

MCM DAV College for Women, Sector – 36A, Chandigarh
Monthly Teaching Plans (Odd Semester)
Session: 2020-21

Name of the Teacher: Ms. Manmeet Kaur

Department: Computer Science and Applications

Class: PGDCA- 1st semester

Section: N.A

Subject: Computer Fundamentals (PGD-1101)

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1.	18 Nov, 2020	31 Dec, 2020	<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.</p> <p>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.</p> <p>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 (online + onsite), PPT, Study material & web links provided, Class Discussion, Class Test, Assignments, Demonstration of Word Processor
2.	1 Jan, 2021	31 Jan, 2021	<p>Formatting: Character, Paragraph and Page formatting, working with indents, Bulleted and numbered lists, adding Headers and Footers, setting up Multiple Columns</p> <p>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</p> <p>Mail merge: Creating merged envelopes, creating merged mailing labels</p> <p>Spreadsheet Software: Worksheet overview: Row, Column, Cells, Menus, creating, opening, saving, and printing worksheet; working with Range Editing information: Entering text, numbers and formulae, AutoSum, AutoFill, spell checking</p> <p>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.	1 Feb, 2021	28 Feb, 2021	<p>Working with charts: Line graphs, Pie charts, Bar graphs, adding Titles, Legends etc. to charts, Printing Charts</p> <p>Presentation Software: Basic features, selecting design templates, creating, saving and printing a simple presentation, various views, Adding pictures, shapes, clipart, audio and movie.</p> <p>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, RESTORE,FORMAT, DISKCOPY, Introduction to CONFIG.SYS and AUTOEXEC.BAT files.</p> <p>Windows: GUI, Icons, Toolbar, Control panel, Files and folder management under windows, Accessories, Network Neighborhood, System Tools, Recycle Bin</p> <p>LINUX: Overview of LINUX structure, Basic Linux commands such as date, echo, cal, bc, passwd, File and Directory commands such as ls, mkdir, pwd, cd, rmdir, cat, cp, mv, rm</p>	Lecture Method (online + onsite), PPT, Study material & web links provided, Class Discussion, Class Test, Assignments, Demonstration of spreadsheet, presentation software & DOS +Linux commands
4.	1 Mar, 2021	Till end of semester	<p>Understanding File Access Permissions using chmod, chown, chgrp. Comparison of main features of DOS, LINUX and Windows Operating Systems</p> <p>Revision of syllabus</p>	Lecture Method (online + onsite), PPT, Study material provided, Class Discussion, Class Test,

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Monthly Teaching Plans (Odd Semester)
Session: 2020-21

Name of the Teacher: Ms. Sonali Mehndiratta

Department: Computer Science and Applications

Class: PGDCA- 1st semester

Section: N.A

Subject: Computer Programming using C (PGD-1102)

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1.	18 Nov, 2020	31 Dec, 2020	<p>Problem Solving :Problem Identification, Analysis, Flow charts, Decision Tables, Pseudo code and algorithms, Program Coding, Program Testing and Execution. CLanguage 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 .</p>	Lecture Method, PPT, Assignments given
2.	1 Jan, 2021	31 Jan, 2021	<p>Preprocessor: #define, #include, #undef, #conditional compilation directives(#if, #else, #elif, #endif, #ifdef and#ifndef) 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 tofunctions</p>	Class Test, dictated notes from online sources, PPT, Assignments given
3.	1 Feb, 2021	28 Feb, 2021	<p>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 functions-strlen(),strcpy(), strcat(),strcmp(), array of strings, two dimensional array of characters, Array of Pointers toStrings Structure: Defining a structure type, declaring variables of structure type, initializing structures. Accessing Structure Elements, array of structures, Array in Structures, Difference between array and structure, nestedstructures</p> <p>Unions: Declaring a Union, Accessing elements of a typeunion.</p>	Lecture Method, PPT
4.	1 March, 2021	Till the end of Semester	<p>Console Input/Output: Console I/O Functions, Formatted Console I/O Functions, printf() 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 theFile.</p> <p>Revision of syllabus</p>	Discussion of previous year questions, Concluded with the syllabus

