

24. Write an Applet that displays —Hello Worldll (Background color-black, text color-blue and your name in the status window.)
25. Write a program that displays the life cycle of an Applet.
26. Write an Applet displaying line, rectangle, rounded rectangle, filled rectangle, filled rounded rectangle, circle, ellipse, arc, filled arc and polygon, all in different colors.
27. Write an Applet that illustrates how to process mouse click, enter, exit, press and release events. The background color changes when the mouse is entered, clicked, pressed, released or exited.

BCS3652 Algorithms Lab

Programming assignments on each algorithmic strategy:

1. Divide and conquer method (quick sort, merge sort, Strassen's matrix multiplication),
2. Greedy method (knapsack problem, job sequencing, optimal merge patterns, minimal spanning trees).
3. Dynamic programming (multistage graphs, OBST, 0/1 knapsack, traveling salesperson problem).
4. Back tracking (n-queens problem, graph coloring problem, Hamiltonian cycles).
5. Sorting : Insertion sort, Heap sort, Bubble sort
6. Searching : Sequential and Binary Search
7. Selection : Minimum/ Maximum, K-th smallest element

BCS3701 Artificial Intelligence

Course Objective:

1. To have an understanding of the achievements of AI.
2. To have an appreciation for the engineering issues underlying the design of AI systems.
3. To have a basic proficiency in a traditional AI language
4. To have an understanding of the basic issues of knowledge representation
5. For understanding the concept of blind and heuristic search,
6. Understanding of min-max and resolution concept of AI.

Learning Outcome:

At the end of the course, the student should be able to:

1. Write simple to intermediate programs written in LISP/PROLOG.
2. To understand code written in above language.
3. To implement AI topics such as learning, natural language processing.
4. Understand and Design agents and robotics, expert systems.

Course Contents:

Module	Course Topics	Total Hours	Credits
I	Introduction to Artificial Intelligence, Simulation of Sophisticated & Intelligent Behavior, Problem	30 Hours	1

	solving in games, Natural language, Automated reasoning , Visual Perception, Heuristic algorithm versus solution guaranteed algorithms.		
II	First order predicate calculus, Horn Clauses, Semantic Nets, Partitioned Nets, Minsky frames Knowledge Sources Expert, Knowledge Acquisition, Knowledge Representation, Knowledge Base, Production Rules Knowledge Base, Interference Strategies, Forward and Backward Chaining	30 Hours	1
III	Expert System : Existing Systems (DENDRAL, MYCIN), Domain exploration, Meta Knowledge, Expertise Transfer, Self Explaining System	30 Hours	1
IV	Introduction to pattern Recognition, Structured Description, Symbolic Description, Machine perception, Line Finding, Interception, Semantic Model Object Identification, Speech Recognition, Programming Language: Introduction to programming Language LISP, Introduction to programming Language PROLOG	30 Hours	1

Text/Reference Books:

1. Russell and Norvig “Artificial Intelligence: A Modern Approach”, 2nd edition, Prentice Hall.
2. Robert Wilensky “LISPcraft”, W.W. Norton. Software Allegro Common Lisp.
3. Charnick “Introduction to Artificial Intelligence.” Addison Wesley
4. Rich & Knight, “Artificial Intelligence”.
5. Winston, “LISP”, Addison Wesley

BCS3702 Network Security and Cryptography**Course Objective:**

1. Have a fundamental understanding of the objectives of cryptography and network security
2. Getting familiar with the cryptographic techniques that provide information and network security
3. To know the different types of algorithms of exchanging information in a secret way.
4. To know the possible threats which can breach the secure communication

Learning Outcome:

At the end of the course, the student should be able to:

1. Understanding cryptography and network security concepts and applications
2. Apply security principals to system design and Real time Scenarios.
3. Identify and investigate network security threats
4. Analysis of network traffic and security threats