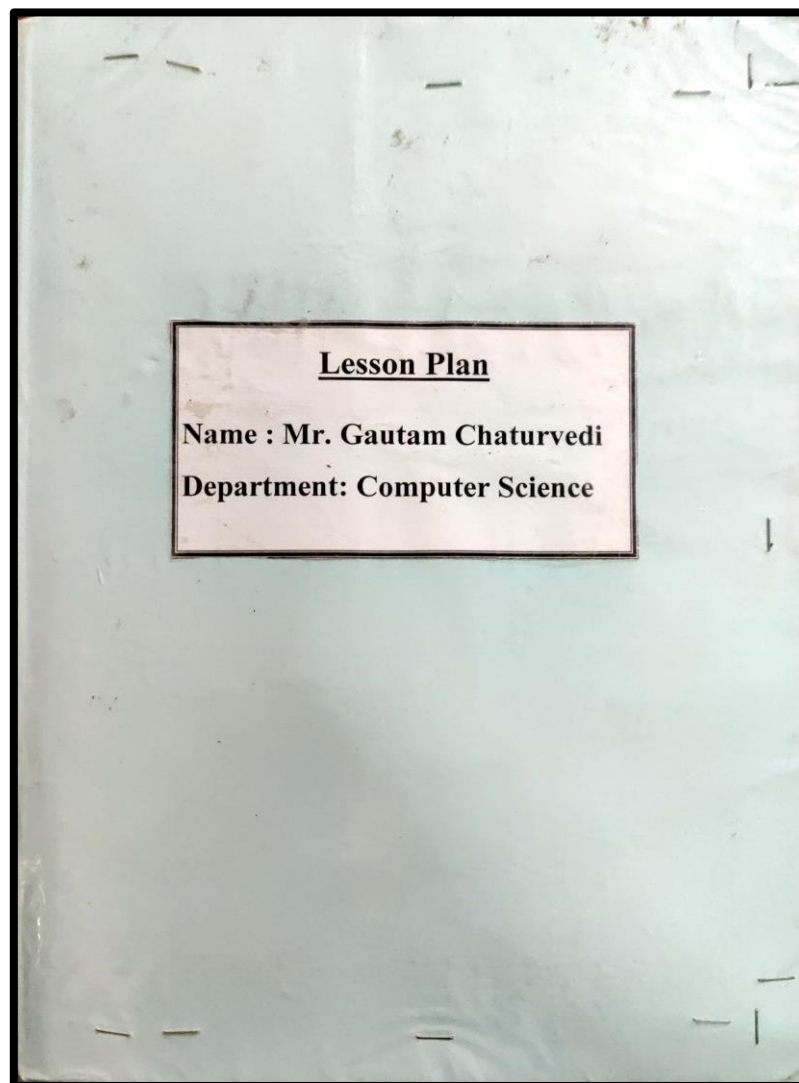




SOPHIA GIRLS' COLLEGE(AUTONOMOUS), AJMER





SOPHIA GIRL'S COLLEGE, AJMER (AUTONOMOUS)
BCA / IMSC (SEMESTER - I) 2020-21

BCA / IMSC – 103 Fundamentals of 'C' Programming

Max. Marks :100 (70Ext; 30 Int)

