Total No. of Questions : 4]

SEAT No. :

PE125

[Total No. of Pages : 1

[6579]-434

T.E. (Artificial Intelligence and Machine Learning) (Insem)
DESIGN AND ANALYSIS OF ALGORITHM
(2019 Pattern) (Semester - I) (318541)

Time : 1 Hour] *[Max. Marks : 30*

Instructions to the candidates:

1) *Answer Q.1 or Q.2, Q.3 or Q.4.*
2) *Neat diagrams must be drawn wherever necessary.*
3) *Figures to the right indicate full marks.*
4) *Assume suitable data, if necessary.*

Q1) a) Define an algorithm and write the characteristics of algorithm. **[5]**

b) Explain recursive and iterative process with example. **[5]**

c) Elaborate Time Complexity with example. **[5]**

OR

Q2) a) Describe space complexity and time complexity. **[5]**

b) Explain asymptotic notations. **[5]**

c) Prove by contradiction that square root of 2 is irrational. **[5]**

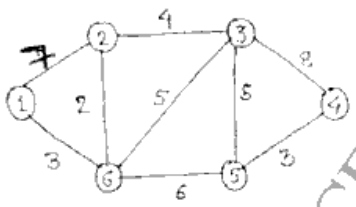
Q3) a) Solve the following instance of job sequencing problem using greedy approach. Let n = 7, Profits (p1, p2,.., p7) = {3, 5, 20, 18, 1, 6, 30} Deadlines (d1, d2,....., d7) = {1, 3, 4, 3, 2, 1, 2}. **[6]**

b) Explain knapsack problem in Greedy method. **[5]**

c) Describe divide and conquer method. **[4]**

OR

Q4) a) Find Dijkstra's shortest path from vertex 1 for the following graph **[6]**



b) Explain algorithm for Job sequencing with deadlines. **[5]**

c) Explain greedy method with algorithm. **[4]**

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