



**Sophia Girls' College (Autonomous),  
Ajmer**



**Department of Computer Science**

**Course Plan**

**Ms. Laveena Ganwani**



**SOPHIA GIRL'S COLLEGE, AJMER (AUTONOMOUS)**

**B.C.A II (SEMESTER III) 2021-22**

**DBMS-I (BCA-302)**

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

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

Credit: 03

**COURSE PLAN**

SEM III Month	UNIT/TOPIC	Concepts/facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
JULY	<b>UNIT I</b> Overview and history of DBMS, Basic DBMS terminology, File processing v/s DBMS, advantage and disadvantage of DBMS, DBA and his responsibilities, Data abstraction, physical and logical data independence.	Concept and need of DBMS, importance of DBA in DBMS	PPT, Comparison with Charts,	Understand the concept of dbms and its application, understand importance of Layer architecture of dbms. Understanding of different data models	<u>Knowledge Based</u> -Who is DBA? - Define the term Data and Information.	Knowledge--60 Understanding-30 Higher Order-10
	Architecture of DBMS: client/server architecture, 2 tier & 3 tier.	functioning of database management systems	Layered architecture diagram.		<u>Understanding Based</u> - Illustrate the advantages and disadvantages of DBMS.	
	Overview of hierarchical, network and relational models, comparison of network, hierarchical and relational models.	Utilize a database modeling technique	Comparison Charts			
AUGUST- SEPTEMBER	Entity relationship model: Overview of DataDesign Entities, Attributes and Entity Sets, Relationship	Apply the principles of data modeling using	PPT, Diagrams, Models	• Design ER-models to represent simple database application	- What is the Role of	



	and Relationship sets	entity relationship		scenarios, Familiar with basic database storage structures and access techniques	Aggregation, Abstraction in the enhanced E- R model?	
	<b>Unit-II</b> Enhanced ER Model: Generalization, Specialization, Aggregation. Implementation of sequential, random & indexed sequential file organization. Types of Keys. E.F.Codd's rules, Relational Algebra	Apply Graphical Representation On Data base.	Graphically represent the relationship between database			
	Normalization: Functional dependencies, Fully Functional dependency, Transitive dependency, Normal forms: first, second, third normal forms, BCNF Database integrity: entity integrity, domain integrity, referential integrity	Build indexing mechanisms for efficient retrieval of information from a database.	PPT, Diagrams, Examples		<u>Higher Order Thinking Skills Based</u> - Elaborate the role and responsibilities of DBA. - Explain Client- Server architecture.	
<b>OCTOBER- NOVEMBER</b>	<b>UNIT III</b> <b>Introduction to SQL:</b> Characteristics and Components of SQL, SQL data types and literals, Types of SQL commands, SQL operators.Table Constraints: Null Constraint, Primary Key,	Create and access the database using relational algebra operator		Understands the relational algebra concepts and operators which helps in understanding queries, Identifies the		



	Unique key constraint, Foreign Key constraint, domain key constraint, Check Constraints, & Not Null.			functional dependencies, • Improve the database design by normalization.		
	Searching, Matching & Basic Oracle Functions: String, Numeric, and Aggregate Functions. Queries based on group by clause, order by clause, having clause, Unions, Intersection, Minus SQL, Sub queries & joins. Introduction of views and indexes.	Create and access the database using relational algebra good database design and normalization techniques to normalize a database.	PPT, tables, Examples  PPT, Comparison chart, database tables			

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SOPHIA GIRL'S COLLEGE, AJMER (AUTONOMOUS)

B.C.A I (SEMESTER I)

Prac: PC Software Lab (BCA – 105 ) 2021-22

Max. Marks : 50 (35Ext; 15 Int)

Min. Marks: 20(15 Ext;5 Int)

Credit: 02

COURSE PLAN

SEM I Month	UNIT/TOPIC	Concepts/facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
AUGUST	<b>UNIT-I</b>  <b>MS-Word:</b> 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	Implement the various tools and features of MS Word		<u>Understanding Based</u> - Write in brief about the use of different view of a document available in MSWord.	Knowledge--40 Understanding--40 Higher Order-20
	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.			- Why we use watermark in MS-Word? How do you create a watermark in Word?	
	Table of contents, Footnotes and Endnotes, Page background. Mail merge,	Able to create tables and mailing technique .				