Min. Marks: 40 (28 Ext;12 Int) Credits : 4

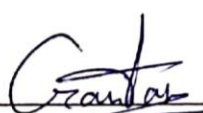
COURSE PLAN

SEM - I Month	UNIT / TOPIC	Concepts / Facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
JULY	'C' Language: Character Set, Keywords, Constants, Variables, Data Types, Type Conversion, Instruction & its types: Input Output Instructions, Operators & Expressions: Arithmetic, Relational, Logical, Conditional , Arithmetic Instructions. Control Instructions: Decision Control (if, if-else, if else ladder, nested if, switch case),	Understand the concepts of Programming Logics & Techniques its source and usage & characteristics of 'C' Language and Operators of 'C'.	PPT, Match the following, Demonstration, problem solving activities, E content	Identify terminology associated with the concepts, techniques, and processes used throughout the 'C' Programming Language	<u>Knowledge Based</u> Define Compiler & Interpreter List operators used in 'C' Language Define functions in 'C'. What is recursion? <u>Understanding Based</u>	Knowledge-- 60 Understanding -30 Higher Order- 10
AUGUST	Loop Control (while, for, do-while, Nesting Loops), Jump statements (break, continue, goto) Arrays:- Concept of Arrays, One dimensional array & Two dimensional array, Storage strategy, Array Initialization, Operations on Arrays	Lists utility and implementation of Control Instructions. Understanding different of arrays, how arrays can save memory and different	PPT, Practical Implementation, assignments, E content	Get familiar with basics input output & Operators of 'C' Language. Able to create / write various	Which function is best suitable to take input from the user and why? Give comparison between Decision Control & Loop Control statements	



	(traversing, addition, subtraction, transpose), Search – linear & binary. Sorting - bubble sort & selection sort.	operations of array		control instructions	Give differences between call by value & call by reference
SEPTEMBER	<p>Functions:- Declaration, Calling (Call by value, Call by reference) & Definition of functions, Recursion, Storage Class (auto, static, register, extern), Scope rules (Local, Global).</p> <p>Pointers:- Pointers and addresses, Pointers as Function arguments, Pointers and Arrays, Address Arithmetic. Character Pointers,</p>	<p>Understand types of functions & Pointers with their use</p> <p>Utility of Storage Classes.</p>	PPT, Practical Implementation, group discussion	<p>Acquire knowledge and skills for creation of arrays</p> <p>Use functions to solve the given problem</p> <p>Understand storage classes and pointers with their usage</p>	<p><u>Higher Order Thinking Skills Based</u></p> <p>Can creation of multi dimensional arrays help in managing the large amount of data systematically? Justify with example.</p> <p>Write a 'C' program to print a pyramid on the screen.</p> <p>Write a program to reverse a string.</p>
OCTOBER	<p>String handling and String functions (strlen, strcat, strcmp, strcmpi, strrev, strcpy).</p> <p>Structure and Union: Basics, Structures and Functions, Arrays of Structures, structure pointer variables. Union definition and its use.</p>	<p>Understand how to save strings and implement various string functions</p> <p>Utility of Structure, Union & File Handling, and their creation</p>	PPT, Practical Implementation, group discussion, E content	<p>Implement string functions in C language</p> <p>Understand pointers, structure, union, file handling and their usage</p>	<p>Write the steps to a structure to save data of all the books in a library</p>


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SOPHIA GIRL'S COLLEGE, AJMER (AUTONOMOUS)
VCA (SEMESTER I) 2020-21
VCA- 102 PC Software-I

Max. Marks : 75 (50Ext; 25 Int)

Min. Marks: 30(20 Ext;10 Int) Credit: 03

COURSE PLAN

SEM I Month	UNIT/TOPIC	Concepts/facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
SEM I JULY	UNIT-I Software: System software, application software, utility software. User Interface: Introduction to CUI and GUI and Comparison .	Learn the importance of software and its types	PPT, Comparison chart,blended learning,assignments	Identify the features of common application of MS window.	<u>Knowledge Based</u> - Why is software needed in computer? - Differentiate between Custom software and Utility software.	Knowledge--40 Understanding-40 Higher Order-20
	MS Windows, Features of Windows, Desktop (My Computer, My Document, Recycle Bin, Network Places, Internet Explorer. Windows Explorer, Start Menu and Task bar. System Tool: , Disk defragmentation, System Information, System Back up & Restore.	Demonstrate the features of MS Window.	PPT, Quiz,problem solving activities		<u>Understanding Based</u> - Write in brief about the use of different view of a document available in MSWord.	



