Maharaja Ranjit Singh College of Professional Sciences, Indore

Department of Computer Science

Lesson Plan - B. Sc. I (July 2018 - Mar 2019)

Subject - **Programming in C**

Teacher - Prof. Pravin Kumar Sharma

Day/Lecture	Unit	Topic
1	I	Introduction of Computer and its components with Block Diagram
2	I	Classification of computers with herachical diagram
3	I	What is Language? Introdcution of Programming languages, its types
4	I	Difference between Procedural, Problem oriented, Introdcution of Structured Progamming : Modular programming
5	I	Introdcution of Top-down and Bottom-Up Analysis
6	I	Need of System, Introduction of SDLC
7	I	Continue SDLC and its different Phases(Problem Definition, Feasiblity Stduy, Analysis)
8	I	Continue SDLC and its different Phases(Design, Development, Implementation and Maintanence)
9	I	Programming Tools(Algorithm, Flowcharts)
10	I	Language Translator and its types
11	II	Introdcution of C Programming Language, types of C, Character set of C
12	II	Identifier, Literal, Tokens, Constant and Variables and types of Variables
13	II	Keywords(reserve words) and Data types used in C and its types (Primary, Userdefined, Derived)
14	II	Different types of operators used in C, program as an example
15	II	Expression, Statement and its types, Hierarchy of Operators
16	II	Structure of C Program with different sections and its significance
17	II	Program to print name and age, calculate simple and compound Interest
18	II	Program for Addition, substraction, swapping values of two using third variable and without third variables
19	III	Arithematic, Conditional, Control and program as an example
20	III	IF, IF-else, Nested If, break, continue and go to and program as an example
21	III	Introduction of Looping statements and types of loops used in C (for, while, do-while and ODD)
22	III	Storage classes and its types, scope of variables used in Strorage classes
23	III	Standard and Console input and output statements , character oriented and string oriented functions
24	III	Formatted and Unformatted(putc(),getc(),puts(),gets(), scanf and printf functions)
25	III	program of standard and console input/output functions

26	III	program to print factorial of given number, and table of given number
27	III	program for switch case, break staatements
28	III	Programs to display uses of storage classes
29	IV	Introduction of Array, its types and storage in memory
30	IV	Different operations of 1D and 2D Array, Intialization of 1D and 2D Array
31	IV	Program for Matrix Addition and Multiplication and Tranpose of Matrix
32	IV	What is function? Its syntax, types and built-in fucntions.
33	IV	function arguments (actual and formal), Call by Value and Call by reference
34	IV	Program to print factorial, table and addition using function
35	IV	What is recursion? Its types and program for factorial using recursion
36	IV	Introduction of pointers, its operators(Adrress of and Inline)
37	IV	Pointer decration, its uses, advantages and disadvantages
38	IV	Pointer of Array, Array of pointer.
39	IV	program to use pointer to an array and Array of pointers
40	IV	Introcution of 2D Array of Characters and program
41	IV	Introduction of Structure, Its Memory representation and Syntax with Structure Variable
42	IV	Accessing of Structure elements using Special Operator(Period operator), Initialization of an Structure
43	IV	Array of Structure, program to print and calculate average of marks of 20 studetns using Array fo structure.
44	IV	Passing Array to function and Array as an argument of function
45	IV	Program to print square of number using call by reference and call by value.
46	V	Introduction of file(Stream) in C, Classification of file with hierarchical diagram
47	V	Operations performed on a file, Formatted and Unformatted file handling fucntions (fputc,fgetc, fputw,fgetw, fgets, fputs and fscanf, fprintf)
48	V	File pointer and Different modes of files(write, read and append, wb,rb,ab)
49	V	fopen(), fclose(), feof(), Binary mode and Text mode of files
50	V	Error handling and ferror() and Clearerr() funtions of files
51	V	Program to create a copy of a file
52	V	Graphics Introduction, different types of functions used in graphics
53	V	drawing and filling image fucntion used in C
54	V	floodfill(), initgraph(), closegraph(), setcolor() functions used in graphics
55	V	putpixel(), Maxcolor(), getcolor(), outtext(), outtextxy() functions used in graphics

56	V	line drawing alogrithm and program in C
57	V	program to draw a circle and fill it with help of setfillstyle() fucntion.
58	V	program to draw a ellipse() and fill it with bar() function
59	V	Bit of animation, textcolor(),texmode() functions
60	V	Program for moving car on screen using graphics functions

Maharaja Ranjit Singh College of Professional Sciences, Indore

Department of Computer Science

Lesson Plan - B. Sc. I (July 2018 - Mar 2019)

Subject - **Programming in C Practical**

Teacher - Prof. Pravin Kumar Sharma

Day/Lecture	Topic
1	Program to print Hello, Name and Age
2	Program for addition of two numbers
3	Program to print all Arithematic operations
4	Program to check it is Even or Odd
5	Program to print pyrarmid of star
6	Program to print half pyramid of star
7	Program to print from 1 to 10
8	Program to print table of given number
9	Program to print reverse of any number
10	Program to print fibonnaci series
11	Program for accessing elements of an array
12	Program to Insert, delete elements of array
13	Program to print addition of two numbers using function
14	Program to print reverse string
15	Program to print table of given number using function
16	Program ot print factorial of any given number using function
17	Program to findout given number is prime or not
18	Program to find length of string using string fucntion
19	Program to copy strings using string fucntions
20	Program to find given string is PALINDROME or not
21	Program to perform arithematic operations using switch case
22	Program for Addition, substraction, swapping values of two using third variable and without third variables
23	Program to find out greatest between two numbers
24	Program to print greatest between three numbers
25	Program of standard and console input/output functions

