Lesson Plan

Name of Faculty:Yashvir Singh

Discipline: Computer Engg.

Semester:3rd

Subject: Multimedia Application

Lesson plan duration: 15Weeks (from Oct2021 to Jan 2021) Theory-3hrs, Practical-6hrs.

Week	Theory		Practical	
1st week	1st day	Concept of Multimedia	1st day(G1)	Installation of various multimedia software like Photoshop, Flash, Director or any open source software
			1st day(G2)	Installation of various multimedia software like Photoshop, Flash, Director or any open source software
	2nd day	History of Multimedia	2nddday(G1	Installing and use of various multimedia devices Scanner Digital camera, web camera
	3rd day	Multi media hardware and software-various classes	2nd day(G2)	Installing and use of various multimedia devices Scanner Digital camera, web camera
2nd week	4th day	components	1st day(G1)	Installing and use of various multimedia devices Mike and speakers Touch screen
			1st day(G2)	Installing and use of various multimedia devices Mike and speakers Touch screen
	5th day	Quality criteria and specifications of different capturing devices	2nddday(G1	Installing and use of various multimedia devices Plotter and printers DVD Audio CD and Video CD
	6th day	Communication devices	2nd day(G2)	Plotter and printers DVD Audio CD and Video CD
3rdweek	7thday	Storage devices	1stday(G1)	Reading and writing of different format on CD/DVD

			1st day(G2)	Reading and writing of different format on CD/DVD
	8th day	Display devices	2nd day(G1	Practical Exam and viva
	9th day	Elements of Multimedia and different multimedia file formats	2nd day(G2)	Practical Exam and viva
4th week	10th day	Applications of multimedia – benefits and problems	1st day(G1)	Transporting audio and video files
	11th day	revision	1st day(G2)	Transporting audio and video files
	12th day	Assignment	2nd day(G1	Using various features of Flash
			2nd day(G2)	Using various features of Flash
5th week	13th day	Planning steps and process	1st day(G1)	Continue Using various features of Flash
			1st day(G2)	Continue Using various features of Flash
	14th day	Concept of data compression	2nd day(G1	Practical Exam and Viva
	15th day	Text encoding	2nd day(G2)	Practical Exam and Viva
6th week	16th day	Audio encoding techniques	1st day(G1)	Using various features of Photo-shop/GIMP
	17th day	Types of images	1st day(G2)	Using various features of Photo-shop/GIMP
	18th day	Capturing images using camera/scanner	2nd day(G1	Continue Using various features of Photo-shop/GIMP
			2nd day(G2)	Continue Using various features of Photo-shop/GIMP
7th week	19th day	coding techniques for Moving Images	1st day(G1)	Continue Using various features of Photo-shop/GIMP
			1st day(G2)	Continue Using various features of Photo-shop/GIMP
	20th day	Editing , Editing of images audio, text	2nd day(G1	Continue Using various features of Photo-shop/GIMP
	21st day	Editing video and graphics, navigation and user interface designing	2nd day(G2)	Continue Using various features of Photo-shop/GIMP

8th week	22nd day	Use of various codes like bar code	1st day(G1)	Making multimedia presentations combining, Flash, Photo-shop, such as department profile, lesson presentation, games and project presentations.
			1st day(G2)	Making multimedia presentations combining, Flash, Photo-shop, such as department profile, lesson presentation, games and project presentations.
	23rd day	QR code in multimedia applications.	2nd day(G1	Continue Making multimedia presentations combining, Flash, Photo-shop, such as department profile, lesson presentation, games and project presentations.
	24th day	Revision and assignment	2nd day(G2)	Continue Making multimedia presentations combining, Flash, Photo-shop, such as department profile, lesson presentation, games and project presentations.
9th week	25th day	Photo-shop workshop, image editing tools	1st day(G1)	Continue Making multimedia presentations combining, Flash, Photo-shop, such as department profile, lesson presentation, games and project presentations.
			1st day(G2)	Continue Making multimedia presentations combining, Flash, Photo-shop, such as department profile, lesson presentation, games and project presentations.
	26th day	specifying and adjusting colors	2nd day(G1	Continue Making multimedia presentations combining, Flash, Photo-shop, such as department profile, lesson presentation, games and project presentations
	27th day	using gradient tools	2nd day(G2)	Continue Making multimedia presentations combining, Flash, Photo-shop, such as department profile, lesson presentation, games and project presentations
10th week	28th day	selection and move tools	1st day(G1)	Revision and test
			1st day(G2)	Revision and test
	29th day	transforming path drawing and editing tools	2nd day(G1	Practical Exam and viva