	Control Panel : Add & Remove Hardware / Software, Date & Time, Personalization , Font, Mouse, Keyboard, Printer & Faxes, Sound, User Account, Windows Task Manager, Power option, Folder Option.	Identify the tools of Control Panel	PPT,assignments ,group discussion,E content		- Why we use watermark in MS-Word? How do you create a watermark in Word?
AUGUST	UNIT-II MS-Word: Introduction to MS-Word, Features, Application Areas and its uses, types of views, Creating & Saving : New Document, copy, cut, paste, paste special, clipboard, undo, redo, Fonts,	Understanding the basic features and importance of MS-Word	Ppt, problem solving activities, practical implementation	identify and work with basic Word tools and features	<u>Higher Order Thinking Skills Based</u> - What are drives and folders? How does MS Window organize files and folders on drives? - List the features of MS Word.
	Paragraphs: Indentation and Spacing, Columns & Breaks, Styles, Find, Replace & Goto. Inserting Tables, Picture, ClipArt, Shapes, Smart Art and Charts, Symbols and Equations, Hyperlink, Bookmark. Header & Footer. DropCap, Textbox, WordArt, Date and Time.	Able to use paragraph formatting, also able to create interactive graphical documents.	Group discussion,E content	Edit text and modify the appearance of text in a Word document insert special characters and graphical objects organize data in tables	
SEPTEMBER-OCTOBER	UNIT-III MS-PowerPoint: Introduction to PowerPoint, Features,	Identify the importance of PPT features.	Ppt, quiz, E content	customize the PowerPoint environment and a design	



	Application Areas and its uses, Creating Presentations through Blank Presentations,			template	
	Templates, Slide Master, Views of PowerPoint, Formatting of Presentations : Inserting Graphics and Animations,	Apply graphical and animations on the Slides		Add SmartArt graphics to a presentation Add Media and Animations effects to a presentation	
	Formatting & Customizing Presentations: Slide Transactions, Custom Animation, Inserting sounds. Set up and Custom Slide Show , Handouts.	Able to change the formatting of the slides, and insert the animations, sounds			

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Min. Marks: 30(20 Ext;10 Int) Credit: 03

SEM I Month	UNIT/TOPIC	Concepts/facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
SEM I JULY	UNIT-I Introduction to Computer: Definition, Diagram, Characteristics, Hardware & Software. Software & its types, User Interface: Concept of CUI & GUI. MS Windows, Features of Windows, Desktop (My Computer, , Bookmark, Cross-reference, Internet Explorer. Start Menus, Taskbar & its properties, Windows Explorer. MS-Word: Introduction to MS-Word, Features, Application Areas & its uses, types of views, Creating & Saving: New Document & Templates.	 Learn the concept of software & hardware devices Demonstrate the features of MS Word	PPT, Quiz,assignment s PPT, Quiz,assignment, group discussion	 Identify the features of common application of MS window. 	<u><i>Knowledge Based</i></u> - Why is software needed in computer? - Differentiate between Custom software and Utility software. <u><i>Understanding Based</i></u> - Write in brief about the use of different view of a document available in MSWord.	 Knowledge--40 Understanding-40 Higher Order-20



My Document, Recycle Bin, Network Places, cut, copy, paste, paste special, clipboard, undo, redo, Fonts, **Paragraphs:** Indentation & Spacing, Columns & Breaks, Styles, Themes, Find, Replace & Goto. Inserting Tables, Picture, ClipArt, Shapes, Smart Art & Charts, Symbols & Equations, Hyperlink Formatting, **Editing & Printing:** Converting Text to Table & vice versa. Header & Footer. DropCap, Textbox, WordArt, Date & Time, Footnotes & Endnotes, Captions, Watermark, Page Color, page Borders, Page background. Mail merge, Macros, Spelling & Grammar, Auto correct & Auto text. Page Setup, Size, Margins, Gutter, Orientation.

Identify the tools of Microsoft word

PPT, practice exercise

Why we use watermark in MS-Word? How do you create a watermark in Word?

Higher Order Thinking Skills Based

- What are drives and folders? How does MS Window organize files and folders on drives?
- List the features of MS Word.