26	Program for switch case, break staatements
27	Program to declare and print structure elements
28	Program to print student records using array of structure
29	Program to create a file
30	Program to perform different operations on file using(feof(), Fwrite, Fread() functions)
31	Program for insert and print matrix elements
32	Program for addition of two matrices
33	Program for substaction of two matrices
34	Program for Matrix multiplication
35	Program for Matrix multiplication
36	Program for 2D array of characrters

Maharaja Ranjit Singh College of Professional Sciences, Indore

Department of Computer Science

Lesson Plan - B. Sc. I Year (July 2018 - Mar- 2019)

Subject - Fundamental of Computers

Teacher - Prof. Meenakshi Vyas

Day/Lecture	Unit	Topic
1	Unit I	Block diagram of computer:
2		Input unit,output unit , CPU
3		What is Memory unit? Need of Memory.
4		Generation of computers
5		Types of computers:Desktop,Laptop plamtop ,and workstations &super computers
6		Classification of Computer
7		Hardware,software and firmware
8		Intro to OS ,Intro to MS Windows
9		Features of windows
10		Desktop,start menu,icons,wall paper,screen saver,task bar
11		Control panel,My computer, windows explorer,Accessories
12		File & Folder Operations
13		Revision
14	Unit II	Software and its types Intro to ,MS Office
15		What is Word Processor,Different Word Processor Available,Intro to MS Word,
16		Features of MS Word,Advantages of using MS Word
17		Mail Merge & Macros
18		Intro To Spreadsheets,Different types of Spread sheets,Intro to excel
19		Features of MS-Excel,Difference between formula & Function,Different Formulas available
20		Filter ,Sorting & Searching
21	Unit III	Need of Number System,Types of Number System,Common NO.Systems
22		Conversions from one Decimal to another base whole no.
23		Conversions from one Decimal to another base fractional no.
24		Practice Exercise
25		Conversions from one another base to Decimal whole no.
26		Conversions from one another base to Decimal fractional no.
27		Practice Exercise
28		What are character codes? Need, BCD,EBCDICcode
29		ASCLII-7,ASCII-8 code
30		Gray code ,ECC & Revision
31		Binary arithmetic:- addition, subtraction,multiplication & division
32		Unsigned binary numbers,Signed magnitude numbers,
33		1's Complement & 2' s complement representation of numbers
34		2's complement arithmetic + ve no expected
35		2's complement arithmetic -ve no expected
36		Boolean algebra, De-morgan' s theorem
37		Boolean fuctions & truth tables,minimizing boolean algebra
38		minimizing boolean algebra,SOP ,POS form
39		Minterms/ maxterms, Intro to karnaugh maps
40		K-Maps 2 & 3 Variables
41		K-Maps 4 & more variables
42		What are logic Gates? Need & Applications, Types of Gates
43		AND OR ,NOT ,NAND, NOR
44		Creating Basic Gates from Universal Gates
45		X-NOR and X-NOR gates
46		Circuit design with gates:
47		Half & Full Adder
48		Half & Full subtractor circuit.
49		Revision
50	Unit IV	Recall :What is memory? Need of memory,Types of Memory
51		Types of Memory,Classification according to different aspects
52		Cache memory, secondary memory and its types
53		Virtual memory concept

54		Memory accessing methods: serial, random & Semi Random access
55		Data bus ,control bus & address bus
56		Word length of a computer, memory addressing capability of cpu
57		processing speed of a computer
58		Microprocessors, single chip microcomputers micrococontrollers
59		Revision
60	Unit V	General architecture of a cpu,Instuction format
61		data transfer instructions
62		Data manipulation instruction and program control instructions
63		accumulator based machine,Stack based machine and general purpose register based machine
64		Addressing modes
65		Addressing modes
66		data transfer schemes
67		(i) Programmed data transfer synchoronous asynchronous and interrupt driver data transfer
68		(ii) Direct memory access data transfer cycle stealing block transfer and burst mode of data transfer
69		Revision
70		Revision

Maharaja Ranjit Singh College of Professional Sciences, Indore

Department of Computer Science

Lesson Plan - B. Sc. I (July 2018 - Mar 2019)

Subject -Practical Computer Organization

Teacher - Prof. Meenakshi Vyas

Day/Lecture	Unit	Topic
1		Desktop,start menu,icons,wall paper,screen saver,task bar
2		Control panel
3		Control panel
4		My computer, windows explorer,Accessories
5		Creating and managing folders,
6		Managing files and drives,logging off and shutting down windows
7		Revision
8		Assignment & srteps to complete
9		Wordprocessing,MS Word,Screen Description
10		Creating ,Saving and Opening Document
11		Home Ribbon Options
12		Insert ribbon
13		Insert ribbon:Tables and other features
14		Page Layout
15		Page Layout
16		Refernces
17		Mailing Ribbon :Mail-merge
18		Macro
19		Revision
20		Assignment & srteps to complete
21		Excel- Introduction to workbook and worksheet,screen description
22		Saving a work book, editing cells,Entering information in a worksheet-numbers,formula,etc
23		Entering information in a worksheet-numbers,formula,etc.,
24		Using commands and functions,
25		Moving and copying,Inserting and deleting rows and columns
26		Creating charts,pivot charts and Pivot tables
27		page setup : margins adding headers& footers before printing
28		Print Settings
29		Practice sheets
30		Practice sheets

Maharaja Ranjit Singh College of Professional Sciences, Indore

Department of Computer Science

Lesson Plan - B.Sc. IInd Year CS & BT+CS(July 2018 - Mar 2019)

