

**MCM DAV College for Women, Sector 36-A, Chandigarh**  
**Monthly Teaching Plans (Odd & Even Semesters)**  
**Session: 2025-26**

**Name of the Teacher:** Dr. Ritika Bansal & Ms. Anupreet Kalsi  
**Department:** Computer Science and Applications  
**Class:** BCA-I (1<sup>st</sup> Semester) **Section (s):** A & B  
**Subject:** Introduction to Web Technologies (BCA-DSC-1(Maj)-101)

| S.No. | Date<br>(Monthly)     |                          | Topics to be Covered   | Academic<br>Activity<br>Undertaken*  |
|-------|-----------------------|--------------------------|--|--|
|       | From                  | To                       |  |  |
| 1.    | Start of the semester | 31 Aug, 2025             | <p style="text-align: center;"><b>UNIT-I</b></p> <p><b>Web Terminology:</b> WebServer; Web Client/ Browser, Understanding how a Browser communicates with a WebServer, Internet, Intranet, Extranet, WWW, URL.</p> <p><b>Introduction to HTML:</b> Structure of an HTML program, Paragraph Breaks, Line Breaks; Emphasizing Material in a Web Page (Heading Styles, Drawing Lines); Text Styles (Bold, Italics, Underline); Other Text Effects (Centering (Text, Images etc.);</p> <p><b>Lists:</b> Unordered List, Ordered Lists, Definition lists;</p> <p><b>Adding Images:</b> Img element using Border, Width, Height, Align, ALT Attributes;</p> <p><b>Tables:</b> Caption Tag, Width, Border, Cell padding, Cell spacing, BGCOLOR, COLSPAN and ROWSPAN Attribute</p> | PPT, Lecture method, interactive sessions, PDF, Online sources, Practical Questions, Doubt sessions, Assignments.                                |
| 2.    | 1 Sep, 2025           | 30 Sep, 2025             | <p style="text-align: center;"><b>UNIT-II</b></p> <p><b>Linking Documents:</b> Anchor tag, External Document References, Internal Document References and Image Maps</p> <p><b>Frames:</b> understanding frames, creating frames, Targeting Named Frames</p> <p><b>Cascading style sheets (CSS):</b> Style tag, Link tag, Types of CSS: In-Line, Internal, External</p> <p><b>Forms:</b> Attributes of Form element, Input element: Text Element, Password, Button, Submit Button, Reset Button, The Checkbox, Radio, TextArea, Select and Option.</p>   | PPT, Lecture method, PDF, Online sources, Practical demonstration on developing a website, Doubt sessions, Assignments.                          |
| 3.    | 1 Oct, 2025           | 31 Oct, 2025             | <p style="text-align: center;"><b>UNIT-III</b></p> <p><b>Java Script:</b> Features, tokens, data types, variables, operations, control constructs, strings arrays, functions, core language objects, client side objects, event handling. Applications related to client side form validation.</p> <p><b>Other Built-In Objects in JavaScript:</b> The String Object, The Math Object, and The Date Object; User Defined Objects: Creating a User Defined Object, Instances, Objects within Objects</p>  | PPT, Lecture method, PDF, Online sources, Practical demonstration on developing a website, Assignments, Case Study, Project Work, Peer Learning. |
| 5.    | 1 Nov, 2025           | Till the end of semester | <p style="text-align: center;"><b>UNIT-IV</b></p> <p><b>Creating Web Pages using Dreamweaver:</b> Introduction to Dreamweaver, Understanding Workspace Layout, Managing Websites, Creating a Website, Using Dreamweaver Templates, Adding New WebPages, Text and Page Format, Inserting Tables, Lists, Images, Adding Links.</p>   | PPT, Lecture method, Practical demonstration on developing a website, Doubt sessions, Assignments.   |

Name of the Teacher: Ms. Anupreet Kalsi

Department: Computer Science and Applications

Class: BCA-I (1<sup>st</sup> Semester)