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	UNIT-II			
AUGUST	<p>MS-Excel: Introduction, Features, Application Areas & its uses, views & its types, formatting & its types, Functions & Formulas (Text: char, concatenate exact, find, left, right, mid, lower, upper, proper, search, substitute, trim. Logical: if, &, or, not.</p> <p>Date & Time: Date, day, month, year, now, today, time, hour, minute, seconds</p> <p>Math & trig: Abs, int, ceiling, floor, even, odd, fact, mod, pi, power, product, round, roman, sign, sqrt, sumtotal, sumif, trim.</p>	<p>Implement the various tools and features of MS excel</p> <p>Practical implementation,blended learning, ppt</p>	<p>identify and work with basic Word tools and features</p> <p>Edit text and modify the appearance of text in a Word document</p> <p>insert special characters and graphical objects organize data in tables</p>	



**SEPTEMBER-
OCTOBER**

UNIT-III

MS-PowerPoint: Introduction to PowerPoint, Features, Application Areas & its uses, Creating Presentations through Blank Presentations, Templates, Existing PowerPoint

Formatting & Customizing Presentations : Inserting Graphics & Animations, Slide Transitions, Custom Animation, Inserting sounds & movies, Set up & Custom Slide Shows. Rehearse Timing, Record Narration & Protecting Presentations. Slide Master, Handouts, Printing Presentations

MS-Access: Introduction, Application Areas & its uses, concepts of databases, creating a database & tables, adding, editing & searching of records, queries & its types, creating forms & reports, linking, importing & exporting data.

Implement the slide presentation, and graphics animations

Group discussion, practical implementation

Apply graphical and animations on the Slides

Ppt, group discussion

Able to change the formatting of the slides, and insert the animations, sounds

customize the PowerPoint environment and a design template

Add SmartArt graphics to a presentation
Add Media and Animations effects to a presentation

Design effective presentation by implementing different formatting styles and understand database concepts

Teacher's Signature.....

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SOPHIA GIRL'S COLLEGE, AJMER (AUTONOMOUS)
B.C.A / IMSC(SEMESTER III) 2020-21
BCA / IMSC– 303 Java Programming

Max. Marks :100 (70Ext: 30 Int)

Min. Marks: 40 (28 Ext;12 Int) Credits : 4

SEM III Month	UNIT/TOPIC	Concepts/facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
JULY	JAVA: Introduction to Object Orientated Programming, Abstraction, Object Oriented Programming Principles, Features of JAVA, Introduction to JAVA byte code	OOPs Basics	PPT,problem solving activities	Describe the features of Java	<u>Knowledge Based</u> -Define OOP -Describe Data Types in Java	Knowledge--50 Understanding-35 Higher Order-15
	Program elements; Primitive data types, variables, Input Output in Java, operators: arithmetic, assignment, logical, bit wise, relational , Boolean logical operators, operator precedence.	Programming Fundamentals	Programming Assignments,problem solving activities		<u>Understanding Based</u> -Apply branching constructs. - Organise operators on the basis of precedence.	
AUGUST	Control statements: Java's Selection Statements, if statement, switch statement, Iteration statements, while, do-while, for-each, Nested loop, Jump Statement, using break, continue, return. Arrays, One & Two Dimensional Array	Branching & Looping	Programming Assignments,group discussion,E content	Develop programs with basic programming constructs.	<u>Higher Order Thinking Skills Based</u> - Check passing objects as parameters - Plan an inheritance hierarchy	
		Collections	Programming Assignments,E content			



SEPTEMBER-OCTOBER	Object and classes: Objects, constructors, returning and passing objects as parameter, Nested and inner classes	OOPs Concepts	Programming Assignments, group discussion	Experiment with branching & Looping and Arrange data in Arrays.
	Inheritance: Definition & its Types, Extended class, usage of Super, Overloading and overriding methods, Abstract classes, using final with inheritance..	Extensibility	Programming Assignments, E content	

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SOPHIA GIRL'S COLLEGE, AJMER (AUTONOMOUS)
B.C.A/IMSC(SEMESTER V) 2020-21

