

PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan Odd Semester (For Undergraduate Classes - First Year)

Session (2023-2024)

Class: BSc-1 Sem

Subject: Computer Science (E)

Name of the Teacher: Sonika

Paper: A) Computer Fundamentals

B) PC Software

Period: 3rd

Room: 31

S. No	Dates	Topics to be covered
Week 1	21-07-2023 to 22-07-2023	Computer Appreciation: Introduction to computers, characteristics of computer; History of computers; Classification of computers on size: (Micro, Mini, Mainframe and super computers), Working Principle of computers
Week 2	24-07-2023 to 28-07-2023	Basic Computer Organization: Block diagram of computer system, Input unit, Processing Unit and Output Unit Generations.
Week 3	31-07-2023 to 05-08-2023	Applications of computers; commonly used terms–Hardware, Software, Firmware. Description of Computer input devices: Keyboard, Mouse, joystick, Trackball, Pen, Touch screens Scanner, Digital Camera
Week 4	07-08-2023 to 12-08-2023	Output devices: Monitors, Printers: types, mechanism and differences, Plotters as output devices. Representation of information: BIT, BYTE, Memory, Memory size,
Week 5	14-08-2023 to 19-08-2023	Concept of files and directories; Disk Operating System: DOS, System Files, types of DOS commands: Internal and External commands: Introduction to AUTOEXEC.BAT, Directory commands: XCOPY, DEL, RENAME, ATTRIB, BACKUP, RESTORE, FIND, SYS; General commands: TYPE, DATE, TIME, PROMPT; Batch Files, Wild Cards, Line Editor.
Week 6	21-08-2023 to 26-08-2023	Units of measurement of storage; Main memory: main memory organization, RAM, ROM, PROM, EPROM Magnetic Tapes, Magnetic disks and types, Optical disks: CD, DVD Introduction to graphical user interface, window operating system, Anatomy of windows, organizing folders and files, recycle bin, my computer, windows explorer, control panel.
Week 7	28-08-2023 to 02-09-2023	Word Processing : Basics of Word Processing; Opening, Creating, Saving, Printing and Quitting Documents, Using the Interface (Menu Toolbars), Editing Text (Copy, Delete, Move), Finding and Replacing Text, Spell Check, Autocorrect; Auto Text, Character formatting, Page formatting.
Week 8	04-09-2023 to 09-09-2023	Document Enhancement; Adding Borders and shading, Adding Headers and Footers, Setting up Multiple columns, Sorting blocks, Adjusting Margins and Hyphenating Documents,
Week 9	11-09-2023 to 16-09-2023	Creating Master Documents, Creating Data Source, Merging Documents, Using Mail merge feature for labels and envelopes; Inserting Pictures, Tables, Working with equations.
Week 10	18-09-2023 to 23-09-2023	Memory storage devices: Flash Drive, Memory card etc. System and Application software; Programming Languages, Generation of Languages;
Week 11	25-09-2023 to 30-09-2023	Translators - Interpreters, Compilers, Assemblers and their comparison. Range of Applications of computers: Scientific, Word Processing and others.

Week 12	03-10-2023 to 07-10-2023	Spread Sheets, E-commerce, Business, Educational, Industrial, National level weather forecasting, Remote Sensing, Planning Multilingual Applications. Recapitulation for MST
Week 13	09-10-2023 to 14-10-2023	Spread Sheet : Worksheet overview, Row, Column, Cells, Menus, Creating Worksheet, Opening, Saving, Printing Worksheets; Calculations, Auto fill, Working with Formulae,
Mid Semester Exam (16th October 2023 – 21st October, 2023)		
Week 15	25-10-2023 to 27-10-2023	Data Formatting (number formatting, date formatting), Working with Ranges, Establishing Worksheet links; Creating, Sorting and Filtering Data Base;
Week 16	31-10-2023 to 04-11-2023	Creating chart, Adding Titles, Legends etc. to charts, Printing Charts, Creating Macros, Record Macros, Running Macros, Assigning Macros to Buttons, Functions (Statistical, Financial, Mathematical, String, Date and Time). Types of Operating System; Linux/Dos/Windows. Operating Systems : Components of Operating System, Functions of Operating System
Week 17	06-11-2023 to 11-11-2023	MS-Power Point: Creating, Saving, Printing Presentation; Selecting Design Templates, Animations and Transitions, Auto Content Wizard.
Week 18	14-11-2023 to 18-11-2023	Computers and Communication: Single user, multi-user, workstation, and client server systems. Computer networks, Network protocols. LAN, WAN, Services offered by Internet.

