

Reg. No. :						

## Question Paper Code: P 1199

## B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2009: 011

Third Semester/Fourth Semester

(Regulation 2004)

Computer Science and Engineering

## CS 1201 — DESIGN AND ANALYSIS OF ALGORITAMS

(Common to B.E.(Part-Time) Second Semester - Regulation 2005)

Time: Three hours

Maximum: 100 marks

Sufficenting &

Answer ALL questions

PART A —  $(10 \times 2 = 26 \text{ roorks})$ 

- 1. What are the drawbacks in using the standard unit of time, to measure the runtime of an algorithm?
- 2. What is meant by empirical analysis of algorithm?
- 3. What are the ways to represent the data obtained?
- 4. What are the types of algorithm visualization?
- What are the six step processes in Algorithmic Problem Solving?
- 6. Formally define the notion of Algorithm with diagram.
- 7. Give some examples for brute force algorithm.
- 8. How can you improve the quick sort?
- 9. What are the types of decrease and conquer?
- Define articulation point.

## PART B — $(5 \times 16 = 80 \text{ marks})$

11. (a) Explain Divide and Conquer technique.

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- (b) Explain the quick sort technique.
- 12. (a) (i) What is the efficiency of DFS traversal?
  - (ii) State the applications of DFS. (2)
  - (iii) State the applications of BFS. (2)
  - (iv) Compare DFS and BFS. (10)

Or

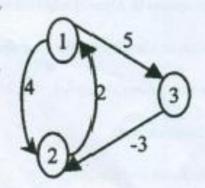
- (b) Design an algorithm for find the largest element of n numbers and find the efficiency of the algorithm?
- 13. (a) For n = 40,30,20,60,50,80,15,28,25 draw all the binary trees with n nodes that satisfy the balance requirement of AVL trees

Or

- (b) Write about general plan for Empirica? Analysis of algorithm efficiency.
- 14. (a) Design a presorting based algorithm for computing mode of an array and determine its efficiency class.
  - (b) Explain heap sort with example and analyze.
- 15. (a) Discuss in detail the Granca and Bound Technique.

Or

(b) Apply Floyd's also ithm for the following graph



(2)