

Maharaja Ranjit Singh College of Professional Sciences,Indore

Department of Computer Science

Lesson Plan - B. C.A I (July 2018 - Dec 2018)

Subject - Pc Software

Teacher - Prof. Meenakshi Vyas

Day/Lecture	Unit	Topic
1	I	Introduction to MS windows: concept of operating system
2		operating system definition and its functions.
3		Basic components of windows,icons,types of icons,taskbar.
4		title bar,running applications,exploring computer cocepts
5		folders,copying and moving files and folders.
6		control panel - display properties,adding and removing software
7		hardware,setting date and time
8		screen saver and appearance,using windows accessories.
9		practical on using properties of control panel
10		practical on basic computer concepts.
11	II	Documentation using MS-word- Introduction to office automation
12		creating and editing document,formatting document
13		Autotext,Autocorrect,spelling and Grammar
14		Tool,document dictionary,page formatting
15		Bookmark,advance features of MS-word Mail Merge
16		concept of Macro and its use.
17		how to work with Tables,file management concept
18		printing styles,linking and embedding objects,Template
19		practical on Mail Merge
20		practical on Macro.
21	III	Electonic spread sheet using MS-Excel
22		Introduction to MS Excel,creating and Editing worksheet
23		formatting and essential operations.
24		using formulas and functions
25		charts,advance features of MS-Excel
26		MS-Excel-pivot table &pivot chart
27		Linking and consolidaion
28		practical on how to use formulas and functions
29		practical on how to use pivot table and chart
30		practical on how to Edit worksheet.
31	IV	Database management using MS- Access
32		Introduction to MS-Access: creating database
33		Creating database tables
34		primary key,Relationship concept
35		forms and Reports.
36		DBMS queries
37		practical on how to create database
38		practical on how to create forms,tables and reports in database
39		practical on how to apply queries in database.
40	V	presentation using MS-Powerpoint: presentation
41		creating,Manipulating & Enhancing slides
42		organizational charts,Excel charts,word Art

43		layering art objects
44		Animation and sounds,inserting animated pictures
45		accessing through objects
46		inserting recorded sound effects
47		In-built sound effects.
48		practical on how to create slides in powerpoint
49		practical on how to apply animation effect in powerpoint
50		practical on how to apply sound egffect in power point.

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Department of Computer Science

Lesson Plan - B. C.A I (July 2018 - Dec 2018)

Subject - **PC Software Practical**Teacher - **Prof. Meenakshi Vyas**

Day/Lecture	Topic
1	Create a document and applying different editing options of MS-Word
2	Create a Resume with different formatting options
3	Create an invitation using Mail-Merge
4	Create a document and show use of Macro
5	Create a document and insert header and footer
6	Create a document and insert different Even and Odd header and footer
7	Create a document and insert/draw a table using table handling features
8	Demonstrate folder creation, rename, copy, cut, paste and move
9	Demonstrate Cell, Cell range, Row range and Column Range
10	Create a workbook to store student information
11	Create a workbook to generate a marksheet
12	Create a workbook to generate payroll of employees
13	Perform Operations on Sheet as Rename, Insert, Delete and Move
14	Demonstrate to insert different types of charts in worksheet
15	Create a workbook showing Marks obtained, Percentage and status of students
16	Create a workbook and apply different operation such as sorting, filtering and hiding
17	Demonstrate Cell, Cell range, Row range and Column Range
18	Demonstrate types of powerpoint presentation
19	Create a presentation using auto content wizard
20	Create a presentation using Blank and apply customized options
21	Create a presentation using design template wizard
22	Demonstrate to insert word art, clipart and pictures in presentation
23	Demonstrate to insert audio and videos in presentation
24	Design a presentation and demonstrate options of custom animation
25	Design a presentation and demonstrate slide transition and different options of view show mode
26	Design a presentation and demonstrate different views of power point

27	Design a presentation and demonstrate different views of power point
28	Design a presentation and demonstrate different views of power point
29	Demonstrate insertion of charts and different shapes in power point presentation
30	Show the components of E-mail
31	Create an E-mail account

Maharaja Ranjit Singh College of Professional Sciences

Department of Computer Science

Lesson Plan - B.C.A. I SEM (July 2018 -Dec2018)

Subject - Programming & Problem Solving through C-I

Teacher - Prof. Shailesh Hirve

Day	Unit	Topic
1	I	Intro to Programming Language
2		Types of Programming Language
3		Algorithm and Properties
4		Flow Charts
5		Programming Techniques
6		Translators
7	II	Intro to C Programming
8		Basics of C
9		Basics of C
10		Data Types of C
11		Basic Programs
12		Basic Programs
13		Storage Classes
14		Storage Classes Programs
15		Type Conversion in C
16	III	Control Statements of C
17		Control Statements of C
18		Programs of Control Statements
19		Programs of Control Statements
20		Loop Statements of C
21		Loop Statements of C
22		Loop Statements Programs
23		Loop Statements Programs
24		Difference among Loops
25		Operators in C
26		Operators in C
27		Intro to Array
28		Array Programs
29		Array Programs
30		2D Array Implementation
31		2D Array Programs (Matrix)

32		2D Array Programs (Matrix)
33	IV	2D Array Programs (Matrix)
34		Concept of Sorting
35		Bubble Sort
36		Concept of Searching, Searching Methods
37		Linear & Binary Search
38		String Functions & Programs
39		String Functions & Programs
40		Structures in C
41		Structure Programs
42		Structure Programs
43		Array of Structure
44	V	Structure of Structure
45		Structure Programs
46		Preprocessors
47		Preprocessors
48		Preprocessors

Maharaja Ranjit Singh College of Professional Sciences
Department of Computer Science
Lesson Plan - B.C.A. I SEM (July 2018 -Dec2018)
Subject - Programming & Problem Solving through C-I Practical
Teacher - Prof. Shailesh Hirve

Day	Topic
1	Basic Programs using data types
2	Basic Programs using data types
3	Basic Programs using data types
4	Basic Programs using data types
5	Basic Programs using data types
6	Storage Classes Programs
7	Storage Classes Programs
8	Storage Classes Programs
9	Type Conversion Programs
10	Type Conversion Programs
11	Programms using Control Statements
12	Programms using Control Statements
13	Programms using Control Statements
14	Programms using Control Statements
15	Programms using Control Statements
16	Programms using Control Statements
17	Programms using Control Statements
18	Programms using Control Statements
19	Programms using Loop Statements
20	Programms using Loop Statements
21	Programms using Loop Statements
22	Programms using Loop Statements

23	Programms ussing Loop Statements
24	Programms ussing Loop Statements
25	Array Implementation
26	Array Programs
27	Array Programs
28	2D Array Implementation
29	2D Array Programs (Matrix)
30	2D Array Programs (Matrix)
31	2D Array Programs (Matrix)
32	Bubble Sort
33	Insertion Sort
34	Selection Sort
35	Linear Search
36	Binary Search
37	String Functions & Programs
38	String Functions & Programs
39	Structure Programs
40	Structure Programs
41	Array of Structure
42	Structure of Structure
43	Structure Programs
44	Structure Programs
45	Preprocessors Programms
46	Preprocessors Programms
47	Preprocessors Programms

Maharaja Ranjit Singh College of Professional Sciences, Indore

Department of Computer Science

Lesson Plan - BCA Ist Sem (July 2018 -Dec2018)

