Sophia Girls' College (Autonomous), Ajmer

Department of Computer Science

Course Plan

Ms. Laveena Ganwani

## SESSION 2022-23

### Odd Sem

| S.No. | Class | Semester | Paper |
|-------|-------|----------|-------|
| 1. | BCA | III | Database Management System |
| 2. | BCA | I | PC Software Lab |
| 3. | MSC | I | Electronic data processing |
| 4. | VCA | I | PC Software |
| 5. | BLIS | I | General Application Software |
| 6. | BLIS | I | Information and Communication Technologies Basics-II |

COURSE_PLAN_2022-23_Ms._LAVEENA_GANGWANI

## SOPHIA GIRL'S COLLEGE, AJMER (*AUTONOMOUS*)
## B.C.A II (SEMESTER III) 2022-23
### DBMS–I (BCA-302)

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

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

Credit: 03

### COURSE PLAN

| SEM III Month | UNIT/TOPIC | Concepts/facts | Teaching Pedagogy | Learning Outcomes | Questions | Marks Weightage (%) |
|---|---|---|---|---|---|---|
| JULY | **UNIT I** 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 | *Knowledge Based* -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. | | *Understanding Based* - 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 relationalship 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 | |

| | | entity relationship | | scenarios, Familiar with basic database storage structures and access techniques | Aggregation, Abstraction in the enhanced E-R model? | |
|---|---|---|---|---|---|---|
| | and Relationship sets | | | | | |
| | **Unit-II**<br>Enhanced ER Model: Generalization, Specialization, Aggregation. Implementation of sequential, random & indexed sequential file organization. Types of Keys.<br>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<br>Database integrity: entity integrity, domain integrity, referential integrity | Build indexing mechanisms for efficient retrieval of information from a database. | PPT, Diagrams, Examples | | *Higher Order Thinking Skills Based*<br>- Elaborate the role and responsibilities of DBA.<br>- Explain Client-Server architecture. | |
| **OCTOBER-NOVEMBER** | **UNIT III**<br>**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, | Create and access the database using relational algebra operator | | Understands the relational algebra concepts and operators which helps in understanding queries, Identifies the | | |

| | | | functional dependencies, • Improve the database design by normalization. | | |
|---|---|---|---|---|---|
| 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, Unions, Intersection, Minus SQL, Sub queries & joins. Introduction of views and indexes. | Create and access the database using relational algebra | PPT, tables, Examples | | | |
| | good database design and normalization techniques to normalize a database. | PPT, Comparison chart, database tables | | | |

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## SOPHIA GIRL'S COLLEGE, AJMER (*AUTONOMOUS*)
## B.C.A I (SEMESTER I) 2022-23
### Prac: PC Software Lab (BCA – 105)

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 | **UNIT-I**<br><br>**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 | Implement the various tools and features of MS Word | | *Understanding Based*<br>- Write in brief about the use of different view of a document available in MSWord.<br><br>.<br>- Why we use watermark in MS-Word? How do you create a watermark in Word? | Knowledge--40<br>Understanding-40<br>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. | | | | |
| | Table of contents, Footnotes and Endnotes, Page background. Mail merge, | Able to create tables and mailing technique . | | | | |