	30th day	using channels, layers	2nd day(G2)	Practical Exam and viva
11th week	31st day	filters and actions	1st day(G1)	Generation and recognition of bar code & QR code using pre built application/mobile applications.
			1st day(G2)	Generation and recognition of bar code & QR code using pre built application/mobile applications.
	32nd day	Trevision and assignment	2nd day(G1	Continue Generation and recognition of bar code & QR code using pre built application/mobile applications.
	33rd day	Types of Authoring programmes – Icon based	2nd day(G2)	Continue Generation and recognition of bar code & QR code using pre built application/mobile applications.
12th week	34th day	Time based	1st day(G1)	Continue Generation and recognition of bar code & QR code using pre built application/mobile applications.
			1st day(G2)	Continue Generation and recognition of bar code & QR code using pre built application/mobile applications.
	35th day	Story boarding/scripting and object oriented working in macromedia flash	2nd day(G1	Practical Exam and Viva
	36th day	exploring interface using selection of PEN tools	2nd day(G2)	Practical Exam and Viva
13th week	37th day	Working with drawing and painting tools	1st day(G1)	Software installation, operation, development and viva-voce
			1st day(G2)	Software installation, operation, development and viva-voce
	38th day	applying colour viewing and manipulating time line	2nd day(G1	Software installation, operation, development and viva-voce
	39th day	animating	2nd day(G2)	Software installation, operation, development and viva-voce
14th week	40th day	processing, guiding layers	1st day(G1)	Software installation, operation, development and viva-voce

			1st day(G2)	Software installation, operation, development and viva-voce
	41th day	importing and editing sound and video clips in flash	1st day(G1	Practical Exam and Viva
	42nd day	Revision and assignment	2nd day(G2)	Practical Exam and Viva
15th week	43rd day	Revision	1st day(G1)	Revision
	44th day	Revision	1st day(G2)	Revision
			2nddday(G1	Revision
	45th day	Revision	2nd day(G2)	Revision

Government Polytechnic, Jhajjar

Lesson Plan (Odd Semester)

Name of the Faculty : Reenu
Discipline : Computer Engineering

Semester : 3rd

Subject : Data Communication

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

Week	Theory		Practical	
	Lecture Day	Topic (Including Assignment / Test)	Practical Day	Topic
1st	1st	**Introduction** : Data Communication- Components	NA	NA
	2nd	Data representation	NA	NA
	3rd	Data flow Networks	NA	NA
	4th	Distributed processing	NA	NA
2nd	1st	Network criteria Physical structures	NA	NA
	2nd	Network Category- LAN	NA	NA
	3rd	WAN, MAN	NA	NA
	4th	**Data and Signals :** Analog and Digital data	NA	NA
3rd	1st	Analog and digital signals	NA	NA
	2nd	Periodic and Non Periodic signals	NA	NA
	3rd	periodic analog signals	NA	NA
	4th	Digital Signals- Bit rate, Bit length	NA	NA
4th	1st	Digital signal as a composite analog signal	NA	NA
	2nd	Transmission of digital signals	NA	NA
	3rd	Transmission Impairment- Attenuation, Distortion and noise	NA	NA
	4th	Performance- bandwidth, throughput	NA	NA
5th	1st	Latency, jitter	NA	NA
	2nd	Revision	NA	NA
	3rd	**Digital and Analog Transmission** : Analog	NA	NA
	4th	PSK, FSK	NA	NA

6th	1st	Analog to Analog Conversion- AM	NA	NA
	2nd	PM,FM(No mathematical treatment)	NA	NA
	3rd	Digital transmission- Digital to digital conversion- coding and schemes	NA	NA
	4th	Digital transmission- Digital to digital conversion- coding and schemes	NA	NA
7th	1st	Analog to digital conversion- PCM	NA	NA
	2nd	Delta Modulation (DM)	NA	NA
	3rd	Transmission modes- Serial transmission	NA	NA
	4th	Transmission modes- parallel transmission	NA	NA