Section (s): A & B

Subject: Fundamentals of Mathematical Statistics (BCA-DSC-1(Maj)-102)

| S.No. | Date<br>(Monthly) |                      | Topics to be Covered  | Academic<br>Activity<br>Undertaken*  |
|-------|-------------------|----------------------|---|--|
|       | From              | To                   |   |  |
| 1.    | Start of semester | 31 Aug, 2025         | <b>Basic Statistics:</b> Types of Statistics, Different Statistical Techniques, Steps in Statistical Investigation, Uses and Limitations of statistics, Collection of Data: Sources of collecting primary and Secondary Data. Limitations of Secondary Data, Criteria of evaluating secondary data, Organization of data, Graphs of Grouped Frequency Distribution, Tabulation of Data, Parts of Table; <b>Measures of Central Tendency:</b> Kinds of measures of central tendency (statistical averages or averages): <b>Arithmetic Mean:</b> Simple Arithmetic Mean, Methods of calculating Simple Arithmetic Mean, Arithmetic Mean in case of Individual Series, Discrete series and continuous series, Weighted Arithmetic Mean, Combined Arithmetic Mean. <b>Geometric Mean:</b> Simple Geometric Mean, Methods of calculating Simple Geometric Mean, Geometric Mean in case of Individual Series, Discrete series and continuous series, Weighted Geometric Mean, Combined Geometric Mean. <b>Harmonic Mean:</b> Simple Harmonic Mean, Methods of calculating Simple Harmonic Mean, Harmonic Mean in case of Individual, Discrete series and continuous series, Weighted Harmonic Mean, Combined Harmonic Mean. | Lecture method, interactive sessions, PDF, Online sources, Practical Questions, Doubt sessions, Assignments. |
| 2.    | 1 Sep, 2025       | 30 Sep, 2025         | <b>Median:</b> Methods of Calculating Median in case of Individual, Discrete series and continuous series; <b>Partition Value:</b> Quartile, Quintiles, Hexiles, Septiles, Octiles, Deciles, Percentiles <b>Mode:</b> Methods of Calculating Mode in case of Individual Series, Discrete series and continuous series <b>Range:</b> Computation of Range, Inter Quartile Range, Computation of Inter Quartile Range, Percentile Range and Computation of Percentile Range. <b>Mean Deviation:</b> Computation of Mean Deviation, Standard Deviation, Calculation of Standard Deviation, Variance, Calculation of Standard Deviation for individual Series, Discrete Series and Continuous Series, Coefficient of Standard Deviation and coefficient of variation, Combined Standard Deviation, Correcting incorrect Standard Deviation.   | Lecture method, PDF, Online sources, Practical Questions, Doubt sessions, Assignments.                       |
| 3.    | 1 Oct, 2025       | 31 Oct, 2025         | <b>Correlation Analysis:</b> Correlation Analysis: Definition, Types of Correlation: Positive, Negative, Simple, Multiple, Partial, Total, Linear and Non-Linear. Need of Correlation Analysis, Correlation and Causation, Techniques for Measuring Correlation: Scatter Diagram Method, Graphic Method, Karl Pearson's Coefficient of Correlation: Correcting incorrect coefficient of correlation, calculating Karl Pearson's coefficient of correlation in case of grouped series, Probable Error, Coefficient of Determination, Spearman's coefficient of Correlation (Rank correlation): Calculation of Correct Coefficient of rank correlation, Difference between Rank Coefficient and Karl Pearson's coefficient of coefficient, Coefficient of concurrent deviation.   | Lecture method, PDF, Online sources, Practical Questions, Doubt sessions, Assignments.                       |
| 5.    | 1 Nov, 2025       | Till end of semester | <b>Regression Analysis (Linear Regression):</b> Definition, Difference between Correlation and Regression, Types of Regression Analysis: Simple, Multiple, Partial, Total, Linear and Non-Linear, Objectives of Regression Analysis, Methods of obtaining regression analysis: Regression Lines, Regression Equations. Methods of obtaining regression equations: Normal Equations and Regression Coefficient, Properties of Regression Coefficient, Standard Error of Estimate, Regression Coefficient in case of Grouped Data, Uses of Regression Analysis and Limitations of Regression Analysis.  | Lecture method, PDF, Online sources, Practical Questions, Doubt sessions, Assignments.                       |

Name of the Teacher/s- Dr. Ritika Bansal

Department- Computer Science and Applications

Class- BCA-I (1<sup>st</sup> Semester)