Subject - Digital Computer Organization

Teacher - Shwetanjali Vijayvargiya

Day/Lecture	Unit	Topic
1	1	Block diagram of Computer.
2		Explain Stored program, Word length and Processing speed of Computer
3		Explain Hardware/Software Concept.
4		Microprocessor and Single chip microprocessor.
5		Input devices:Keyboard and mouse
6		Input devices:joystick,scanner
7		Output devices:Printer with types of printer.
8		Output devices:Plotter and display devices..
9		Revision of 1st unit.
10		Class test.
11	2	Number system: Decimal, binary, octal, hexadecimal.
12		conversion b/w Number system with question
13		some more question on number system conversion
14		Explain ASCII, grey code excess-3 code.
15		Explain BCD numbers and problem on them.
16		binary addition and binary subtraction.
17		1's and 2's compliment methods for subtraction.
18		multiplication and division of binary number.
19	3	Explain Logic gates: NOT, OR, AND.
20		Explain NAND, NOR, XOR, XNOR gates
21		Boolean Algebra and question based on boolean algebra.
22		some more question on boolean algebra.
23		De Morgan's Theorem and Half adder,full adder.
24		Application of gates.
25		Boolean functions & truth table
26		SOP, POS, minterms.
27		Simplification of logical circuits using Boolean algebra and karnaugh maps.
28		solve question of logical circuits using Boolean algebra and karnaugh maps.
29	solve question of logical circuits using Boolean algebra and karnaugh maps.	
30	Revision of 2nd and 3rd unit.	
31	4	Flip- Flop: RS-flip flop, level clocked D
32		F/P edge triggered D and edge triggered JK flip flop
33		racing in F/F, JK masters-slave flip flop
34		Registers.
35		buffer and shift registers
36		counters: ripple counters, synchronous counters.
37		ring counters and Mod counters.
38		revision of 4th unit.
39		Explain computer memory.
40		Main memory with type.(RAM and ROM).
41		Secondary memory:Harddisk,flopy disk
42		magnetic tape and optical disk.

Maharaja Ranjit Singh College of Professional Sciences, Indore

Department of Computer Science

Lesson Plan - BCA II (Jan 2019 - June 2019)

Subject - C- Programming - II

Teacher - Prof. Pravin Kumar Sharma

Day/Lecture	Unit	Topic
1	I	C language programming structure,
2	I	What is function?, its syntax, function declaration and its applications & uses
3	I	Classification of functions with hierarchical diagram: Library and User defined functions
4	I	Call by value and Call by reference, Scope of functions
5	I	Key points about function, return() and its valid types used in C
6	I	Function Prototyping, what is Macro?
7	I	Difference between function and macro,
8	I	What is recursion? Its uses, application and types
9	II	Introduction of Pointer, its declaration and types of pointers
10	II	Operators of Pointer: Address of (&) and Indirection(&)
11	II	Pointer and Array, Passing array as a parameter of function
12	II	Accessing of 1D and 2D array elements using Pointer
13	II	pointer Array and Array of Pointer
14	II	Structure & pointer, Pointer of Structures
15	II	Memory allocation and Deallocation functions; Malloc(), Calloc() and Realloc(), free()
16	II	What is Union? Declaration and Accession of union elements using period operator.
17	II	Initialization of union elements, structure of union and union of structures
18	II	Difference between structure and union
19	III	What is Input and Output function?, types of console I/O functions
20	III	unformatted I/O functions: putchar(), getchar(), gets(), puts(), getch() and getche()
21	III	Formatted I/O functions: print(), scanf(), sprintf() and sscanf()
22	III	disk I/O functions unformatted: fgetc(), fputc(), fgets(), fputs() and formatted; fscanf(), fprintf()
23	III	What is file?, type of files used in C: Text and Binary
24	III	Operations on file: Naming, Opening, Reading, Writing, Closing and Update
25	III	difference between text and binary mode(EOF, Nwline and Storage of Numbers)
26	III	Input Output statement used in file handling: Character I/O, String I/O, Formatted I/O and Record I/O

27	III	Detection of error in file handling: Ferror(), Feof() and clearerr()
28	III	Input Output redirection in DOS?
29	IV	Introduction of display adopters, VDU and its Different standards given by VESA,
30	IV	Types of VDU: CRT, Flat-Panel, LCD, LED, Plasma
31	IV	Display modes: CGA, EGA, VGA, SVGA, XGA, SXGA and UXGA
32	IV	Introduction of Pixel, resolution: number of Pixels in a row and number of pixels in a column
33	IV	Colors in text and graphics mode: Intensity and components
34	IV	Introduction of video pages, number of video pages supported by different display modes
35	IV	Text and binary modes to write into memory
36	V	Graphics programming, Draw(Lines, Stylish Line and Drawing and filling images using different built-in functions of graphics.h)
37	V	library functions of Draw line: Line(), getmaxx() and getmaxy(), gatemaxcolor(),
38	V	Kbhit(), Random() and setline-style() using different parameters
39	V	use of initgraph() and closegraph(), setcolor() fuction to fill relular and non-regular images
40	V	Patterns with a difference, bar() fuction and its uses, floodfill()
41	V	Palettes of colors: getpalette(), setllpalette(), setpalette() and setfillstyle() and Text output: outtext() and outtextxy()
42	V	Font programming: settextstyle(), setusercharsize() and justification of fonts: textheight() and textwidth() and setttextjustify()
43	V	Animation:getimage() and putimage() and sytem metrics and rotation

Maharaja Ranjit Singh College of Professional Sciences, Indore

Department of Computer Science

Lesson Plan - BCA II (Jan 2019 - June 2019)

Subject - C- Programming - II Practical

Teacher - Prof. Pravin Kumar Sharma

Day/Lecture	Topic
1	Program to print addition of two numbers using function
2	Program to print reverse string using function
3	Program to print table of given number using function
4	Program to print factorial of any given number using function
5	Program to perform recursion using function
6	Program to find maximum, Even or Odd, swapping of values to two variables using function
7	Program to print value of a variable using pointer
8	Program to Call by value and Call by reference
9	Program to print array elements
10	Program to print sum of array elements
11	Program for passing array as argument of function
12	Program for sorting array elements
13	Program to remove duplicate elements of an array
14	Program for array of structures
15	Program using putc(), getc() function
16	Program using putchar(), getchar() function
17	Program using sprintf() and sscanf() function
18	Program to declare and print structure elements
19	Program to print student records using array of structure
20	Program to create a file and write data into it
21	Program to perform different operations on file using (feof(), fwrite, fread() functions)
22	Program to append in existing file
23	Program to copy contents of one file into another
24	Program for merge contents of two files
25	Program to open an existing file, read data from it and display on screen
26	Program to draw a line using builtin graphics function

27	Program to draw circle, ellipse, rectangle
28	Program for moving car
29	Program for digital clock
30	Program for rotating fan and swastik

Maharaja Ranjit Singh College of Professional Sciences

Department of Computer Science

Lesson Plan - B.C.A-II(July 2019 -Dec2020)

