

GOVT. COLLEGE FOR GIRLS, RANIA (SIRSA)

Lesson Plan Session 2023-24

Name of Asstt.Prof:- Rajkumari

Class- BA 1st Year

Sem-1st

Subject- COMPUTER FUNDAMENTALS

Month	Week	Topic
July	1	Introduction of Information Technology, concept of bit and byte
July	2	binary, octal, decimal and hexa-decimal number systems and their conversion
Aug	1	Data representation. complement form. BCD codes,
	2	Fixed point and floating point representation
	3	Computer and its components, Advantages and Disadvantages, (Assignment-1)
	4	mini computer, micro computer, personal computer, super computer, note book/ laptop
Sep.	1	Networking of computers, Local Area Network, Metropolitan Area Network, Wide Area Network
	2	network topologies: Bus, Ring, Star, Mesh and Hybrid,
	3	Internet and Intranet, modem.
	4	Memory Organization: Memory hierarchy, RAM, ROM,
Oct	1	dynamic RAM, flash memory (Assignment-2)
	2	secondary memory and its characteristics, hard disk (Assignment- Test)
	3	Drives cache memory and its organization, floppy drive and CD/ DVD drive.
	4	Peripheral devices: common input devices and output devices
Nov	1	input devices and output devices
	2	Revision
	3	Revision


Signature

GOVT. COLLEGE FOR GIRLS, RANIA (SIRSA)

Lesson Plan Session 2023-24

Name of Asstt.Prof:- Rajkumari

Class- BA 1st Year

Sem-1st Subject-

DIGITAL ELECTRONICS

Month	Week	Topic
July	1	Information Representation : Number Systems, Binary Arithmetic, Fixed-point and Floating- point representation of numbers
	2	BCD Codes, Error detecting and correcting codes,
Aug	1	Character Representation - ASCII, EBCDIC, Unicode
	2	Binary Logic: Boolean Algebra, Boolean Theorems, Boolean Functions and Truth Tables
	3	Canonical and Standard forms of Boolean functions (Assignment-1)
	4	Simplification of Boolean Functions - Venn Diagram, Karnaugh Maps
Sep	1	Digital Logic: Basic Gate XOR, XNOR etc. s - AND, OR, NOT, Universal Gates – NAND
	2	NOR, Other Gates-XOR,XNOR etc. NAND,NOR, AND-OR-INVERT and OR-AND-INVERT
	3	implementations of digital circuits, Combinational Logic - Characteristics, Design Procedures
	4	analysis procedures, Multilevel NAND and NOR circuits
Oct	1	Combinational Circuits: Half-Adder Decoders, Full -Adder Decoders
	2	Half Subtractor, Full-Subtractor (Assignment-2)
	3	Encoder, Decoder, Multiplexers, Demultiplexers
	4	Comparators, Code Converters (Assignment-Test)
Nov	1	BCD to Seven Segment Decoder and Revision
	2	Revision
	3	Revision


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GOVT. COLLEGE FOR GIRLS, RANIA (SIRSA)