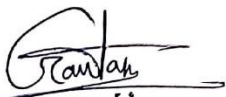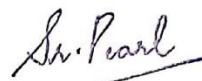| | | | | | |
|---|---|---|---|---|---|
| | Macros, Auto correct and Auto Text. Comments, Page Setup, Size, Margins, Gutter, Orientation. | | | | |
| **SEPTEMBER** | **UNIT-II**<br><br>**MS-PowerPoint:**<br>Introduction to PowerPoint, Features, Application Areas and its uses, Creating Presentations through Blank Presentations, | Identify the importance of PPT features. | Implement the slide presentation, and graphics animations | identify and work with basic Word tools and features | *Higher Order Thinking Skills Based*<br>- What are drives and folders? How does MS Window organize files and folders on drives?<br>- 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<br><br>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<br><br>Concept of charts | PPT,Presentations by students | Develop charts and validation on the data | *Knowledge Based*<br><br>Define Ms-excel?<br><br>*Understanding Based*<br><br>Explain how you can create chart for student database? | Knowledge—40<br><br>Understanding-40<br><br>Higher Order-20 |
| | **Charts**: Line, bar, column, area, pie. Pivot Tables,Data management (Sort, filters, Validation, consolidation, Text to column), auditing and tracing | Implement formulas in Ms-excess | Projects, problem solving activities,practice ,exercises | Apply functions on the excel sheet | *Higher Order Thinking Skills Based*<br><br>Create reports & forms on student database? | |
| | **UNIT-III**<br>**Functions and Formulas -Text**: char, concatenate, exact, find, left, right, mid, lower, upper, proper, search ,substitute, trim.<br><br>**Logical:** and, or, not | | | | | |

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|---|---|---|---|---|---|
| **NOVEMBER** | **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) 2022-23
### MSC-104 Electronic data processing

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 (%) |
|---|---|---|---|---|---|---|
| SEPTEMBER | **UNIT-1** 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<br><br>How keeping time attribute is important in databases | PPT, Practice problems,assignments | Compare and Contrast between different types of databases. Optimize the operations | *Knowledge Based*<br><br>What is query?<br><br>Define file processing?<br><br><br>*Understanding Based*<br><br>Explain the data independence<br><br>Give a brief explanation of architecture of DBMS | Knowledge-- 40 Understanding- 40 Higher Order- 20 |

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|---|---|---|---|---|---|
| | 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 | | | *Higher Order Thinking Skills Based*<br><br>Compare between generalization & aggregation |
| OCTOBER | **UNIT-II**<br>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.<br>Searching, Matching & Basic Oracle Functions: String, Numeric, and Aggregate Functions.<br>Queries based on group by clause, order by clause, having clause, Subqueries & joins. | How data can be processed from various sites in distributed databases.<br><br>Problems that do exist in distributed architecture<br><br>Concept of keys in DBMS<br><br>Understand subqueries & joins in DBMS | PPT, Quiz,MCQ'S,blended learning | Implement basic operations of database language | Write a PL/SQl code for trigger creation |

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|---|---|---|---|---|---|
| **NOVEMBER** | 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 | |
| **DECEMBER** | **UNIT-III** 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, creatingfunction & procedure, package functions, package procedures, Oracle transactionsDatabase Triggers: Introduction, Use & type of database Triggers, Triggers Vs. Declarative IntegrityConstraints, 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 activites,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) 2022-23
PC Software I (VCA – 102 )

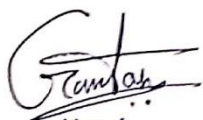Max. Marks : 75 (50Ext; 25 Int)   Min. Marks: 30(20 Ext;10 Int)   Credit: 03

## COURSE PLAN

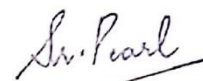| SEM I Month | UNIT/TOPIC | Concepts/facts | Teaching Pedagogy | Learning Outcomes | Questions | Marks Weightage (%) |
|---|---|---|---|---|---|---|
| AUGUST | **UNIT-I**<br><br>**Software:** System software, application software, utility software.<br><br>**User Interface:** Introduction to CUI and GUI and Comparison . | Learn the importance of software and its types | PPT, Comparison chart | Identify the features of common application of MS window. | *Knowledge Based*<br>- Why is software needed in computer?<br><br>- Differentiate between Custom software and Utility software. | Knowledge--40<br>Understanding-40<br>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.<br><br>**System Tool:**, Disk defragmentation, System Information, System Back up & Restore. | Demonstrate the features of MS Window. | PPT, Quiz | | *Understanding Based*<br>- Write in brief about the use of different view of a document available in MSWord.<br><br>. | |