BCA/IMSC – 504 VB. Net Programming

Max. Marks :75 (50Ext; 25 Int)

Min. Marks: 30 (20 Ext;10 Int)

COURSE PLAN

SEM V Month	Unit / Topic	Concepts / facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
JULY	Overview of .NET Framework What is .NET framework, Origins of .NET, Architecture & Components, Common Language Runtime, Common Type System, Common Language Specification, MSIL, Framework Base Classes & Namespaces, IDE, .NET Languages.	Understand Dot Net Frame work with all its components and their usage	PPT, Quiz,assignments,group discussion	Compare and Contrast between different Run Time & Design Time Programming	<u>Knowledge Based</u> What is .Net Framework? Define Common Language Runtime.	Knowledge-- 40 Understanding-- 40 Higher Order-- 20
AUGUST	Visual Basic Language Features: Introduction to VB.NET, Program Structure and Code Conventions, Data Types & Variables, Constants & Enumerations, Operators, Decision making & Looping, Arrays & Strings, Date & Time, Procedures in VB.	Understand the Program Structure, Code Conventions and Data types of VB.Net	PPT, Quiz,practical implementation,problem solving activities	Implement basic instructions of VB.Net language	<u>Understanding Based</u> Explain Program Structure & Code Conventions of VB.Net. Give a brief explanation Arrays in VB.Net	



SEPTEMBER

Building a User Interface:
The Visual Basic Environment,
Event-Driven Programming.

Building Forms: The Basics &
Advanced Techniques, Working
with Traditional Controls: Label
Control, Text Box, Creating
Buttons, Option Buttons, List Box,
Combo Box.

Importance of Event
Driven Programming
and Making GUI
Interface

PPT, Practical
Implementation, group
discussion

Handle the event
driven
programming &
controls of
VB.Net

Higher Order
Thinking Skills
Based

Compare between
List Box & Combo
Box.

OCTOBER

Using Advanced Controls:
Creating Timers, Dialog Boxes,
Picture Box, List View Control,
Tree View Control, Menus and
Toolbars.

Working with Database:
Introduction to ADO.NET,
Connecting to a database,
DataTables, DataRow, Navigating
records, Adding, editing, and
deleting records.

Handling different
Interface Tools &
Dialog Boxes.

Importance and various
techniques of
connecting the
databases.

PPT, Practical
Implementation, assignments

Handle advance
controls &
connectivity with
the Database

Write a program to
take a number from
the user and find
weather its Prime
number or not

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SOPHIA GIRL'S COLLEGE, AJMER (AUTONOMOUS)
M.Sc. Chemistry (Previous) 2020-21
SEMESTER - I
MSCCHE – 104 Programming in Chemistry

MAX MARKS: 100 (70EXT; 30 INT)

MIN. MARKS: 40 (28 EXT; 12 INT) Credits: 4

COURSE PLAN

SEM - I Month	UNIT / TOPIC	Concepts/facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
JULY	Introduction to Computer: Definition, Block Diagram, Hardware. Software & its types. Introduction to Language & its Types, Compilation and Execution. 'C' Language: Character Set, Tokens- Keywords, Variables, Constants, Operators, Expressions. DataTypes, Type Conversion (implicit & explicit),	Understand the concepts of Programming Logics & Techniques its source and usage & characteristics of 'C' Language	PPT, Match the following, Demonstration, group discussion,	Identify terminology associated with the concepts, techniques, and processes used throughout the 'C' Programming Language	<u>Knowledge Based</u> Define Compiler & Interpreter List operators used in 'C' Language <u>Understanding Based</u> Which function is best suitable to take input from the user and why?	Knowledge- 60 Understanding -30 Higher Order 10
AUGUST	Input Output Instructions (printf, scanf, getch, getchar, gets, putch, putchar, puts). Arithmetic Instructions: Hierarchy, Priority and Associativity of Operators. Control Instructions: Decision Control (Statements and blocks- if, if-else, conditional operator) nesting.	List the ways of data printing on the screen & Taking input from the user, different operators of 'C' Language	PPT, Practical Implementation, E content	Get familiar with basics input output & Operators of 'C' Language.	Give comparison between Decision Control & Loop Control statements	



Teacher's Signature.....