Subject - Introduction To Information System

Teacher - Prof. Meenakshi Vyas

Day/Lecture	Unit	Topic
1	I	Introduction to information system definition, meaning of information system
2		Explain concept of information system, need to learn information system
3		concept of competitive advantage of information system
4		Explain carriers in information system
5		concept of fundamentals of data processing
6		Explain components of computer system
7		Explain application of computer based system
8	II	A system approach to problem solving- Explain scientific method of problem solving
9		Explain system approach-understanding a problem or opportunity
10		concept of developing and implementing a solution
11		Explain practically advantages of information system in browsers .
12		Explain system solution methodology.
13		Explain how to apply solution methodology
14		Explain different types of information system
15		concept of Transaction processing information system
16		concept of office Automation system
17		concept of knowledge work system
18		concept of Management information system
19		concept of Decision support system
20		concept of Executive support system
21	III	System concept and information system environment
22		Explain concept of system , definition
23		Explain characteristic of system ,
24		concept of central objective of system
25	III	Explain elements of a system
26		Explain system types
27		Explain concept of system development life cycle
28		understanding and recognition of need
29		concept of feasibility study
30		concept of Analysis the requirement
31		Explain designing phase
32		concept of implementation the role of system analyst
33		Explain practically use of system types in project
34	IV	Detail concept of Management Information system
35		Explain meaning of Management Information system
36		Explain use of Management Information system
37		Explain process of Management Information system
38		practical implementation of how to manage information.
39		Explain concept of design
40		Explain system design consideration
41		concept of input and output designs
42		concept of how to design a form
43		concept of file organization
44		concept of database
45		Explain data management concept
46		practical implementation of how to manage data present in database
47		concept of file design and organize.
48	V	Introduction to E-commerce
49		concept of types of E-commerce

50		concept of E-commerce applications
51		understanding concept of electronic payment system
52		overview of communication system
53		Explain use and functioning of the internet
54		concept of www and digital marketing
55		concept of search Engine optimization

Maharaja Ranjit Singh College of Professional Sciences

Department of Computer Science

Lesson Plan - B.C.A-II(July 2019 -Dec2020)

Subject - Introduction To Information System Practical

Teacher - Prof. Meenakshi Vyas

Day/Lecture	Topic
1	How to store Information on web browser
2	Search engines and search engine marketing
3	practical impementation on concept of digital marketing
4	Email creation,Email writing ethics
5	campaign creation and management
6	keyword analysis
7	How to set web page ranking
8	understanding and creating google form
9	understanding and creating google adword and analytics
10	concept of search Engine optimization
11	practical exposure to social media
12	practical exposure to social media mining
13	Explain marketing through facebook
14	Explain how to create a channel on youtube
15	understanding social media measuring
16	understanding social media monitoring
17	understanding social media tracking
18	understanding social media monitoring platforms
19	Explain concept of creating and using blog
20	concept of use of blogs for forum and discussion

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Lesson Plan - B.C.A. II SEM (Jan 2019 - April 2019)

Subject - Operating System Fundamentals

Teacher - Prof. Shailesh Hirve

Day	Unit	Topic
1	I	Introduction to OS , Functions of OS
2		Features of OS
3		Types of OS
4		Types of OS
5		System Call
6		Device Management, Device Drivers
7	II	Concepts of Process, States of Process
8		Process Management
9		CPU Scheduling, Scheduling Criteria
10		Process Scheduling Algorithms and examples
11		Process Scheduling Algorithms and examples
12		Process Scheduling Algorithms and examples
13	I/O Device Organization, Buffering	
14	III	Introduction of Inter-process Communication
15		Types of Processes, Precedence Graphs
16		Critical Section Problem
17		Critical Section Problem
18		Concepts of Semaphore
19		Concepts of Semaphore
20	Classical Problem of Synchronization	
21	IV	Classical Problem of Synchronization
22		Introduction of Deadlock, Characteristics of Deadlock
23		Deadlock Detection
24		Deadlock Prevention
25		Deadlock Avoidance
26		Methods for handling Deadlock
27	Recovery from deadlock	
28	V	Concepts of memory management
29		Context Switch, Logical & Physical Address space
30		Contiguous & Non Contiguous memory allocation
31		Paging
32		Segmentation
33		Virtual Memory, Demand Paging
34		Page Replacement Algorithms
35		Page Replacement Algorithms
36		Page Replacement Algorithms
37		Frame allocation, Threshing
38	Demand Segmentation	

Maharaja Ranjit Singh College of Professional Sciences, Indore

Department of Computer Science

Lesson Plan - BCA III Sem (Jan 2019 - June 2019)

Subject - OOPs through C++

Teacher - Prof. Meenakshi Vyas

Day/Lecture	Unit	Topic
1	1	Introduction to C++
2		Difference Between C & C++
3		Advantages of OOPs
4		Disadvantages 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	Data encapsulation & Polymorphism	
37	Operator overloading (unary and binary) with example.	

38	4	Programs for operator overloading.
39		Function Overloading.
40		Virtual Fuction
41		Virtual Fuction
42		Pure Virtual Function
43		Doubt Clearing
44	5	Explain Inheritance and types of inheritance.
45		continue with inheritance... and programs of inheritance
46		visibility mode in inheritance with program.
47		Programs of different type of inheritance
48		Virtual Base Classes with example.
49		Abstract Classes
50		Function Templates
51		Class Templates
52		Exception Handling
53		Exception Handling
54	Exception Handling	

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Department of Computer Science

Lesson Plan - BCA III Sem (Jan 2019 - June 2019)

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 :-
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. is 123 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 inisp 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 constructor.
54	WAP for parameterized constructor.
55	WAP for copy constructor.
56	WAP for dynamic constructor
57	WAP for simple destructor.
58	WAP for constructor & 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
77	WAP for toss.
78	WAP to show bank process.
79	WAP for lift operation

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Department of Computer Science

Lesson Plan - B.C. A. III (July 2018 - Dec 2018)

Subject - Digital Computer Electronics

Teacher - Prof. Pradeep Purey

Day/Lecture	Unit	Topic
1	I	Number system and codes.
2		Decimal, binary, octal, hexadecimal and their inter conversion.
3		ASCII, grey code
4		excess-3 code,
5		BCD numbers,
6		Binary addition, subtraction
7		Multiplication and division (1's and 2's compliment method)
8	II	Logic gates: NOT, OR, AND
11		NAND, NOR, XOR, XNOR gates.
12		Boolean Algebra,
13		De Morgan's Theorem.
14		Application of gates
15		Applications of half adder and full adder.
16	III	Boolean functions & truth table
17		SOP, POS, minterms
18		Simplification of logical circuits using Boolean algebra and karnaugh maps
20	IV	TTL, circuits
21		digital Ics, 74 series
22		TTL characteristics
23		Totem pole and open collector gates
24		comparison between different type of TTL
25		Multiplexer, Demultiplexer
26		Encoder, Decoder
27	V	Flip- Flop
28		Registers and counters
29		RS-flip flop
30		Level clocked D,F/P edge triggered D,flip flop
31		edge triggered JK flip flop
32		Racing in F/F
33		JK masters-slave flip flop
34		Buffer registers
35		Shift registers
36		Ripple counters,
37		Synchronous counters
38		Ring counters
39		Mod counters

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Lesson Plan - B.C. A. III (July 2018 - Dec 2018)

Subject - Digital Computer Electronics

Teacher - Prof. Pradeep Purey

Day/Lecture	Topic
1	Practical of Logic gates (OR, AND, NOR, XOR)
2	Practical of flip flops J K
3	Practical of counter and shift register
4	Practical of shift register
5	Practical of multiplexer
6	Practical of demultiplexer
7	Practical of Analog to Digital converter
8	Practical of Digital to Analog converter
9	Practical of Half subtractor and full subtractor
10	Practical of Half Adder and full Adder
11	Practical of flip flops R S

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Department of Computer Science

Lesson Plan - BCA III Sem (July 2018 - Dec 2018)

Subject - Data Structure using C

Teacher - Shwetajali 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 Algorithm
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 for 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 algorithm	
47		Comparison of Sorting methods.	
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	Algorithm 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.		