	Macros, Auto correct and Auto Text. Comments, Page Setup, Size, Margins, Gutter, Orientation.				<u>Higher Order Thinking Skills Based</u>	
SEPTEMBER	<b>UNIT-II</b>  <b>MS-PowerPoint:</b> Introduction to PowerPoint, Features, Application Areas and its uses, Creating Presentations through Blank Presentations,	Identify the importance of PPT features.	Implement the slide presentation, and graphics animations	identify and work with basic Word tools and features	- What are drives and folders? How does MS Window organize files and folders on drives? - List the features of MS Word.	
	Templates, Slide Master, Views of PowerPoint, Formatting of Presentations : Inserting Graphics and Animations,	Apply graphical and animations on the Slides		Edit text and modify the appearance of text in a Word document		
	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		insert special characters and graphical objects organize data in tables customize the PowerPoint environment and a design template  Add SmartArt graphics to a presentation		



				Add Media and Animations effects to a presentation		
OCTOBER	MS-Excel: Introduction, Features, Application Areas and its uses, views and its types, formatting and its types.	Introduction of MS-excel  Concept of charts	PPT, Presentations by students	Develop charts and validation on the data	<u>Knowledge Based</u>  Define Ms-excel?  <u>Understanding Based</u>  Explain how you can create chart for student database?	Knowledge—40  Understanding-40  Higher Order-20
NOVEMBER	Charts: Line, bar, column, area, pie. Pivot Tables, Data management (Sort, filters, Validation, consolidation, Text to column), auditing and tracing  <b>UNIT-III</b> <b>Functions and Formulas -</b> <b>Text:</b> char, concatenate, exact, find, left, right, mid, lower, upper, proper, search, substitute, trim.  <b>Logical:</b> and, or, not	Implement formulas in Ms-excess	Projects, problem solving activities, practice, exercises	Apply functions on the excel sheet	<u>Higher Order Thinking Skills Based</u>  Create reports & forms on student database?	



	Math and trig: abs, int, even, odd, fact, mod, pi, power, product, round, roman, sign, sqrt, trunc	Utility of Compression and various standards, privacy aspects of project	PPT, MCQ'S, group discussions, quiz	Study laws of multimedia and importance of compression technique		
	Statistical: Average, count. Protecting sheet and workbook.		PPT, Practical Implementation, assignments			

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# SOPHIA GIRL'S COLLEGE, AJMER (*AUTONOMOUS*)

MSC-Previous (SEMESTER I) 2021-22

MSC-104 Electronic data processing

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

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

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## COURSE PLAN

SEM I Month	UNIT/TOPIC	Concepts/facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
AUGUST	<b>Unit-1</b>  Overview and History of DBMS, Basic DBMS terminology, File Processing System v/s DBMS, advantages and disadvantages of DBMS, DBA and his responsibilities, Data Abstraction, Data independence, Architecture of DBMS: Client /Server architecture, 2 Tier & 3 Tier. Data Models, Entity	Optimization in day to day life and how it is applied to various operations in DBMS  How keeping time attribute is important in databases	PPT, Practice problems,assignments	Compare and Contrast between different types of databases. Optimize the operations	<u>Knowledge Based</u>  What is query?  Define file processing?  <u>Understanding Based</u>  Explain the data independence  Give a brief explanation of architecture of DBMS	Knowledge-- 40 Understanding- 40 Higher Order- 20



					<u>Higher Order Thinking Skills Based</u>	
	Relationship model: Attributes and Entity Sets, degree of relationship, Enhanced ER Model: Generalization, Specialization, Aggregation. File organization. Types of Keys, E.F.Codd's rules, Relational Algebra, Normalization, Database integrity	Importance of Relational model			Compare between generalization & aggregation  Write a PL/SQL code for trigger creation	
SEPTEMBER	<b>UNIT-II</b> Introduction to SQL: Characteristics and Components of SQL, SQL data types and literals, Types of SQL commands, SQL operators. Table Constraints: Null Constraint, Primary Key, Unique key constraint, Foreign Key constraint, domain key constraint, Check Constraints, & Not Null. Searching, Matching & Basic Oracle Functions: String, Numeric, and Aggregate Functions. Queries based on group by clause, order by clause, having clause, Subqueries & joins.	How data can be processed from various sites in distributed databases.  Problems that do exist in distributed architecture  Concept of keys in DBMS  Understand subqueries & joins in DBMS	PPT, Quiz, MCQ'S, blended learning	Implement basic operations of database language		



