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Register Number:

Name of the Candidate:

M.C.A. DEGREE EXAMINATION, May 2015
(FIRST SEMESTER)

151. DATA STRUCTURES AND ALGORITHMS

Time: Three hours

Maximum: 100 marks

SECTION -A

(8 × 5 = 40)

Answer any EIGHT questions

1. Explain the stack operations with example and neat diagram.
2. Write a short note on Hashing.
3. Explain strassen's matrix multiplication.
4. Give a brief note on optimal storage on tapes.
5. Describe the multistage graphs briefly.
6. Write a short note on code optimization.
7. Describe the Hamiltonian cycles.
8. Write a short note on branch and bound method.
9. Explain NP-Hard Graph problem.
10. Give a brief note approximate algorithms for NP-Hard problems.

SECTION -B

(3 × 20 = 60)

Answer any THREE questions

11. Describe the following (i) Depth first search (ii) Breath first search
 12. Explain in detail about quick sort algorithm with an example using divide-and-conquer method.
 13. Explain AND/OR graph in detail.
 14. Explain 8-queen problem with an example.
 15. Describe the following
 - a) NP-Hard scheduling problem
 - b) NP-Hard code generation problems
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