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Department of Computer Science

Lesson Plan - BCA III Sem (July 2018 - Dec 2018)

Subject - Data Structure using C Practical

Teacher - Shwetaanjali 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 and traversal 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, deletion and 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 and traversal 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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Lesson Plan - B.C.A. IV SEM (Jan 2019 - June 2019)

Subject - -DATABASE MANAGEMENT SYSTEM

Teacher - Prof. Shailesh Hirve

Day	Unit	Topic
1	I	Introduction of DBMS, purpose of DBMS, view of data,
2		Schemas, Instances, Data Dictionary
3		Data Models
4		Data Models
5		Data Models
6		Database language, Database administrator,
7		Database user, overall system structure.
8		Data Independence and its types
9	II	Entity Relationship Model: Basic Concepts,
10		Relationships, Mapping Constraints,
11		Entity Set, weak Entity, Strong Entity, Entity Features
12		Types of Keys, Types of Attributes
13		E-R Model Notations, E -R Diagram
14		design of an E-R database schema
15		Reduction of E-R schema to table
16	III	Structured Query Language(SQL)
17		Basic structure, set operations, aggregate functions
18		Null values, Nested sub queries
19		Data Definition Language(DDL)
20		Data Manipulation Language(DML)
21		Data Control Language(DCL)
22		Transaction Control Language(TCL)
23		QBE,QUEL
24	IV	Pitfalls in Relational Database Design, Decomposition
25		Normalization using functional dependencies
26		Normalization using multivalued dependencies
27		Normalization using joined dependencies
28		Integrity Constraints:- domain constraints, entity integrity constraints, referential integrity constraints
29		Assertions
30	Triggers, Functions	

31		Procedures, Cursors
32	V	Concept of RDBMS
33		Characteristics of RDBMS
34		Codd's 12 rules
35		Introduction to oracle tools, security

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Department of Computer Science

Lesson Plan - B.C.A. IV SEM (Jan 2019 - May 2019)

Subject - -DATABASE MANAGEMENT SYSTEM Practical

Teacher - Prof. Shailesh Hirve

Day	Topic
1	Introduction to SQL, DDL, DML, and DCL statements
2	Introduction to SQL, DDL, DML, and DCL statements
3	DDL Commands
4	DDL Commands
5	DDL Commands
6	DML Commands
7	DML Commands
8	DML Commands
9	various Form of SELECT- Simple, Using Special Operators for Data Access
10	various Form of SELECT- Simple, Using Special Operators for Data Access
11	various Form of SELECT- Simple, Using Special Operators for Data Access
12	various Form of SELECT- Simple, Using Special Operators for Data Access
13	DCL Commands
14	DCL Commands
15	TCL Commands
16	TCL Commands
17	Nested Queries & Exposure to Joins, Aggregate Functions
18	Nested Queries & Exposure to Joins, Aggregate Functions
19	Triggers
20	Functions
21	Procedures
22	Cursors

Maharaja Ranjit Singh College of Professional Sciences		
Department of Computer Science		
Lesson Plan - B.C.A IV Sem(Jan 2019 - May 2019)		
Subject : Digital Computer Organization		
Teacher - Meenakshi vyas		
Day/Lectu	Unit	Topic
1	1	Block diagram of Computer
2		Stored program Concept
3		Word length
4		Processing speed of the Computer
5		Memory Addressing capability of CPU
6		User interface: CUI -GUI
7		Hardware/Software Concepts
8		Microprocessor and Single chip microprocessor concepts
9	2	Input and Output Units
10		Floppy disk,hard disk
11		keyboard
12		mouse,joystick
13		scanner
14		Printer & Types
15		Printer & Types
16		Printer & Types
17		plotters
18	3	memory cell & memory organization
19		RAM & ROM ,Types of RAM
20		Types of ROM
21		classification of memory on different parameters
22		magnetic hard disk and floppy disk driver
23		magnetic tape drive
24		cash memory
25		memory controller
26		optical disk
27		program and data memory
28		memory management and problem is chapter 6 of reference
29	4	Distributed processing or multi processing
30		batch processing
31		multi programming and multi user system
32		dumb and smart terminals computer network
33		Local Area network
34		Topologies

35		Parallel processing
36		Central processing Unit
37	5	Memory Management
38		U-Bits for virtual addressing scheme
39		I/O architecture
40		properties of simple I/O and their controllers
41		Transfer of information between I/O Devices
42		Program control and Interrupted control information transfer
43		Program control and Interrupted control information transfer
44		I/O processor
45		Interrupt controllers
46		H/W and S/W interrupts
47		Traps and exceptions
48		DMA transfer
49		DMA Controller
50		Cycle stealing
51		Block transfer

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Department of Computer Science

Lesson Plan - BCAIV Sem(Jan 2019 - May 2019)

Subject - Practical Digital Computer Organization

Teacher - Prof Meenakshi Vyas

Day/Lecture	Topic
1	Conversion from decimal to binary.
2	Conversion from decimal to octal.
3	Conversion from decimal to hexadecimal.
4	Convert encoder to decoder.
5	Convert decoder to encoder.
6	Addition of two 8 bit numbers.
7	Subtraction of two 8 bit numbers.
8	Multiplication of two 8 bit numbers.
9	Division of two 8 bit numbers.
10	Exchange of two 8 bit numbers.

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Lesson Plan - BCA IV (Jan 2019 - June 2019)

Subject - UNIX Operating System

Teacher - Prof. Pravin Kumar Sharma

Day/Lecture	Unit	Topic
1	I	Introduction of operating system, its logical architecture
2	I	Types of Operating system: CLI and GUI (Batch, Time-sharing, Multitasking, Multi processor, Real time and embedded)
3	I	Functions of Operating system, Introduction of UNIX O.S.
4	I	Features of UNIX OS, types of UNIX, version of UNIX
5	I	Kernel, Shell and Kernel - Shell relationship with diagram
6	I	Having an account and password to access UNIX network
7	I	File system of UNIX with hierarchical diagram
8	I	File Structure of UNIX: Boot block, Super block, i-nodelist and Data block
9	I	Basic commands: md/mkdir, rmdir, ls, cp, rm, mv, cat (its uses), clear and tput
10	I	utility command: cal, date, who, who am I, echo, banner, tty, stty, passwd
11	II	more, od, file, sc cmp, comm, diff tar commands
12	II	Introduction of Bourne shell, features and its commands: pipe, tee
13	II	Pattern matching: *, ? and range[] with file name
14	II	shell variable: declaration, Initialization and print with echo command, chmod command to change file permission
15	II	Rules for defining shell variables, local and Environment shell variable with its scopes, Activities performed by shell
16	II	Introduction of shell script and shell script execution
17	III	Introduction of filters: pr, head, tail, cut, paste, sort uniq and nl
18	III	Advanced filters: grep, egrep, fgrep, sed, tr, join, awk and wait
19	III	what is process?, different shell process, parent and child process: ps command to know process status
20	III	Process creation phases: fork(), exec() and wait(),
21	III	How to know running system process (ps -e)
22	III	Rules for defining shell variables, local and Environment shell variable with its scopes, Activities performed by shell
23	III	Run jobs in background using "&", logout safely, wait command
24	III	Premature termination of process using kill command and options used with kill command
25	III	Runs jobs with low priority with nice command and timing process with time command, Multiple jobs in foreground

