1	Platform as a Service, Software as a Service;	4	Setting up Virtualization using Virtual box/VMWare Hypervisor	
	2	Cloud Computing Deployment Models			
	3	Private Cloud and Public Cloud			
5	1	Community Cloud and Hybrid Cloud	5		
	2	Major Cloud Service providers			
	3	Seminar and Assignment			
6	1	Test	6		Introduction to Own Cloud
	2	Overview of SLA			
	3	Types of SLA			
7	1	SLA Life Cycle	7		
	2	SLA Management Process			
	3	Revision and Seminar			
8	1	Test	8	Installation and configuration of OwnCloud software for SaaS	
	2	Overview of Virtualization			
	3	Types of Virtualization			
9	1	Types of Virtualization	9		
	2	Benefits of Virtualization			
	3	Hypervisors			
10	1	Revision and seminar	10	Accessing Microsoft AZURE cloud-services	
	2	Assignment			
	3	Test			
11	1	Infrastructure Security	11		
	2	Data Security & Privacy Issues			
	3	Legal Issues in Cloud Computing			

12	1	Legal Issues in Cloud Computing	12	Cloud Simulation Software Introduction: Cloud Sim
	2	Storage as a Service		
	3	Benefits and Challenges		
13	1	Storage Area Networks (SANs).	13	
	2	Scheduling problem		
	3	Different types of scheduling		
14	1	Different types of scheduling	14	Revision of practical
	2	Scheduling for independent tasks		
	3	Scheduling for dependent tasks		
15	1	Scheduling for independent and dependent tasks	15	Viva Voice
	2	Scheduling for independent and dependent tasks		
	3	Static vs. Dynamic scheduling		
16	1	Static vs. Dynamic scheduling	16	
	2	Assignment And Revision		
	3	3rd Sessional		

LESSON PLAN

Name of Faculty : Narender Kumar
 Discipline : Computer Engineering
 Semester : 5th
 Subject : Programming in PYTHON
 Lesson Plan Duration: 16WEEKS

WORK LOAD (LECTURE/PRACTICAL):LECTURES-3,PRACTICALS-4

WEEK	THEORY		PRACTICAL	
1st	DAY	TOPIC	PRAC. DAY	TOPIC
	1	UNIT1The way of the program The Python programming language, What is a program? What is debugging?	1 - 4	Introduction and python installation
	2	Syntax errors, Runtime errors, Semantic errors, experimental debugging.		
	3	Variables, Expressions and Statements: Values and data types, Variables, Variable names and keywords, Statements, Evaluating expressions		
2nd	1	Operators and operands, Type converter functions, Order of operations	1-4	Let list1 and list2 be two lists of integers. Implement function sublist() that takes as input lists list1 and list2 and returns True if list1 is a sublist of list2, and False otherwise
	2	Operations on strings, Input, Composition, The modulus operator.		
	3	Conditionals: Boolean values and expressions, Logical operators Simplifying Boolean Expressions		
3rd	1	Conditional execution, Chained conditionals, Nested conditionals, The return statement, Logical opposites.	1-4	Write function vowelCount() that takes a string as input and counts and prints the number of occurrences of vowels in the string.
	2	UNIT II Iteration: Assignment, Updating variables, The for loop, The while statement,		
	3	The Collatz 3n + 1 sequence, Tables, Two-dimensional tables		
4th	1	Paired Data, Nested Loops for Nested Data.	1-4	- The cryptography function crypto() takes as input a string (i.e., the name of a file in the current directory). The function should print the file on the screen with this modification: Every occurrence of string 'secret' in the file should be replaced with string 'xxxxxx'. - Write a function stats() that takes one input argument: the name of a text file. The function should print, on the screen, the number of lines, words, and characters in the file; your function should open the file only once.
	2	Strings: Working with strings as single things, Working with the parts of a string,		
	3	Length, Traversal and the for loop, Slices, String comparison		
5th	1	Strings are immutable, The in and not in operators, A find function, Looping and counting, Optional parameters,.	1-4	Implement function distribution () that takes as input the name of a file (as a string). This online file will contain letter grades separated by blanks. Your function should print
	2	The built-in find method, The split method, Cleaning up your strings, The string format method		
	3	Test 1		

