

MCM DAV College for Women, Sector – 36A, Chandigarh

Monthly Teaching Plans (Odd Semester-1st)

2022-23

Name of the Teacher: Ms Komal Sood

Deptt: Computer Science and Applications **Class:** PGDCA- 1st Semester

Subject: Computer Fundamentals (PGD-1101)

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1.	14 Sep, 2022	30 Sep, 2022	<p>Basics of Computers: Characteristics of computer; History of computers; classification of computers based on size, architecture, and chronology; Applications of computers; Hardware, Software, and Firmware. Types of software: System and Application software; Input, Process and Output, Block diagram of a computer. Representation of information: BIT, BYTE, Memory, Memory size; RAM, ROM, PROM, EPROM, Magnetic tapes, Disks, Organization of data on disks: Tracks, sectors, cylinders, heads, access time, seek time and latency time. ASCII and EBCDIC Codes, Binary, Octal, Decimal and Hexadecimal Number Systems and their Conversion, Integer and Floating Point Representation. Input/ Output devices. Word Processing Software: 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, Autocorrect feature, language setting and thesaurus</p>	Lecture Method, PPT, Study material & web links provided, Class Discussion, Class Test, Assignments, Demonstration of Word Processor
2.	1 Oct, 2022	31 Oct, 2022	<p>Formatting: Character, Paragraph and Page formatting, working with indents, Bulleted and numbered lists, adding Headers and Footers, setting up Multiple Columns Working with tables: Inserting/creating table using toolbar and drawing, formatting table, adding/deleting rows/columns, Applying borders to tables; Clipart: Using clip art, Creating Word Art; Mail merge: Creating merged envelopes, creating merged mailing labels; Spreadsheet Software: Worksheet overview: Row, Column, Cells, Menus, creating, opening, saving, and printing worksheet; working with Range Editing information: Entering text, numbers and formulae Working with Functions: Statistical, Mathematical and String functions, date and Time functions, Trigonometric functions</p>	Lecture Method (online + onsite), PPT, Study material & web links provided, Class Discussion, Class Test, Assignments, Demonstration of Word Processor, Spreadsheet
3.	Nov, 2022	Till the end of Semester	<p>Working with charts: Line graphs, Pie charts, Bar graphs, adding Titles, Legends etc. to charts, Printing Charts Presentation Software: Basic features, selecting design templates, creating, saving and printing a simple presentation, various views, Adding pictures, shapes, clipart, audio and movie. Disk Operating System: Booting sequence; Warm and Cold Booting; Concept of File and directory, Types of DOS commands: Internal and External; Internal Commands: DIR, MD, CD, CLS, COPY, DATE, DEL, PATH, PROMPT, REN, RD, TIME,TYPE, VER, VOL; External Commands: XCOPY, ATTRIB, BACKUP,</p>	Lecture Method (online + onsite), PPT, Study material & web links provided, Class Discussion, Class Test, Assignments, Demonstration

		<p>RESTORE,FORMAT, DISKCOPY, Introduction to CONFIG.SYS and AUTOEXEC.BAT files. Windows: GUI, Icons, Toolbar, Control panel, Files and folder management under windows , Accessories, Network Neighborhood, System Tools, Recycle Bin. LINUX: Overview of LINUX structure, Basic Linux</p> <p>Revision of syllabus</p>	<p>of spreadsheet, presentation software & DOS + Linux commands</p>
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Name of the Teacher: Ms Sonali Mehndiratta

Deptt: Computer Science and Applications

Class: PGDCA- 1st Semester

Subject: Computer Programming using C (PGD-1102)

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1.	14 Sep, 2022	30 Sep, 2022	Problem Solving :Problem Identification, Analysis, Flow charts, Decision Tables, Pseudo code and algorithms, Program Coding, Program Testing and Execution	Lecture Method, PPT, Assignments given
2.	1 Oct, 2022	31 Oct, 2022	C Language Fundamentals: ‘C’ Language: History, Structure of a C program, Data types, Constants and variables, Operators and Expressions, Type casting, Type conversion, Scope Rules:Local and Global variables, I/O functions, Control constructs(Sequencing, alteration and iteration) Header files: stdio.h, ctype.h, string.h, math.h, stdlib.h, time.h Storage classes: automatic, external, static, register . Preprocessor: #define, #include, #undef, #conditional compilation directives (#if, #else, #elif, #endif, #ifdef and #ifndef)	Lecture Method, PPT, Assignments given
3.	1 Nov, 2022	Till end of Semester	Functions: library functions, user defined functions, scope rule of functions, Parameter passing: call by value and call by reference, Recursion; Arrays: One dimensional and two dimensional arrays, declaring arrays, initializing arrays, processing of arrays, passing arrays as arguments to functions; Pointers: Definition, Declaring pointers, accessing values via pointers, pointer arithmetic, pointer to strings, passing arguments using pointers, array of pointers Strings: Declaring String, built-in string functions- strlen(), strcpy(), strcat(), strcmp(), array of strings, two dimensional array of characters, Array of Pointers to Strings Structure and Unions, Console Input/Output: Console I/O Functions, Formatted Console I/O Functions, sprintf() and scanf() Functions, Unformatted Console I/O Functions, gets(), puts() File Input/Output: File Operations, Opening a File, File Opening Modes, Reading from a File, Trouble in Opening a File, Writing to a File, Closing the File.	Class Test, dictated notes from online sources, PPT, Assignments given, Discussion of previous year questions, Concluded with the syllabus