Section-(s) A & B

Subject- Problem Solving Through C (BCA-DSC-1(Min)-103)

| S.No. | Date<br>(Monthly)     |                          | Topics to be Covered   | Academic<br>Activity<br>Undertaken*   |
|-------|-----------------------|--------------------------|--|---|
|       | From                  | To                       |  |   |
| 1.    | Start of the semester | 31 Aug, 2025             | Programming Process: Steps in developing a program, Data Flow Diagram, Algorithm development, Flowchart, Testing and Debugging.<br>Fundamentals of C Languages: History of C, Character Set, Identifiers and Keywords, Constants, Types of C Constants, Rules for Constructing Integer, Real and character Constants, Variables, Data Types, rules for constructing variables.<br>Operators and Expressions: C Instructions, Arithmetic operators, Relational operators, Logical operators, Assignment Operators, Type Conversion in Assignments, Hierarchy of Operations, Standard and Formatted Statements, Structure of a C program, Compilation and Execution.<br>Decision Control Structure: Decision making with IF-statement, IF-Else and Nested IF-Else, The else if Clause.<br>Loop Control Structure: While and do-while, for loop and Nested for loop, Case Control Structure: Decision using switch, The goto statement. | PPT, Lecture Method, Assignments, Online Videos, Practical demonstration.             |
| 2.    | 1 Sep, 2025           | 30 Sep, 2025             | Functions: Library functions and user defined functions, Global and Local variables, Function Declaration, Calling and definition of function, Methods of parameter passing to functions, recursion, Storage Classes in C.<br>Arrays: Introduction, Array declaration, accessing values in an array, initializing values in an array, Single- and Two-Dimensional Arrays, initializing a 2-Dimensional Array, Memory Map of a 2- Dimensional Array, Passing array elements to a function: Call by value and call by reference, Arrays of characters, Insertion and deletion operations, Searching the elements in an array, Using matrices in arrays, Passing an Entire Array to a Function.   | PPT, Lecture Method, Assignments, Online Videos, Class Test, Practical demonstration. |
| 3.    | 1 Oct, 2025           | 31 Oct, 2025             | Pointers: Pointer declaration, Address operator "&", Indirection operator "*", Pointer and arrays, Pointers and 2-Dimensional Arrays, Pointer to an Array, Passing 2-D array to a Function, Array of Pointers.<br>String Manipulation in C: Declaring and Initializing string variables, Reading and writing strings, String Handling functions (strlen(), strcpy(), strcmp(), strcat()).  | PPT, Lecture Method, Class Test, Assignments, Online Videos, Practical demonstration. |
| 5.    | 1 Nov, 2025           | Till the end of semester | Structures and Unions: Declaration of structures, Structure Initialization, Accessing structure members, Arrays of structure, Nested structures, Structure with pointers, Union.<br>Files in C: Introduction, Opening and Closing files, Basic I/O operation on files.   | PPT, Lecture Method, Class Test, Assignments, Online Videos, Practical demonstration. |

Name of the Teacher/s- Ms. Vandana Syal & Ms. Aashita Jain

Department: Department of Computer Science & Applications

Class: BCA 1 (1<sup>st</sup> Semester) Section (s): A & B

Subject: Computer Fundamentals and Personal Computing Software (CSA-SEC-101)