				thedistribution of grades • The function censor () takes the name of a file (a string) as input. The function should open the file, read it, and then write it into file censored.txt with this modification: Every occurrence of a four-letter word in the file should be replaced with string 'xxxx' • Create a dictionary for phones and their prices. Write functions to add a new entry (phone:price) ,search for a particular phone and retrieve it's price, given price findphones with same price , remove an entry, display all phones sorted according to price
6 th	1	Tuples: Tuples are used for grouping data, Tuple assignment	1-4	• Write a Python program that prompts the user to enter a list of first names and stores them in a list. The program should display how many times the letter 'a' appears within the list • Write a Python program that prompts the user to enter integer values for each of two lists.It then should displays whether the lists are of the same length, whether the elements in each list sum to the same value, and whether there are any values that occur in both lists • Implement and test a Python program that determines if all parentheses in an entered line of code form matching pairs. Note: Pairs of parentheses may be nested.
	2	Tuples as return values, Composability of Data Structures.		
	3	Lists: List values, Accessing elements, List length, List membership, List operations, List slices,		
7 th	1	Lists are mutable, List deletion, Objects and references, Aliasing, Cloning lists	1-4	• Suppose variable s has been assigned in this way: s = ""It was the best of times, it was the worst of times; it was the age of wisdom, it was the age of foolishness; it was the epoch of belief, it was the epoch of incredulity; it was ..."" Then do the following, in order, each time: (a) Write a sequence of statements that produce a copy of s, named newS, in which characters ., ,, ;, and \n have been replaced by blank spaceslistS
	2	Lists and for loops, List parameters, List methods, Pure functions and modifiers,		
	3	Functions that produce lists, Strings and lists, list and range, Nested lists, Matrices.		

8th	1	Functions: Functions with arguments and return values.	1-4	- The function avgavg() takes as input a list whose items are lists of three numbers. Each three-number list represents the three grades a particular student received for a course. - Implement function names () that takes no input and repeatedly asks the user to enter the first name of a student in a class. - Implement six classes to tree hierarchy model taxonomy with Python inheritance.
	2	UNIT III Modules: Random numbers, The time module, The math module		
	3	Creating your own modules,		
9th	1	Namespaces, Scope and lookup rules, Attributes and the dot operator.	1-4	- Write a program that calculates the numeric value of a single name provided as input - Expand your solution to the previous problem to allow the calculation of a complete name
	2	Files: About files, Writing our first file, Reading a file line-at-a-time		
	3	Turning a file into a list of lines Reading the whole file at once,		
10th	1	Working with binary files, Directories, fetching something from the web	1-4	Write a python program with function inner_product(x,y) that computes the inner product of two (same length) lists.
	2	List Algorithms: Linear search, Binary search, Merging two sorted lists.		
	3	Test 2		
11th	1	UNIT IV Object oriented programming: Classes and Objects- The Basics, Attributes, Adding methods to our class	1-4	The Sieve of Eratosthenes is an elegant algorithm for finding all of the prime numbers up to some limit n.
	2	Instances as arguments and parameters, Converting an instance to a string		
	3	Instances as return values Objects are mutable, Sameness, Copying.		
12th	1	Exceptions: Catching exceptions, raising our own exceptions, the finally clause of the try statement	1-4	Write a function that returns the index of the smallest element in a list of integers. If the number of such elements is greater than 1, return the smallest index. Use the following header: def index Of Smallest Element (lst): Write a program that prompts the user to enter a list of numbers, invokes this function to return the index of the smallest element, and displays the index
	2	Inheritance: Polymorphism, Generalization, Pure functions		
	3	UNIT V GUI: Creating Graphical User Interfaces, Using Module Tkinter		

13th	1	Building a Basic GUI, Models, Views, and Controllers	1-4	Write a program that reads an unspecified number of integers and finds the ones that have the most occurrences.
	2	Customizing the Visual Style, Few More Widgets		
	3	Revision		
14th	1	Databases: Overview, Creating and Populating, Retrieving Data, updating and Deleting	1-4	Develop and test a Python program that allows a user to type in a message and have it converted into Morse code, and also enter Morse code and have it converted back to the original message.
	2	Using NULL for Missing Data, Using Joins to Combine Tables		
	3	Keys and Constraints, Advanced Features.		
15th	1	Test 3	1-4	Revision
	2	Revision		
	3	Revision		