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|---|---|---|---|---|---|
| | **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 | | - Why we use watermark in MS-Word? How do you create a watermark in Word? |
| **SEPTEMBER** | **UNIT-II**<br><br>**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 | Implement the various tools and features of MS Word | identify and work with basic Word tools and features | *Higher Order Thinking Skills Based*<br>- What are drives and folders? How does MS Window organize files and folders on drives?<br>- 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<br><br>insert special characters and graphical objects | |
| | Table of contents, Footnotes and Endnotes, Page background. Mail merge, Macros, Auto correct and Auto | Able to create tables and mailing technique . | | organize data in tables | |

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|---|---|---|---|---|---|
| | Text, Comments, Page Setup, Size, Margins, Gutter, Orientation. | | | | |
| OCTOBER | **UNIT-III**<br><br>**MS-PowerPoint:** 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<br><br>Add SmartArt graphics to a presentation | |
| OCTOBER | Templates, Slide Master, Views of PowerPoint, Formatting of Presentations : Inserting Graphics and Animations, | Apply graphical and animations on the Slides | | Add Media and Animations effects to a presentation | |
| NOVEMBER | 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) 2022-23

### Information Communication Technologies Basics (PAPER I) (BLIS – 103 )

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 | **UNIT-I** 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 | *Knowledge Based* - 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 varíous tools and features of MS Word | Edit text and modify the appearance of text in a Word document insert special characters and graphical objects | *Understanding Based* - What is the use of AutoCorrect feature? You have to typed a document and you want to check the spelling mistakes.. | |

| Month | Content | | | | | |
|---|---|---|---|---|---|---|
| | 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? | |
| | 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. | | | | *Higher Order Thinking Skills Based* - What is worksheet? Discuss the use of Auto fill option with the help of an example. | |
| SEPTEMBER | **UNIT-II** MS-Excel: Introduction, Features, Application Areas & its uses, views & its types, formatting & its types, Functions & Formulas Date & Time: Date, day, month, year, now, today, time, hour, minute, seconds. | Understanding the basic features and importance of functions in MS-Excel | Implementation of various functions and data representation | Navigate and perform common tasks in Excel spreadsheets, Formatting the paragraph, apply different types of charts | - What are keys? Explain the utility of forms. | |
| | Math & Trig: abs, int, even, odd, fact, mod, pi, power, product, round, roman, sign, sqrt, trim. Statistical: Average, | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | Charts : Line, bar, column, area, pie. Data management: Sort, filters, auditing & tracing, Protecting sheet & workbook. | Able to use different charts and manage the data. | | | |
| **OCTOBER** | **UNIT-III**<br><br>**MS-PowerPoint:** 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<br><br>Create and modify a database structure | |
| | 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 | | • understand about table relationships, data types and keys<br><br>• create simple and effective queries | |
| **NOVEMBER** | **MS-Access:** 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. | • create meaningful summery reports | |

## SOPHIA GIRL'S COLLEGE, AJMER (*AUTONOMOUS*)
## BLIS I (SEMESTER I) 2022-23
### Information Communication Technologies Basics (PAPER II) (BLIS – 104)

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 | **UNIT-II**<br><br>**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 | Implement the various tools and features of MS Word | | *Understanding Based*<br><br>- Write in brief about the use of different view of a document available in MSWord.<br><br>.<br><br>- Why we use watermark in MS-Word? How do you create a watermark in | Knowledge--40<br><br>Understanding-40<br><br>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. | | | | |

| | | | | | 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 . | | | | |
| **SEPTEMBER** | **UNIT-III**<br><br>**MS-PowerPoint:**<br>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 | *Higher Order Thinking Skills Based*<br><br>- What are drives and folders? How does MS Window organize files and folders on drives?<br><br>- 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 | | | | |
| **OCTOBER** | 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 | | Edit text and modify the appearance of text in a Word document | | |