| S.No. | Date<br>(Monthly)     |              | Topics to be Covered   | Academic<br>Activity<br>Undertaken*                   |
|-------|-----------------------|--------------|--|---|
|       | From                  | To           |  |   |
| 1.    | Start of the semester | 31 Aug, 2025 | <b>Computer Appreciation:</b> Introduction to Computers<br>Characteristics of Computer, Functional Units of Computer<br>System: CPU, Registers, System Bus, Main Memory Unit,<br>Cache Memory, Inside a Computer SMPS, Motherboard,<br>Ports, and Interfaces Expansion Cards, Ribbon Cables,<br>Memory Chips, Processors, Devices: Input and Output<br>Devices, Keyboard, Mouse, Joystick, Scanner, OCR, OMR,<br>Barcode Reader, Web Camera, Monitor, Printer, Plotter,<br>Types of Software, System and Application Software<br><b>Memory:</b> Primary, Secondary, Auxiliary Memory, RAM,<br>ROM, Cache Memory, Hard Disk, Optical Disks, Data<br>Representation, Bit, Byte, Binary, Decimal, Hexadecimal, and<br>Octal Systems<br><b>Understanding Graphical User Interface, Using Windows:</b><br>Booting Process, Fundamentals of Windows, Types of<br>Windows, Anatomy of Windows, Icons, Recycle Bin,<br>Operations on Folders, Registry of Windows, Basics, Editing,<br>Control Panel   | PPT, Lecture Method, Assignments, Online Videos.      |
| 2.    | 1 Sep, 2025           | 30 Sep, 2025 | <b>Word Processing Package:</b> Opening, saving, and closing an<br>existing document; Renaming and deleting files; Using styles<br>and templates: Introduction to templates and styles;<br>Applying, modifying, and creating new (custom) styles; Using<br>a template to create a document, Creating a template,<br>Editing a template, Organizing templates, Examples of styles<br>use, Changing document views, Moving quickly through a<br>document, Working with text: Select, cut, copy, paste, find,<br>and replace, Inserting special characters, Setting tab stops<br>and indents, Checking spelling and grammar, Autocorrect,<br>Using built-in language tools, Word completion, Autotext,<br>Formatting Text: Using Styles, Formatting Paragraphs,<br>Formatting Characters, Auto-Formatting, Creating Lists,<br>Formatting Pages, Using Layout Methods, Creating Headers<br>and Footers, Numbering Pages, Changing Page Margins,<br>Adding Comments to a Document, Creating a Table of<br>Contents, Creating Indexes and Bibliographies, Printing a<br>Document, Using Mail Merge, Tracking changes to a<br>Document, Using Fields, Linking to another part of a<br>Document, Using Master Documents, Creating Fill-in Forms, | Practical demonstrations, Lecture Method, Assignments |
| 3.    | 1 Oct, 2025           | 31 Oct, 2025 | <b>Spreadsheet Package:</b> Introduction to Spreadsheets, Sheets<br>and Cells, Opening and Saving Spreadsheet Files, Working<br>with Sheets, Inserting New Sheet, Deleting and Renaming<br>Sheets, Viewing a Spreadsheet, Freezing Rows and<br>Columns, Splitting Screen, Entering Data: Cell Referencing,<br>Formatting Cells, Entering Numbers, Entering Numbers as<br>Text, Entering Formulae, Entering Date and Time,<br>Deactivating, Automatic Changes, Speeding Up Data Entry,<br>Using Fill Tool, Fill Series, Defining Fill Series, Validating Cell<br>Contents, Formatting Data, Formatting Text, Numbers,   | Practical demonstrations, Lecture Method, Assignments |

|    |             |                          |  |  |
|----|-------------|--------------------------|--|--|
|    |             |                          | Cells, Autoformatting Cells and Sheets, Defining New Autoformat, Using Conditional Formatting, Data, Sorting Records, Printing a Spreadsheet Document, Using Print Ranges, Page Formats, Inserting Page Breaks, Headers and Footers, Working with Graphs and Charts, Creating Embedded Chart, Formatting Chart, Changing Chart Types, Adding Titles, Legends and Gridlines, Printing Charts, Adding Database Functions, Defining Database Ranges, Sorting, Filtering and Grouping Database Ranges, Evaluating Data: Using Data Pilot, Functions and Macros: Using and Editing Existing Macro, Creating Macros, Recording Macros, Running Macros  |  |
| 5. | 1 Nov, 2025 | Till the end of semester | <b>Presentation Packages:</b> Introduction to Presentation- Opening New Presentation, Parts of Main Window, Different Presentation Templates, Setting Backgrounds, Selecting Presentation Layouts. Creating a Presentation- Setting Presentation Style, Adding Text to the Presentation. Formatting a Presentation- Adding Style, Colour, Gradient Fills, Arranging Objects, Adding Header and Footer. Slide Background, Slide layout, Adding Graphics to the Presentation Inserting Pictures, Movies, Tables, etc. into Presentation, Drawing Pictures using Draw. Adding Effects to the Presentation Setting Animation and Transition Effect. Printing Handouts Generating Standalone Presentation Viewer. | PPT, Lecture Method, Assignments, Practical demonstrations, Seminar. |

Name of the Teacher/s- Ms. Komal & Ms. Ritu Paran

Department- Computer Science and Applications

Class- BCA-I (1<sup>st</sup> Semester)