Teaching Plan Odd Semester (For UG-PG - Ongoing Classes)

Session (2023-2024)

Class: BSc CSc 3rdSem

Name of the Teacher: Sonika

Subject: Computer Science(E)

Paper A: Object Oriented Programming using C++

Period: Fourth

Paper B: Computer Organisation

Room No. 128

S. No	Dates	Topics to be covered
Week 1	21-07-2023 to 22-07-2023	Number system: Binary, Decimal, Hexadecimal, Octal; Conversions; integer and floating point representation, character codes (ASCII, EBCDIC), error detection and correction codes: Parity bit method, Hamming code; Boolean algebra.
Week 2	24-07-2023 to 28-07-2023	Combinatorial logic design : Gates, Half Adder, Full Adder, Encoder, Decoder, Multiplexer
Week 3	31-07-2023 to 05-08-2023	Object, Class, Encapsulation, Data Hiding, Inheritance, Polymorphism. Analysis and design of system using Object Oriented Approach, Benefit of OOPs. Structure of a C++ Program : Include files, Declaration of class, Main function, I/O streams.
Week 4	07-08-2023 to 12-08-2023	Classes : Class Declaration : Data Members, Member Functions, Private and Public members,

		.Functions in C++ : Member function definition inside the class declaration and outside the class declaration
Week 5	14-08-2023 to 19-08-2023	Data hiding and encapsulation, arrays within a class. Objects :Creating Objects, Accessing class data members, Accessing member functions
Week 6	21-08-2023 to 26-08-2023	Methods of passing arguments to functions.
Week 7	28-08-2023 to 02-09-2023	Arrays of Objects, Objects as function arguments: Pass by value, Pass by Reference
Week 8	04-09-2023 to 09-09-2023	Constructors: Declaration and Definition, Default Constructors, Parameterized Constructors, Copy Constructors. Destructors: Definition and use.
Week 9	11-09-2023 to 16-09-2023	Sequential Building Block : Flip-Flops, Registers, Counters
Week 10	18-09-2023 to 23-09-2023	Synchronous and Asynchronous Counters, Bus.
Week 11	25-09-2023 to 30-09-2023	Register Transfer, Arithmetic, Logical and Shift Operations; Instruction :Instruction Format, Instruction cycle
Week 12	03-10-2023 to 07-10-2023	Pointers to Objects, Nesting of member functions, Static and Friend functions.
Week 13	09-10-2023 to 14-10-2023	Concept of inheritance, base class, derived class, Defining derived classes, visibility modes, private, public.
Mid Semester Exam (16th October 2023 – 21st October, 2023)		
Week 15	25-10-2023 to 27-10-2023	single inheritance : privately derived, publicly derived making a protected member inheritable
Week 16	31-10-2023 to 04-11-2023	Architecture of 8086/8088 Processor Model; Instruction Set; Addressing Modes: Registers used in Microprocessor.
Week 17	06-11-2023 to 11-11-2023	Features of Assembly Language, Machine Language vs Assembly Language, Pseudo Instruction; use of Assembly
Week 18	14-11-2023 to 18-11-2023	Multilevel inheritance, nesting of classes. Definition, types, Function overloading, Operator Overloading, Virtual functions and pure virtual functions