<p>SEPTEMBER</p>	<p>Loop Control (Statements and blocks-while, for, do-while, Nesting Loops),</p> <p>Case Control- (Statements and blocks-switch-case,), break, continue, goto statements.</p> <p>Arrays:- Concept of Arrays, One dimensional array & Two dimensional array, Storage strategy, Array Initialization, Memory Map of One Dimensional & Two dimensional Array, Operations on Arrays, Sorting – Selection Sort, Bubble Sort</p>	<p>Lists utility and implementation of Control Instructions</p> <p>Understanding different types of arrays, how arrays can save memory and different operations of array</p>	<p>PPT, Practical Implementation, group discussion</p>	<p>Able to create / write various control instructions & Arrays</p>	<p><u>Higher Order Thinking Skills Based</u></p> <p>Can creation of multi dimensional arrays help in managing the large amount of data systematically? Justify with example.</p>
<p>OCTOBER</p>	<p>Functions (Structure and Block):- Declaration, Calling (Call by value, Call by reference), Definition of functions, Recursion, Storage Class (auto, static, register, extern), Scope rules (Local, Global).</p> <p>Pointers:- Pointers and addresses, Pointers as Function arguments, Address Arithmetic.</p> <p>Structures: Basics, Structures Variables, Arrays of Structures Variables, Pointers Structure Variable.</p>	<p>Types of functions & their use</p> <p>Utility of Storage Classes & Pointers</p>	<p>PPT, Practical Implementation, quiz, group discussion</p>	<p>Acquire knowledge and skills for creation of Functions & Structures</p>	<p>Write a 'C' program to print a pyramid on the screen</p>

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JAPURMATH



SOPHIA GIRL'S COLLEGE, AJMER (AUTONOMOUS)
BCA / IMSC (SEMESTER II) 2020-21

BCA / IMSC– 203 Object Oriented Programming with C++

Max. Marks :100 (70Ext; 30 Int)

Min. Marks: 40 (28 Ext;12 Int) Credits : 4

COURSE PLAN

SEM III Month	UNIT / TOPIC	Concepts / Facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
JULY	Introduction: to OOP's, Evolution of OOP, Advantages of OOP, Features of OOPS- Objects, Classes, Data Abstraction & Encapsulation, Inheritance, Polymorphism. Comparison between Functional Programming and OOPS (Difference between structure and Class)	Know Features of OOPS Understand basic characteristics of C++ like character set, operators etc.	PPT, Practical Implementation, Practice questions, worksheet, MCQ 'S	Understand and apply OOP's features and C++ concepts	<u>Knowledge Based</u> What is OOPS? Define Data Types of C++ <u>Understanding</u>	Knowledge—50 Understanding-35 Higher Order-15

HUMANITIES



AUGUST	C++: Character set, Keywords, Constant, Variables, Data types (Built-in, User Defined), Operators & Expressions. Instructions: Input output, Arithmetic, Control (Decision, Case, Loop) and nesting. Classes: data member, member functions, objects, Access specifiers (private, public, protected) arrays of class objects, pointers and classes,	To understand the difference between functional programming & OOPS and where to apply these.	PPT, Practical Implementation MCQ's, assignments, group discussion	Able to use the basic features of oops in the programming	<u>Based</u> What is Classes & Objects? Comparison of different types of Polymorphism	
SEPTEMBER	constructors (default, parameterized, copy), constructor overloading, destructor, static class member, friend functions. Dynamic memory allocation: New & Delete operator. Inheritance: types of inheritance, member access control, abstract class.	Learn to make classes and use of different features of class. Use of dynamic memory allocation	PPT, Quiz, practical implementation	Understand the tree data structure and implement its traversing	<u>Higher Order Thinking Skills Based</u> Write a program to implement real life inheritance. Is Polymorphism is necessary for the OOPS programming define how.	