Lesson Plan Session 2023-24

Name of Asstt.Prof:- Rajkumari
Sem-2nd

Class- BA 1st Year
Subject- PROGRAMMING IN C

Month	Week	Topic
Jan	1	Planning the Computer Program: Concept of problem solving, Problem definition, Program design, Compilation and Executing a C program, , Types of errors in programming
	2	Techniques of Problem Solving: Flow-chart, algorithms, pseudo code, Structured programming concepts History of C, Importance of C
	3	Structure of a C Program, use of main() function, use of library functions and header files, introduction to preprocessor directives, compilation process of a c program
	4	C character set, identifiers and keywords, data types and their memory requirements, constants and variables, scope of a variable, assignment statement, unformatted & formatted I/O
Feb	1	Arithmetic (Unary & Binary), Relational, Logical, Bitwise, and Conditional operators. Arithmetic expressions, evaluation of arithmetic expressions
	2	understanding operators precedence and associativity in expression evaluation, type casting and conversion, conditional statements, iterative/looping statements, break and continue, goto statement.
	3	Functions: Prototype, Declaration and Definition of a function, Arguments/Parameters in Functions, Functions with variable number of Arguments, Utility of functions,
	4	Recursion. Storage classes in C: auto, extern, register and static storage class, their scope, storage, & lifetime. U(Assignment-1)
March	1	Arrays: Definition, Creating and Using One Dimensional Arrays, Initializing an Array, Accessing individual elements in an Array
	2	Manipulating array elements using loops, Two dimensional Arrays: memory representation schemes: row major, column major. simple programs. Introduction to Multi-dimensional arrays. (Assignment Test)
	3	Understanding a Pointer Variable, Simple use of Pointers (Declaring and Dereferencing Pointers to simple variables), Pointer arithmetic.
April	1	Pointers to Pointers, Problems with Pointers, passing pointers as function arguments, Call by Reference, Pointers and Arrays,. Pointers and strings, malloc, calloc, sizeof functions
	2	String, String I/O, Array and strings, reading and writing strings, (Assignment-2)
	3	String manipulation functions: String length, copy, compare, concatenate etc
	4	Understanding utility of structures, declaring, initializing and using simple structures, Manipulating individual members of structures.
MAY	1	Revision


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GOVT. COLLEGE FOR GIRLS, RANIA (SIRSA)

Lesson Plan Session 2023-24

Name of Asstt.Prof:- Rajkumari

Class- BA 1st Year

Sem-2nd

Subject- OPERATING SYSTEM

Month	Week	Topic
Jan	1	Introduction, What is an Operating System, Simple Batch Systems, Multiprogrammed Batches systems, Time-Sharing Systems, Personal-computer systems
	2	Parallel systems, Distributed Systems, Real-Time Systems Memory Management: Background, Logical versus Physical Address space
	3	swapping, Contiguous allocation, Paging, Segmentation Virtual Memory
	4	Demand Paging, Page Replacement, Pagereplacement Algorithms, Performance of Demand Paging, Allocation of Frames, Thrashing, Other Considerations
Feb	1	Processes: Process Concept, Process Scheduling, Operation on Processes CPU Scheduling
	2	Basic Concepts, Scheduling Criteria, Scheduling Algorithms, MultipleProcessor Scheduling
	3	Process Synchronization: Background, The Critical-Section Problem
	4	Synchronization Hardware, Semaphores, Classical Problems of Synchronization (Assignment-1)
March	1	Deadlocks: System Model, Deadlock Characterization, Methods for Handling Deadlocks, Deadlock Prevention
	2	Deadlock Avoidance, Deadlock Detection, Recovery from Deadlock Device Management
	3	Techniques for Device Management, Dedicated Devices, Shared Devices, Virtual Devices, Input or Output Devices, Storage Devices, Buffering, Secondary Storage Structure (Assignment Test)
April	1	Disk Structure, Disk Scheduling, Disk Management, Swap-Space Management, Disk Reliability (Assignment-1)
	2	Information Management: Introduction, A Simple File System, General Model of a File System, Symbolic File System
	3	Basic File System, Access Control Verification, Logical File System, Physical File System File-System Interface: File Concept, Access Methods.
	4	Directory Structure, Protection, Consistency Semantics File-System Implementation: File System Structure, Allocation Methods, Free Space Management
May	1	Revision


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GOVT. COLLEGE FOR GIRLS, RANIA (SIRSA)

