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CSE

JAYA GROUP OF INSTITUITIONS- THIRUNINRAVUR
4th SEM – B.E/B.Tech
INTERNAL ASSESSMENT – 1 (MODEL EXAMINATION – 1)

Sub. Name : Design and Analysis of Algorithms **Date : 29.01.2015**
Sub. Code : CS6402 **Branch : IT**
Duration : 180 minutes **Max. Marks : 100**

PART – A (10x2=20) Answer all the Questions

1. Differentiate Time complexity from Space complexity.
2. Establish the relationship between O and Ω
3. What is Recurrence equation?
4. Difference between Recursive and Non- Recursive algorithm.
5. What is Linear search?
6. Differentiate Brute force and Divide-and-Conquer.
7. What is Closest Pair problem?
8. What is Exhaustive Search algorithm?
9. Give the Recurrence relation for Worst Case of Merge Sort.
10. What is Divide-and-Conquer recurrence?

PART – B (5X16=80) Answer the Questions as per the choice

11. (a)(i)Explain Asymptotic Notations in detail. (8)

(ii)Write an algorithm for Linear Search and analyze the algorithm for its Time Complexity (8)

Or

11. (b)Explain Fundamentals of algorithmic problem solving in detail. (16)

12. (a)Explain Mathematical analysis of Non-Recursive algorithm with examples. (16)

Or

12. (b)Explain Mathematical analysis of Recursive algorithm with examples. (16)

13. (a)Explain the Fundamentals of the analysis of algorithm efficiency. (16)

Or

13. (b)(i)What is Divide-and-Conquer algorithm? (4)

(ii)Explain Merge Sort Problem using divide-and-conquer technique. Give an example (12)

14. (a)Explain how Dynamic Programming is applied to solve Travelling Salesperson problem (16)

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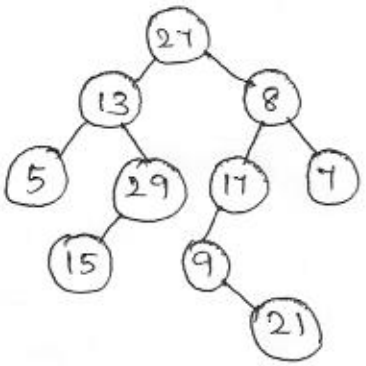
Or

14. (b)Explain Binary Search algorithm with an example. (16)

15. (a)Define Bubble Sort. Explain the process with its algorithm. Perform bubble sort on : 100 1254 33 20 500 (16)

Or

15. (b)(i)Find the Inorder, Preorder, Postorder traversals of the following binary tree. (6)



(ii)Assign the given jobs to person A,B,C and D, such that cost is low. (10)

A	5	15	12	18
B	14	17	27	6
C	10	8	7	3
D	2	13	26	1