

Total No. of Questions : 4]

SEAT No. :

PC122

[Total No. of Pages : 1

[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]

