Question No: 1 (Marks: 1) - Please choose one
If a problem is in NP-complete, it must also be in NP.

► **True (Page 178)**
► False

Question No: 2 (Marks: 1) - Please choose one
If there are n items, there are _____ possible combinations of the items.

►2
►n
►**2^n (Page 92)**
►3^n

Question No: 3 (Marks: 1) - Please choose one
Using ASCII code, each character is represented by a fixed-length code word of _____ bits per character.

►4
►6
►**8 (P)age 99)**

►10

Question No: 4 (Marks: 1) - Please choose one
In Knapsack Problem, the thief's goal is to put items in the bag such that the _____ of the items does not exceed the limit of the bag.

►**Value (Page 91)**
►Weight
►Length
►Balance

Question No: 5 (Marks: 1) - Please choose one
The knapsack problem does not belong to the domain of optimization problems.

►True
►**False (Page 91)**

Question No: 6 (Marks: 1) - Please choose one
In Huffman encoding, for a given message string, the frequency of occurrence (relative probability) of each character in the message is determined last.

►True
►**False (Page 100)**

Question No: 7 (Marks: 1) - Please choose one
Fixed-length codes are known for easy break up of a string into its individual characters.

►**True (Page 99)**
►False

Question No: 8 (Marks: 1) - Please choose one
In _____ Knapsack Problem, limitation is that an item can either be put in the bag or not-fractional items are not allowed.

►0
►1
►**0/1 (Page 91)**
►Fractional

Question No: 9 (Marks: 1) - Please choose one
The term "coloring" came from the original application which was in architectural design.

► True
► **False (Page 173)**

Question No: 10 (Marks: 1) - Please choose one
In Knapsack Problem, value and weight both are to be under consideration.

►**True (page 91)**
►False

Question No: 11 (Marks: 1) - Please choose one
Time complexity of DP based algorithm for computing the minimum cost of chain matrix Multiplication is _____ .

►log n
►n
►n2
►**n3 (Page 90)**

Question No: 12 (Marks: 1) - Please choose one
In DP based solution of knapsack problem, to compute entries of V we will imply a/an _____ approach.

►Subjective
►**Inductive (Page 93)**
►Brute force
►Combination

Question No: 13 (Marks: 1) - Please choose one
A greedy algorithm sometimes works well for optimization problems.

►**True (Page 97)**
►False

Question No: 14 (Marks: 1) - Please choose one
In Huffman encoding, frequency of each character can be determined by parsing the message and _____ how many times each character (or symbol) appears.

►Printing
►Incrementing
►**Counting (Page 100)**
►Deleting

Question No: 15 (Marks: 1) - Please choose one
Greedy algorithm can do very poorly for some problems.

►**True (Page 97)**
►False

Question No: 16 (Marks: 1) - Please choose one
The Huffman codes provide a method of _____ data efficiently.

►Reading
►**Encoding (Page 99)**
►Decoding
►Printing

Question No: 17 (Marks: 1) - Please choose one
In _____ based solution of knapsack problem, we consider 2 cases, Leave object Or Take object.

►Brute force
►**Dynamic programming (Page 93)**

Question No: 18 (Marks: 1) - Please choose one
Those problems in which Greedy finds good, but not always best is called a greedy_____.

►Algorithm
►Solution
►**Heuristic (Page 97)**
►Result

Question No: 19 (Marks: 1) - Please choose one
In brute force based solution of knapsack problem, we consider 2 cases, Leave object Or Take object.

►TRUE
►**FALSE (Page 97)**

Question No: 20 (Marks: 1) - Please choose one
_____ problem, we want to find the best solution.

►Minimization
►Averaging
►**Optimization (Page 97)**
►Maximization

Question No: 21 (Marks: 1) - Please choose one
Using ASCII standard the string abacdaacac will be encoded with 10 bytes.

►**True (Page 101)**
►False

Question No: 22 (Marks: 1) - Please choose one
In _____ algorithm, you hope that by choosing a local optimum at each step, you will end up at a global optimum.

►Simple
►Non Greedy
►**Greedy (Page 97)**
►Brute force

Question No: 23 (Marks: 1) - Please choose one

Huffman algorithm uses a greedy approach to generate an prefix code T that minimizes the expected length B (T) of the encoded string.

►**True (Page 102)**

►False