Teaching Plan Odd Semester (For UG-PG - Ongoing Classes)

Session (2023-2024)

Class: BSc 5 Sem

Subject: Computer Science (E)

Room no: 219

Period: 2(4-6)

Name of the Teacher: Ramninder Kaur

Paper: A) Relational Database Management System

B) Project Management

S. No	Dates	Topics to be covered
Week 1	21-07-2023 to 22-07-2023	Introduction to databases. File system approach and Database approach. Introduction to the relational database.
Week 2	24-07-2023 to 28-07-2023	Relational data model. Features, advantages and limitations. Structure of Relational Database systems.
Week 3	31-07-2023 to 05-08-2023	Interactive SQL : SQL commands; Data Definition Language Commands(create table); Data types, Insertion of data into the tables Data Manipulation Language Commands Viewing of

		data from the tables; Updating the contents of the table
Week 4	07-08-2023 to 12-08-2023	<p>Modifying the structure of the table; Renaming table; Destroying tables.</p> <p>Concepts of Project Management : Concept of a project, Characteristic features of a project, Categories of project, Project life cycle phases</p>
Week 5	14-08-2023 to 19-08-2023	Project Management Concepts, Tools and Techniques for Project Management, Introduction of Computerized project management systems, Roles and Responsibilities of a Project Manager.
Week 6	21-08-2023 to 26-08-2023	Data Constraints: Types of Data Constraints; Column Level Constraints; Table Level Constraints; Null value concepts; The UNIQUE Constraint; The PRIMARY Constraint; The FOREIGN key Constraint; The CHECK Constraint; Viewing the User Constraint.
Week 7	28-08-2023 to 02-09-2023	SQL Operators and Functions: Arithmetic operators, Logical operators, Range searching, Pattern matching; Establishing the Project : Feasibility Report : Raw material survey, Demand study, Technical study, Location study; Financing Arrangements
Week 8	04-09-2023 to 09-09-2023	<p>Preparation of Cost Estimates, Finalization of Project Implementation Schedule, Evaluation of the Project Profitability, Fixing the zero date.</p> <p>Using DUAL, SYSDATE; SQL Functions: Group, Scalar, Aggregate, Numeric, String and Date Functions.</p>
Week 9	11-09-2023 to 16-09-2023	Grouping data from tables in SQL : using Group By clause and Having clause in select statement. Subqueries, Collating Information: Equi Joins, Cartesian Joins, Outer Joins, Self Joins; SET Operators: Union, Intersect, Minus; Nested Queries.
Week 10	18-09-2023 to 23-09-2023	Organizing human resource: Delegation, Project organization: Matrix, Task force and Totally projectized organization; Indexes: Creation, Types, Dropping an index; Introduction to Views
Week 11	25-09-2023 to 30-09-2023	Manipulating the Base table(s) through views, Rules of DML Statements on Join Views, Dropping a View, Inline Views and Materialized Views.
Week 12	03-10-2023 to 07-10-2023	Sequences: Creation, Reference and Alteration; Database Security and Privileges: Grant Command, Revoke Command, Application Privileges Management, COMMIT and ROLLBACK.

Week 13	09-10-2023 to 14-10-2023	Project Directions, Coordination and Control: Project Direction, Communications in a Project, Project Coordination, Project Control, Scope/Progress Control, Performance Control, Schedule Control, and Cost Control.
Mid Semester Exam (16th October 2023 – 21st October, 2023)		
Week 15	25-10-2023 to 27-10-2023	PL/SQL-I: Introduction to PL/SQL, The Advantage of PL/SQL, PL/SQL block structure, PL/SQL Architecture, Fundamentals of PL/SQL, PL/SQL Data types, Variables and constants, Scope and visibility of a variable, Assignments and expressions, Operator precedence, Conditional and iterative control, SQL within PL/SQL, writing PL/SQL code.
Week 16	31-10-2023 to 04-11-2023	PL/SQL-II: Cursor management in PL/SQL, Cursor manipulation, Implicit and Explicit cursor attributes, Exceptional Handling, Subprograms in PL/SQL, Procedure, Functions, and Triggers.
Week 17	06-11-2023 to 11-11-2023	Report Writing - I: Characteristics of Reports, Importance of Reports, Types of Reports, Structure and layout of Reports: front matter, main body, back matter; Preparatory Steps to Writing Reports: Evaluation of material, Note making, Organizing material, Principle of organization, Making outline
Week 18	14-11-2023 to 18-11-2023	Report Writing- II: Elements of Style; Use of Illustrations: types; Writing the Report: Rough draft, Process of writing, Order of writing, Final draft, Check list for reports; Specimen Reports: technical report

PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan Odd Semester (For Undergraduate Classes - First Year)

Session (2023-2024)

Class: BA/BSc IT Ist Sem

Subject: IT (E)

Paper: computer Fundamentals

Name of the Teacher: Ramninder Kaur

Period: Third

Room No: CSc. Lab

S. No	Dates	Topics to be covered
Week 1	21-07-2023 to 22-07-2023	Classification of computers based on size, architecture and chronology; Applications of computers Types of software: System and Application software; Input, Process and Output, Block diagram of a computer. Representation of information: BIT, BYTE, Memory size; Units of measurement of storage. Types of RAM: EPROM, PROM, EEPROM.
Week 2	24-07-2023 to 28-07-2023	Removable and non-removable secondary memory: Tapes, Disks, CDROM, DVD, comparison of these devices based on technology and speed Programming Languages: Generation of

		Languages; Translators - Interpreters, Compilers, Assemblers and their comparison ASCII and EBCDIC Codes.
Week 3	31-07-2023 to 05-08-2023	Binary, Octal, Decimal and Hexadecimal Number Systems and their Conversion, Integer and Floating Point Representation.
Week 4	07-08-2023 to 12-08-2023	DOS: Booting sequence; Warm and Cold booting; Concept of File and directory Redirecting command input and output pipes, Wildcard characters.
Week 5	14-08-2023 to 19-08-2023	Types of DOS commands: Internal and External; Internal Commands: DIR, MD, CD, CLS, COPY, DATE, DEL, PATH, PROMPT, REN, RD, TIME, TYPE, VER, VOL.
Week 6	21-08-2023 to 26-08-2023	External Commands: XCOPY, ATTRIB, BACKUP, RESTORE, FIND, SYS, FORMAT, CHKDSK, DISKCOPY, LABEL, MOVE, TREE, DELTREE, DEFRAG, SCANDISK, UNDELETE. Batch Files: Introduction to simple batch files; Introduction to CONFIG.SYS and AUTOEXEC.BAT files.
Week 7	28-08-2023 to 02-09-2023	Windows: GUI, Icons, Toolbar, Control panel, Files and folder management under windows , Accessories, Network Neighbourhood, System Tools, Recycle Bin.
Week 8	04-09-2023 to 09-09-2023	Overview of UNIX structure, general purpose UNIX commands such as date, echo, cal, bc, pwd, passwd; file and directory commands such as ls, mkdir, cp, mv, rm
Week 9	11-09-2023 to 16-09-2023	Process management commands such as ps, kill, nohup, communication commands such as news, mesg, and wall. Comparison of main features of DOS, UNIX and Windows Operating Systems.
Week 10	18-09-2023 to 23-09-2023	Basics of Word Processing: creating, opening, saving, and printing document, Menu Toolbars Editing Text: Copy, Paste, Delete, Move etc., Finding and Replacing Text, Spell Check.
Week 11	25-09-2023 to 30-09-2023	Autocorrect feature, language setting and thesaurus.
Week 12	03-10-2023 to 07-10-2023	Formatting: Character, Paragraph and Page formatting, working with indents.
Week 13	09-10-2023 to 14-10-2023	Bulleted and numbered lists, adding Headers and Footers, setting up Multiple Columns.
Mid Semester Exam (16th October 2023 – 21st October, 2023)		
Week 15	25-10-2023 to 27-10-2023	Working with tables: Inserting/creating table using toolbar and drawing, formatting table, adding/deleting rows/columns.
Week 16	31-10-2023 to 04-11-2023	Applying borders to tables Clipart: Using clip art, Creating Word Art.
Week 17	06-11-2023 to 11-11-2023	Mail merge: Creating merged envelopes, creating merged mailing labels.
Week 18	14-11-2023 to 18-11-2023	Macros: Creating, naming and saving macros, running a macro, suspending a macro, deleting a macro.

