3. Attempt any **Two** of the following questions: **6 x 2 = 12**

(a) Define Greedy method and its elements to solve a problem.

(b) Explain Activity selection problem to solve a problem.

(c) Explain Matrix multiplication problem to solve a problem.

4. Attempt any **Two** of the following questions: **6 x 2 = 12**

(a) Explain Prim's algorithm to solve a problem.

(b) Explain difference between Depth first and Breadth first search.

(c) What do you mean by Topological sort? Explain with an example.

5. Attempt any **Two** of the following questions: **6 x 2 = 12**

(a) Explain Knuth Morris Pratt string matching algorithm to solve a problem.

(b) What do you mean by Intractable problems and non deterministic algorithms?

(c) Explain the term NP-Hard, NP-Complete problem and NP-Completeness.

Roll No. | | | | | | | | | | |

B.C.A.

FIFTH SEMESTER EXAMINATION, 2018-19

ALGORITHM ANALYSIS AND DESIGN

Time : **3 Hours** Max. Marks : **60**

Note : (i) Attempt **ALL** questions.
(ii) Choices are given in each question set.

1. Attempt any **Four** of the following questions: **3 x 4 = 12**

(a) Explain the fundamental characteristic of an Algorithm.

(b) Explain Asymptotic notations with suitable example.

(c) Explain Master's theorem to solve a problem.

(d) Write the algorithm of Insertion sort.

(e) What do you mean by Recurrence relation?

(f) Explain space and time complexity of an algorithm.

2. Attempt any **Four** of the following questions: **3 x 4 = 12**

(a) Write down the difference between Dynamic programming and Divide and Conquer approach.

(b) Explain why Quick sort is better than Merge sort?

(c) Define Heap with suitable example.

(d) What is the need for a good Hash function?

(e) Explain the collision resolution techniques.

(f) Write an algorithm of merge sort.