26	IV	Introduction of communiation and sheduling: bulletin board with news command and its options
27	IV	Message of the day using news command, difference between bulletin board and message of the day
28	IV	users willness to talk with mesg command, Two- way communication with write command and its different options(codes)
29	IV	Introduction of dead lock condition and its reasons
30	IV	mail command to send messages to multiple users and to read receive messages from others
31	IV	Adress all users with finger command, execution of process later using at and batch command with different options
32	IV	Running jobs periodically using cron command and modify jobs schedule with corntab command
33	IV	Programming with shell: system variable, command line arguments, quotes, operators
34	IV	if-then-else and fi, switch statement, looping or iterative statements(for, while and until loops)
35	V	Introduction of system administrator (super user), different tasks of sysem administrator,
36	V	Types of accounts on Unix OS: Root, System and User
37	V	Managaing Users and Group: useradd, usermod, userdel, groupadd, groupmod, groupdel commands
38	V	Process of creation of user account and setting user environment
39	V	Process of deleting an user account, locking and unlocking user account
40	V	Software Maintenance: Patching, Source distribution, RPM packagesm Debian packages and other vendor distributions
41	V	Firewall, File system Security
42	V	Unix backup and File restoration: types of backup media

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Department of Computer Science
Lesson Plan - BCA IV (Jan 2019 - June 2019)

Subject - UNIX Practical

Teacher - Prof. Pravin Kumar Sharma

Day/Lecture	Topic
1	Demonstrate Commands ls with different options, who, who am I, mkdir/md
2	Demonstrate Commands cat and its options, cd, mv,
3	Demonstrate Commands rm, pwd, date
4	Demonstrate Commands tty, stty, lp
5	Demonstrate Commands chmod with its different options
6	Basic operation Connecting and disconnecting from system
7	Basic operation Text and Graphics mode
8	Basic operation changing password and help facility
9	Demonstrate commands file, more and less
10	Demonstrate basic filter commands head, tail, cut, paste
11	Demonstrate basic filter commands wc with its different options
12	Demonstrate basic filter commands sort, cmp, diff
13	Demonstrate use of Pattern matching *, ? and Range []
14	Demonstrate commands echo and banner
15	Demonstrate advanced filter grep with different options
16	Demonstrate advanced filter fgrep with different options
17	Demonstrate advanced filter egrep with different options
18	Demonstrate advanced filter sed, tr with different options
19	Demonstrate commands wait, join and awk
20	Demonstrate command ps to know process status with options
21	Demonstrate process creation routine fork()
22	Demonstrate process creation routine exec()
23	Demonstrate process creation routine wait()
24	Demonstrate command to run process in background with "&"
25	Demonstrate command to kill process with numbers
26	Demonstrate command news, mesg, and finger
27	Demonstrate command cron and crontab
28	Demonstrate command at and batch to schedule process execution
29	Write a shell script to find maximum between two numbers
30	Write a shell script to print table of given number
31	Write a shell script to calculate factorial of given number
32	Write a shell script to enter 10 numbers from user , then print sum and average of them

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Department of Computer Science

Lesson Plan - B. C.A V (July 2018 - Dec 2018)

Subject - Programming with Java

Teacher - Harshita sharma

Day/Lectu	Unit	Topic
1	I	Introduction to java,C++ vs java difference,internet & www
2		java support system,java environment,java program structure
3		tokens,statements,java virtual machine,constant& variables
4		concept of data types,declaration of variables,
5		scope of variables,symbolic constant concept
6		Type casting,operators: Arithmetic,Relational,logical
7		Assignment,increment and decrement operator,conditional
8		Bitwise,special,expression and evaluation,statement concept
9		if statement.if..else statement,Nesing of if..else... statement
10		else..if ladder.switch? Operators,loops-while,Do-while
11		For,jumps in loops,labelled loops concept
12	II	Defining a class,how to add variables and method.
13		creating objects,accessing class members,constructors and its types
14		concept of method overlaoding,practical of method overlaoding
15		static members,nesting of methods
16		concept of inheritance,types of inheritance
17		Extending a class, concept of method overriding
18		concept of Final variables,classes,methods & its practical
19		how to implement concept of finalize methods
20		Abstract method and classes,visibility control
21		practical on how to create object and classes
22		practical on inheritance concept
23	III	Arrays: one dimensional and two dimensional array
24		String: methods and classes,vector,wrapper classes
25		defining interface: extending interface,implementing interface
26		accessing interface variable,practical on concept of interface.
27		concept of system packages,using system package
28		concept of adding a class to a package
29		concept of hiding a class to a package
30		practical on how to use one dimensional and two dimensional array
31		practical on how to create package and how to add class on it
32	IV	Creating Threads,extending the Thread class
33		stopping and blocking a Thread
34		life cycle of Thread class
35		how to use Thread classes and methods
36		Thread exception concept.
37		Thread priority concept
38		concept of synchronization of Thread
39		concept of implementing the Runnable Interface

40		practical on how to set Thread priorities
41	V	local and remote applet vs applications
42		Writing Applets,Applet Life cycle,creating and executable Applet
43		Designing a web page,Applet Tag,adding Applet to HTMLfile.
44		Running the Applet,passing parameters to Applet,aligning the display.
45		Html tags & Applet,geeting input from the user
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Maharaja Ranjit Singh College of Professional Sciences, Indore

Department of Computer Science

Lesson Plan - B. C.A V (July 2018 -Dec 2018)

Subject - Programming with Java Practical

Teacher - Harshita sharma

Day/Lecture	Topic
1	Write a simple java program to print hello
2	Write a program to print factorial of a number
3	Write a program to print fibonacci series
4	Write a program to find greatest of n numbers
5	Write a program to find whether a given number is even or odd
6	Write a program to find largest of three numbers
7	Write a program to check number is palindrome or not
8	Write a program to reverse a string
9	Write a program to convert string into upper and lower case
10	Write a program to swap two numbers without using a third variable
11	Write a program for string concatenation
12	Write a program to find longest word in a string
13	Write a java program to demonstrate the implementation of abstract class.
14	Write a java program to implement single level inheritance
15	Write a java program to implement method overriding
16	Write a java program to implement multiple inheritance.
17	Write a java program to implement method overloading through Interface
18	Write a java program to designed a class that demonstrates the use of constructor and destructor.
19	Write a java program to print largest among two numbers
20	Write a java program to print date and time
21	Write a java program to take input from user using scanner class
22	Write a java program to check given number is a leap year or not
23	Write a java program to print multiplication table using thread
24	Write a java program to print hello world using simple Runnable in Thread
25	Write a java program to implement thread life cycle.
26	Write a java program to implement multithreading.
27	Write a java program to open a file and display the contents in the console window.
28	Write a java program to copy the contents from one file to other file.
29	Write a java program to read the student data from user and store it in the file.
30	Write a java program to print missing number in an array
31	Write a java program to merge two Array
32	Write a java program for multiplying two matrices and print the product for the same.
33	Write a java program to add two matrices and print the resultant matrix.
34	Write a java program to sort 2-D Array
35	Write a java program to transpose matrix using one Array
36	Write a Applet program to display calculator
37	Write a Applet program to print different geometric shapes
38	Write a Applet program to draw face
39	Write a Applet program to show clock timing
40	Write a Applet program to change Applet background color using scrollbar

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Department of Computer Science

Lesson Plan - BCA Vth Sem (July 2018 - Dec2018)

Subject - Computer Organization and 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
		Continue Secondary memory.
14		cache memory with types.
15		Explain Advance DRAM organization
16		RAID Optical memory
17		Revision of 2nd unit.
18	Class test of 1st and 2nd memory.	
19	3	Machine Instruction Characteristics
20		Types of Operand and Type of Operations
21		Assembly Language
22		Addressing mode and Instruction formats
23		Explain Instruction Cycle
24		Instruction Pipelining.
25		Pentium Processor and Power PC Processor.
26		Revision of 3rd unit
27	4	Micro Operations and control of the CPU
28		Hardwired implementation
29		Explain Concepts of Micro programmed control
30		microinstruction sequencing and microinstruction execution
31		applications of micro programming
32		Revision of 4th unit
33		External Devices, I/O modules
34		Programmed I/O and Interrupt-Driven I/Owith flowchart
35		Direct Memory Access
36		I/O Channels and processors

37	5	External Interface and parallel processor
38		The MESI Protocol vector computation
39		Revision..
40		Revision
41		Class test.