Section-(s) A & B

Subject- E-Commerce (CSA-MDC-101)

| S.No. | Date<br>(Monthly)     |                          | Topics to be Covered  | Academic<br>Activity<br>Undertaken*   |
|-------|-----------------------|--------------------------|---|---|
|       | From                  | To                       |   |   |
| 1.    | Start of the semester | 31 Aug, 2025             | <b>An Overview of E-Commerce:</b> Definitions: E-commerce, E-business, difference between E-commerce and E-business, Problems with Traditional business systems, Aims of E-commerce, Types of E-commerce: B2B, B2C, C2C, B2G, G2H, G2C, Operational & Strategic benefits of E-commerce, Issues & Challenges in Ecommerce. Electronic Data Interchange (EDI): Definition; Traditional versus EDI enabled system for document exchange; Components of EDI: EDI Standards, EDI Software, Communication Networks; EDI Message Structure; EDI Notification Structure; EDI in India; EDI enabled procurement process; Benefits of EDI: Direct Benefits, Strategic Benefits; EDI Implementation issues; Legal Aspects. | PPT, Lecture Method, Assignments, Online Videos                                       |
| 2.    | 1 Sep, 2025           | 30 Sep, 2025             | <b>Web based E-Commerce:</b> Definition; Need for web based business, Steps in setting up business on Internet: Selection & registration of domain name, Website development: Planning a website, Steps for creating a website, Elements of a webpage, web authoring tools, Hosting a website: Website hosting considerations.<br><b>Online Promotion tools &amp; techniques:</b> Getting links to your site, banner advertisements & measuring advertisement effectiveness; Web Traffic Analysis: Hits, View pages, Visits and Other web-reporting tools, various measures, What is Search Engine optimization   | PPT, Lecture Method, Assignments, Online Videos, Class Test.                          |
| 3.    | 1 Oct, 2025           | 31 Oct, 2025             | <b>Electronic Payment Systems:</b> E-cash: Purchasing & using of e-cash; Electronic Purse: their loading with cash and use; E-cheque payment system; Online Third Party Verified Payment System through Credit & Debit Cards; ATM based cash disbursement system; Electronic Bill Payment System; Inter bank clearing system<br><b>Mobile Commerce:</b> Definition, Benefits of Mobile Commerce, Issues in Mobile Commerce, Mobile Commerce Framework   | PPT, Lecture Method, Class Test, Assignments, Online Videos, Practical demonstration. |
| 5.    | 1 Nov, 2025           | Till the end of semester | <b>Applications of E-Commerce &amp; Case Studies:</b> Applications of e-commerce, Case studies in Retailing, Banking and e-governance; Cyber Crimes: Types, Cyber Forensics, Cyber crimes and IT Act - 2000.<br><br><b>Revision of the syllabus</b>   | PPT, Lecture Method, Class Test, Assignments, Online Videos                           |

Name of the Teacher- Ms. Anupreet Kalsi

Department: Department of Computer Science & Applications

Class: BCA-I (2<sup>nd</sup> Semester)

Section (s): A & B

Subject: Computer Organization (BCA-DSC-2(Maj)-201)

| S. No. | Date<br>(Monthly) |                      | Topics to be Covered  | Academic<br>Activity<br>Undertaken*                                    |
|--------|-------------------|----------------------|---|--|
|        | From              | To                   |   |  |
| 1.     | Start of semester | 31 Jan, 2026         | <b>UNIT-I</b><br>Number System and its conversion: Binary, Octal, Decimal, Hexadecimal; Binary Arithmetic: addition, subtraction, multiplication, division; 8 Bit Signed Arithmetic: signed magnitude, 1's and 2's complement method; Information Representation: fixed and floating point representation; Computer codes: types of codes, BCD, Excess-3, Gray Code, alphanumeric codes – ASCII, EBCDIC, Error detecting and correcting codes- parity, block parity, checksum, CRC and hamming codes. | PPT, Lecture method, PDF, Online sources, Doubt sessions, Assignments. |
| 2.     | 1 Feb, 2026       | 28 Feb, 2026         | <b>UNIT - II</b><br>Logic gates and their characteristics: fan in/ fan out, propagation delay, power dissipation, noise margin, IC logic families; Basic Boolean Algebra: Boolean laws, duality principle, Demorgan theorem, minterm and maxterms, standard form, conversion to canonical form, simplification of circuit design by solving boolean expressions and Karnaugh map ; Universal Gates: conversion of circuits in terms of NAND or NOR only.  | PPT, Lecture method, PDF, Online sources, Doubt sessions, Assignments. |
| 3.     | 1 March, 2026     | 31 March, 2026       | <b>UNIT-III</b><br>Combinational Circuit Design – Adders: Half adder, Full adder, Serial & n bit Parallel Adder, FA using two HAs; Subtractors: Half and Full Subtractor (n bit FS by 1's and 2's Complement); Code Convertors : Decoder and Encoder ; Chip Cascading : 4x16, 5x32 decoder using 2x4 and 3x8 decoders; Multiplexer, Demultiplexer and their applications.   | PPT, Lecture method, PDF, Online sources, Doubt sessions, Assignments  |
| 4.     | 1 April, 2026     | Till End of Semester | <b>UNIT-IV</b><br>Sequential Circuit Design – Flip Flops : Bistable circuit, SR FF, edge triggered with preset & clear, D Type FF, propagation delay, setup & hold time, JK FF, avoidance of race around condition in JK M/S FF, Toggle FF; Working of Register and Shift Registers : SISO, SIPO, PISO, PIPO ; Counters : Asynchronous n bit counter, Up Down counter, Synchronous counter, applications and comparison.  | PPT, Lecture method, PDF, Online sources, Doubt sessions, Assignments  |