Lesson Plan Session 2023-24

Name of Asstt.Prof:- Rajkumari
Sem-3rd

Class- BA/B.Sc 2nd Year
Subject- DATA STRUCTURE

Month	Week	Topic
July	1	Data structure and Algorithm Preliminaries: Definitions, The concept of Data Structure,
	2	Basic Terminology: Elementary Data Organization, Data Structure Operations
Aug	1	Algorithms: Algorithmic Notations, Control Structures, Complexity of Algorithms-Big „O“ Notation, Time-Space Tradeoff.
	2	Arrays: Introduction, Linear Arrays, Representation of Linear Arrays in Memory, Traversing Linear Arrays, Concatenating Two Arrays
	3	Insertion into a Linear Array, Deletion from a Linear Array, Largest/Smallest Element from an Array
	4	Linear Search, Binary Search
Sep	1	Introduction to Multidimensional Arrays, Address Calculation of Elements of Arrays, Multiplication of Two Matrices. (Assignment-1)
	2	Sorting: Bubble Sort, Selection Sort. Strings: Introduction to Strings, Basic Terminology, Storing Strings, String Operations,
	3	Linked list: Introduction to Linked List, Representation of Linked List in Memory, Traversing a Linked List, Searching a Linked List, Insertion into a Linked List, Deletion from a Linked List, Header Linked Lists,
	4	Two way Linked List (Doubly Linked List): Introduction, Inserting a node into Two way Linked List, Deleting a node from Two way Linked List, Introduction to Circular Linked List.
Oct	1	Stack: Introduction to Stacks, Array Representation of Stacks, Operations on stack.: PUSH and POP, Representation of Stack as Linked List, Polish Notations and Reverse Polish Notation
	2	Evaluation of Postfix Expressions, Transforming Infix Expressions into Postfix Expressions, Transforming Infix Expressions into Prefix Expressions, Introduction to Recursion. (Assignment-2)
	3	Graphs: Introduction, Graph Theory Terminology, Sequential Representation of Graphs: Adjacency Matrix: Path Matrix , Linked Representation of a Graph, Shortest Path Algorithms.
	4	Queues: Introduction to Queues, Operations on the Queues: Enqueue and Dequeue, Circular Queue, Double Ended Queue(DEQUE), Representation of a Queue as an Array, Representation of a Queue as Linked List,
Nov	1	Trees – Introduction, Basic Terminology, Binary Tree, Tree Representations using Array & Linked List, Binary Trees Traversing by Recursive procedures: Preorder In-order, & Post-order Traversal (NLR, LNR and LRN), (Assignment Test)
	2	Introduction to Binary Search Tree (BST), Insertion and Deletion in BST
	3	Revision


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GOVT. COLLEGE FOR GIRLS, RANIA (SIRSA)

Lesson Plan Session 2023-24

Name of Asstt.Prof:- Rajkumari

Class- BA/B.Sc 2nd Year

Sem- 3rd

Subject- PROGRAMMING IN C++

Month	Week	Topic
July	1	Introduction to Programming in C++: Object-Oriented Features of C++.
	2	comparing structure and Class, Data members and Member functions,
Aug.	1	concept of private and public section , Data Hiding & Encapsulation
	2	Static Data Members and Member Functions
	3	Inline Functions, Friend Functions, idea of Namespace, Comparing C with C++.
	4	Constructors & Destructors: default, parameterized
Sep.	1	copy constructor and Overloading constructor
	2	Unary and binary operator overloading (through member function and friend function)
	3	function overloading I/O operations in C++: concept of streams, input stream and output stream (Assignment-1)
	4	Cin and Cout objects, formatted and unformatted I/O operations using manipulators and functions.
Oct	1	Type Conversion: implicit and explicit conversion, type conversion in classes: basic to class, class to basic and class to class
	2	Polymorphism: compile-time and run time Polymorphism, Introduction to Inheritance
	3	Inheritance: Types of Derivations, Forms of Inheritance, Roles of Constructors and Destructors in Inheritance.
	4	Genericity in C++: Template Function, Template Class (Assignment-2)
Nov.	1	Exception Handling: try, throw and catch constructs, rethrowing an exception, catch all Handlers. (Assignment Test)
	2	Revision (Test)
	3	Revision


Signature

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GOVT. COLLEGE FOR GIRLS, RANIA (SIRSA)
Lesson Plan Session 2023-24