Name of the Teacher: Ms. Sandeep Kaur

Department: Computer Science and Applications

Class: PGDCA- 1st semester

Section: N.A

Subject: Database Management (PGD-1103)

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1.	14 Sep, 2022	30 Sep, 2022	<p>Data Base Concept: Data Base Vs File Oriented Approach, Basic DBMS terminology, Data Independence, General Architecture of a Data Base Management Software, Components of DBMS, Advantages and Disadvantages of DBMS.</p> <p>Understanding SQL-1: Data Types, Creating Tables, Creating a Table with data from Another table, Inserting Values into a Table, Updating Column(s) of a Table, Deleting Row(s) from a Table, Dropping a Column, Querying database tables, Conditional retrieval of rows, Working with Null Values, Matching a pattern from a table, Group Functions, Ordering the result of a Query Aggregate Functions</p>	Lecture Method (online+onsite),PPT, Study material & web links provided, Class Discussion, Class Test, Assignments, Demonstration of SQL parts
2.	1 Oct, 2022	31 Oct, 2022	<p>Distributed Databases, Structure and Design of Distributed Databases Data Base Design: Introduction to Data Models, Entity Relationship Model, Entities, Attributes, E-R Diagrams, Conceptual Design of a relational data base model.</p> <p>Understanding SQL-1 Functions: Character Functions, Date Functions, Grouping the Result of a Query</p> <p>Relational Model: Storage organization for Relations, Relational Algebra, Relational Calculus, Functional dependencies, multivalued dependencies, Candidate Key and Primary Key in a Relation, Foreign Keys, Normalization - Introduction, 1NF, Partial Dependencies, 2N, data Anomalies in 2NF Relations, Transitive Dependencies 3NF</p>	Lecture Method (online + onsite), PPT, Study material & web links provided, Class Discussion, Class Test, Assignments, Demonstration of SQL parts
3.	1 Nov, 2022	Till end of Semester	<p>Understanding SQL-II: Definition and Advantages of Views, Creating and Altering Views, Using Views, Querying Multiple Tables using Equi-Joins, Cartesian Joins, Outer Joins, Self-Joins, SET Operators: Union, Intersect, Minus; Introduction to Nested Queries, Define Transaction, COMMIT and ROLLBACK</p> <p>Database Security: Database Security and Integrity: Data security risks, Password related threats, Protecting the data within the database- database privileges, system privileges and object privileges, granting and revoking privileges and Roles.</p> <p>Concurrency: locking techniques for concurrency control.</p> <p>Recovery: Causes of failures, recovery from failures, Log based recovery, checkpoints Revision of syllabus</p>	Lecture Method (online + onsite), PPT, Study material & web links provided, Class Discussion, Class Test, Assignments, Demonstration of SQL parts

Name of the Teacher: Ms Sonali Mehndiratta

Deptt: Computer Science and Applications

Subject: Computer Network (PGD-1104)

