

Total No. of Questions : 6]

SEAT No. :

P44

[Total No. of Pages : 1

TE/INSEM/APR-49

T.E. (Computer)

**310250 : DESIGN & ANALYSIS OF ALGORITHMS
(2015 Pattern) (Semester - II)**

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:

- 1) Figures to the right indicate full marks.
- 2) Assume suitable data, if necessary.

- Q1)** a) Explain means of improving efficiency of Algorithm. [5]
b) What is need of correctness of algorithm? What is loop invariant property? [5]

OR

- Q2)** a) What are Algorithms? Explain algorithm as technology with example. [5]
b) Discuss issues related to iterative algorithm design. [5]

- Q3)** a) Give a linear time algorithm for fractional knapsack problem. Analyze the same. [5]
b) Explain the importance of Tail recursion with a suitable example? [5]

OR

- Q4)** a) Explain imperative model in detail. [5]
b) Obtain set of optimal Huffman codes for set of characters $S = (a, b, c, d, e, f)$ with following frequency of occurrences $P = (5, 25, 7, 15, 4, 12)$. Draw the decode tree for this set of codes. [5]

- Q5)** a) Write a short note on Evolutionary Computing and Genetic Algorithm. [5]
b) Solve multiplication using Divide and Conquer strategy $1234 * 2139$. [5]

OR

- Q6)** a) What is LCS for following using Dynamic Programming, [5]
String 1 = "ABCDGH" and String 2 - "AEDFHR".
b) Explain branch-n-bound approach. [5]

