Code: 9A05403

R09

B.Tech III Year II Semester (R09) Supplementary Examinations May/June 2017

DESIGN & ANALYSIS OF ALGORITHMS

(Electronics and Computer Engineering)

Time: 3 hours Max. Marks: 70

Answer any FIVE questions

All questions carry equal marks

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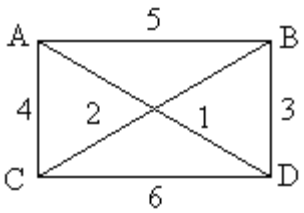
1 (a) Write Miller Rabin primality test algorithm.
(b) How one can identify the repeated elements?

2 Explain the UNION and FIND operations in detail with data representation.

3 (a) Give brief description about the randomized quick sort.
(b) Prove that quick sort is not a stable sorting algorithm.

4 (a) Give the control abstraction for greedy method.
(b) Define minimum cost spanning trees. Explain them with suitable example.

5 (a) Find the shortest paths between all pairs of nodes in the following graph.



(b) What are the advantages of finding shortest paths and also explain the application areas?

6 (a) Write an algorithm of n-queen problem.
(b) Explain the Graph coloring with an example.

7 (a) Write FIFOBB algorithm for the 0/1 knapsack problem.
(b) Explain the general method of Branch and Bound.

8 (a) Explain about optimization problem with an example.
(b) Explain briefly, NP-hard and NP-complete problems. List some of the example of NP-Complete problems.

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