Name of Asstt. Prof:- Rajkumari

Class- BA/b.sc 2nd Year

Sem-4th

Subject- Software Engineering

Month	Week	Topic
Jan	1	Software and software engineering, Software characteristics, software crisis
	2	Software Life Cycles, software engineering paradigms.
	3	Software requirement analysis - structured analysis, objectoriented analysis
	4	software requirement specification, Tools for requirement analysis, Software cost estimation, Project scheduling.
Feb	1	Personnel Planning, team structure Design and implementation of software - software design fundamentals,
	2	Structured design methodology, Object Oriented design, design verification. (Assignment-1)
	3	monitoring and control coding Software Reliability - metric and specification, fault avoidance and tolerance
	4	exception handling, defensive programming.
March	1	Testing - Testing fundamentals, white box and black box testing,
	2	software testing strategies, unit testing, integration testing, testing. (Assignment Test)
	3	validation testing, debugging system Software maintenance
April	1	maintenance characteristics, maintainability, maintenance tasks. (Assignment-1)
	2	maintenance side effects, Software configuration management.
	3	Project monitoring, Risk Management
	4	Revision
May	1	Revision


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GOVT. COLLEGE FOR GIRLS, RANIA (SIRSA)

Lesson Plan Session 2023-24

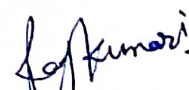
Name of Asstt.Prof:- Rajkumari

Class- BA/B.Sc 2nd Year

Sem-4th

Subject- Database Management Systems

Month	Week	Topic
Jan	1	Basic Terminology: Traditional File Based Systems- File Based Approach-Limitations of,
	2	File Based Approach, Database Approach, Characteristics of Database Approach, Database Management System (DBMS), Components of DBMS Environment
	3	Database Management System (DBMS), Components of DBMS Environment, DBMS Functions and Components, Advantages and Disadvantages of DBMS.
	4	Advantages and Disadvantages of DBMS. Roles in the Database Environment: Database Administrator.
Feb	1	Database Designers, Applications Developers and End Users.
	2	Database System Architecture: Three Levels of ANSI/SPARC Architecture, Schemas and Instances Data Independence: Logical and Physical Data Independence.
	3	Data Independence: Logical and Physical Data Independence. (Assignment-1)
	4	Classification of Database Management System: Centralized and Client Server architecture to DBMS.
March	1	Introduction to Data Models: Entity-Relationship Model, Entity Types, Entity Sets, Attributes Relationship Types, (Assignment Test)
	2	Relationship Instances and ER Diagrams, Network Model, Hierarchical Model, Relational Model.
	3	Relational Model: Relational Model Terminology, Relational Data Structure, Database Relations, Properties of Relations, Keys, Domains
April	1	Integrity Constraints over Relations, Base Tables and Views. Relational Algebra & its various Operators, Tuple and Domain Calculus (Assignment-1)
	2	SQL commands
	3	Functional Dependency & Normalization: Data Redundancy and Update Anomalies. Functional Dependencies: Full Functional Dependencies
	4	and Transitive Functional Dependencies, Decomposition and Normal Forms (1NF, 2NF, 3NF & BCNF).
May	1	Revision


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GOVT. COLLEGE FOR GIRLS, RANIA (SIRSA)

Lesson Plan Session 2023-24

Name of Asstt.Prof:- Rajkumari

Class- B6^{2nd} Year

Sem-3rd

Subject- Computer Application in Business

Month	Week	Topic
July	1	Word Processing: Introduction to word Processing, Word processing concepts, Use of Templates, Working with word document: Editing text, Find and replace text, Formatting, spell check
	2	Autocorrect, Auto text; Bullets and numbering, Tabs, Paragraph Formatting, Indent, Page Formatting, Header and footer.
Aug	1	Tables: Inserting, filling and formatting a table; Inserting Pictures, and Video
	2	Mail Merge: including linking with Database
	3	Printing documents, Creating Business Documents using the above facilities
	4	Preparing Presentations: Basics of presentations: Slides, Fonts, Drawing
Sep.	1	Editing; Inserting: Tables, Images, texts, Symbols, Media
	2	Design; Transition; Animation; and Slideshow. Creating Business Presentations using above facilities
	3	Spreadsheet and its Business Applications: Spreadsheet concepts, Managing worksheets
	4	Formatting, Entering data, Editing, and Printing a worksheet: Handling operators in formula
Oct	1	Project involving multiple spreadsheets, Organizing Charts and graphs Generally used
	2	Spreadsheet functions: Mathematical, Statistical, Financial, Logical, Date and Time,
	3	Lookup and reference, Database, and Text functions
	4	Creating Business Spreadsheet: Creating spreadsheet in the area of: Payroll statements; Depreciation Accounting; Graphical representation of data
Nov	1	Frequency distribution and its statistical parameters; Correlation and Regression
	2	Revision
	3	Revision