Subject - Data Structure

Teacher - Shwetanjali Vijayvargiya

Day/Lecture	Unit	Topic
1	1	Introduction of Data Structures
2		Data Types in Programming Language
3		Abstract Data Structures
4		Array Data Structure
5		2D Array Implementation
6		Matrix Operations
7		Stack Data Structure
8		Stack Implementation
9		Infix to Postfix Conversion
10		Infix to Postfix Conversion Algorithm and Program
11		Infix to Prefix Conversion
12		Infix to Prefix Conversion Algorithm and Program
13		Postfix Evaluation Aloritham
14		Recursion using Stack
15		Queue Data Structure
16		Circular Queue
17		Double Ended Queue
18		Priority Queue and Application of Queue.
19	2	Linked List
20		Linked List Insertion and Deletion
21		Circular Linked List
22		Circular Linked List Creation and Deletion
23		Doubly Linked List
24		Circular Doubly Linked List
25		Stack Using Linked List
26		Queue Using Linked List
27		Application of Linked List.
28		Revision of 1st and 2nd Unit
29		Class test.
30	3	Tree Data Structure and basic terminology
31		Binary trees and representation of tree.
32		Postorder, Preorder and Inorder Traversing
33		Application of Binary Tree
34		Program fot Binary Tree
35		Binary Search Tree Program of Binary Search in Tree
36		Threaded Binary Tree
37		AVL Tree
38		Revision of 3rd Unit
39		Searching Methods
40		Linear and Binary Search
41		Program for Binary and Linear Search.
42		Bubble sort with Program

43	4	Selection sort with Program
44		Insertion Sort with Program
45		quick Sort with Program
46		heap sort with algoritham
47		Comparison of Sorting methoda.
48		Revision of 4th unit
49	5	Hash function with hash table
50		Collision resolution technique
51		Introduction of Graph with terminology
52		Graph Representation Methods- Matrix and list Representation
53		Graph Traversal technique-Breadth First Search and Depth First Search
54		Algoritham for BFS and DFS
55		Minimum Spanning tree
56		problem of minimum spanning tree.
57		Shortest path algorithm
58		question using shortest path algo
59		Revision of 5th Unit
60		Revision.

Maharaja Ranjit Singh College of Professional Sciences, Indore

Department of Computer Science

Lesson Plan - B.Sc. IInd Year CS & BT+CS(July 2018 - Mar 2019)

Subject - Data Structure

Teacher - Shwetanjali Vijayvargiya

Day/Lecture	Practical
1	Write a program for insertion, deletion and traversal of elements of an array.
2	Write a program to find addition of two matrix.
3	Write a program to find multiplication of two matrix.
4	Write a program to find transpose of a matrix.
5	Write a program for complete implementation of stack using array with push, pop andtraversal operations
6	Write a program for conversion of an infix expression into postfix representation
7	Write a program for evaluation of postfix expression
8	Write a program for complete implementation of queue using array with insertion,deletionand traversal operations
9	Write a program for complete implementation of circular queue using array with insertion,deletion and traversal operations
10	Write a program for complete implementation of double ended queue using array with insertion, deletion and traversal operations
11	Write a program to create singly linked list(creation, insertion, deletion and traversal)
12	Write a program to create doubly linked list (creation, insertion, deletion and traversal).
13	Write a program for complete implementation of stack using linked list with push, pop andtraversal operations
14	Write a program for complete implementation of queue using linked list with insertion,deletion and traversal operations.
15	Write a program for implementation of binary tree (creation, insertion, deletion)
16	Write a program for preorder, inorder and postorder traversal of binary tree.
17	Write a program for implementing graphs and showing depth first search and breadth first search traversals.
18	Write a program for linear search.
19	Write a program for Binary search.
20	Write a program for interpolation search.
21	Write a program for bubble sort.
22	Write a program for selection sort.
23	Write a program for insertion sort.
24	Write a program for merge sort.
25	Write a program for quick sort.

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Department of Computer Science

Lesson Plan - BSc II Year(July 2018 - Mar 2019)

Subject - OOPs using C++

Teacher - Prof. Meenakshi Vyas

Day/Lecture	Unit	Topic
1	1	Introduction to C++
2		programming paradigms
3		key concepts of object-oriented programming
4		Adavantages of OOP'S
5		Input and output in C++
6		pre-defined streams
7		Unformatted console I/O operations
8		formatted console I/O operations
9	2	C++ declaration
10		parts of C++ program
11		Types of tokens
12		Keywords
13		Identifiers
14		data types
15		constants
16		Operators
17		Procedence of operators
18		Referencing and dereferencing operators
19		Scope access operator
20		Control structures
21		Decision making statements
22		Looping statement
23	3	Functions
24		Types of Function
25		Library functions
26		inline functions
27		function overloading: principal
28		Classes and objects
29		declaring classes and objects
30		accessing class members
31		access specifiers
32		defining member functions
33		member function inside the class
34		member function outside the class
35		static member variables and functions
36		friend function

37		friend classes
38		overloading member functions
39	4	Constructors
40		types of constructors
41		types of constructors
42		destructors
43		operator overloading
44		overloading unary operator
45		binary operator
46		Inheritance
47		access specifiers
48		protected data with private inheritance
49		Types of inheritances
50		Types of inheritances
51		virtual base class
52	5	Pointers & arrays
53		pointer declaration
54		pointer to class & object
55		Array
56		declarations & initialization
57		arrays of classes
58		Polymorphism
59		Static(early) binding
60		Dynamic (late) binding
61		Virtual function
62		Pure virtual function

Maharaja Ranjit Singh College of Professional Sciences, Indore

Department of Computer Science

Lesson Plan - BSc II Year(July 2018 - Mar 2019)