8th	1st	Revision	NA	NA
	2nd	Revision	NA	NA
	3rd	**Multiplexing** – FDM	NA	NA
	4th	FDM	NA	NA
9th	1st	WDM	NA	NA
	2nd	WDM	NA	NA
	3rd	TDM	NA	NA
	4th	TDM	NA	NA
10th	1st	Revision	NA	NA
	2nd	Revision	NA	NA
	3rd	**Transmission media**: Guided media	NA	NA
	4th	Twisted pair cable	NA	NA
11th	1st	Twisted pair cable	NA	NA
	2nd	Co-axial cable	NA	NA
	3rd	Co-axial cable	NA	NA
	4th	Fibre optics cable	NA	NA
12th	1st	Fibre optics cable	NA	NA
	2nd	Unguided Media	NA	NA
	3rd	Radio wave	NA	NA
	4th	Microwave	NA	NA
13th	1st	Infrared	NA	NA
	2nd	Revision	NA	NA
	3rd	**Error Detection and Correction** : Types of Errors	NA	NA
	4th	Redundancy	NA	NA
14th	1st	Detection v/s correction	NA	NA
	2nd	Forward error correction	NA	NA
	3rd	Forward error correction v/s retransmission	NA	NA
	4th	Forward error correction v/s retransmission	NA	NA
15th	1st	Block parity to detect	NA	NA

(Signature of the teacher concerned with date)

Lesson Plan

Name of Faculty: Rekha Jangir

Discipline : Computer Engg.

Semester : 3rd

Subject : Operating System

Lesson plan duration : 15 Weeks(Oct 2021 to Jan 2021)

Week	Theory		Practical	
	Lecture	Topic (including assignments /tests)	Practical	Topic
	1st	Unit:1 Introduction to system software		Demonstration of all the controls provided on control panel
	2nd	Compiler(definition , why we use compiler , importance of it)		
	3rd	Assembler(object code , destination		
	4th	Difference between loader, assembler and compiler	2nd	Demonstration of all the controls provided on control panel
	1st	What is operating system and types of os		Exercises involving various internal and external DOS commands
	2nd	Main features of operating system	1st	
Week 2	3rd	Importants of operating system , why we use our.	2nd	Exercises involving various internal and external DOS commands
	4th	Revision		
	1st	Mock Test		Exercises involving various internal and external DOS commands
	2nd	Unit:2 Brief introduction to ms- dos, windows and linux	1st	
	3rd	Brief history of DOS and Windows		
Week 3	th	Main features of DOS	2nd	Exercises involving of basics of windows
	1st	Directory structure of DOS		Exercises involving of basics of windows
	2nd	File structure of DOS		
	3rd	Detail concept of DOS commands		Exercises involving of basics of windows
Week4	4th	Introduction to windows and Linux.R Revision of unit 2	2nd	

	1st	Mock Test		
	2nd	Unit: Overview of operating system- Definition of operating system and function of operating system	1st	Exercise on window operating system.
	3rd	Types of operating system:- single user	2nd	Exercise on window operating system.
Week 5	4th	Network operating system and Distributed operating system		
	1st	Storage structure:- I/O structure , Caching.		Practice
	2nd	Class test	1st	
	3rd	Revision of chapter		Exercise on window operating system.
Week 6	4th	Mock Test	2nd	
	1st	Unit:-4		Practice
	2nd	4.1) process management function:-	1st	
	3rd	Scheduling algorithms , process synchronization		
	4th	Deadlocks- characterization , methods for handling deadlock	2nd	Practice
Week 7	1st	Deadlock avoidance , banker's algorithm		
	2nd	Deadlock prevention , recover from deadlock.	1st	Exercises on basic commands of Linux operating system.
Week 08	3rd	Revision of chapter		Exercises on basic commands of Linux operating system.
	4th	Assignment		
	1st	Test		Exercises on basic commands of Linux operating system.
Week 09	2nd	4.2) Memory management function:-	1st	