Class: PGDCA- 1st Semester

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1.	14 Sep, 2022	30 Sep, 2022	Introduction to Computer networks and applications: Network Structure and Architecture, Network Hardware and Software (protocol hierarchies, design issues for layers, interfaces and services: connection oriented and connection less), Network structure and architecture-point to point, multicast, broadcast, Classification of networks on the basis of Geographical Span (PAN, LAN, MAN and WAN) , LAN topologies (Bus, Ring, Star, Mesh, Tree and Hybrid). Network Connecting Devices: Repeaters, Hubs, Bridges, Routers, Gateways and Switches, Network Reference models: OSI model, TCP / IP model. Comparison between OSI and TCP/IP. Introduction to Data Communication: Analog Signal, Digital Signal, Analog vs Digital Communication; Band Width Limitation, Data rate of a channel; Physical Layer: Transmission media: Guided (Twisted-pair, Coaxial and Optical fiber)	Lecture Method (online + onsite), PPT, Study material & web links provided, Class Discussion, Class Test, Assignments, Demonstration of Word Processor
2.	1 Oct, 2022	31 Oct, 2022	Transmission media: Unguided (Radio, Microwave and infrared), Switching: Circuit switching, Packet Switching, Message Switching, Telephone system, modems. Modulation techniques: AM, PM, FM; Multiplexing Techniques- FDM, WDM, and TDM. The Data Link Layer: Design Issues, Error Detection and Correction: Nature of errors, Parity Check, CRC, Hamming Code, Elementary Data Link Protocols: Simplex. Stop and Wait Protocol	Lecture Method (online + onsite), PPT, Study material & web links provided, Class Discussion, Class Test, Assignments, Demonstration of Word Processor, Spreadsheet
3.	1 Nov, 2022	Till end of Semester	Sliding Windows Protocol: one Bit sliding windows protocol, go back n, selective repeat, HDLC: High Level Data Link Protocol. The Network Layer: Design Issues, Routing Algorithms (Shortest Path, Flooding, Flow Based, Distance Vector, Link State, Broadcast, Hierarchical Routing), Congestion Control Algorithms and their general principles (Leaky Bucket, Token Bucket), Internetworking: tunneling, Internet Routing, fragmentation. Revision of syllabus	Lecture Method (online + onsite), PPT, Study material & web links provided, Class Discussion, Class Test, Assignments, Demonstration of spreadsheet, presentation software & DOS +Linux commands

Monthly Teaching Plan (Even Semester)

Session: 2022-23

Name of the Teacher: Sandeep Kaur

Department: Computer Science and Applications **Class:** PGDCA- 2nd semester

Subject: OOP using Java(PGD-2101)

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1	16 Jan, 2023	31 Jan, 2023	<p>OOPs concepts: Basic Concepts of Object-Oriented Programming (Objects and Classes, Data abstraction and encapsulation, Inheritance, Polymorphism, Dynamic binding, Message communication), difference between procedure oriented and object oriented approach, Benefits of OOP's; Applications of OOP's, Object-Oriented languages. Object oriented programming with JAVA: Byte code, Java virtual machine, Java Development Kit, java tokens, constants, variables, data types, operators, expressions, control structures, defining class, creating objects, accessing class members, method overloading, static members; Inheritance: Defining a subclass, subclass constructor, multilevel inheritance, Hierarchical inheritance. Overriding methods</p>	Lecture Method, PPT, Self -Notes & Study material provided, web links provided, Class Discussion, Class Test, Assignments, Demonstration of programming codes
2	Feb, 2023	28 Feb, 2023	<p>Inheritance (continue): Final variables, methods, and classes, Abstract Methods and Classes. Visibility Control: Public access, friendly access, protected access, private access, private protected access. Arrays: One dimensional array, declaration, creation and initialization of arrays, Array length, Two dimensional array; Strings: String arrays, String methods, StringBuffer class; Interfaces: Defining interfaces, Extending Interfaces, Implementing Interfaces. Accessing Interface variables</p>	Lecture Method, PPT, Self -Notes & Study material provided, web links provided, Class Discussion, Class Test, Assignments, Demonstration of programming codes, post- MST paper discussion
3	1 Mar, 2023	30 Mar, 2023	<p>Packages: Java API packages, Defining a package, Creating and Accessing packages, Adding class to a package, Hiding Classes. Multithreaded Programming: Creating Thread, Extending the Thread class, Stopping and Blocking a Thread, Life cycle of a Thread. Errors and Exception Handling: Fundamentals, error types, exception types, using Try and catch, finally statement, Built-in exceptions.</p>	Lecture Method, PPT, Self -Notes & Study material provided, web links provided, Class Discussion, Class Test, Assignments, Demonstration of programming codes
4	1 April, 2023	Till end of Semester	<p>Applet Programming: Local and remote applets, Applet Life Cycle, Creating an executable Applet, Applet tag, Adding Applet to a HTML file, Passing parameters to Applets</p>	Lecture Method, PPT, Self -Notes & Study material & web links provided, Class Discussion & Test, Assignments, Demonstration of programming codes, Previous year question paper discussion

Name of the Teacher: Ms Sonali Mehndiratta

Deptt: Computer Science and Applications **Class:** PGDCA- 2nd Semester

Subject: Web Technologies (PGD-2102)