Subject - Practical OOPs through C++

Teacher - Prof Meenakshi Vyas

Day/Lectu	Topic
1	WAP to print your Name.
2	WAP to demonstrate the use of (a) variables and (b) constants.
3	WAP to Simple I/O Function.
4	WAP to find (a) Simple Interest and (b) Compound Interest
5	WAP to show use of scope resolution operator.
6	WAP to allocate & deallocate memory.(new & delete operator)
7	WAP show use manipulators (iomanip.h).
8	WAP to demonstrate type casting in C++.
9	WAP to find greater number from 2 given numbers.
10	WAP to find greatest of three numbers.
11	Display Discount as per followings :-
12	Up to 1000 discount 2 %
13	Up to 5000 discount 10 %
14	Up to 10000 discount 25 %
15	Above 10000 discount 40 %
16	WAP to show use of && and || operator in if condition(suggestion -Leap Year)
17	WAP using switch-case.
18	WAP to print table/numbers from 1-10.
19	WAP to calculate Factorial of a number.
20	WAP to find sum of digits in a number using while.
21	(If 3 digits No. is123 then 1+2+3=6)
22	WAP to check whether a given number is Prime or not.
23	WAP to display elements of an array.
24	WAP to calculate Sum and Average of an array.
25	WAP to sort elements of an array using Bubble sort.
26	WAP to add and subtract 2X2 matrices.
27	WAP to add and subtract 3X3 matrices.
28	WAP to multiply 2X2 matrices.
29	WAP to multiply 3X3 matrices.
30	WAP to ADD, Subtract, Divide and Multiply 2 numbers using Do- While.
31	WAP to create a function using call by Value.
32	WAP to create a function using call by reference.
33	WAP to create a function with default and const arguments.
34	WAP to take i/p & O/p using function.
35	WAP to demonstrate function recursion.
36	WAP to show function Overloading.
37	WAP to input string.

38	WAP to show use of inicap function .
39	WAP to find length of string.
40	WAP to copy String into another String.
41	WAP to concatenate 2 Strings.
42	WAP to compare 2 Strings.
43	WAP to reverse string.
44	WAP to change case of String
45	WAP to add inch and feet using structure.
46	WAP to change price of book using structure with function
47	Explain a structure to define class, object and member function.
48	WAP for accessing public member of class
49	WAP for accessing private member of class
50	WAP for accessing protected member of class.
51	WAP to show use of inline function.
52	WAP to display operator overloading
53	WAP for default constructer.
54	WAP for parameterized constructer.
55	WAP for copy constructer.
56	WAP for dynamic constructer
57	WAP for simple destructor.
58	WAP for constructer & destructor
59	WAP for accessing private member function.
60	WAP to access private member function
61	.WAP for friend function.
62	.WAP for friend function working as a bridge between two classes.
63	WAP for this pointer.
64	WAP for static data member & member function.
65	WAP for overloading of binary operator using friend function.
66	WAP for overloading of unary operator using friend function.
67	WAP to compare complex no. using class.
68	WAP for single inheritance.
69	WAP for multilevel inheritance.
70	WAP for multiple inheritances.
71	WAP for hierarchical inheritance.
72	WAP for hybrid inheritance.
73	WAP for constructor and destructor using inheritance.
74	WAP for virtual function

Maharaja Ranjit Singh College of Professional Sciences, Indore

Department of Computer Science

Lesson Plan - BSc V Sem (July 2018 - Dec 2018)

Subject - OOPs using C++

Teacher - Prof. Meenakshi Vyas

Day/Lecture	Unit	Topic
1	1	Introduction to C++
2		Difference Between C & C++
3		Adavantages of OOPs
4		Disadvanctages of OOPs
5		Basic Concept of object-oriented programming
6		Basic Concept of object-oriented programming
7		Characteristics of OOPs
8		Applications of OOPs
9	2	C++ programming basics
10		basic program structure
11		basic program structure
12		data types
13		data types
14		operators
15		manipulator
16		type conversions
17		C++ stream class
18		if, if-else
19		Nested if-else
20		switch-Case.
21		Jump statement: break, continue, go to, exit.
22		loops -for
23		while
24		Do while
25	3	Function and arrays.
26		Function and arrays.
27		Class structure-access specifiers
28		Accessing Public Private and Protected Data
29		Member function,Inline Function
30		Friend function - independent function
31		Friend function -member Function
32		Explain Constructors and types of constructors
33		Constructors and Explain destructure with program.
34		String Functions
35		String Functions
36	4	Data encapsulation & Polymorphism
37		Operator overloading (unary and binary) with example.
38		Programs for operator overloading.
39		Function Overloading.
40		Virtual Fuction

41		Virtual Fuction
42		Pure Virtual Function
43		Doubt Clearing
44	5	Explain Inheritence and types of inheritence.
45		continue with inheritence… and programs of inheritence
46		visibility mode in inheritence with program.
47		Programs of different type of inheritence
48		Virtual Base Classes with example.
49		Abstract Classes
50		Function Templates
51		Class Templates
52		Exception Handling
53		Exception Handling
54		Exception Handling

Maharaja Ranjit Singh College of Professional Sciences, Indore

Department of Computer Science

Lesson Plan - BSc VSem (July 2018 - Dec 2018)

