

“Please check whether you have got the right question paper.”

i) Attempt any two questions from each section.

SECTION-A

- Q.1 a) What is performance analysis of an algorithm? How to compute complicity of following problem. 10
 1) Bubble sort
 2) Binary search method.
 b) Explain greedy method by taking suitable example of actively selection problem. 10

- Q.2 a) Explain hiring problem using indicate random variables. 10
 b) Solve the following rod cutting problem using dynamic programming for a rod of length :4 10

Length	1	2	3	4	5	6	7	8
Price	1	5	8	9	10	17	17	20

- Q.3 a) Sort given set of number using heap sort .Comment on Complexity .30,45,25,55,50,20,80,65,60,70. 10
 b) Explain minimum bipartite mateling problem with suitable example . 10

SECTION-B

- Q.4 a) Explain iterative FFT. 08
 b) Multiply thee polynomial 06
 $A(x) = 17x^3 - 3x^2 + x - 10$ and
 $B(x) = 8x^3 - 6x + 3$
 c) Explain Ext. Euclid's algorithm 06

- Q.5 a) Draw a hamiltonian circuit for following boolean experssion $(x_1 + x_2 + x_3), (\overline{x_1} + x_2 + \overline{x_3}), (x_1 + \overline{x_2} + \overline{x_3})$ 10
 b) Prove that vertex queue problem is NP-complete. 05
 c) Prove that clique is NP-complete . 05

- Q.6 a) Explain polynomial multiplication and division . 08
 b) Explain Rabin -karp algorithm with an example 08
 c) Find the position tree for abababa\$. 04