Teaching Plan Odd Semester (For UG-PG - Ongoing Classes)

Session (2023-2024)

Class: BA/BSc IT 3rd Sem
Subject: IT (E)
Paper: computer programming using C++

Name of the Teacher: Sonika
Period: Fourth
Room No: 128

S. No	Dates	Topics to be covered
Week 1	21-07-2023 to 22-07-2023	Concepts of Object Oriented Programming: Introduction to OOP, Difference between OOP and Procedure Oriented Programming, Object, Class, Encapsulation, Abstraction, Polymorphism, Inheritance.
Week 2	24-07-2023 to 28-07-2023	Structure of a C++ Program and I/O streams. Classes and Objects Class Declaration: Data Members, Member Functions, Private and Public members, Creating Objects, Accessing class data members, Accessing member functions.
Week 3	31-07-2023 to 05-08-2023	Function Definition: Member Function definition inside the class declaration and outside the class declaration, friend function, inline function, static function. Scope resolution operator, Private and Public member function.
Week 4	07-08-2023 to 12-08-2023	Nesting of member functions, Arrays within a class. Arrays of Objects, Objects as function arguments: Pass by value, Pass by reference, Pointers to Objects.
Week 5	14-08-2023 to 19-08-2023	Constructors and Destructors: Declaration and Definition, Types of Constructors, (Default, Parameterized, Copy Constructors). Destructors: Definition and use. Function Overloading & Operator Overloading.
Week 6	21-08-2023 to 26-08-2023	Inheritance - Extending Classes Concept of inheritance, Base class, Defining derived classes, Visibility modes :Public, Private, Protected ; Single inheritance : Privately derived, Publicly derived.
Week 7	28-08-2023 to 02-09-2023	Making a protected member inheritable, Access Control to private and protected members by member functions of a derived class.
Week 8	04-09-2023 to 09-09-2023	Polymorphism: Definition, Application and demonstration of Data Abstraction.
Week 9	11-09-2023 to 16-09-2023	Encapsulation and Polymorphism. Early Binding, Polymorphism with pointers.
Week 10	18-09-2023 to 23-09-2023	Virtual Functions, Late binding, pure virtual functions.
Week 11	25-09-2023 to 30-09-2023	File Processing: Opening and closing of file, stream state member functions.
Week 12	03-10-2023 to 07-10-2023	Data Structures: Basic Concepts and notations, introduction to Complexity.
Week 13	09-10-2023 to 14-10-2023	Data Structure operations, applications of Data Structure.
Mid Semester Exam (16th October 2023 – 21st October, 2023)		

Week 15	25-10-2023 to 27-10-2023	Arrays: Introduction, Types of Array, Memory representation, applications and operations.
Week 16	31-10-2023 to 04-11-2023	Stacks: Array representation of a stack, operations- initialization, push, pop, empty, and full; applications.
Week 17	06-11-2023 to 11-11-2023	Queue: introduction, memory representation, operations- add, remove, initialization; application.
Week 18	14-11-2023 to 18-11-2023	Linked List: introduction, declaration, operations:-traversing, searching, inserting, deleting; Introduction to circular list.