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SOPHIA GIRL'S COLLEGE, AJMER (AUTONOMOUS)
B.C.A/IMSC (SEMESTER IV) 2020-21

BCA/IMSC – 403 Python Programming

Max. Marks :100 (70Ext; 30 Int)

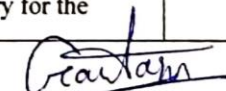
Min. Marks: 40 (28 Ext;12 Int) Credits : 4

COURSE PLAN

SEM IV Month	UNIT / TOPIC	Concepts / facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
DECEMBER	Introduction: History, Versions, Features, Advantages, Application areas. Python Basics: IDLE, Editors, Keywords, Identifiers, Indents, Input Output Basic Syntax, Variable, Dynamic Typing, Data Types (Mutable and Immutable), Built-in Conversion Methods. Operator: Arithmetic, Comparison, Logical, Identity, Membership. Control Statements: Conditional (If, If- else, Elself, Nested if-else), Looping (While, For, Nested loops), Break, Continue, Pass.	Use of Python, and its basic features operators & control statements	PPT, Practical Implementation, Hands- on Exercise,group discussion	Apply basic features of Python programming	<u>Knowledge Based</u> What is Membership operator? Define Loop control Statements of Python <u>Understanding Based</u> Implement Array traversing	Knowledge--50 Understanding-35 Higher Order-15



JANURARY	Array: Introduction, Creation, Traverse, Insertion, Deletion, Search, Update. String: Introduction, Types, Escape Sequences, Formatting, Operators, Built-in Methods (Capitalize, Upper, Lower, Title, Find, Count, Isalpha, Isdigit, Islower, Isupper), Basic Operations (Accessing, Updating, Concatenation).	Need of Array and how to use them in Python. Use of Strings & their built in functions	PPT, Practical Implementation, Hands - on Exercise, problem solving activities	Able to recognize the use of array & strings with their features	Give the utility of built in methods of string
FEBURARY	List & Tuple: Introduction, Accessing, Operators, Built-in Methods (Len, Max, Min, Append, Insert, Remove, Pop, Reverse, Sort, List), Basic Operations (Updating, Delete, Concatenation, Indexing, Slicing). Set: Introduction, Accessing, Built-in Methods (Add, Update, Clear, Copy, Discard, Remove), Operations (Union, Intersection, Difference). Dictionary: (Single Dimensional) Introduction, Accessing, Updating, Deleting, Viewing values in dictionaries, Built-in Methods (Len, Max, Min, Pop, Clear, Items, Keys, Values, Update).	Understand the concept & use of List, Tuple, Set & Dictionary with all their features.	PPT, Practical Implementation, practice Exercise, problem solving activities	Understand difference between List, Tuple, Set & Dictionary	<u>Higher Order Thinking Skills Based</u> Write a program to create a List & Dictionary and differentiate them Is Polymorphism is necessary for the


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MARCH	Function: Defining, Calling, Function Arguments (Required, Keyword, Default, Variable Length) Anonymous Functions, Global and Local Variables, Modules: Introduction, Importing Module, Built-in Modules (Math, Statistics, Random). Package: Creating, Installing, Importing Modules from the Package. Errors & Exception: Error Types, Exception Handling - Introduction, Try, Except, Else, Finally. File Input-Output: Opening and Closing files, Reading and Writing files.	Understand the use of functions, Packages and need of exception handling	PPT, Practical Implementation, practice on Exercise, problem solving activities	Ability to Text Processing scripts	OPPS programming define how.	
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SOPHIA GIRL'S COLLEGE, AJMER (AUTONOMOUS)
B.C.A / IMSC(SEMESTER VI) 2020-21
BCA/IMSC– 604 C # Programming

Max. Marks :75 (50Ext; 25 Int)

Min. Marks: 30 (20 Ext;10 Int)

