

Lesson Plan Odd Semester 2024-2025

Name of the Assistant Professor- Shama Subject- Computer Science

Month	B.A CS (III Sem) Operating System	BCA (III Sem) Linux & Shell Programming	BCA (V Sem) Artificial Intelligence
July- August	Operating System: Definition, Characteristics, Components, Functions, Examples; Types of Operating System: Single User/Multi User, Classification of Operating System: Batch, Multi programmed, Timesharing, Multiprocessing, Parallel, Distributed, Real Time; System Calls and System Programs: Process Control, File Manipulation, Device Manipulation, Information Maintenance, Communications Assignment-1	Introduction to Linux: Linux distributions, Overview of Linux operating system, Linux architecture, Features of Linux, Accessing Linux system, Starting and shutting down system, Logging in and Logging out, Comparison of Linux with other operating systems. Assignment-1	AI Concepts, Various definitions of AI, Knowledge, Knowledge Pyramid, People and Computers: What computers can do better than people, what people can do better than computers; Characteristics of AI Problems, Problem Representation in AI, Components of AI, AI Evolution, Application Areas of AI, History of AI, The Turing Test, The Revised Turing Test Assignment-1
September	Process Management: Process concept, Process states and Process Control Block; Process Scheduling: Scheduling Queues, Schedulers, Context Switch; Operation on Processes: Process Creation, Process Termination; Cooperating Processes, Introduction to Threads, Inter-process Communication; CPU Scheduling: Basic Concepts, Scheduling Criteria, Scheduling Algorithms: FCFS, SJF, Priority, Round-Robin, Multilevel Queue, Multilevel Feedback Queue Scheduling Test-1	Commands in Linux: General-Purpose commands, File oriented commands, directory oriented commands, Communication-oriented commands, process oriented commands, etc. Regular expressions & Filters in Linux: Simple filters viz. more, wc, diff, sort, uniq, grep; Introducing regular expressions. Test-1	Brute Force Search – Depth First/Breadth First Search Heuristic Search: Hill Climbing Heuristic Search: Hill Climbing Constraint Satisfaction, Mean End Analysis, Best First Search, A* Algorithm, AO* Algorithm, Beam Search Test-1

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October	<p>Deadlocks: System Model, Deadlock Characterization, Methods of Handling Deadlocks, Deadlock Prevention, Deadlock Avoidance, Deadlock Detection and Recovery</p> <p>Memory Management: Introduction, Swapping, Contiguous Allocation: Single-Partition/Multiple Partition Allocation, External/Internal Fragmentation; Paging: Basic Method, Hardware, Implementation of Page table; Segmentation: Basic Method, Hardware, Implementation of Segment Table, Advantages/Disadvantages of Paging/Segmentation</p> <p>Assignment-2</p> <p>Mid Term Exam</p>	<p>Linux file system: Linux files, inodes and structure and file system, file system components, standard file system, file system types.</p> <p>Processes in Linux: Starting and Stopping Processes, Initialization</p> <p>Processes, Mechanism of process creation, Job control in linux using at, batch, cron & time</p> <p>Assignment-2</p> <p>Mid term exam</p>	<p>Expert System: Components of Expert System: Knowledge Base, Inference Engine, User Interface, Features of Expert System, Expert System Life Cycle, Categories of Expert System, Rule Based vs. Model Based Expert Systems, Advantages/Limitations of Expert System, Developing an Expert System: Identification, Conceptualization, Formalization, Implementation, Testing, Using an Expert System, Application Areas of Expert System</p> <p>Assignment-2</p> <p>Test-2</p>
November	<p>Virtual Memory: Introduction, Demand Paging, Page Replacement, Page Replacement Algorithms: FIFO, Optimal, LRU, Counting; Thrashing and its cause; File Management: File Concepts, File Attributes, File Operations, File Types, File Access/Allocation Methods, File Protection, File Recovery</p> <p>Practical</p>	<p>Shell Programming: vi editor, shell variables, I/O in shell, control structures, loops, subprograms, creating & executing shell scripts in Linux.</p> <p>Practical</p>	<p>Introduction, Need, Goal, Fundamental Problems in Natural Language Understanding, How People overcome Natural Language Problems, Speech Recognition: Introduction, Advantages and Approaches, Introduction to Robotics: Parts of a Robot, Controlling a Robot, Intelligent Robots, Mobile Robots</p> <p>Revision</p>

Signature

Subject/Month	July- August	September	October	November
B.Com CAV (V Sem) System Analysis & Design	SAD: definition of system, characteristics, elements, types of system, system development life cycle; Assignment-1	Economic feasibility Role of system analyst the process of logical and physical design Test-1	design, form design: input, output, form, system testing, auditing, system maintenance, Assignment-2 Test-2	Threats to security, control measures Practically develop a systems design, such as feasibility study, comparative Charts
B.Com CAV (V Sem) Web Technology	Internet basic-introduction to HTML, tags-list-creating table-linking document frames graphics to HTML doc-stylesheet-style Assignment-1	Style sheet basic-add style to document-creating style Sheet rules-stylesheet properties-font-text-list-color and background color-box-display Properties Test-1	Introduction to JavaScript- advantage of JavaScript- JavaScript syntax-data type-variable -array-operator and expression- looping constructor-function- dialog box Assignment-2 Test-2	Java Script document object model-i-object in HTML-event handling-window object-document object-browser object-form object-navigator object screen object-building Practical
B.A 3rd Sem MDC (Pr. In C)	History, Importance, Structure of C Program, Character Set, Constants and Variables, Data Types, Formatted I/O Function-, Input Functions viz. scanf(), getch(), getche(), getchar(), gets(), output functions viz. printf(), putchar(), puts(). Assignment-1	Operators & Expression: Arithmetic, Relational, Logical, Bitwise, Unary, Assignment, Conditional Operators and Special Operators Operator Hierarchy; Arithmetic Expressions, Evaluation of Arithmetic Expression, Type Casting and Conversion. Decision making with if statement, if else statement, nested if statement, else-if ladder, switch and break statement, goto statement, for, while, and do while loop, jumps in loops. Test-1	Arrays: One Dimensional arrays - Declaration, Initialization and Memory representation; Two Dimensional arrays -Declaration, Initialization and Memory representation. Functions: definition, prototype, function call, passing arguments to a function: call by value; call by reference, recursive functions. Strings: Declaration and Initialization, String I/O, Array of Strings, String Manipulation Functions: String Length, Copy, Compare, Concatenate etc., Search for a Substring. Assignment-2 Mid term Exam	Declaring and initializing pointers, accessing address and value of variables using pointers; Pointers and Arrays. Structures - Definition , declaring structure variables, accessing structure members, Structure members initialization, Array of Structures; Union definition; difference between Structure and Union. Practical

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