| | | | 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 | | |
| **MS-Excel**: Introduction, Features, Application Areas and its uses, views and its types, formatting and its types. | Introduction of MS-excel<br><br>Concept of charts | PPT,Presentations by students | Develop charts and validation on the data | *Knowledge Based*<br><br>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-excess | Projects, problem solving activities, practice, exercises | Apply functions on the excel sheet | *Understanding Based*<br><br>Explain how you can create chart for student database? | Knowledge—40<br><br>Understanding-40<br><br>Higher Order-20 |
| | **Functions and Formulas -** Text: char, concatenate, exact, find, left, right, mid, lower, upper, proper, search, substitute, trim. **Logical:** and, or, not | | | | | |
| | **Math and trig:** abs, int, even, odd, fact, mod, pi, power, product, round, roman, sign, sqrt, truncate | 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 | *Higher Order Thinking Skills Based*<br><br>Create reports & forms on student database? | |
| | **Statistical:** Average, count. Protecting sheet and workbook. | | PPT, Practical Implementation, assignments | | | |

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COURSE_PLAN_2022-23_Ms._LAVEENA_GANGWANI

# SESSION 2022-23

# COURSE PLAN

| Even Sem | | | |
|---|---|---|---|
| 1 | VCA | II | PC Software-II |
| 2 | BCA | VI | Software Engineering |

## SOPHIA GIRL'S COLLEGE, AJMER (*AUTONOMOUS*)
### V.C.A –I (SEMESTER II) 2022-23
### VCA – 202 PC Software-II

**Max. Marks : 75 (50Ext; 25 Int)**          **Min. Marks: 30(20 Ext;10)**          **Credit: 03**
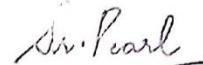
### COURSE PLAN

| SEM II Month | UNIT/TOPIC | Concepts/facts | Teaching Pedagogy | Learning Outcomes | Questions | Marks Weightage (%) |
|---|---|---|---|---|---|---|
| DECEMBER | **Unit-1**<br>**MS-Excel**: Introduction, Features, Application Areas and its uses, views and its types, formatting and its types. | Introduction of MS-excel<br><br>Concept of charts | PPT,Presentations by students | Develop charts and validation on the data | *Knowledge Based*<br><br>Define Ms-excel?<br><br>*Understanding Based* | Knowledge—40<br><br>Understanding-40<br><br>Higher Order-20 |
| JANUARY | **Charts**: Line, bar, column, area, pie. Pivot Tables, Data management (Sort, filters, Validation, consolidation, Text to column), auditing and tracing | Implement formulas in Ms-excess | Projects, problem solving activities,practice ,exercises | Apply functions on the excel sheet | Explain how you can create chart for student database?<br><br>*Higher Order Thinking Skills Based*<br><br>Create reports & forms on student database? | |
| | **UNIT-II**<br>**Functions and Formulas -Text**: char, concatenate, exact, find, left, right, mid, lower, upper, proper, search ,substitute, trim.<br><br>**Logical**: and, or, not | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **FEBURARY** | **Math and trig:** abs, int, even, odd, fact, mod, pi, power, product, round, roman, sign, sqrt, trim<br>**Statistical:** Average, count.<br>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 | | |
| **MARCH** | **Unit III**<br>**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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## SOPHIA GIRL'S COLLEGE, AJMER (*AUTONOMOUS*)
### B.C.A III (SEMESTER VI) 2022-23
### BCA – 601 Software Engineering

Max. Marks :75 (50Ext; 25 Int)          Min. Marks: 30(20 Ext;10 Int)          Credit: 03
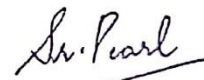
### COURSE PLAN

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

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|---|---|---|---|---|---|---|
| FEBRUARY | **Unit – II**<br>**Software Measurement** : Size metric<br>**Design**: Introduction, Definition, Objective, Modularity (Cohesion & Coupling)<br>**Coding**: 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 | *Higher Order Thinking Skills Based*<br><br>Contrast between functional and non functional requirements of software. | |
| MARCH | **Unit – III**<br>**Testing**: Introduction, Objective, Characteristics, Principles, Testability<br>**Software Testing Strategies**: Unit Testing, Integration Testing, Validation Testing (Alpha and Beta Testing), Verification, System Testing (Recovery, Security, Stress, Performance),<br>**Black Box Testing and White Box Testing**: 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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