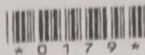


B.Tech. (Computer Technology) Fifth Semester (C.B.C.S.) Winter 2022  
**Artificial Intelligence**

P. Pages : 2

Time : Three Hours



SPM/KW/22/2676

Max. Marks : 70

- Notes :
1. All questions carry marks as indicated.
  2. Solve Question 1 OR Questions No. 2.
  3. Solve Question 3 OR Questions No. 4.
  4. Solve Question 5 OR Questions No. 6.
  5. Solve Question 7 OR Questions No. 8.
  6. Solve Question 9 OR Questions No. 10.
  7. Due credit will be given to neatness and adequate dimensions.
  8. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) Explain the term AI. Write the importance of AI & task domains of AI system. 7  
b) What is production system? Give the classification of production system. Explain it with examples. 7

OR

2. a) Explain the characteristics of AI problems with the help of suitable example. 9 7  
b) Draw & explain architecture of intelligent agents. 5
3. a) Differentiate between: 9 7  
i) Procedural & declarative knowledge.  
ii) Predicate & propositional logic  
iii) Forward & backward reasoning.  
b) Explain means-ends analysis with the help of robot example. 5

OR

4. a) Write & explain various steps used in conversion of Wffs into clause form. 5  
b) Use resolution technique to find Ravi is spy, using following sentences. 9  
i) One of Raman, Ravi, Raghu & Ramesh is spy.  
ii) Raman is not spy.  
iii) Spies wear light colored dresses & do not attract attention of others.  
iv) Raghu was wearing a dark coloured suit.  
v) Ramesh was the centre of attraction of that evening.

5. a) What is the importance of Bayes theorem? Explain, conditional probability posterior probability & prior probability.

5 3

b) Explain the following:

9 6

i) Frames

ii) Scripts

iii) Conceptual dependency

OR

6. a) Write short note on fuzzy logic.

7

b) Explain semantic networks with example.

7

7. a) Draw & explain the architecture of expert system.

7 5

b) Give & explain various knowledge levels using in natural language understanding.

4 3

c) What do you mean by NLP?

3 3

OR

8. a) Write a note on adding alpha-beta cutoffs.

7

b) What is parsing? Explain any two types of parsing in NLU.

4

c) Explain the importance of game playing in AI.

3

9. a) List the genetic operators & explain each of them with suitable example.

7

b) Explain the ANN. Also list the application of neural networks.

6 5

OR

10. a) Explain the life cycle of genetic algorithm.

7

b) Draw & explain the basic neuron model with example.

7

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