Name of the Teacher: Dr. Ritika Bansal & Ms. Anupreet Kalsi

Department: Computer Science and Applications

Class: BCA-I (2<sup>nd</sup> Semester)

Section (s): A & B

Subject: Introduction to Artificial Intelligence and Data Science (BCA-DSC-2(Maj)-202)

| S.No. | Date<br>(Monthly) |                      | Topics to be Covered   | Academic<br>Activity<br>Undertaken*   |
|-------|-------------------|----------------------|--|---|
|       | From              | To                   |  |   |
| 1.    | Start of semester | 31 Jan, 2026         | <b>UNIT-I</b><br>Introduction to Artificial Intelligence (AI): Definition, Types of AI, History of AI, Applications of AI in healthcare, education and agriculture, Introduction to key technologies of AI: Machine Learning, Deep Learning, Natural Language Processing (NLP), Computer Vision, Robotics; Ethical issues and Future of AI. Problem Solving: AI problems, Agents and Environments, Structure of Agents.  | PPT, Lecture method, interactive sessions, PDF, Online sources, Practical Questions, Doubt sessions, Assignments.   |
| 2.    | 1 Feb, 2026       | 28 Feb, 2026         | <b>UNIT-III</b><br>Managing Data with Spreadsheet Software: Creating a database, sorting & filtering data, custom sorting and advanced filtering, defining and grouping database ranges, applying data tools like data validation, removing duplicates, text to columns, Flash fill; Managing data using Math, statistical, Trigonometric, String/Text, Date and Time, logical and Database functions, Nested functions. | PPT, Lecture method, PDF, Online sources, Practical demonstration, Doubt sessions, Assignments.                     |
| 3.    | 1 March, 2026     | 31 March, 2026       | <b>UNIT-IV</b><br>Data Visualization, Searching and Summarizing using Spreadsheet Software: Understanding Chart types, Creating Embedded Charts, formatting Charts: Changing Chart types, adding Titles, Legends and Gridlines, Printing Charts, searching data using HLOOKUP and VLOOKUP, summarizing data using pivot table, analyzing data using What-if Analysis: goal seek, scenario manager and data Table.        | Lecture method, Online sources, PDF, Practical demonstration, Assignments, Case Study, Project Work, Peer Learning. |
| 5.    | 1 April, 2026     | Till end of semester | <b>UNIT-II</b><br>Data Science: Introduction to Data Science, evolution and need for Data Science, Types of Data, Data Science Applications in Various Fields, Data Science Life Cycle or Project Stages, Data collection, Data Pre-Processing Overview – Data Cleaning, Data Integration and Transformation, Data Reduction – Data Discretization, Data Storage and management, careers in Data Science.                | PPT, Lecture method, Practical demonstration, Doubt sessions, Assignments.  |



Name of the Teacher/s- Dr. Ritika Bansal

Department: Department of Computer Science & Applications

Class: BCA 1 (2<sup>nd</sup> Semester)      Section (s): A & B

Subject: Object Oriented Programming using C++ (BCA-DSC-2(Min)-203)

