Total No. of Questions : 4]

SEAT No. :

PC122

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[6360]-128

T.E. (Artificial Intelligence and Data Science) (Insem)

ARTIFICIAL INTELLIGENCE

(2019 Pattern) (Semester - I) (310253)

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

Instructions to the candidates:

1) ***Answer Q1 or Q2, Q3 or Q4.***
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 Artificial Intelligence. State and explain the four approaches of Artificial Intelligence? **[5]**

b) What is an agent? Draw and explain the Architecture of General Learning Agent. **[5]**

c) Enlist the advantages of Artificial Intelligence. **[5]**

OR

Q2) a) What is an Environment for an agent? Explain various types of Environments. **[5]**

b) List different types of agent programs. Draw and explain any two agent programs. **[5]**

c) Explain the attributes used in agent design. Write PEAS description for following systems. **[5]**

i) A Vacuum Cleaner world system

ii) Interactive English Tutor system

Q3) a) Define problem? Write & explain the five components of Well-defined problem. **[5]**

b) Explain different search strategies. **[4]**

c) Explain Hill climbing algorithm. Explain Local Maxima, Global Maxima and plateau for an example. **[6]**

OR

Q4) a) Explain A* algorithm with suitable example. **[5]**

b) What is Heuristic function? **[4]**

c) Explain Depth-limited search and Iterative deepening depth-first search. Compare both search strategies w.r.t. Completeness, Optimality, Space Complexity and Time Complexity. **[6]**