Subject - Practical OOPs through C++

Teacher - Prof Meenakshi Vyas

Day/Lecture	Topic
1	WAP to print your Name.
2	WAP to demonstrate the use of (a) variables and (b) constants.
3	WAP to Simple I/O Function.
4	WAP to find (a) Simple Interest and (b) Compound Interest
5	WAP to show use of scope resolution operator.
6	WAP to allocate & deallocate memory.(new & delete operator)
7	WAP show use manipulators (iomanip.h).
8	WAP to demonstrate type casting in C++.
9	WAP to find greater number from 2 given numbers.
10	WAP to find greatest of three numbers.
11	Display Discount as per followings :-
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14	Up to 10000 discount 25 %
15	Above 10000 discount 40 %
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17	WAP using switch-case.
18	WAP to print table/numbers from 1-10.
19	WAP to calculate Factorial of a number.
20	WAP to find sum of digits in a number using while.
21	(If 3 digits No. is123 then 1+2+3=6)
22	WAP to check whether a given number is Prime or not.
23	WAP to display elements of an array.
24	WAP to calculate Sum and Average of an array.
25	WAP to sort elements of an array using Bubble sort.
26	WAP to add and subtract 2X2 matrices.
27	WAP to add and subtract 3X3 matrices.
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34	WAP to take i/p & O/p using function.
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54	WAP for parameterized constructer.
55	WAP for copy constructer.
56	WAP for dynamic constructer
57	WAP for simple destructor.
58	WAP for constructer & destructor
59	WAP for accessing private member function.
60	WAP to access private member function
61	.WAP for friend function.
62	.WAP for friend function working as a bridge between two classes.
63	WAP for this pointer.
64	WAP for static data member & member function.
65	WAP for overloading of binary operator using friend function.
66	WAP for overloading of unary operator using friend function.
67	WAP to compare complex no. using class.
68	WAP for single inheritance.
69	WAP for multilevel inheritance.
70	WAP for multiple inheritances.
71	WAP for hierarchical inheritance.
72	WAP for hybrid inheritance.
73	WAP for constructor and destructor using inheritance.
74	WAP for virtual function
75	WAP to show use of class templates
76	WAP to show use of class templates

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Department of Computer Science

Lesson Plan - BSc V Sem(July 2018 - Dec 2018)

Subject - computer graphics and multimedia

Teacher - Meenakshi vyas

Day/Lecture	Unit	Topic
1	1	What is Computer Graphics
2		Pixel,frame,buffer
3		application of computer graphics
4		Raster graphics fundamentals
5		Display devices random scan
6		Color CRT monitor
7		DUST and plasma panel
8	2	Algorithms for line generation
9		mid point circle generation
10		Bresenhams Circle algorithm
11		polygon generation algorithm
12		polygon generation algorithm
13		polygon filling
14		Anti aliasing
15		2D transformation: Translation
16		Scaling,Rotation,Reflection
17		homogeneous coordinates
18	3	3-D transformation: translation
19		Scaling,Rotation,Reflection
20		windowing & clipping windows
21		windowing & clipping windows
22		view port ,line clipping
23		polygon clipping
24		polygon clipping
25		segment table , segment creation-deletion-rename
26		segment table , segment creation-deletion-rename
27	4	Multimedia: Text - font faces
28		animating text ,hyper text
29		sound: MIDI
30		digital audio basics
31		auto file formats
32		audio editing
33		MCI- multimedia
34		control interface
35		image- bitmap
36		vector drawing
37		color palate
38		concept of 3D modeling
39		image file formats (BMP, JPG)
40		animation: principle of animation
41		cell animation
42		kinematics
43		morphing
44	5	video- broadcast video standards (NTSC, PAL)
45		integrating computer and television
46		video capture board
47		shooting and editing video
48		recording formats 9S - VHS (video hardware resolution)
49		video compression (JPEG, MPEG)
50		hard copy devices: printers & plotters
51		input devices: mouse,trackball
52		light pen ,scanner
53		digital camera

Maharaja Ranjit Singh College of Professional Sciences, Indore

Department of Computer Science

Lesson Plan - BSc V Sem(July 2018 - Dec 2018)

Subject - Computer Graphics Practical

Teacher - Prof Meenakshi Vyas

Day/Lecture	Topic
1	Develop DDA Line drawing algorithm & its program.
2	Develop Bresenhams circle drawing algorithm with program
3	Write Polygon generation algorithm.
4	Wap to generate polygon
5	Write polygon filling algorithm.
6	Wap to fill any polygon
7	Wap to translate a 2D object.
8	Wap to Scale a 2D object.
9	Wap to Rotate a 2D object.
10	Wap to Reflection a 2D object.
11	Wap to translate a 3D object.
12	Wap to Scale a 3D object.
13	Wap to Rotate a 3D object.
14	Wap to design front page of any report using graphics techniques
15	Wap to draw and object and animate it using transformations

Maharaja Ranjit Singh College of Professional Sciences, Indore

Department of Computer Science

Lesson Plan - B.Sc. (CS Hons) V Sem (July 2018 - Dec 2018)

Subject - Computer Oriented Numeriacal Methods

Teacher - Shwetanjali Vijayvargiya

Day/Lecture	Unit	Topic
1	1	Explain Floating Point Number Operations.
2		Explain Normalization and their consequences.
3		Solve problems using Bisection Methods.
4		Solve problems using False Position Methods
5		Solve problems using Secant Method
6		Solve problems using Newton Raphson Method
7		continue Newton Raphson method with more problems
8		Solve problems using Graffes Root Squaring Method
9		Convergence of Solution
10		programs of different methods
11		Revision.
12	2	Solution of Simultaneous Liner Equation Using Gauss Elimination Method.
13		Solution of Simultaneous Liner Equation Using Gauss Seidal Method
14		Solution of Simultaneous Liner Equation Using Gauss Jordan Elimination Method
15		Solution of Simultaneous Liner Equation Using Jacobi Method
16		Solution of Simultaneous Liner Equation Using Triangularization Method
17		Explain III Conditioned Equation and Pivoting Condensation using problems.
18		Least Curve Fitting method using problems
19		Continue Least Curve Fitting with more problems.
20		Non Linear Curve Fitting using Problems.
21		Revision of 1st and 2nd unit.
22	3	Definition Of Forward, Backward,Shifting Operators.
23		Definition of Divided Difference Central and Averaging Operators and Relationships b/w Operators.
24		Newton's Forward Interpolation Formula and solve problem using forward method.
25		Newton's backward Interpolation Formula and solve problem using backward method.
26		Newton's divided Interpolation Formula and solve problem using divided Interpolation method.
27		Lagrange's Interpolation Formula and solve problem using Lagrange's Interpolation method.
28		Continue Langrange's problem.
29		Revision of 3rd Unit
30		Class test of Three units.
31	4	Numerical Differentiation using Newton's Forward Interpolation Formula and solve problem using method
32		Numerical Differentiation using Newton's Backward Interpolation Formula and solve problem using method
33		Numerical Differentiation using Newton's divided Interpolation Formula and solve problem using method.
34		Solve Numerical Integration problem using Newton- Cote's Formula
35		Solve Numerical Integration problem using Trapezoidal Rule and Simpson's one Third Rule
36		Solve Numerical Integration problem using Simpson's Three Eight Rule.
37		Programs of different methods.
38		Revision of 4th unit.
39	5	Numerical Solutions of Ordinary Differential Equations using Euler's Method.
40		Numerical Solutions of Ordinary Differential Equations using Euler's Modifies Method.
41		Solve Problem using Tailor's Series Method.
42		Solve Problem using Picard's Method.
43		Solve Problem using Runga Kutta Second Order and Fourth order Method.
44		Revision
45		Programs of different methods.