OCTOBER	Searching, Matching & Basic Oracle Functions: String, Numeric, and Aggregate Functions. Queries based on group by clause, order by clause, having clause, Subqueries & joins	Importance of PL/SQL and data types available in PL/SQL in respect to SQL	PPT, Practical Implementation, practice exercise	Handle the events occurring on database		
NOVEMBER	<b>UNIT-III</b> Introduction to PL/SQL and its advantages over SQL, PL/SQL block structure, variables and constants, attributes, character set, data types, control structures, conditional control. Sequential control, Introduction to Cursor (Implicit & Explicit), Error handling in PL/SQL, creating function & procedure, package functions, package procedures, Oracle transactions Database Triggers: Introduction, Use & type of database Triggers, Triggers Vs. Declarative Integrity Constraints, BEFORE Vs. AFTER Trigger Combinations, Creating a Trigger, Dropping a Trigger.	Different ways of handling error in PL/SQL.  Creating procedure, Trigger  Error handling  Importance and various combinations of triggers in databases	PPT, Practical Implementation, problem solving activities, blended learning	Handle the events occurring on database and explicit error handling		

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# SOPHIA GIRL'S COLLEGE, AJMER (AUTONOMOUS)

## V.C.A I (SEMESTER I)

PC Software I (VCA – 102 ) 2021-22

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 (%)
AUGUST	<b>UNIT-I</b>  <b>Software:</b> System software, application software, utility software.  <b>User Interface:</b> Introduction to CUI and GUI and Comparison .	Learn the importance of software and its types	PPT, Comparison chart	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
	<b>MS Windows,</b> Features of Windows, Desktop (My Computer, My Document, Recycle Bin, Network Places, Internet Explorer. Windows Explorer, Start Menu and Task bar.  <b>System Tool:</b> , Disk defragmentation, System Information, System Back up & Restore.	Demonstrate the features of MS Window.	PPT, Quiz		<u>Understanding Based</u> - Write in brief about the use of different view of a document available in MSWord.	





	<b>Control Panel</b> : 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		- Why we use watermark in MS-Word? How do you create a watermark in Word?	
SEPTEMBER	<b>UNIT-II</b> <b>MS-Word:</b> 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	Implement the various tools and features of MS Word	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.		Edit text and modify the appearance of text in a Word document  insert special characters and graphical objects organize data in tables		
	Table of contents, Footnotes and Endnotes, Page background. Mail merge, Macros, Auto correct and Auto	Able to create tables and mailing technique .				





	Text. Comments, Page Setup, Size, Margins, Gutter, Orientation.					
OCTOBER	<b>UNIT-III</b> <b>MS-PowerPoint:</b> Introduction to PowerPoint, Features, Application Areas and its uses, Creating Presentations through Blank Presentations,	Identify the importance of PPT features.	Implement the slide presentation, and graphics animations	customize the PowerPoint environment and a design template  Add SmartArt graphics to a presentation Add Media and Animations effects to a presentation		
NOVEMBER	Templates, Slide Master, Views of PowerPoint, Formatting of Presentations : Inserting Graphics and Animations,	Apply graphical and animations on the Slides				
	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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**SOPHIA GIRL'S COLLEGE, AJMER (AUTONOMOUS)**  
**BLIS I (SEMESTER I)**

