M. Tech. –II (Computer Engineering) (2011Course) Choice Based Credit System : WINTER - 2018

SUBJECT: ADVANCED COMPUTER ALGORITHMS

Day: Tuesday
Date: 20/11/2018

Time: 11.00 AM TO 02.00 PM
Max. Marks: 60

W-2018-3357

N.B.:

1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Answers to both the sections should be written in **SEPARATE** answer book.

SECTION-I

Q.1 What is meant by Asymptotic Notation? Briefly discuss about the θ-Notation, O –Notation and Ω-notation. **(10)**

OR

Describe a primitive model of computation for Turing machines. **(10)**

Q.2 What is average and worst case analysis? Explain it by taking example of sorting. **(10)**

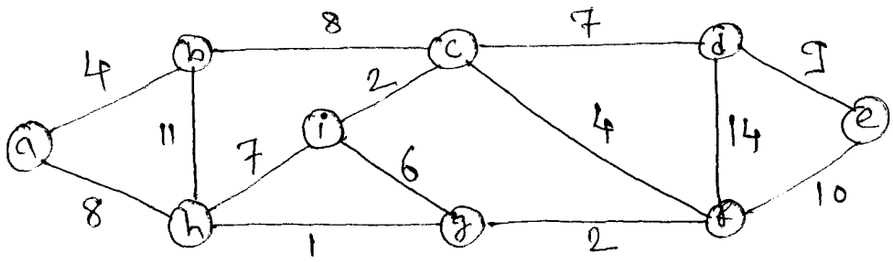
OR

What is Branch and bound? Explain it with example. **(10)**

Q.3 Describe B-Tree algorithm in detail. **(10)**

OR

What is MST? Find MST for the following graph using Prims algorithm. **(10)**



SECTION-II

Q.4 What is Robin- Karp algorithm? Explain it with its complexity. **(10)**

OR

Describe Strassen's Matrix multiplication. **(10)**

Q.5 What is OBST? Describe it in detail. **(10)**

OR

Describe Graph Coloring problem. **(10)**

Q.6 What is Decision problem? Explain it in terms of NP- hard, NP –complete. **(10)**

OR

Describe approximation algorithm for NP- hard problem. **(10)**

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