		Introduction, single process system		
	3rd	Fixed partition memory , paging	2nd	Exercises on basic commands of Linux operating system.
	4th	Segmentation , swaping		
	1st	Fragmentation , demand paging	1st	
	2nd	Virtual memory management		
Week 10	3rd	Assignment	2nd	Practice
	4th	Test		
	1st	4.3) I/O management function		Practice
	2nd	Dedicated devices	1st	
Week 11	3rd	Shared devices with example	2nd	
	4th	Simple problem on the above topic		
	1st	I/O devices , storage devices		Exercise on shell programming on linux
	2nd	Buffering , spoofing		
Week 12	3rd	Revision of chapter		Exercise on shell programming onlinux
	4th	Assignment	2nd	
	1st	4.4) File management :- file concept , file attributes		Exercise on shell programming on linux
	2nd	Types of file and operation of files	1st	
	3rd	Problem solved on above topics	2nd	
Week 13	4th	Access method of file		Exercise on shell programming on
	1st	Definition of file , types and brief	1st	Exercise on shell programming on
	2nd	Assignment		
	3rd	Directory structure and working of		Practice
Week 14	4th	Free space management	2nd	
	1st	Details concept of FSM		Practice
	2nd	Differentiate accessing methods of file.	1st	

Week 15				
	3rd	Revision of unit 4	2nd	Practice
	4th	Mock Test		

Lesson Plan

Name of the Faculty : Smt. Rekha Jangir
Discipline : Computer Engg.
Semester : 3rd
Subject : PROGRAMMING IN C
Lesson plan duration : 15 weeks (from Oct 2021 to Jan 2021) 3L+6Lab

Week	Theory		
	Lecture Day	**Topic (including assignments /tests)**	
1st Week	1st	PROGRAMMING IN C:	1. Programming exercises on executing and editing a C program. G1
	2nd	Overview of PROGRAMMING IN C	2. Programming exercises on defining variables and assigning values to variables G2
	3rd	Algorithm and Programming Development	1. Programming exercises on executing and editing a C program. G1
			2. Programming exercises on defining variables and assigning values to variables G2
Week 2	1st	Steps in development of a program	3. Programming exercises on arithmetic and relational operators
	2nd	Flow charts .	4. Programming exercises on arithmetic expressions and their evaluation
	3rd	Algorithm development , Programme Debugging	3. Programming exercises on arithmetic and relational operators
			4. Programming exercises on arithmetic expressions and their evaluation
Week 3	1st	Program Structure	5. Programming exercises on formatting input/output using printf and scanf and their return type values
	2nd	I/O statements, assign statements	6.Programming exercises using if statement
	3rd	Constants, variables and data types	5. Programming exercises on formatting input/output using printf and scanf and their return type values
			6.Programming exercises using if statement
Week 4	1st	Operators and Expressions.	7. Programming exercises using if – Else.
	2nd	Unformatted and Formatted IOS	8. Programming exercises on switch statement
	3rd	Data Type Casting	7. Programming exercises using if – Else.
			8. Programming exercises on switch statement
Week 5	1st	**Control Structures**	9. Programming exercises on do – while, statement
	2nd	Introduction	10. Programming exercises on for – statement

	3rd	Decision making with IF – statement	9. Programming exercises on do – while, statement
			10. Programming exercises on for – statement
Week 6	1st	IF – Else and Nested IF	11. Simple programs using pointers
	2nd	While and do-while, for loop	12. Programs on one-dimensional array
	3rd	Break. Continue, goto and switch statements	11. Simple programs using pointers
			12. Programs on one-dimensional array
Week 7	1st	**Pointers**	13 Programs on two-dimensional array.
	2nd	Introduction to pointers	14 (i) Programs for putting two strings together
	3rd	Address operator and pointers	13 Programs on two-dimensional array.
			14 (i) Programs for putting two strings together
Week 8	1st	Declaring and initializing pointers,	14 (ii) Programs for comparing two strings
	2nd	Single pointer,	15. Simple programs using functions
	3rd	Assignment	14 (ii) Programs for comparing two strings
			15. Simple programs using functions
Week 9	1st	**Functions**	16. Simple programs using structures
	2nd	Introduction to functions	17. Simple programs using union
	3rd	Global and Local Variables	16. Simple programs using structures
			17. Simple programs using union
Week 10	1st	Function Declaration	REVISIONS
	2nd	Standard functions	
	3rd	Parameters and Parameter Passing , Call - by value/reference	
Week 11	1st	Introduction to Arrays	
	2nd	Array Declaration, Length of array	
	3rd	Single and Multidimensional Array.	
Week 12	1st	**Arrays of characters**	
	2nd	Introduction of Strings	
	3rd	String declaration and definition	
Week 13	1st	String Related function i.e. strlen, strcpy, strcmp	
	2nd	Passing an array to function	
	3rd	**Structures and Unions**	