| S. No | Date (Monthly)    |                      | Topics to be Covered   | Academic Activity Undertaken*  |
|-------|-------------------|----------------------|--|--|
|       | From              | To                   |  |  |
| 1.    | Start of Semester | 31 Jan, 2026         | Principles of Object-Oriented Programming (OOP): Introduction to OOP, Difference between OOP and Procedure Oriented Programming; Concepts: Object, Class, Encapsulation, Abstraction, Polymorphism and Inheritance, Applications of OOP. Special operators: scope resolution operator, Member Dereferencing operators, Memory management operators, Manipulators and Type cast operator.<br>Structure of a C++ Program and Classes and Objects: Class Declaration: Data Members, Member Functions, Private and Public members, Creating Objects, accessing class data members, Accessing member functions; Class Function Definition: Member Function definition inside the class declaration and outside the class declaration. | Lecture Method, PPT.   |
| 2.    | 1 Feb, 2026       | 28 Feb, 2026         | Friend function, inline function, Static data members, Function Overloading, Arrays within a class. Arrays of Objects; Objects as function arguments: Pass by value, Pass by reference, Pointers to Objects. Constructors: Declaration and Definition, Types of Constructors, (Default, Parameterized, Copy Constructors). Destructors: Definition and use. Operator Overloading: Concept of Operator Overloading, Overloading unary and binary operators.   | Lecture Method, Class test, practical demos, Sample programs discussion  |
| 3.    | 1 March, 2026     | 31 March, 2026       | Inheritance: Extending Classes Concept of inheritance, Base class, defining derived classes, Visibility modes: Public, Private, Protected; Types of Inheritance: Single inheritance: Privately derived, publicly derived; Making a protected member inheritable, multilevel inheritance, multiple Inheritance and ambiguity of multiple inheritance, Hierarchal Inheritance, Hybrid, Nesting of classes.<br>Polymorphism: Definition, Application and demonstration of Data Abstraction, Encapsulation and Polymorphism, Static and Dynamic Polymorphism, Virtual Functions, pure virtual functions.   | Lecture Method, Class test, PPT, practical demos   |
| 4.    | 1 April 2026      | Till end of semester | Exception Handling: Definition, Exception Handling Mechanism: Throwing mechanism and Catching Mechanism, Rethrowing an Exception File Processing: Opening and closing of file, Binary file operations, structures and file operations, classes and file operations, Random file processing.  | Lecture Method, Class test, PPT, practical demos, Group revisions, attempting multiple choice questions , preparing for viva voce. |

Name of the Teacher/s- Ms. Aashita Jain

Department: Department of Computer Science & Applications

Class: BCA 1 (2<sup>nd</sup> Semester)      Section (s): A & B

Subject: Desktop Publishing using GIMP (CSA-SEC-202)

| S. No | Date (Monthly)    |                      | Topics to be Covered   | Academic Activity Undertaken*                 |
|-------|-------------------|----------------------|--|---|
|       | From              | To                   |  |   |
| 1.    | Start of Semester | 31 Jan, 2026         | <b>Introduction to GIMP:</b> Downloading and Installing GIMP, Working with GIMP's Interface, Toolbox, Windows and Menus in GIMP, Dockable Dialogs or DockablePanels, Images and Canvases.<br><b>Basic Computer Graphics:</b> Digital Images vs. Traditional Photographs, Raster Graphics vs. Vector Graphics, , File Formats, Image basics, Color Depth, Color Spaces and Color Modes, Image Compression, Image resolution, Checking image resolution in GIMP, Resolution for Printed Images, Saving a JPG, PNG, PSD, and TIF File in GIMP, Saving (Exporting) and Reducing JPG File Size.   | Lecture Method, PPT, practical demonstrations |
| 2.    | 1 Feb, 2026       | 28 Feb, 2026         | <b>Working with Files;</b> Opening Files, Working in the Image Window, Copying and Pasting, Saving Files.<br><b>Working with Images:</b> Selection Tools, Image Tools, Transform Tools, Straightening or Rotating an Image, Cropping an Image, Changing the Size of an Image, Paint Tools, Color Tools,<br><b>Drawing in GIMP;</b> Tools for Drawing, Drawing with Selections, Drawing Freely,   | Practical demonstrations and assignments      |
| 3.    | 1 March, 2026     | 31 March, 2026       | <b>Fixing Problems in Images;</b> Analyzing Your Colors with Info Tools, Color Balance, Equalize, White Balance Color Enhance Normalize Stretch Contrast, Stretch HSV, Correcting with Brightness (Contrast), Improving Tones in Images with Levels. Correcting a Dull Image with Curves, Improving Color and Tone with Curves, Color Too Strong (Oversaturated), Hue-Saturation, Noisy Image Sharpening an Image To Sharpen an Image with Unsharp Mask, Using Brushes to Repair Images, Unwanted Spots or Blotches, Removing Spots with the Smudge Brush, Removing Spots with the Healing Brush.<br><b>Working with Text;</b> Uses for Text in Images, Adding and Editing Text, Customizing Text from the Text Panel, | Practical demonstrations and assignments      |
| 4.    | 1 April 2026      | Till end of semester | Making Text Go Along a Path, Using Text to Create a Path.<br><b>Working with Layers and Masks;</b> Managing Layers, Layers Dialog, Adding, Duplicating, and Removing Layers, Arranging Layers in the Stack, Grouping and Merging Layers, Manipulating Layers, Resizing Layers, Working with Layer Transparency, Using Layer Masks.   | Practical demonstrations and assignments      |