Day/Lecture

Maharaja Ranjit Singh College of Professional Sciences, Indore

Department of Computer Science

Lesson Plan - B.Sc. (CS Hons) V Sem (July 2018 - Dec 2018)

Subject - Computer Oriented Numeriacal Methods(practical)

Teacher - Shwetanjali Vijayvargiya

Topic
Write a program to convert floating point number into normalized floating point number.
Write a program to add two floating point number and convert into normalized floatingpoint number.
Write a program to solve real root of the equation using Bisection Method.
Write a program to solve real root of the equation using Secants Method.
Write a program to solve real root of the equation using Regular Falsi Position Method.
Write a program to solve real root of the equation using Newton Raphson's Method.
Write a program to solve simultaneous liner equation using Gauss Elimination Method
Write a program to solve simultaneous liner equation using.Gauss Jordon's Method.
Write a program to solve simultaneous liner equation using Jacobi's Method.
Write a program to solve simultaneous liner equation using Gauss Seidal Method.
Write a program for Newton's Forward Difference Formula.
Write a program for Newton's Backward Difference Formula.
Write a program for Newton's Divided Difference Formula.
Write a program for Lagrange's Interpolation Formula.
Write a program for evaluation of integral by Trapezoidal's Rule
Write a program for evaluation of integral by Simpson's 1/3 Rule
Write a program for evaluation of integral by Simpson's 3/8 Rule
Write a program for Euler's Method.
Write a program for Runga Kutta Second Order Method.
Write a program for Runga Kutta Fourth Order Method

Maharaja Ranjit Singh College of Professional Sciences, Indore

Department of Computer Science

Lesson Plan - B. Sc. V (July 2018 - Dec 2018)

Subject - BCIT - I

Teacher - Prof. Pravin Kumar Sharma

Day/Lecture	Unit	Topic
1	I	What is computer stands for?, Computer characteristics and applications
2	I	Block diagram of computer and function of each component and
3	I	Classicfication of computer (Purpose, Data Handling and Functionality), its capabilities
4	I	Desktop, Portable: Notebook, Laptop, smart phone
5	I	Smart and dumpTerminal, Client and Server
6	I	What is memory?, types of memory with the help of hierarchical diagram
7	I	Primary Memory: (RAM: SRAM and DRAM) and (ROM: PROM, EPROM, EEPROM) and Cache memory
8	II	Input devices and its functions (Keyboard, Mouse, Scanner, Joystick and Touch Screen, MICR, Barcode reader, Digitializing tablet, VRS)
9	II	Output Devices and its fucntions(Monitor: VGA, SVGA, XGA its types, characteristics)
10	II	Printer and its types (Impact: Dotmatrix, Daisy wheel and Non-Impact: Inkjet and Laseriet)
11	II	SMPS, Cards and its types: Display, Video and Graphic and Audio, Nerwork)
12	II	Introduction of Ports(Serial, Parellal and USB)
13	III	Introduction Secondary storage devices with hierarchical diagram
14	III	Sequential access devices: Magnetic Tape and Process to store data in magnetic tape(size and volume of magentic tape)
15	III	Direct Access devices: Magnetic disc (floppy and Hard disk its types) and Optical disc (CD, DVD, CD-RW, WROM)
16	III	Technology used in flash memory and memory cards.
17	III	Disc pack and its fuctional diagram, Zip disc and wichester disc
18	III	Seek time, Letancy time , tansmission time and Total Access time in sequeintial access and direct access devices
19	IV	What is an Operating System? Its logical architecutre and its classification (CLI and GUI)
20	IV	Types of Operating system(Batch, Multitasking, Time sharing, Multiprocessor, Real time and Embeded)
21	IV	Booting process(Cold and Warm), Introduction of DOS and required system files to run DOS
22	IV	Difference between DOS, Windows and LINUX
23	IV	Internal and External commands of DOS(date, time, cls, copy con, format)
24	IV	Windows Operating System and its features, difference between menu oriented and ribbon oriented windows O.S.
25	IV	Introduction of Windows 7 and 8: its features,
26	IV	Windows 8.1: Touchscreen featuresCutomization of Application software as required
27	IV	Operations on file and folders: move, copy, rename, serach content
28	IV	Control panel and its options, recyble bin, creation of folder and shortcut
29	IV	Introduction of Linux Operatiing system and features
30	IV	File sytem of LINUX O.S., Commands to perform different file operations

31	IV	GUI mode of LINUX operating system: Ubuntu, Fedora and Debian
32	IV	Desktop and available options on Linux Ubuntu GUI mode
33	V	Introcution of Application packages(MS-Office, Tally, Open Office)
34	V	What is PDF stand for?, Introduction of Different PDF readers and its features and platforms
35	V	Adobe Acrobat reader, Nitro and PDF Xchange
36	V	What is word processing?, different word processing softwares
37	V	features of MS-Word processor 2007, ways of creating documents using(Blank, Template)
38	V	Previewing a document before printing, protecting documents
39	V	Different components of word processor(Formatting, Ruler, Status and Ribbon, Quick Access tool bar)
40	V	Paragraph formatting and Table handling features of MS-Word 2007

