Q.17 What are Greedy Algorithms? Give some Examples of it. (CO3)

Q.18 How to count leaf nodes of the Binary tree? (CO3)

Q.19 What are Prim's algorithms and how are they implemented? (CO4)

Q.20 What are Recursive algorithms? State the important rules which every recurisive algorithms must follow. (CO2)

Q.21 Define insertion sort and Selection sort. (CO3)

Q.22 Write a short note on Brute force approach. (CO3)

SECTION-D

Note: Long answer questions. Attempt any two questions out of three Questions. (2x8=16)

Q.23 List out various Algorithm design techniques. Explain any two of them. (CO2)

Q.24 Explain the Bubble sort Algorithm with the help of an Example. (CO3)

Q.25 What do you understand by a searching Algorithm? Explain its types. (CO3)

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4th Sem.
Branch : Artificial Intelligence & Machine Learning
Sub. Algorithm Design Techniques

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple type Questions. All Questions are compulsory. (6x1=6)

Q.1 An algorithm is _____. (CO1)

a) A problem

b) A procedure for solving a problem

c) A real life mathematical problem

d) None of the above

Q.2 The main measures of the efficiency of an algorithm are (CO2)

a) Time and space complexity

b) Data and space

c) Processor and memory

d) Complexity and capacity

Q.3 Which of the following is a Divide and Conquer algorithm (CO3)

a) Bubble Sort b) Selection Sort

c) Heap Sort d) Merge Sort

Q.4 Identify the slowest sorting technique among the following (CO3)

a) Merge Sort b) Quick Sort

c) Bubble Sort d) Selection Sort

Q.5 Kruskal's Algorithm for finding the minimum spanning tree of graph is a kind of a (CO4)

a) DP Problem b) Greedy Algorithm

c) Adhoc problem d) None of the above

Q.6 Dijkstra's algorithm is used to solve _____ problems. (CO4)

a) Network Lock

b) Single source shortest path

c) All pair shortest path

d) Sorting

SECTION-B

Note: Objective/Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Define Data Structure. (CO1)

Q.8 Define space complexity. (CO2)

Q.9 Full form of BGS. (CO3)

Q.10 Define Recursive algorithm. (CO2)

Q.11 Give name of different Asymptotic Notations. (CO2)

Q.12 Define Travelling salesman problem. (CO3)

SECTION-C

Note: Short answer type Questions. Attempt any eight questions out of ten Questions. (8x4=32)

Q.13 What is an Algorithm? What is the need for an algorithm? (CO1)

Q.14 What are the criteria of Algorithm Analysis? (CO2)

Q.15 What do you understand by Best case, Worst case and Average case scenario of an algorithm? (CO2)

Q.16 Differentiate BFS and DFS. (CO3)