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Monthly Teaching Plans (Odd Semester)
Session: 2020-21

Name of the Teacher: Ms. Manmeet 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.	18 Nov, 2020	31 Dec, 2020	<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 Jan, 2021	31 Jan, 2021	<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 Feb, 2021	28 Feb, 2021	<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>	Lecture Method (online + onsite), PPT, Study material & web links provided, Class Discussion, Class Test, Assignments, Demonstration of SQL parts
4.	1 Mar, 2021	Till end of semester	<p>Recovery: Causes of failures, recovery from failures, Log based recovery, checkpoints . Revision of syllabus</p>	Lecture Method (online + onsite), PPT, Study material provided, Class Discussion, Class Test

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Name of the Teacher: Ms. Manmeet Kaur

Department: Computer Science and Applications

Class: PGDCA- 1st semester

Section: N.A

Subject: Data Communications & Networks (PGD-1104)

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1.	18 Nov, 2020	31 Dec, 2020	<p>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.</p> <p>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)</p>	Lecture Method (online + onsite), PPT, Study material & web links provided, Class Discussion, Class Test, Assignments
2.	1 Jan, 2021	31 Jan,2021	<p>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.</p> <p>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</p>	Lecture Method (online + onsite), PPT, Study material & web links provided, Class Discussion, Class Test, Assignments
3.	1 Feb, 2021	28 Feb, 2021	<p>Sliding Windows Protocol: one Bit sliding windows protocol, go back n, selective repeat, HDLC: High Level Data Link Protocol.</p> <p>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);</p>	Lecture Method (online + onsite), PPT, Study material & web links provided, Class Discussion, Class Test, Assignments
4.	1 Mar, 2021	Till end of semester	<p>Internetworking: tunneling, Internet Routing, fragmentation. Revision of syllabus</p>	Lecture Method (online + onsite), PPT, Study material provided, Class Discussion, Class Test

MCM DAV College for Women, Sector – 36A, Chandigarh
Monthly Teaching Plans (Even Semester)
Session: 2020-21

Name of the Teacher:

Department: Computer Science and Applications

Class: PGDCA- 2nd semester

Section: N.A

Subject: Object Oriented Concepts using Java (PGD-2101)

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1.	Month 1	Month 1	OOPs concepts: Basic Concepts of Object-Oriented Programming, difference between procedure oriented and object oriented approach, Benefits , Applications of OOP's 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	Lecture Method , PPT, Study material & web links provided, Class Discussion, Class Test, Assignments
2.	Month 2	Month 2	Inheritance: Defining a subclass, subclass constructor, multilevel inheritance, Hierarchical inheritance. Overriding methods, 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	Lecture Method , PPT, Study material & web links provided, Class Discussion, Class Test, Assignments
3.	Month 3	Month 3	Strings: String arrays, String methods, StringBuffer class Interfaces: Defining interfaces, Extending Interfaces, Implementing Interfaces. Accessing Interface variables 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.	Lecture Method , PPT, Study material & web links provided, Class Discussion, Class Test, Assignments
4.	Month 4	Till end of semester	Errors and Exception Handling: Fundamentals, error types, exception types, using Try and catch, finally statement, Built-in exceptions. 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 Revision of syllabus	Lecture Method , PPT, Study material & web links provided, Class Discussion, Class Test, Assignments

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Monthly Teaching Plans (Even Semester)
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Name of the Teacher:

Department: Computer Science and Applications

Class: PGDCA- 2nd semester

Section: N.A

Subject: Web Technologies (PGD-2102)