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GOVT. COLLEGE FOR GIRLS, RANIA (SIRSA)

Lesson Plan Session 2023-24

Name of Asstt.Prof:- Rajkumari
Sem-2nd

Class- B.Com 1st Year

Subject- INTRODUCTION TO COMPUTER APPLICATIONS

Month	Week	Topic
Jan	1	Introduction to Computers: definition of computer; components of computer; characteristics of computers; classification of computer
	2	Application of Computers; input and output devices memory and mass storage devices
	3	Input devices, output devices
	4	Computer Software – introduction; types of software - system, application and utility software
Feb	1	Introduction to operating system, types of operating systems, function of operating system,
	2	Introduction to Windows: Evolution of Windows; Types of windows, Windows as an Operating System,
	3	Use of GUI in Window Explorer, Control Panel, Paintbrush Tools
	4	Data Processing System: Concept of data; Information and data processing; Need and Uses of Information; Characteristics of Information
March	1	Levels of Information; Types of Data Processing System, Networks basic, types of networks, topologies,
	2	G-mail: opening an account, g-mail address, finding g-mail address, adding signature, attaching files, opening attachments, managing e-mail account.
	3	Information Technology and Business – An overview, concepts of data, information and computer based information system
April	1	Impact of information technology on business -business data processing
	2	intra-organisational and inter-organisational communication by using network technology

	3	business process and knowledge process outsourcing, Types of Information System-Transaction Processing System (TPS), Management Information System (MIS)
	4	Introduction to Internet, application of Internet, uses of Internet, Internet services, Effects of IT on business.
May	1	Revision


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GOVT. COLLEGE FOR GIRLS, RANIA (SIRSA)

Lesson Plan Session 2023-24

Name of Asstt.Prof:- Rajkumari

Class- B.Com^{2nd} Year

Sem-4th

Subject- E-Commerce

Month	Week	Topic
Jan	1	Introduction: Electronic Commerce Framework, History, Basics and Tools of E-Commerce, Comparison of Web-based with Traditional Business
	2	Growth of E-Commerce – Present and potential, E-Business: Meaning, Importance, Models Based on the Relationships of Transacting Parties (B2B, B2C, C2C and C2B)
	3	Present Status of E-Commerce in India, Technology used in E-commerce: The dynamics of World Wide Web and internet (meaning, evolution and features); Designing
	4	building and launching e-commerce website (A systematic approach involving decisions regarding selection of hardware, software, outsourcing vs. in-house Development of a website)
Feb	1	E-payment System: Models and methods of e-payments (Debit Card, Credit Card)
	2	Smart Cards, e-money, digital signatures
	3	payment gateways, risks involved in e-payments
	4	On-line Business Transactions: Meaning, purpose, advantages and disadvantages of transacting online, E-commerce applications in various industries
March	1	banking, insurance, payment of utility bills, online marketing, e-tailing (popularity, benefits, problems and features), online services (financial, travel and career),
	2	auctions, online portal, online learning, publishing and entertainment; Online shopping (amazon, snapdeal, alibaba, flipkart, etc.)
	3	Security and Encryption: Need and concepts, the e-commerce security environment: (dimension, definition and scope of esecurity
April	1	security threats in the E-commerce environment (security intrusions and breaches, attacking methods like hacking, sniffing, cyber-vandalism etc.),
	2	technology solutions (Encryption, security channels of communication, protecting networks and protecting servers and clients),
	3	IT Act 2000 and Cyber Crimes : IT Act 2000: Definitions, Digital signature, Electronic governance, Attribution, acknowledgement and dispatch of electronic records
	4	Regulation of certifying authorities, Digital signatures certificates, Duties of subscribers, Penalties and adjudication, Appellate Tribunal, Offences and Cyber-crimes
May	1	Revision


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