Teaching Plan Odd Semester (For UG-PG - Ongoing Classes)

Session (2023-2024)

Class: BA/BSc IT 5 Sem
Subject: IT(E)
Room No : 128

Name of the Teacher: Ramninder Kaur
Paper: Database System and VB .NET
Period: 6(1-3)

S. No	Dates	Topics to be covered
Week 1	21-07-2023 to 22-07-2023	Introduction to RDBMS: Approaches to Data Management, File System approach vs Database approach
Week 2	24-07-2023 to 28-07-2023	Database management - An Evolutionary Phenomenon, Introduction to DBMS, Introduction to the relational database. Relational data model. Features, advantages and limitations.
Week 3	31-07-2023 to 05-08-2023	The 12 Rules (Codd's Rule) for an RDBMS, Relational Database Management System (RDBMS). Introduction to SQL commands.
Week 4	07-08-2023 to 12-08-2023	Data Definition Language (DDL), Creating Tables, Creating a Table with data from Another table, Inserting Values into a Table, Updating Column(s) of a Table.
Week 5	14-08-2023 to 19-08-2023	Renaming and Destroying tables. , Deleting Row(s) From a Table, Dropping a Column, Modifying the structure of the table. Introduction to Views, Manipulating the Base table(s) through views, Rules of DML Statements on Join Views, Dropping a View , Inline Views, Materialized Views.
Week 6	21-08-2023 to 26-08-2023	Data Manipulation and Control-Database Security and Privileges, Grant Command, Revoke Command, Application Privileges Management, Enhancing Performance, Sequences, Maintaining Database Objects, COMMIT and ROLLBACK.
Week 7	28-08-2023 to 02-09-2023	Introduction to SQL, Data Types, Querying database tables, Conditional retrieval of rows, Working with Null Values, Matching a pattern from a table, ordering the result of a Query
Week 8	04-09-2023 to 09-09-2023	Introduction to SQL, Data Types, Querying database tables, Conditional retrieval of rows, Working with Null Values,

		Matching a pattern from a table, ordering the result of a Query
Week 9	11-09-2023 to 16-09-2023	Aggregate Functions, Grouping the Result of a Query, ROLLUP Operation: Getting Sub Totals, CUBE Operation: Getting Cross Tabs, Command Summary.
Week 10	18-09-2023 to 23-09-2023	Querying Multiple Tables: Collating Information: Equi Joins, Cartesian Joins, Outer Joins, Self Joins, SET Operators: Union, Intersect, Minus; Nested Queries.
Week 11	25-09-2023 to 30-09-2023	Functions, Column Functions: Arithmetic Functions, Character Functions, Date Functions, General Functions, Group Functions.
Week 13	09-10-2023 to 14-10-2023	PL/SQL-II Cursor Management in PL /SQL, Cursor Manipulation, Implicit cursor Attributes, Exception Handling in PL/ SQL , Predefined Exceptions, User Defined Exception
Mid Semester Exam (16th October 2023 – 21st October, 2023)		
Week 15	25-10-2023 to 27-10-2023	Overview of the visual Studio .NET IDE: Menu Bar and Tool Bar, Solution Explorer, Tool Box, Properties.
Week 16	31-10-2023 to 04-11-2023	<p>Displaying and printing Text, Displaying Image, Arithmetic, relational operators, Control structures (branching, looping), assignment operators.</p> <p>Procedures : Introduction, Modules, classes, sub Procedures, function procedures, passing arguments (pass by value VS pass by reference), Recursion: factorial, Fibonacci series</p>
Week 17	06-11-2023 to 11-11-2023	Arrays and Strings: declaring and allocating Arrays, passing Arrays to procedures. Sorting Arrays using Bubble Sort, searching Arrays using Linear Search, Binary Search, String functions
Week 18	14-11-2023 to 18-11-2023	Accessing Data with ADO.NET: Understanding ADO.net Object model, architecture, and components, Database, Connecting to and querying an access data source, Creating Applications which can Insert, Delete, and Update information from a database using SQL statements, viewing data using Data Grid View Control