

GAUR BRAHMAN DEGREE COLLEGE, ROHTAK

Syllabus Completion Performa/Lesson Plan: Bachelor of Arts Aided: 2025-26

Semester: 2nd
24CSCM402DS01

Subject Name: Object Oriented Programming using C+ (Major)

Subject Code:

Sr.No	Unit	SYLLABUS DETAILS/LESSON PLAN		Month
1	Unit-1	Introduction to OOP	Paradigms of Programming Languages, Evolution of OO Methodology, Basic concepts of Object-Oriented (OO) methodology, Comparison with procedural programming, Characteristics of Object- Oriented programming, Advantages, disadvantages and applications of OOPS.	January
		Basics of C++ Language	Data Types, Variables, Operators, Expressions, Structure of a C++ program, Creating the source files, Compiling and linking programs. Creating classes and Objects, Arrays, Strings, Structure, Recursion, and Control Statements.	January
2	Unit-2	Classes and Objects	Defining and using classes and objects, Member functions and data members, Access specifiers: public, private, protected, Functions and parameter passing in C++, Arrays and strings in C++, Pointer, Constructors and destructors.	February
		Inheritance	Derived class and Base class, Types of inheritance: single, multiple, multilevel, hierarchical, Access control in inheritance.	February
3	Unit-3	Polymorphism	Definition, Function overloading, Operator overloading, Virtual functions and dynamic polymorphism, Abstract classes and pure virtual functions, Encapsulation and data hiding, Friend function, Static function.	March
		Memory Management	Dynamic Memory Allocation: new, delete, Object Creation at run time	March
4	Unit-4	Exception handling	Throwing, Catching, Re-throwing an exception, specifying exception: processing unexpected exceptions; try-catch blocks, Exception propagation,	April
		Templates:	Class and Function templates, Standard Template Library (STL): Benefits of STL and Generic programming.	April

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Syllabus Completion Performa/Lesson Plan: Bachelor of Arts Aided: 2025-26

Semester: 4th

Subject Name: DBMS and MySQL (Major)

Subject Code: 25CSCM404DS01

Sr.No	Unit	SYLLABUS DETAILS/LESSON PLAN		Month
1	Unit-1	Introduction:	Characteristics of database approach, data models, DBMS architecture and data independence. Database Languages, Classification of DBMS, Database Users and Administrator, DBMS Environment.	January
		E-R Modeling:	Entity types, Entity set, attribute and key, Relationships, Relation types, Roles and Structural constraints.	January
2	Unit-2	Relational Model:	Introduction to the Relational Model, Integrity Constraint over Relations, Introduction to views, Destroying/altering Tables and Views. Relational Algebra& its operations, Relational calculus, Expressive Power of Algebra and Calculus.	February
		Normalization:	Problems Caused by redundancy, Schema refinement in Database Design, Decomposition, Functional Dependency, Normal Forms (First, Second, Third Normal forms, BCNF).	February
3	Unit-3	Transaction and data storage:	Introduction to transaction processing: ACID properties, concurrency control; Introduction to indexing structures for files, operations on files.	March
		Introduction of MySQL:	Features, Installation, Data Types, Variables,	March
4	Unit-4	Databases:	Create Database, Select Database, Show Database, Drop Database, Table& Views, Create Table, Drop Table, Alter Table, Show Table, Truncate Table, Temporary Table, Copy Table, Views. Various operators in MySQL	April
		Queries:	Query Constraints, insert Query, Update Query, Delete Query, Select Query	April

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GAUR BRAHMAN DEGREE COLLEGE, ROHTAK

Syllabus Completion Performa/Lesson Plan: Bachelor of Arts Aided: 2025-26

Semester: 2nd

Subject Name: Internet and Web Design (Minor)

Subject Code: 24CSC402MI01

Sr.No	Unit	SYLLABUS DETAILS/LESSON PLAN		Month
1	Unit-1	Introduction to Internet and World Wide Web:	A brief Introduction to the Internet, Evolution of World Wide Web; Basic features; Web Browsers; Web Servers; Hypertext Transfer Protocol, URLs; Searching and Web-Casting Techniques; Search Engines and Search Tools, Domain Name System, Home Page, Web page and Website	January
2	Unit-2	Web Publishing:	Hosting your Site; Internet Service Provider; Phases of Planning and designing your website; Steps for developing your Site; Choosing the contents;	February
		Web Development:	Introduction to HTML; Hypertext and HTML; HTML Document Features; HTML command Tags; Headers; Text styles; Text Structuring; Text colors and Background; Formatting text.	February
3	Unit-3	List:	Definition and types of Lists - Ordered and Unordered, Table Creation and Layouts. Images; Inserting Graphics; Frame Creation and Layouts; Creating Links; Working with Forms and Menus; Working with Radio Buttons and Check Boxes; Text Boxes; Page layouts.	March
4	Unit-4	Cascading Style Sheets (CSS):	Basic Concepts, Properties, Creation of Style Sheets. Common Tasks with CSS: Text, Fonts, Margins, Links, Tables, Colors. Marquee. Mouse Overs. Filters and Transitions. Adding Links. Adding Tables. Adding Forms. Adding Image and Sound. Use of CSS in HTML Documents, Linking and Embedding of CSS in HTML.	April

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Syllabus Completion Performa/Lesson Plan: Bachelor of Arts Aided: 2025-26

Semester: 4th

Subject Name: Java Programming (Minor)