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Lesson Plan - BCA V (July 2018 - Dec 2018)

Subject - Software Engineering

Teacher - Prof. Pravin Kumar Sharma

Day/Lecture	Unit	Topic
1	I	Data, Information and system, types of system, its characteristics and components
2	I	Business system and its types, Environment
3	I	Introduction of software engineering: definition and application
4	I	System Analysis and its different phases
5	I	system requirement, SDLC and phases of SDLC
6	I	Continue phases of SDLC
7	II	Project Selection: Sources of Project request(departmental managers, senior executives, system analyst and outside group)
8	II	Managing Project review and selection: different committee methods
9	II	recognition of need (preliminary investigation) and its methods
10	II	Fact Finding Techniques(Study of existing documents, PI, Questionnaires, JAD, RAD, Onsite observation and research on website)
11	II	Feasibility Analysis: Types of feasibility study
12	II	Economic Analysis: different types of Costs and Benefits occurred during project development
13	II	Cost and Benefit determination, steps of determining cost and benefit analysis
14	III	Introduction of Structured system analysis and its goals
15	III	SDLC with structured system analysis: Explosion of Process into sub processes
16	III	Tools of structured system analysis: DFD, its different symbols and rules of constructing DFD
17	III	Software design fundamentals: general definition of design, its goal and software design model
18	III	Architectural, Procedural and software design fundamentals, software architecture
19	III	continue tools of SSA: Data dictionary, its formats and elements, Structured English
20	III	continue tools of SSA: Decision Tree and Decision table, its types
21	III	Object oriented design models: Object, Dynamic and Functional Model(DFD, Use-Case, Class. Object, Sequence, Collaboration, State, Activity, Component and Deployment)
22	IV	Data flow Oriented Design
23	IV	Introduction of software quality assurance, Quality factor specification
24	IV	Software requirement, software design, software testing and implementation
25	IV	Levels of quality assurance: Testing, Validation and Certification
26	IV	Software Testing fundamentals: Testability, Operability, Observability, Controllability, Decomposability, simplicity, Stability and understandability
27	IV	Characteristics of Test: High probability, Strategic approach to software testing

28	IV	Validation and Verification, Conventional software architecture of testing
29	IV	Strategic Issues, Criteria for completion of testing
30	IV	Methods of Testing: White box, Black box, Gray box, Visual
31	IV	Levels of Testing: Unit, Integration and System
32	IV	Objectives of Testing: Regression, Acceptance, Alpha and Beta
33	V	System Implementation: Definition and its types, Conversion, Steps of conversion and Activity network of conversion
34	V	File conversion, Test files, data entry, audit control and user training
35	V	Post implementation review, review plan
36	V	Software Maintenance: Definition, its types, activities of maintenance
37	V	Methods of reducing Maintenance cost: Maintenance Management audit, Software system audit and software modification
38	V	Hardware and software selection process
39	V	Major Phases of Hardware Selection: Requirement analysis, System Specification, RFP, Evaluation and Validation, Vendor Selection and Post Installation review
40	V	Major Phases of Software Selection: Reliability, Functionality, Capacity, Flexibility, Usability Security, Performance, Serviceability, Ownership and Minimal cost

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Lesson Plan - B.C.A. V SEM (July 2018 -Dec2018)

Subject - WEB DESIGNING AND WEB TECHNOLOGY

Teacher - Prof. Shailesh Hirve

Day	Unit	Topic
1	I	Client sever Computing Concepts
2		Distributed computing on the Internet
3		Introduction to Web Pages, HTML, HTML Elements and pages
4		Formatting text and pages
5		Including picture and links in a page
6		Creating tables and lists
7		Splitting pages into frames
8	II	Site Design and Navigation
9		The home page Navigational tools
10		Formatting the body section using block level
11		Formatting using text level & using phrase
12		Formatting using font style
13	III	Multimedia with Web :- Creating files, streaming audio, streaming animations
14		Java Script and Browser
15		Java Script and sever
16		Embedding Java Script & HTML
17		Java Script fundamentals:-Variables, Value Store house
18		Java Script statements, loops, condition and functions
19		Java Script objects properties and methods
20		Event handlers and non script tag
21	IV	Comparison of HTML, DHTML and XML
22		Web casting, Domain name selection
23		Web sever selection, Web hosting, uploading and downloading of web
24		Incremental uploading of data, introduction to SQL Sever
25		Introduction to user management in SQL - Server
26		Introduction to ASP, database handling with ASP
27		Connection object

28	V	Record set object
29		Request object
30		Response object
31		Cookies, creating tables and insert query through connection

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Lesson Plan -BCA V Sem (July 2018 - Dec 2018)
Subject - Practical VB/VB.NET
Teacher - Prof. Meenakshi Vyas

Day/Lecture	Topic
1	Intro To VB,Need & History
2	Types of VB Packages
3	Starting VB Editor ,Screen Description-Options Available
4	Crwating And Saving a Project
5	Different Tools availble & Properties
6	Different Tools availble & Properties
7	Different Tools availble & Properties
8	Form Layout ,Different Between Tool Box & Tool Bar
9	Sample Programs
10	Addition Program
11	Msg Box And different types of messages
12	Create a window application for simple calculator
13	create a window application to compare b/w two no, compare b/w 3 no.
14	create a program with a text box and one button control to check whether a number is prime or not
15	create a program with a tex box and one button control to check the no is even or odd.
16	create a program and one button control check the year is leap year or
17	create a windows application to calulate simple interst.
18	create a windows application tocalculate factorial of a number.
19	create a windows application to calculate for storing and displaying 10 number in an array.
20	create a windows application to calulate to generate fibonacci series.
21	create a windows application to calculate for swapping two numbers.
22	create a windows application to calculate sum and average of 10 numbers stored in array.
23	create aprogram to determine whether a given angle forms a valid triangle.
24	create a program which allow user to select gender using checkbox control.
25	create a program to change the case of text box according to selected radio button.
26	create a program to determine input number is prime or not .
27	create a windows application that contains a list box and a button. The click event of.
28	the button inserts odd nos between 1 to 100 in the list box
29	create a program with a text box and two button control to set the button to oupen file. And to save a file
30	create a windows application that countains text boxes and a button . The click event of the button displays the
31	percentage of student on the basis of marks entred in the text boxes.