COURSE PLAN

SEM VI Month	Unit / Topic	Concepts / facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
DECEMBER	Introduction: .Net Framework, CLR, CTS, CLS, FCL & Advantages of .Net Framework. C# : Evolution, History & Overview. Fundamentals of C#: Identifiers, Keywords, Literals, Punctuators, Operators. Data Types : Value Type & Reference Type. Expressions: Implicit & Explicit Conversion (Boxing & Unboxing). Program Flow Controls: Decision Control - (if, if – else, Nesting), Switch, Ternary. Loop – (while, do-while, for, foreach, Nesting). break, continue, goto statements.	Advantages of .Net Framework and Basics of C# Programming – Data types & Program flow controls	PPT, Quiz, assignments	Identify terminology associated with the concepts, techniques, and processes used in C#	<u>Knowledge Based</u> Define Operators of C#. Write short note on implicit & explicit conversion <u>Understanding Based</u>	Knowledge—40 Understanding—40 Higher Order—20
JANURARY	User Defined Data Types: Arrays (Single, Multi & Jagged), Structure & Enum. Introduction of OOP: Objects, Class, Encapsulation, Polymorphism, Inheritance . Class: Structure of Class, Objects, Class Modifiers (private, public, protected, internal, protected internal, abstract, sealed) Constructors (default, parameterized, Copy), Destructor. This reference, Static, Constant and Read only members.	Integrating various OOPS features with C#.	PPT, Quiz, problem solving activities, E content	Understand OOPS Techniques implementation in C#	Explain how inheritance can be implemented in real world. Give differences between constructor and destructor.	



FEBURARY	Inheritance, Polymorphism, Interfaces: Concept, Types, Modifiers (Virtual, Override, New). Method Overloading, Operator Overloading. Properties, Indexers, Delegates: Single Cast delegate, Multi Cast delegates, Passing delegate as parameter. Events: Concept & Declaration, Event Handlers.	Utility of Method & Operator Overloading, How to create Delegates & Events.	PPT, Practical Implementation, E content	Study types of Inheritance and Polymorphism and its usage Understand Events & Delegates with their uses	<u>Higher Order Thinking Skills Based</u> Write a program to create multi cast delegates. Can integration of different exceptions are useful in programming
MARCH	Errors & Exceptions: Types of Errors, Try-Catch, Nested Try blocks, Throwing own exceptions, Multithreading: Creating & Starting a Thread, Scheduling, Synchronization.	Comparative analysis Errors & Exceptions & Use of Multithreading	PPT, Practical Implementation, group discussion	Understand Errors & do exception handling & multithreading	

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SOPHIA GIRL'S COLLEGE, AJMER (AUTONOMOUS)
B.C.A /IMSC (SEMESTER VI) 2020-21

BCA/IMSC– 606 Project

Max. Marks :75 (50Ext; 25 Int)

Min. Marks: 30 (20 Ext;10 Int)

COURSE PLAN

SEM VI Month	UNIT / TOPIC	Concepts / Facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
DECEMBER	Allotment of the Groups and Topics	Learning Team Work & Leadership Responsibilities	Presentation, Library Visit ,E content	Formulate a real world problem and develop its requirements	<u>Knowledge Based</u> Define Qualities of user friendly interface	Knowledge-- 60 Understanding-- 30 Higher Order-- 10
JANURARY	Creation of User Interface (Forms / WebPages)	Understand user need & trying to make user friendly Interface	PPT, Practical, Live Examples,group discussion	Develop a design solution for a set of requirements	<u>Understanding Based</u> Which function is best suitable to take input from the user and why?	
FEBURARY	Connectivity with the Database & Report Writing	Understand the technical issues of connecting the interface with the Database	PPT, Practical Implementation	Generate alternative solutions, compare them and select the optimum one	<u>Higher Order Thinking Skills Based</u> Can creation of multi dimensional arrays help in managing the large amount of data systematically? Justify with example.	
MARCH	Final Submission of the Project Report & Presentation	Learn to make Project Report & its presentation	PPT, Practical Implementation,group discussion			

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