Maharaja Ranjit Singh College of Professional Sciences, Indore

Department of Computer Science

Lesson Plan - B.Sc. (CS Hons) VI Sem (Jan 2019 - June 2019)

Subject - Computer Network

Teacher - Prof. Meenakshi Vyas

Day/Lecture	Unit	Topic
1	1	Computer Network Goals and Applications.
2		Explain OSI Model Layers.
3		Eplain TCP/IP. Compare with OSI.
4		Explain LAN, MAN and WAN
5		Explain different topologies
6		LAN components – File server, Workstations, Network Adapter Cards.
7		Connection Oriented and Connection less services.
8		Revision of 1st unit
9	2	Explain Data communication system.
10		data communication links.
11		Serial and encoded data formats
12		error detection & correction techniques.
13		Solve problems on CRC.
14		Solve problems based on hammingcode.
15		Switching Techniques – Circuit Switching, Packet Switching, Message Switching.
16		Revision of 2nd unit
17		Class test
18	3	Data link protocol
19		Character oriented protocol & bit oriented protocol
20		Network architecture protocols
21		Explain Ethernet and token bus.
22		Explain token ring.
23		Revision of 3rd Unit.
24	4	Explain basics of Internet.
25		Viewing web pages with a browser
26		Explain how to use a browser for a mail, News and chat, security and privacy issues
27		Advantage and disadvantage of Internet and Internet Services.
28		Explain Web server and proxy server, Web caches
29		Give knowledge about web browser like Internet Explorer, Netscape Navigator, and Communication Suit
30		Internet Security issues
31		Data encryption and Digital Signature and Certificates
32		Revision
33	5	Introduction to Web Pages, HTML, HTML Elements and pages
34		Formatting text and pages
35		Including picture and links in a page
36		Creating tables and lists
37		Splitting pages into frames
38		Site Design and Navigation
39		The home page Navigational tools
40		Formatting the body section using block level
41		Formatting using text level & using phrase
42		Formatting using font style
43		Java Script and Browser
44		Java Script and sever
45		Embedding Java Script & HTML
46		Java Script fundamentals:-Variables, Value Store house
47		Java Script statements, loops, condition and functions
48		Java Script objects properties and methods
49		Comparison of HTML, DHTML and XML

Maharaja Ranjit Singh College of Professional Sciences, Indore

Department of Computer Science

Lesson Plan - B.Sc. (CS Hons) VI Sem (Jan 2019 - June 2019)

Subject - Computer Network(practical)

Teacher - Prof. Meenakshi Vyas

Day/Lecture	Topic
1	HTML Elements and pages
2	Formatting text and pages
3	Including picture and links in a page
4	Creating lists
5	Creating lists
6	Creating tables with its attributes
7	Creating tables with its attributes
8	Creating tables with its attributes
9	Splitting pages into frames
10	Splitting pages into frames
11	Creating static forms with its controls
12	Creating static forms with its controls
13	Creating static forms with its controls
14	.....
15	Embedding Java Script & HTML
16	Embedding Java Script & HTML
17	Java Script fundamentals:-Variables, Value Store house
18	Java Script fundamentals:-Variables, Value Store house
19	Java Script statements, loops, condition and functions
20	Java Script statements, loops, condition and functions
21	Java Script statements, loops, condition and functions
22	Java Script statements, loops, condition and functions
23	Java Script statements, loops, condition and functions

Maharaja Ranjit Singh College of Professional Sciences, Indore

Department of Computer Science

Lesson Plan - B. Sc. VI Sem hons (Jan2019 -June 2019)

Subject - Computer Architecture

Teacher - Shwetanjali Vijayvargiya

Day/Lecture	Unit	Topic
1	1	Introduction to organization and architecture
2		structure and function of System.
3		history of Computers with digrams
4		Explain computer components
5		Explain computer function
6		Pentium and power evolution for performance
7		Explain interconnection structure
8		Explain bus interconnection and PCI.
9		Future bus concept.
10		Revision of 1st unit.
11	2	Explain Computer Memory System
12		Explain primary memory with types
13		Secondary memory with types
14		Continue Secondary memory.
15		cache memory with types.
16		Explain Advance DRAM organization
17		Optical memory
18		Revision of 2nd unit.
19		Class test of 1st and 2nd memory.
20	3	Machine Instruction Characteristics
21		Types of Operand and Type of Operations
22		Assembly Language
23		Addressing mode and Instruction formats
24		Explain Instruction Cycle
25		Instruction Pipelining.
26		Process and register organization.
27		Revision of 3rd unit
28	4	Micro Operations and control of the CPU
29		Hardwired implementation
30		Explain Concepts of Micro programmed control
31		microinstruction sequencing and microinstruction execution
32		applications of micro programming
33		Revision of 4th unit
34		External Devices, I/O modules
35		Programmed I/O and Interrupt-Driven I/Owith flowchart

36		Direct Memory Access
37		I/O Channels and processors
38	5	External Interface and parallel processor
39		Explain RAID memory.
40		Revision..
41		Revision
42		Class test.