**Information Communication Technologies Basics (PAPER I) (BLIS – 103 ) 2021-22**

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 AUGUST	<b>UNIT-I</b> Introduction: Computer, Definition, Block Diagram, Characteristics, Hardware & Software. Software & its types, User Interface: Concept of CUI & GUI. MS Windows, Desktop (My Computer, My Document, Recycle Bin, Internet Explorer. Start Menus, Taskbar, Windows Explorer.	Demonstrate the Use different software and its importance	PPT lecture, Comparison chart	Understand the functionality of software and its features.  Identify the network concepts and its purpose.  identify and work with basic Word tools and features	<u>Knowledge Based</u> - Why is software needed in computer?  - Differentiate between Custom software and Utility software.	Knowledge--40 Understanding-40 Higher Order-20
	Network- Concept, Components, Topologies, LAN,WAN,MAN,VPN MS-Word: Introduction to MS-Word, Features, Application Areas & its uses, types of views, Creating & Saving: New Document & Templates. Formatting, Editing & Printing: Cut, copy, paste, paste special, clipboard, undo, redo, Fonts, Paragraphs:	importance of network concepts. And Able to use paragraph formatting, also able to create interactive graphical documents.	PPT lecture, Diagram Models  Implement the various tools and features of MS Word	Edit text and modify the appearance of text in a Word document  insert special characters and graphical objects	<u>Understanding Based</u> - What is the use of AutoCorrect feature? You have to typed a document and you want to check the spelling mistakes..	




	Indentation & Spacing, Columns & Breaks, Styles, Themes, Find, Replace & Goto. Inserting Tables, Picture, ClipArt, Shapes, Symbols & Equations,			organize data in tables	- Why we use watermark in MS-Word? How do you create a watermark in Word?	
SEPTEMBER	Hyperlink, Bookmark. 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.					
	<p style="text-align: center;"><b>UNIT-II</b></p> <p>MS-Excel: Introduction, Features, Application Areas &amp; its uses, views &amp; its types, formatting &amp; its types, Functions &amp; Formulas Date &amp; Time: Date, day, month, year, now, today, time, hour, minute, seconds.</p>	Understanding the basic features and importance of functions in MS-Excel	Implementation of various functions and data representation	<p>Navigate and perform common tasks in Excel spreadsheets,</p> <p>Formatting the paragraph, apply different types of charts</p>	<p><u>Higher Order Thinking Skills Based</u></p> <p>- What is worksheet? Discuss the use of Auto fill option with the help of an example.</p> <p>- What are keys? Explain the utility of forms.</p>	
OCTOBER	Math & Trig: abs, int, even, odd, fact, mod, pi, power, product, round, roman, sign, sqrt, trim. Statistical: Average, count.					



	Charts : Line, bar, column, area, pie. Data management: Sort, filters, auditing & tracing, Protecting sheet & workbook.	Able to use different charts and manage the data.				
	<b>UNIT-III</b> <b>MS-PowerPoint:</b> Introduction to PowerPoint, Features, Application Areas and its uses, Creating Presentations through Blank Presentations,	Apply graphical and animations on the Slides	Implement the slide presentation, and graphics animations	Capable for creating  Create and modify a database structure		
<b>NOVEMBER</b>	Templates, Slide Master, Views of PowerPoint, Formatting of Presentations : Inserting Graphics and Animations, 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		<ul style="list-style-type: none"> <li>• understand about table relationships, data types and keys</li> <li>• create simple and effective queries</li> </ul>		
	<b>MS-Access:</b> Introduction, Concepts of databases, Data Types creating a database & tables, relationship, queries(select, update, delete), creating Auto forms and Auto reports.	Enable to Handle the database with Creating A Query Design, Applying Record Criteria, Reporting	Creating database and tables and extract data in efficient way.	<ul style="list-style-type: none"> <li>• create meaningful summery reports</li> </ul>		

  
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**SOPHIA GIRL'S COLLEGE, AJMER (AUTONOMOUS)**  
**BLIS I (SEMESTER I)**

Information Communication Technologies Basics (PAPER II) (BLIS – 104) 2021-22

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 (%)
AUGUST	<b>UNIT-I</b>  <b>MS-Word:</b> 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	Implement the various tools and features of MS Word		<u>Understanding</u>  <u>Based</u>  - Write in brief about the use of different view of a document available in MSWord.	Knowledge--40  Understanding-40  Higher Order-20
	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,	Able to use paragraph formatting, also able to create interactive graphical documents.			- Why we use watermark in MS-Word? How do you create a	





