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]**

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