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SEAT No. :

P539

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**TE/Insem/APR-139**  
**T.E. (Computer) (Semester - II)**  
**DESIGN & ANALYSIS OF ALGORITHMS**  
**(2015 Pattern)**

*Time : 1 Hour]*

*[Max. Marks : 30*

*Instructions to the candidates:*

- 1) *Answer the following questions.*
- 2) *Figures to the right indicate full marks.*
- 3) *Assume suitable data, if necessary.*

- Q1)** a) Explain different means of improving efficiency of Algorithm. [5]  
b) Explain characteristics of good algorithm? List out the problems solved by the Algorithm? [5]

OR

- Q2)** a) How to confirm the correctness of Algorithm? Explain with example. [5]  
b) Write a short note on algorithm as a technology with example. [5]

- Q3)** a) How does fractional greedy algorithm solves the following knapsack problem with capacity 8, Items (I1, I2, I3, I4), profit P=(25,24,15,40) and weight w=(3,2,2,5). [5]  
b) Explain the concept of PMI and prove the correctness of an algorithm to find factorial of a number using PMI. [5]

OR

- Q4)** a) Write and explain Huffman Code Generation Algorithm. [5]  
b) Explain Tail recursion with suitable example? [5]

- Q5)** a) Find the correct sequence for jobs using following instances, [5]

Job	J1	J2	J3	J4	J5
Profit	20	15	10	5	1
Deadline	2	2	1	3	3

- b) Write a short note on Artificial Neural Network. [5]

OR

- Q6)** a) Explain dynamic programming strategy? Enlist few applications which can be solved by using dynamic programming. [5]  
b) Explain basic steps of genetic algorithm. [5]

