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**GIET UNIVERSITY, GUNUPUR – 765022**  
M. C.A(Third Semester) Examinations, December' 2020  
**MCA301 – DESIGN AND ANALYSIS OF ALGORITHMS**  
**(M.C.A)**

Time: 2 hrs

Maximum: 50 Marks

(The figures in the right hand margin indicate marks.)

Q.1. Answer **ALL** the questions

(2 x 10 = 20)

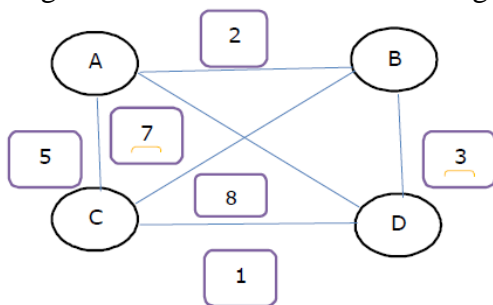
- What do you mean by linear search?
- Differentiate time and space complexity
- Define closest pair problem.
- Define the term exhaustive search.
- Define optimal binary search tree.
- What is blocking pair?
- What is perfect matching in Bipartite Graph?
- What is live node and dead node?
- State Extreme point theorem
- State sum of subset problem.

**PART – B (6 x 5 = 30 Marks)**

Answer ANY FIVE questions

Marks

- Explain in detail about mathematical analysis of recursive algorithm with example. 6
- Explain in detail about asymptotic notations. 6
- Using exhaustive search solve traveling salesman problem for the given data. 6



- Explain the merge sort using divide and conquer technique give an Example 6
- Explain Prim's algorithm in detail with example. 6
- Explain Memory Function algorithm for the Knapsack problem 6
- Explain about Class P and Class NP in detail 6
- Discuss in detail about stable marriage problem 6

--- End of Paper ---