	Date and Time.				watermark in Word?	
	Table of contents, Footnotes and Endnotes, Page background. Mail merge, Macros, Auto correct and Auto Text. Comments, Page Setup, Size, Margins, Gutter, Orientation.	Able to create tables and mailing technique .			<u>Higher Order Thinking Skills</u> <u>Based</u>	
SEPTEMBER	<b>UNIT-II</b> <b>MS-PowerPoint:</b> Introduction to PowerPoint, Features, Application Areas and its uses, Creating Presentations through Blank Presentations,	Identify the importance of PPT features.	Implement the slide presentation, and graphics animations	identify and work with basic Word tools and features  Edit text and modify the appearance of text in a Word document  insert special characters and graphical objects	- What are drives and folders? How does MS Window organize files and folders on drives?  - List the features of MS Word.	
	Templates, Slide Master, Views of PowerPoint, Formatting of Presentations : Inserting Graphics and Animations,	Apply graphical and animations on the Slides				
	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		organize data in tables customize the PowerPoint environment and a design		



				template  Add SmartArt graphics to a presentation  Add Media and Animations effects to a presentation		
OCTOBER	MS-Excel: Introduction, Features, Application Areas and its uses, views and its types, formatting and its types.	Introduction of MS-excel  Concept of charts	PPT, Presentations by students	Develop charts and validation on the data	<u>Knowledge Based</u>  Define Ms-excel?	
NOVEMBER	Charts: Line, bar, column, area, pie. Pivot Tables, Data management (Sort, filters, Validation, consolidation, Text to column), auditing and tracing	Implement formulas in Ms-excel	Projects, problem solving activities, practice, exercises	Apply functions on the excel sheet	<u>Understanding Based</u>	Knowledge—40
	UNIT-III  Functions and Formulas - Text: char, concatenate, exact, find, left, right, mid, lower, upper, proper, search, substitute, trim.				Explain how you can create chart for student database?	Understanding-40  Higher Order-20

  
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**SOPHIA GIRL'S COLLEGE, AJMER (AUTONOMOUS)**  
**B.B.A I (SEMESTER I)**

Computer for Management (BBA – 106 ) 2021-22

Max. Marks : 70 (50Ext; 20 Int)

Min. Marks: 40

**COURSE PLAN**

SEM I Month	UNIT/TOPIC	Concepts/facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
AUGUST	<b>UNIT-I</b>	Learn the importance of software and its types	PPT lecture, Comparison charts & Diagrams	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
	Introduction to Computer- Definition, Block Diagram, Characteristics, Hardware & Software its types, User interface- concept of CUI & GUI.					
	MS Window, Desktop(My Computer, My Documents, Recycle bin, Network Places, Internet Explorer, Start Menus and taskbar & its properties, Window explorer)	Basic feature of MS Window				
	<b>MS-Word:</b> Introduction to MS-Word, Features, Application Areas and its uses, types of views, Creating &	Understanding the basic features and importance of MS-Word	PPT, Quiz,		<u>Understanding Based</u> - What is the use of AutoCorrect feature? You have to typed a document and you want to	



	Saving  Formatting, Editing & Printing: copy, cut, paste, paste special, clipboard, undo, redo, Fonts,				check the spelling mistakes..  - Why we use watermark in MS-Word? How do you create a watermark in Word?	
SEPTEMBER	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. 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.	Able to use paragraph formatting, also able to create interactive graphical documents.			<u>Higher Order Thinking Skills Based</u> - What is worksheet? Explain the use of Autofill option with the help of an example.  - What is Mail	



	<b>UNIT-II</b>  <b>MS-Excel:</b> Introduction, Features, Application Areas & its uses, views & its types, formatting & its types, Functions & Formulas ( <b>Text:</b> char, concatenate exact, find, left, right, mid, lower, upper, proper, search ,substitute, trim. <b>Logical:</b> if, and , or, not.		Implement the various tools and features of MS Word	Navigate and perform common tasks in Word, such as opening, viewing, editing, saving, and printing documents, and configuring the application. Formatting the paragraph, apply different types of charts	Merge tool in MS-Word? Write steps to merge a document file with non-document file.	
OCTOBER	<b>Date &amp; Time:</b> Date, day, month, year, now, today, time, hour, minute, seconds. <b>Math &amp; trig:</b> abs, int, even, odd, fact, mod, pi, power, product, round, roman, sign, sqrt, trim. <b>Statistical:</b> Average, count.					
	<b>Charts :</b> Line, bar, column, area, pie. Pivot Tables, <b>Data management:</b> Sort, filters, auditing & tracing, Protecting sheet & workbook.					
	<b>UNIT-III</b>  <b>MS-PowerPoint:</b> Introduction to PowerPoint, Features, Application Areas & its uses,	Identify the importance of PPT features.		create a database structure using Access • modify the structure of an		