Maharaja Ranjit Singh College of Professional Sciences,Indore

Department of Computer Science		
Lesson Plan - B.C.A VI Sem(Jan 2019 - June 2019)		
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
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

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Department of Computer Science

Lesson Plan - BCAVI Sem(Jan 2019 - June 2019)

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 - BCA VI (Jan 2019- June 2019)

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
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 Runge Kutta Second Order and Fourth order Method.
44		Revision

Maharaja Ranjit Singh College of Professional Sciences

Department of Computer Science

Lesson Plan - BCA VI (Jan 2019 - June 2019)

Subject - MicroProcessor

Teacher - Prof. Pradeep Purey

Day	Unit	Topic
1	I	Architecture of 8085
2		Architecture of 8085
3		Programming of 8085
4		Programming of 8085
5		, Organization of CPU
6		Various Addressing modes.
7		Organization of register
8		Various Addressing modes.
9	II	Assembly Language Programming I
10		Assembly Language Programming II
11		Assembly Language Programming
12		, Instruction and data flow
13		, Instruction and data flow
14		Instruction set of 8085.
15		Instruction set of 8085.
16	III	Memory interfacing
17		various Schemes, Address
18		space partitioning
19		various Schemes, Address
20		space partitioning
21		interfacing Technique with various I/O Devices
22		interfacing Technique with various I/O Devices
23		latches
24		Tristate Buffer.
25	IV	Programmable Peripheral 8155 &
26		8255,
27		Programmable Peripheral 8155 &
28		8255,
29		their features, programming and applications
30		their features, programming and applications
31	V	keyboard controller 8279.
32		Architecture of 8051 micro-controller,
33		Architecture of 8051 micro-controller Continue
34		Comparison of microprocessor of different series

Maharaja Ranjit Singh College of Professional Sciences

Department of Computer Science

Lesson Plan - BCA VI (Jan 2019 - June 2019)

Subject - MicroProcessor Practical

Teacher - Prof. Pradeep Purey

Day	Topic
1	To load 7bH in register B, transfer the data to register A and increment it by 2
2	To load 23H in register B and 39H in register C. Subtract contents of B from C and there in register D
3	To add the contents of register B with register C, store the result of memory location 20C0H
4	Add contents of memory location 20C0H and 20C2H store the result in register B
5	Add the contents of memory location 20C0H with memory location 20C1 H and store the result in 20C2 H
6	Add the contents of memory location 20C0H and 20C1 H and store the result of memory location 2002H and carry memory location 20C3 H contents of 20C0H is 02 H contents of 20C1 H is 03 H
7	Subtract the contents of memory location 20C0 H from 20C1 H and store result in register contents of 20C0H is 12H contents of 20C1 H is 13 H
8	Subtract the contents of memory location 20C0 H from 20C1 H and store the difference in 20C2 H and borrow at 20C3 H
9	Take 2's complement of 29 H and store result in register B
10	Exchange content of register B with C

Maharaja Ranjit Singh College of Professional Sciences, Indore

Department of Mathematics

Lesson Plan - BCA I sem (July 2020 - Dec2021)

Subject - Mathematics Paper-Mathematics I

Teacher - Prof. Shifa Goyal

Day/Lecture	Unit	Topic
1	1	Review of function of one variable, limit
2	1	Examples to find limit
3	1	Properties of limit, examples
4	1	Continuity, Types of continuity
5	1	Examples
6	1	Differentiability
7	1	Problems
8	1	Problems
9	2	Successive Differentiation
10	2	Successive Differentiation
11	2	Leibnitz's Theorem
12	2	Examples
13	2	Rolle's Theorem
14	2	Example
15	2	Lagrange's Mean value theorem
16	2	Cauchy's Mean value theorem, example
17	2	Maclaurin's theorem
18	2	Taylor's theorem, examples
19	2	Indeterminate form
20	2	Indeterminate form
21	3	Tangents and Normals
22	3	Examples
23	3	Curvature
24	3	Curvature
25	3	Asymptotes
26	3	Asymptotes
27	3	Asymptotes
28	3	Integration of hyperbolic function
29	3	Reduction formula
30	3	Reduction formula
31	3	Examples

32	4	Differtiation of Vector functions
33	4	Gradient, Divergence and Curl
34	4	Gradient, Divergence and Curl
35	4	Direction derivatives, Partial derivatives of Vector functions
36	4	Direction derivatives, Partial derivatives of Vector functions
37	4	Gradient, Divergence,Curl Of polar coordinate
38	4	Examples
39	4	Examples
40	5	Matrix , Types of matrix
41	5	Opretion and tranformation of matrix
42	5	Opretion and tranformation of matrix
43	5	Inverse of matrix
44	5	Inverse of matrix
45	5	Normal form of matrix
46	5	Rank and nullity of matrix
47	5	Rank and nullity of matrix
48	5	Solution of linear simultaneous equations
49	5	Solution of linear simultaneous equations
50	5	Solution of linear simultaneous equations

Maharaja Ranjit Singh College of Professional Sciences, Indore

Department of Mathematics

Lesson Plan - BCAII sem (Jan 2020- May 2021)

Subject - Mathematics

Paper-MathematicsII

Teacher - Prof. Shifa Goyal

Day/Lecture	Unit	Topic
1	1	Concavity,convexity and point of inflexion
2	1	Tracing of cartesian curves
3	1	Tracing of cartesian curves
4	1	Tracing of polar curves
5	1	Tracing of polar curves
6	1	Tracing of parametric curves
7	1	Improper integrals
8	1	Tests for convergence of Improper integrals
9	1	Tests for convergence of Improper integrals
10	1	Evaluation of convergent integrals
11	2	Beta and Gamma functions
12	2	Properties of Beta and Gamma functions
13	2	Duplication formula
14	2	Rectification
15	2	Rectification
16	2	Rectification
17	2	Intrinsic equation
18	2	Intrinsic equation
19	3	Multiple integrals
20	3	Multiple integrals
21	3	Multiple integrals
22	3	Dirichlet Integral
23	3	Area and volume using multiple integral
24	3	Area and volume using multiple integral
25	3	Line integral
26	3	Line integral
27	3	surface and Volume integral
28	3	surface and Volume integral
29	3	Gauss theorem
30	3	Stoke's theorem
31	4	limit and continuity of function of several variables
32	4	limit and continuity of function of several variables
33	4	Differentiability of several variables
34	4	Partial derivatives
35	4	Euler's theorem

36	4	Euler's theorem
37	4	Mean value theorem
38	4	Taylor's theorem
39	5	Maxima and minima of functions of two & three variables
40	5	Maxima and minima of functions of two & three variables
41	5	Maxima and minima of functions of two & three variables
42	5	Convergence and divergence of series
43	5	Tests for convergence
44	5	Tests for convergence
45	5	Tests for convergence
46	5	Tests for convergence

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Department of Mathematics

Lesson Plan - BCAIII sem (July 2020 - Dec2021)

Subject -Mathematics Paper-Mathematics III

Teacher - Prof. Manoj Joshi

Day/Lecture	Unit	Topic
1	1	Statements
2	1	Logical connectives
3	1	Logical connectives
4	1	Tautology and contradiction
5	1	Logical Equivalence
6	1	Problems
7	1	Quantifiers
8	1	Boolean Algebra
9	1	Examples
10	1	Properties
11	1	Properties
12	1	Examples
13	2	Sets
14	2	Set operations
15	2	Examples
16	2	Examples
17	2	Introduction to method of proof
18	2	Introduction to method of proof
19	2	Mathematical induction
20	2	Examples
21	2	Examples
22	3	Combinatorics, Basics of counting
23	3	Counting principles
24	3	Permutations
25	3	Examples
26	3	Examples
27	3	Circular permutations
28	3	Combinations
29	3	Combinations different types, examples
30	4	Recurrence relations
31	3	Solving recurrence relations
32	3	Examples
33	3	Examples
34	4	Relation definition and examples
35	4	Properties of relations
36	4	Unary, Binary, Ternary, n-ary relations
37	4	Types of binary relations
38	4	Equivalence relations
39	4	Equivalence relations, examples