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1.	16 Jan, 2023	31 Jan, 2023	Introduction to HTML/DHTML: Brief history of HTML, Building blocks of HTML, HTML lists, links, images, image map, tables, frames, forms, Introduction to cascading style sheets (CSS): Introduction to Style Sheets, Types of style Sheets-Inline, embedded and external style sheets.	Lecture Method, PPT, Assignments given
2.	1 Feb, 2023	28 Feb, 2023	Fundamentals of Javascript: Features, tokens, data types, variables, operations, control constructs, strings, arrays, functions, Document Object Model, event handling. Applications related to client side form validation. Javascript Objects: Core language objects, The String Object, The Math Object, and The Date Object; User Defined Objects: Creating a User Defined Object, Instances, Objects within Objects,	Class Test, dictated notes from online sources, PPT, Assignments given
3.	1 Mar, 2023	30 Mar, 2023	Introduction to PHP: Embedding PHP code in a Web Page, Basic Syntax, Defining variable and constant, PHP Data types, Operators and Expressions Control Structures: Making Decisions, Doing Repetitive task with looping, File inclusion statements, Functions: Defining a function, Call by value and Call by reference, recursive function, Library functions, Strings: Creating and accessing String, Searching & Replacing String, Formatting String, String Related Library function.	Assignments given, Discussion of previous year questions
4	1 April, 2023	Till end of Semester	Arrays: Anatomy of an Array, Creating index based and Associative array, Accessing array Element, Looping with associative array using each() and foreach(), Some useful Library function: current(), next(), prev(), reset(), end(). Working with Forms: Super global variables, super global array, Importing and accessing user input, Combine HTML and PHP code. Working with files and Directories: Opening, closing, Coping, renaming and deleting a file, working with directories, File Uploading & Downloading	Class Test, dictated notes from online sources, PPT, Assignments given, Concluded with the syllabus

Name of the Teacher: Ms Sonali Mehndiratta

Deptt: Computer Science and Applications **Class:** PGDCA- 2nd Semester

Subject: Software Engineering (PGD-2103)

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1.	16 Jan, 2023	31 Jan, 2023	Software Engineering Fundamentals: Characteristics, Components, Applications, Principles of software engineering, Skills of software engineer. Software Process Models: Software Development Life Cycle, Waterfall Life Cycle Model, Boehm's Spiral Life Cycle Model, Win Win Spiral Model Software Project Management: Software Project management Plan(SPMP)	Lecture Method, PPT, Study material & web links provided, Class Discussion, Class Test, Assignments
2.	1 Feb, 2023	28 Feb, 2023	Project scheduling Techniques- Work Breakdown Structure(WBS), Project Evaluation Review Technique (PERT), Gantt Charts, Critical path method (CPM), Software Project Estimation and risk Management: Problem-based estimation, Process based estimation, Cost Estimation Model-COCOMO Model	Lecture Method, PPT, Study material & web links provided, Class Discussion, Class Test, Assignments
3.	1 Mar, 2023	30 Mar, 2023	Software Risks, software Risk management, Risk Management activities- Risk Assessment and Risk Control, Benefits of Risk management, SRS, Software Design Process, Design Failures and Remedies	Lecture Method, PPT, Study material & web links provided, Class Discussion, Class Test, Assignments
4.	1 April, 2023	Till end of Semest er	Structured Analysis and Structured Design (SASD)-Goals and Benefits, Data Flow Diagrams (DFD), Data Dictionary(DD), Entity-Relationship diagram(ERD), Software Testing: Objectives of software Testing, Principles of Software Testing, Software Testing Process, Black Box Testing, White Box Testing	Lecture Method , PPT, Study material & web links provided, Class Discussion, Class Test, Assignments

Name of the Teacher: Richa Gupta

Department: Computer Science and Applications

Class: PGDCA- 2nd semester **Section:** N.A

Subject: Computer Based Accountancy (PGD-2104)

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertake n
	From	To		
1	16 Jan, 2023	31 Jan, 2023	Accounting: Principles, concepts & conventions, double entry system of accounting, intro. of basic books of accounts of sole proprietary concern, closing of books of accounts & preparation of trial balance. Final Accounts: Trading, profit and loss accounts and balance sheet, of sole proprietary concern with normal closing entries.	Lecture Method and Discussion
2	1 Feb, 2023	28 Feb, 2023	Introduction to Manufacturing Account, final accounts of partnership firms, limited company. Introduction to Computerized Financial Accounting, coding logic and codes	Lecture Method and Discussion
3	1 Mar, 2023	30 Mar, 2023	Introduction to Computerized Inventory Control, types of inventory and associated documents, Inventory reports-nature and types, Inventory Control : ABC and Ageing analysis, Methods of Stock validation : LIFO, FIFO, actual bases,	Lecture Method and Discussion
4	1Apr, 2023	Till end of Semester	Transaction files, Introduction to documents used data collection, processing of different files, outputs obtained	Lecture Method and Discussion