	Creating Presentations through Blank Presentations, Templates, Existing Presentations, Views of PowerPoint,			existing table • add records to a new table • create simple and effective queries • create meaningful reports from tables • create and use forms		
NOVEMBER	<b>Formatting &amp; Customizing Presentations</b> : Inserting Graphics & Animations, Slide Transactions, Custom Animation, Inserting sounds & movies, Set up & Custom Slide Shows. Rehearse Timing, Record Narration & Protecting Presentations. Slide Master, Handouts, Printing Presentations.	Apply graphical and animations on the Slides  Able to change the formatting of the slides and insert the animations, sounds				
	<b>MS-Access:</b> Introduction, Concepts of databases, Data Types creating a database & tables, adding, editing & searching of records, queries(select, update, delete), creating forms and reports	Creating A Query Design, Applying Record Criteria Understanding Reporting In Access Creating A Basic Report Understanding Forms Creating A Basic Form.				

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	Logical: and, or, not				<u>Higher Order Thinking Skills Based</u>	
	Math and trig: abs, int, even, odd, fact, mod, pi, power, product, round, roman, sign, sqrt, trunc	Utility of Compression and various standards, privacy aspects of project	PPT, MCQ'S, group discussions, quiz	Study laws of multimedia and importance of compression technique		
	Statistical: Average, count. Protecting sheet and workbook.		PPT, Practical Implementation, assignments			

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# SOPHIA GIRL'S COLLEGE, AJMER (AUTONOMOUS)

B.C.A I (SEMESTER II) 2021-22

## BCA – 204 Data Structure & Algorithm

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

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

Credit: 03

### COURSE PLAN

SEM II Month	UNIT/TOPIC	Concepts/facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
JANUARY	<b>UNIT I</b>  Primitive and Composite Data Types , <b>Arrays:</b> - Concept of Arrays,Single dimensional array, Two dimensional array. Operations on Arrays with Algorithms (Insertion, deletion).	Types of data structures  Linear data structure  Familiarizing the stack and queue examples in our daily life  The various operations that can be implemented on data structure	PPT, Practical Implementation, Practice questions, worksheet	Design linear data structure using stack  Evaluate expressions using stack	<u>Knowledge Based</u> What is linear data structure?  Define push and pop operation in stack  <u>Understanding Based</u> What is the time complexity of tree traversal?	Knowledge--50 Understanding-35 Higher Order-15
FEBRUARY	Searching :(Linear and Binary), Concept of sorting, Sorting algorithms (Bubble Sort, Insertion Sort, Selection Sort). <b>Recursion:</b> Factorial, Fibonacci, Tower of Hanoi.	various operations that can be implemented on data structure	PPT, Practical Implementation	Design linear data structure using queue	Comparison of array and link list	



	<b>UNIT II</b> Linked Lists:- Introduction to linked list and double linked list, Representation of linked lists in Memory, Traversing a linked list, Searching linked list, Insertion and deletion into linked list, Doubly linked lists, Traversing a doubly linked lists.	Overview of Non linear data structures	PPT, Practical Implementation, MCQ's		<u>Higher Order Thinking Skills Based</u>  Write a program to perform the factorial of given number.	
MARCH	Stacks and Queues: Representation of stacks, Implementation of stacks using Array & Link List, Uses of stacks, evaluating expression. Introduction to queues, Implementation of queues by using array and Link lists	Role of Traversing in tree data structure	PPT, Quiz	Understand the tree data structure and implement its traversing	Give the algorithm of insertion in queue	
	<b>UNIT III</b> Trees: Definition & Basic concepts, linked tree representation, Introduction to Binary Tree, Traversing Binary Trees (Pre order, Post order and In-order), Concept of Binary search tree, algorithm of Searching, inserting and deleting in binary search trees.	Different types of graph available and its use.				