40	4	Equivalence classes
41	4	Composite relation Closure of relations
42	5	Graph, definition and examples
43	5	Types of Graph
44	5	Hamiltonian path circuits
45	5	Theorems
46	5	Theorems on the Graph
47	5	Tree and properties
48	5	Theorems on tree
49	5	Languages and Grammars
50	5	Languages and Grammars

Maharaja Ranjit Singh College of Professional Sciences, Indore

Department of Mathematics

Lesson Plan - BCA V sem (July 2020- Dec2020)

Subject - Mathematics Paper-Linear Algebra & Geometry

Teacher - Prof. Shifa Goyal

Day/Lecture	Unit	Topic
1	1	Binary operation on the set, Groupoid, Semi group, Moniod
2		Group, Examples
3		Properties of Group
4		Sub Group, Theorems
5		Coset, Theorems
6		Normal sub group, Theorems
7		Lagranges Theorem
8		Basics Ring and Field
9		Vector space, examples
10		Vector sub space, Theorems
11		Quotient space LI, LD vectors
12		Linear Maps
13	2	Linear Maps
14		Matrix representation of linear maps
15		Rank and nullity of linear maps
16		Fundamental theorem
17		Eigen values and Eigen vectors
18		Examples and theorems
19		Examples
20	3	Cayley-Hamilton theorem
21		Conicoid polar planes, Locus of chord, pole with respect to conicoid
22		pole with respect to conicoid, Examples
23		parbolid, Elliptic and Hyperbolic parabolid
24		Parabolic of revolution, examples
25		Tangent planes normal lines, examples
26		Locus of chords, Diametral plane, Conjugate diametral plane
27		Examples
28		Ellipsoid, different shapes
29		Tangent plane, Normal lines, Examples
30		Director sphere, theorems
31		Polar planes, polar lines, examples
32		Theorems
33		Examples and theorems
34		Coungate diameters, conjugate diametral planes
35	4	Locus of the chords, Examples
36		Examples
37		Cone, General form cone with vertex at origin
38		Examples
39		General second degree equation representing cone
40		Mutually perpendicular generators, Examples

41	Reciprocal cone and Enveloping cone
42	Right circular cone
43	Cylinder, Examples
44	Right circular cylinder
45	Examples

Maharaja Ranjit Singh College of Professional Sciences,Indore

Department : Languages

Lesson-Plan BCA I SEM , July 2018- December 2018

Subject - English Language

Teacher - Prof.Shweta Patidar

Day/Lecture	Unit	Topic
1		Amalkanti : Nirendranath Chakrabati
2		Question Answer
3		Sita: Toru Dutt
4		Question Answer
5		Delhi in 1857 : Mirza Ghalib
6		Question Answer
7	1	Prefce to Mahabharat : C. Rajagopalachari
8		Question Answer
9		Spiritual Nationalism of Shri Aurobindo : Nibir K. Ghosh
10		Question Answer
11		The Heritage of Indian Culture : Kapila Vatsyatan
12		Question Answer
13		Reading Comprehension and Vocabulary
14	2	Reading Comprehension and Vocabulary
15		Reading Comprehension and Vocabulary
16		Reading Comprehension and Vocabulary
17		Paragraph Writing
18	3	Paragraph Writing
19		Paragraph Writing
20		Paragraph Writing
21		Letter Writing (Formal and Informal letters)
22	4	Letter Writing (Formal and Informal letters)
23		Letter Writing (Formal and Informal letters)
24		letter Writing (Formal and Informal letters)
25		Grammar
26	5	Grammar
27		Grammar
28		Grammar

Maharaja Ranjit Singh College of Professional Sciences, Indore**Department of : Languages****Lesson Plan - B. C.A. II sem (Jan 2019 -April 2019)****Subject - Hindi Language BCA 206****Teacher - Dr.Pushendra Dubey**

Day/Lecture	Unit	Topic
1	1	Hindi Bhasha kaa Udbhav aur Vikas
2	1	Kavita : Bharat Vandana, Surykant Tripathi Nirala
3		Kavita : Swatanrata Pukarti, Jaishankar Prasad
4		Kahani : Bade Ghar Kee Beti, Premchand
5	2	Satire : Ek Gadhe Ki Vapsi, Krishnchandar
6		Satire : Tlephon, Harishankar Parsai
7		Satire : Afsar, Sharad Joshi
8	3	Nibandh : Saunday ki Nadi Narmada, Amritlal Vegad
9		Sansmaran : Bastar men Bagh, Shani
10	4	Dharm : Buddh ki Karuna, Dr.Siddh Tiss
11		Autobiography : Sadagi, Mahatam Gandhi
12	5	Nibandh : Yog ki Shakti, Harivanshray Bacchan
13		Letter : Shikago se Swami Vivekanand Ka Patra
14	Khand 2/ 1	Sampreshan Kaushal : Manak Hindi Bhasha
15		Ashuddhiyaan aur Unka Sanshodhan
16	2	Grammer : Hindi Ka Shbad Bhandar
17		Hindi Ki Vakya Rachna aur Viram Chihn
18	3	Patra Lekhan
19		Saar Lekhan aur Pallavan
20	Khand 3/ 4	Bharat Desh Aur uske Nivasi
21		Bhartiy Samaj Ki Sanrachna
22		Samaji Gatisheelta
23		Dharm Aur Darshan
24	5	Bhartiya Sanskrati ka Vishv Par Prabhav
25		Madhypradesh Ka Sanskratik Vaibhav

Maharaja Ranjit Singh College of Professional Sciences, Indore

Department of Biosciences

Lesson Plan - BCA IV Sem (Jan 2019 -June 2019)

Environmental Awareness

Teacher - Prof. Baishali Roy

Day/Lecture	Unit	Topic
1	1	Introduction to Environment & Ecology - its definition & Importance
2		Public Participation & Public Awareness
3		Ecology - Introduction
4		Ecosystem - Concepts, Components, Structure & Function
5		Energy Flow, Food Chain, Food Web,
6		Ecological Pyramids & its types
7	2	Air Pollution - Definition, Causes, Effects & its Prevention
8		Water Pollution - Definition, Causes, Effects & its Prevention
9		Noise Pollution - Definition, Causes, Effects & its Prevention
10		Heat & Nuclear Pollution - Definition, Causes, Effects & its Prevention
11		Population Growth & Disparities between Countries
12		Population Explosion
13		Family Welfare Programme
14		Environment & Human Health
15		Cleanliness & Disposal of Domestic Waste
16		3
17	Land Resources - Problems & Its Conservation	
18	Forest Resources - Problems & Its Conservation	
19	Food Resources - Problems & Its Conservation	
20	Energy Resources - Problems & Its Conservation	
21	4	Introduction to Genetic Species & Ecosystem Diversity
22		Value of Biodiversity - Consumable Use & Productive Use
23		Social, Moral & Asthetic Values of Biodiversity
24		India as Mega-biodiversity Centre
25		Biodiversity at national & local levels
26		Threats to Biodiversity - Loss of habitat
27		Poaching of Wildlife
28		Man & Wildlife conflicts
29	5	Disaster Management - Flood
30		Disaster Management - Earthquake
31		Disaster Management - Cyclones
32		Disaster Management - Landslides
33		Conservation of Laws for Air Pollution
34		Conservation of Laws for Water Pollution
35		Wildlife Conservation Laws
36		Role of IT in protecting environment & health