Name of the Teacher/s- Ms.Komal and Ms.Ritu Paran  
Department: Department of Computer Science & Applications  
Class: BCA 1 (2<sup>nd</sup> Semester) Section (s): A & B  
Subject: Management Information System (CSA-MDC-204)

| S. No | Date (Monthly)    |                      | Topics to be Covered  | Academic Activity Undertaken*                 |
|-------|-------------------|----------------------|---|---|
|       | From              | To                   |   |   |
| 1.    | Start of Semester | 31 Jan, 2026         | <b>Introduction:</b> Evolution of Computers, Windows and Unix. Fundamentals of windows, anatomy of windows, Operations on window: Opening, Minimizing, Maximizing, Moving, Resizing, Closing; Windows Explorer, Folders: Creating, deleting, copying, renaming folders, folder properties; Icons, Menu, Taskbar, Control panel, Recycle bin.<br><b>Word Processing Package:</b> Basics of Word Processing; Word Processing Basics; Text creation, Manipulation, Finding and replacing,  | Lecture Method, PPT, practical demonstrations |
| 2.    | 1 Feb, 2026       | 28 Feb, 2026         | <b>Formatting of text;</b> Printing of word document, Page Layout: Margin setting, Alignments, Adding Borders and shading, Adding Headers and Footers, Setting up Multiple columns, Working with tables, Spell check, Auto Correct, Grammar facility, Mail merge.<br><b>Spreadsheet Package:</b> Worksheet Basics, Data Entry in Cells: Entry of numbers, text and formulae, Moving data in a worksheet, Moving around in a worksheet, Selecting Data Range. Using the interface (Toolbars, Menus), Editing Basics, Working with workbooks, | Practical demonstrations and assignments      |
| 3.    | 1 March, 2026     | 31 March, 2026       | Cell referencing: Absolute, Relative and Mixed; Formatting and Calculations: usingAutofill, Working with Formulae, Creating Chart and graphs.<br><b>Presentation Packages:</b> Basics, General Features, Creating a presentation, Different types of slide views, Master Slides and its use, Formatting Slides: slide design, Layout and background; Animation effect, Transition effect, timing effects, Macros.   | Practical demonstrations and assignments      |
| 4.    | 1 April 2026      | Till end of semester | <b>Database Package:</b> Introduction to Database, Tables, Data Types, Attributes, Records; Overview of MS- ACCESS Creating Database, Creating Tables, Data types, Creating forms and queries.  | Practical demonstrations and assignments      |

**Name of the Teacher/s- Ms. Komal**

**Department: Department of Computer Science & Applications**

**Class: BCA 1 (2<sup>nd</sup> Semester)      Section (s): A & B**

**Subject: Introduction to Blockchain Technology (CSA-VAC-201)**

| S. No | Date (Monthly)    |                      | Topics to be Covered   | Academic Activity Undertaken*                  |
|-------|-------------------|----------------------|--|--|
|       | From              | To                   |  |  |
| 1.    | Start of Semester | 31 Jan, 2026         | History of Blockchain, Terminologies in Blockchain, Types of Blockchain, Applications of Blockchain, How blockchain works, Ingredients of Blockchain.  | Lecture Method, PPT, online videos, discussion |
| 2.    | 1 Feb, 2026       | 28 Feb, 2026         | Various types of Blockchain and its real time applications.<br>Introduction to cryptography-Encryption and Decryption, Ciphers   | Lecture Method, PPT, online videos, discussion |
| 3.    | 1 March, 2026     | 31 March, 2026       | Introduction to Consensus Methods - Proof of Work(PoW), Proof of Stake(PoS), Blockchain for Government: Digital identity, land records and other kinds of record keeping between government entities, public distribution system / social welfare systems. | Lecture Method, PPT, online videos, discussion |
| 4.    | 1 April 2026      | Till end of semester | Block chain Cryptography: Privacy and Security on Block chain.   | Lecture Method, PPT, online videos, discussion |