Subject Code: 25CSC404MV01

Sr.No	Unit	SYLLABUS DETAILS/LESSON PLAN		Month
1	Unit-1	Overview of Java:	Java Features, Setting Up the Java Development Environment, Writing, Compiling, and Running a Java Program, Java Virtual Machine (JVM) and Bytecode, Java Development Kit (JDK) and Java Runtime Environment (JRE)	January
		Basic Language Elements:	Java Syntax and Structure, Identifiers, Keywords, Literals, Comments, Operators Assignments, Data Types, Variables and its types, Constants, Expressions, Control Flow Statements: if-else, switch, loops (for, while, do-while).	January
2	Unit-2	Array:	Initializing, Single Dimensional Array, Operation on String, Mutable & Immutable String, Using Collection, Bases Loop for String, Creating Strings using StringBuffer.	February
		Class Fundamentals:	Object, Object Life cycle, Creating and Operating Objects, Constructor & initialization code block, Access Control, Inner Class, Abstract Class, Argument Passing Mechanism, Method Overloading, Recursion, Use of Access Modifiers with Classes & Methods.	February
3	Unit-3	Introduction to Inheritance:	Use and Benefits of Inheritance in OOPs, Types of Inheritance in Java, Inheriting Data members and Methods, Role of Constructors in inheritance, Overriding Super Class Methods, Use of “super”, Polymorphism in Java.	March
		Interface:	Purpose of interface, defining an interface, implementing interfaces, Interface reference variables, Interface with variables, Extending interfaces	March
4	Unit-4	Exception Handling:	Types of Errors in Java, Try-Catch Blocks and Finally Clause, Throw and Throws Keywords, Creating Custom Exceptions.	April
		Packages:	Package as Access Protection, Defining Package, CLASSPATH Setting for Packages, Import and Naming Convention for Packages.GUI programming.	April

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Syllabus Completion Performa/Lesson Plan: Bachelor of Arts & B.Com Aided: 2025-26

Semester: 2nd

Subject Name: Office Automation (MDC)

Subject Code: 24CSCX02MD01

Sr.No	Unit	SYLLABUS DETAILS/LESSON PLAN		Month
1	Unit-1	MS-Windows:	Operating system-Definition & functions, basics of Windows. Basic components of windows, icons, types of icons, taskbar, activating windows, using desktop, title bar, running applications, exploring computer, managing files and folders, copying and moving files and folders. Control panel – display properties, adding and removing software and hardware, setting date and time, screensaver and appearance. Using windows accessories.	January
2	Unit-2	Documentation Using MS-Word:	Introduction to word processing interface, Toolbars Creating & Editing Document, Formatting Document, Finding and replacing text, Format painter, Header and footer, Drop cap, Auto-text, Autocorrect, Spelling and Grammar Tool, Document Dictionary, Page Formatting, Bookmark, Previewing and printing document, Advance Features of MS-Word-Mail Merge, Macros and Tables	February
3	Unit-3	Electronic Spread Sheet using MS-Excel:	Introduction to MS-Excel, Cell, cell address, Creating & Editing Worksheet, Formatting and Essential Operations, Moving and copying data in excel, Header and footer, Formulas and Functions, Charts, Cell referencing, Page setup, Macros, Advance features of MS-Excel-Pivot table & Pivot Chart, Linking and Consolidation, Database Management using Excel-Sorting, Filtering, Validation, What if analysis with Goal Seek.	March
4	Unit-4	Presentation using MS-PowerPoint:	Presentations, Creating, Manipulating & Enhancing Slides, Organizational Charts, Excel Charts, Word Art, Layering art Objects, Animations and Sounds, Inserting Animated Pictures or Accessing through Object, Inserting Recorded Sound Effect or In-Built Sound Effect.	April

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GAUR BRAHMAN DEGREE COLLEGE, ROHTAK

Syllabus Completion Performa/Lesson Plan: Bachelor of Arts & B.Com Aided: 2025-26

Semester: 2nd

Subject Name: Digital and Technological Solutions (VAC)

Subject Code: 23CSAX01VA01

Sr.No	Unit	SYLLABUS DETAILS/LESSON PLAN		Month
1	Unit-1	Introduction & Evolution of Digital Systems:	Role & Significance of Digital Technology; Information and Communication Technology (ICT) & Tools; Computer System & it's working, Software and its types. Operating Systems: Types and Functions. Problem Solving: Algorithms and Flowcharts	January
2	Unit-2	Communication Systems:	Principles, Model & Transmission Media. Computer Networks & Internet: Concepts & Applications, WWW, Web Browsers, Search Engines, Messaging, Email, Social Networking. Computer Based Information System: Significance & Types. E-commerce & Digital Marketing: Basic Concepts, Benefits & Challenges	February
3	Unit-3	Emerging Technologies and their applications:	Overview of Artificial Intelligence, Machine Learning, Deep Learning; Big Data, Data Science and Big Data Analytics; Internet of Things (IoT) and Industrial Internet of Things (IIoT), Robotics and 3D Printing; Blockchain Technology; Quantum Computing; Cloud computing and its service models.	March
4	Unit-4	Digital India & e-Governance:	Initiatives, Infrastructure, Services and Empowerment. Digital Financial Tools: Unified Payment Interface, Aadhar Enabled Payment System, USSD, Credit / Debit Cards, e-Wallets, Internet Banking, NEFT/RTGS and IMPS, Online Bill Payment and POS. Cyber Security: Threats, Significance, Challenges, Precautions, Safety Measures and Tools.	April

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