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1.	Month 1	Month 1	Introduction to HTML/DHTML: Brief history of HTML, Building blocks of HTML, lists, links, images, image map, tables, frames, forms 2. Introduction to cascading style sheets (CSS): Introduction to Style Sheets, Types of style Sheets-Inline, embedded and external style sheets.	Lecture Method , PPT, Study material & web links provided, Class Discussion, Class Test, Assignments
2.	Month 2	Month 2	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. 4. 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	Lecture Method , PPT, Study material & web links provided, Class Discussion, Class Test, Assignments
3.	Month 3	Month 3	Introduction to PHP: Embedding PHP code in a Web Page, Basic Syntax, Defining variable and constant, PHP Data types, Operators and Expressions 6. Control Structures: Making Decisions, Doing Repetitive task with looping, File inclusion statements. 7. Functions: Defining a function, Call by value and Call by reference, recursive function, Library functions 8. Strings: Creating and accessing String, Searching & Replacing String, Formatting String, String Related Library function.	Lecture Method , PPT, Study material & web links provided, Class Discussion, Class Test, Assignments
4.	Month 4	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 Revision of syllabus	Lecture Method , PPT, Study material & web links provided, Class Discussion, Class Test, Assignments

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Name of the Teacher:

Department: Computer Science and Applications

Class: PGDCA- 2nd semester

Section: N.A

Subject: Software Engineering (PGD-2103)

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1.	Month 1	Month 1	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	Lecture Method , PPT, Study material & web links provided, Class Discussion, Class Test, Assignments
2.	Month 2	Month 2	Software Project Management: Software Project management Plan(SPMP), 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, Software Risks, software Risk management, Risk Management activities- Risk Assessment and Risk Control, Benefits of Risk management, SRS	Lecture Method , PPT, Study material & web links provided, Class Discussion, Class Test, Assignments
3.	Month 3	Month 3	Software Design Process, Design Failures and Remedies, Structured Analysis and Structured Design (SASD)-Goals and Benefits, Data Flow Diagrams (DFD), Data Dictionary(DD), Entity-Relationship diagram(ERD)	Lecture Method , PPT, Study material & web links provided, Class Discussion, Class Test, Assignments
4.	Month 4	Till end of semester	Software Testing: Objectives of software Testing, Principles of Software Testing, Software Testing Process, Black Box Testing, White Box Testing Revision of syllabus	Lecture Method , PPT, Study material & web links provided, Class Discussion, Class Test, Assignments

MCM DAV College for Women, Sector – 36A, Chandigarh
Monthly Teaching Plans (Even Semester)
Session: 2020-21

Name of the Teacher: Dr. Manpreet Kaur

Department: Computer Science and Applications

Class: PGDCA- 2nd semester

Section: N.A

Subject: Computer based Accounting (PGD-2104)

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1.	Month 1	Month 1	Accounting: Principles, concepts and conventions, double entry system of accounting, introduction of basic books of accounts of sole proprietary concern, control accounts for debtors and creditors, closing of books of accounts and preparation of trial balance. Final Accounts: Trading, profit and loss accounts and balance sheet of sole proprietary concern with normal closing entries.	Lecture Method Problem solving
2.	Month 2	Month 2	Introduction to Manufacturing Account, final accounts of partnership firms, limited company. Introduction to Computerized Financial Accounting, coding logic and codes required, master files, Transaction files, Introduction to documents used data collection, processing of different files, outputs obtained	Lecture Method Problem solving
3.	Month 3	Month 3	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, Interfacing Inventory with Financial Accounting, Purchasing Sub-Systems, Sales Order processing.	Lecture Method and Practical Examples
4.	Month 4	Till end of semester	Introduction to Computerized Payroll & Invoicing Applications, Exposure to Structure, Processing and Reports, Interfacing these applications to financial Accounting. Use of Accounting package Tally: Introduction to Tally, Groups, Ledgers, Vouchers, Orders, Cost Centers and Categories, Stock, Reports in Tally	Lecture Method and Practical Examples