Maharaja Ranjit Singh College of Professional Sciences, Indore

Department of Computer Science

Lesson Plan - BSc VI Sem

Subject - Visual Basic .NET (Jan2019 -June 2019)

Teacher - Prof. Meenakshi Vyas

Day/Lecture	Unit	Topic
1	I	Introduction to VB.NET, Event Driven Programming
2		.NET as better, Programming Platform NET Framework, NET Architecture
3		CLR, The Just-In-Time Compiler, Garbage Collection
4		.NET Framework class library
5		introduction VB.NET Development Environment
6		Visual development & event drive Programming -Methods and events.
7		Visual development & event drive Programming -Methods and events.
8		Screen Description of editor-how to use it for developing programs
9		Creating test program.
10		Creating Basic program.
11	II	Variables -Declaring variables, Data Type of Variables
12		Arrays
13		Handling and Using Interfaces
14		conditional statement if and endif
15		comparison with other programming languages
16		implementation of conditional Statements
17		loop statement: Do
18		For-next,for each next
19		while end while
20		with end with
21		nested loops
22		Message box & Input box
23		Function creation
24	III	Text Boxes, Buttons, Labels
25		Check Boxes, and Radio Buttons.
26		List Boxes, Combo Boxes
27		Picture Boxes, Scrollbars
28		Splitters, Timer
29		Menus, Built-in Dialogs Image List
30		Tree Views, List Views
31		Toolbars available
32		Toolbars available
33		Status Bar and Progress bars
34		OpenFileDilog
35		SaveFileDialog
36		Font Dialog
37	IV	Understanding Delegates
38		Class Library Overview, Creating a Class Library

39		Working with the Class Library
40		Understanding Built-In Classes
41		Creating User-Defined Classes.
42		Understanding Constructors and Instance Variables.
43		Introduction to Error Types: Understanding Syntax Errors, Understanding Runtime Errors
44		Using Exception Handling
45		Using Exception Handling
46		Understanding Logical Errors
47		Using Break Points.
48	V	Database Connections
49		Data adapters
50		datasets, Data Reader
51		Connection to database with server explorer
52		Multiple Table Connection Data
53		binding with controls like Text Boxes, List Boxes
54		Data grid
55		Navigating data source
56		Data Grid View
57		Data form wizard
58		Data validation
59		Connection Objects
60		Command Objects
61		Data Adapters
62		Dataset Class.

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Department of Computer Science

Lesson Plan - BSc VI Sem

Subject - Practical VB.Net(Jan2019 -June 2019)

Teacher - Prof Meenakshi Vyas

Day/Lecture	Topic
1	Create a window application for simple Calculator.
2	Create a window application to compare b/w two no, compare b/w 3 no.
3	Create a login form for a user. .
4	Create a program with a textbox and one button control to check no is even or odd.
5	Create a program with a textbox and one button control check the year is leap year or Not.
6	Create a windows application to calculate simple interest.
7	Create a windows application to calculate factorial of a number.
8	Create a windows application to calculate for storing and displaying 10 numbers in an Array.
9	Create a windows application to display your name scrolling using timer..
10	Create a windows application to calculate to generate Fibonacci series.
11	Create a windows application to display same menu as in MS-WORD 2003.
12	Create a windows application to calculate Sum and Average of 10 numbers stored in an array.
13	Create a program to determine whether a given angle forms a valid triangle.
14	Create a program which allow user to select gender using checkbox control
15	Create a program to change the case of text box according to selected radio button.
16	Create a program to add a record in SQL-SERVER Database.
17	Create a program with a textbox and two button control to set the buttons to open a file and to save a file dialogbox.
18	Create a windows application that contains text boxes and a button. The click event of the button displays the percentage of student on the basis of marks entered in the text boxes.

Maharaja Ranjit Singh College of Professional Sciences, Indore

Department of Computer Science

Lesson Plan - B. Sc. VI (Jan 2019 - June 2019)

Subject - BCIT - II

Teacher - Prof. Pravin Kumar Sharma

Day/Lecture	Unit	Topic
1	I	Introduction of MS-Power Point and its features
2	I	Different components of MS-Power Point(Slide, Handouts, Speaker Notes and Outline)
3	I	Different Views of MS-Power Point,
4	I	Different ways to create MS Power-Point Presentation
5	I	Slide Master and Various themes applied on presentation
6	I	Operations performed on a slide(Insert, Delete, Move, Copy)
7	I	Saving presnetation with different file format
8	II	Introduction of Smart Art, insert picture from file/clipart
9	II	Process to convert old style presentation into new style presentation
10	II	Insert table, charts and different oragnizational charts in presentation
11	II	process to create hyperlink to connect different files and presentation with existing presentation
12	II	Slide Sorter, slide transition and Animation effects.
13	II	Setup slide show options, rehearse timing
14	III	How a presentation run continuously?
15	III	Introduction of spreadsheet software and different spreadsheet software for different platfroms
16	III	Features of MS-Excel, Cell, Row and Column Range
17	III	operations on spreadhseet(copy, move , rename, insert and protecting)
18	III	Insert/Delete row and column, Introduction charts and its types
19	III	creation of charts using data references
20	III	Forumula bar and different built-in formulas used in MS-Excel wroksheet
21	III	creation of marksheet and salary sheet using user defined and built-in formulas of MS-Excel
22	III	Sorting, Filter and freeze panes options used in MS-Excel
23	IV	What is Internet, Its advantages and disadvantages, History of Internet(ARPANET)
24	IV	Introduction of Protocol, different types of protocol used on Internet (SMTP, FTP, TCP/IP, HTTP)
25	IV	DNS, URL, WWW, WWW consortium
26	IV	Search Engine and list of different search engine available
27	IV	Applications of Internet
28	IV	What is E-Mail? Process of sending and receiving of E-Mail and its different protocols
29	IV	What is Network? Types of network(LAN.MAN,WAN)

30	IV	Different network topologies (BUS, Ring, Star, Mesh and Hybrid)
31	IV	What is Cloud computing? Introduction of Web office
32	IV	Introduction of mobile computing and different mobile apps
33	V	Email, Internat and Social networking ethics
34	IV	Introduction of virun and antivirus, types of virus(torjan, spam, E-Mail bombing)
35	IV	firewall, different issues during firewall operations
36	IV	What is Online transcation and points to remember when make online transaction
37	IV	cyber policies and Intellectual Proerty Rights(IPR)
38	IV	Violation of copyright and redressal