APRIL	Graph: Introduction to graphs, types of graphs (complete, weak and strong, simple), Representation of Graph: adjacency Matrix, Graph Traversal: Breadth first search, Depth first search.	Comparison of graph and tree data structure How graphs can be implemented in different ways and comparison of their complexities.	PPT, Practical, Live Examples	Analyze graph representations and applying recursion to problems		
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**SOPHIA GIRL'S COLLEGE, AJMER (AUTONOMOUS)**  
**B.C.A III (SEMESTER VI) 2021-22**  
**BCA – 601 Software Engineering**

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

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

Credit: 03

**COURSE PLAN**

SEM VI Month	UNIT/TOPIC	Concepts/facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
JANUARY	<b>Unit – I</b> : <b>Software Engineering</b> : Introduction, Definition, Software Characteristics, Software Applications.	Engineering tools , need to follow protocols while designing software	PPT	Understand basic concepts of software engineering.  Compare different software engineering process models	<u>Knowledge Based</u>  Define Error in testing.  What is software audit?  <u>Understanding Based</u>  Discuss the differences between system and unit testing.	Knowledge--40 Understanding- 40 Higher Order- 20
FEBRUARY	<b>Software Process</b> : Introduction, Framework..process, Project and People. <b>SDLC Process Model</b> : Water fall Model, Incremental Model, Prototype & Spiral model	How to choose design method				



MARCH	<b>Unit – II</b> <b>Software Measurement</b> : Size metric <b>Design:</b> Introduction, Definition, Objective, Modularity (Cohesion & Coupling) <b>Coding:</b> Introduction, Code Review(Code Walkthrough, Inspection, Clean room Approach)	Features of metrics, how to design reusable components and their inter relationships	PPT, Practical Implementation	Create architectural design for a given project	<u>Higher Order Thinking Skills Based</u>  Contrast between functional and non functional requirements of software.	
APRIL	<b>Unit – III</b> <b>Testing:</b> Introduction, Objective, Characteristics, Principles, Testability <b>Software Testing Strategies:</b> Unit Testing, Integration Testing, Validation Testing (Alpha and Beta Testing), Verification, System Testing (Recovery, Security, Stress, Performance), <b>Black Box Testing and White Box Testing:</b> Introduction and Comparison.	Effective testing leads to easily acceptance for the software	PPT, QUIZ	Apply different testing techniques	Give Importance of software testing and compare verification and validation.	

  
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# SOPHIA GIRL'S COLLEGE, AJMER (*AUTONOMOUS*)

V.C.A –I ( SEMESTER II) 2021-22

VCA – 202 PC Software-II

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

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

## COURSE PLAN

SEM II Month	UNIT/TOPIC	Concepts/facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
JANUARY	Unit-1				<i>Knowledge Based</i>	
	MS-Excel: Introduction, Features, Application Areas and its uses, views and its types, formatting and its types.	Introduction of MS-excel  Concept of charts	PPT,Presentatio ns by students	Develop charts and validation on the data	Define Ms-excel?  <i>Understanding Based</i>  Explain how you can create chart for student database?	Knowledge—40  Understanding-40  Higher Order-20
FEBRUARY	Charts: Line, bar, column, area, pie. Pivot Tables,Data management (Sort, filters, Validation, consolidation, Text to column), auditing and tracing					
	UNIT-II Functions and Formulas -Text: char, concatenate, exact, find, left, right, mid, lower, upper, proper, search ,substitute, trim.	Implement formulas in Ms-excess	Projects, problem solving activities,practic e ,exercises	Apply functions on the excel sheet	<i>Higher Order Thinking Skills Based</i>  Create reports & forms on student database?	



	Logical: and, or, not					
MARCH	Math and trig: abs, int, even, odd, fact, mod, pi, power, product, round, roman, sign, sqrt, trunk Statistical: Average, count. Protecting sheet and workbook.	Utility of Compression and various standards, privacy aspects of project	PPT, MCQ'S, group discussions, quiz	Study laws of multimedia and importance of compression technique		
APRIL	Unit III MS-Access: Introduction, application areas and its uses, concepts of databases, datatypes, creating a database and tables, Records Insertion, creating and customizing a form, creating and customizing reports, queries and its types( Select, Update, Delete)		PPT, Practical Implementation, assignments			

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