Week 14	1st	Declaration of structures	
	2nd	Accessing structure members	
	3rd	Structure Initialization	
Week 15	1st	Pointer to a structures,	
	2nd	Unions	
	3rd	**Revision**	

Name of Subject : Digital Electronics **Semester : 3rd**

Name of faculty : Vivek Dahiya **Branch : computer**

Week	Lecture	Name of Topic	Experiment
1st	1st	Introduction to Digital Electronics, Distinction between analog and digital signal.	Introduction with digital Lab equipments
	2nd	Applications and advantages of digital signals	
	3rd	Binary, octal and hexadecimal number system: conversion from decimal and hexadecimal to binary and vice-versa.	
2nd	4th	Binary addition and subtraction including binary points. 1's and 2's complement method of addition/subtraction.	Verification and interpretation of truth tables for AND, OR, NOT NAND, NOR and Exclusive OR (EXOR) and Exclusive NOR(EXNOR) gates
	5th	Concept of code, weighted and non-weighted codes, examples of 8421, BCD, excess-3 and Gray code.	
	6th	Concept of parity, single and double parity and error detection.	
3rd	7th	Concept of negative and positive logic	Realisation of logic functions with the help of NAND or NOR gates
	8th	Definition, symbols and truth tables of NOT, AND, OR, NAND, NOR, EXOR Gates,	
	9th	NAND and NOR as universal gates.	
4th	10th	Introduction to TTL and CMOS logic families	Practical checking and viva-voce
	11th	Revision	
	12th	Logic simplification	
5th	13th	Postulates of Boolean algebra, De Morgan's Theorems.	To design a half adder using XOR and NAND gates and verification of its operation
	14th	Implementation of Boolean (logic) equation with gates	
	15th	Karnaugh map (upto 4 variables) and simple application in developing combinational logic circuits.	
6th	16th	Test and assignment	Construction of a full adder circuit using XOR and NAND gates and verify its operation
	17th	K-Map Practice	
	18th	Half adder, design and implementation.	
7th	19th	and Full adder circuit , design and implementation and 4 bit adder circuit	Verification of truth table for encoder and decoder ICs, Mux and

			De-Mux
	20th	Basic functions and block diagram of MUX and DEMUX with different ICs.	
	21st	Four bit decoder circuits for 7 segment display and decoder/driver ICs.	
8th	22nd	Basic functions and block diagram of Encoder	Practical checking and viva-voce
	23rd	Concept and types of latch with their working and applications	
	24th	Difference between a latch and a flip flop	
9th	25th	Operation using waveforms and truth tables of RS, T, D,	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).
	26th	Master/Slave JK flip flops.	
	27th	Introduction to Asynchronous and Synchronous counters .	
10th	28th	Binary counters	Use of Asynchronous Counter ICs (7490 or 7493)
	29th	Divide by N ripple counters.	
	30th	Decade counter.	
11th	31st	Ring counter	
	32nd	Revision	
	33rd	Test and assignment	
12th	34th	Introduction and basic concepts including shift left and shift right. Serial in parallel out, serial in serial out,	To design a 4 bit ring counter and verify its operation.
	35th	parallel in serial out, parallel in parallel out.	
	36th	Universal shift register	
13th	37th	Working principle of A/D and D/A converters Brief idea about different techniques of A/D conversion	To design a 4 bit SISO, SIPO, PISO, PIPO shift registers using JK/D flip flops and verification of their operation
	38th	Detail study of Binary Weighted D/A converter.	
	39th	R/2R ladder D/A converter	
14th	40th	Stair step Ramp A/D converter, Dual Slope A/D converter	Viva
	41st	Successive Approximation A/D Converter Applications of A/D and D/A converter.	
	42nd	Memory organization,.	
15th	43rd	classification of semiconductor emories (RAM, ROM, PROM, EPROM, EEPROM), static and dynamic RAM,	Viva
	44th	Introduction to 74181 ALU IC	
	45th	Test and assignment	

	3rd	Structures and Unions
Week 14	1st	Declaration of structures
	2nd	Accessing structure members
	3rd	Structure Initialization
Week 15	1st	Pointer to a structures,
	2nd	Unions
	3rd	**Revision**

Sign of Teacher