Total No. of Questions : 10]

SEAT No. : [ ]

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[5871]-611

B.E. (Electronics and Telecommunication)

ARTIFICIAL INTELLIGENCE

(2015 Pattern) (Semester - I) (Elective - II) (412185-D)

Time : 2½ Hours] ***[Max. Marks : 70***

Instructions to the candidates:

1) ***Answer Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8, Q.9 or Q.10.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Assume suitable data if necessary.***
4) ***Figures to the right indicate full marks.***
5) ***Use of logarithmic tables slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.***

Q1) a) Discuss the simple reflex agent and model based agent. **[5]**

b) Discuss the min-max approach for game decision. **[5]**

OR

Q2) a) Discuss the unification and lifting concepts with one or two examples. **[5]**

b) Discuss the MARS rover agent and its PEAS aspects. **[5]**

Q3) a) Explain the Iterative Deepening Approach with suitable example. **[5]**

b) Explain the steps involved in the knowledge Engineering process. Give an example. **[5]**

OR

Q4) a) Explain first order logic(FOL) syntax & semantics with one example each. **[5]**

b) Discuss the Hidden Markov model and its use. **[5]**

Q5) a) Discuss the inductive and deductive learning with examples. **[8]**

b) What is ensemble learning? Sketch the block schematic and explain how it's effective as compared with individual algorithms. **[8]**

OR

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Q6) a) What are the different learning methods? Explain any one in detail. **[8]**

b) Discuss Explanation Based Learning (EBL) and Relevance Based Learning (RBL) with suitable examples. **[8]**

Q7) a) Discuss the Pattern Recognition System. Explain the Face Recognition application on the basis of pattern recognition. **[8]**

b) Write a short note : Principal component analysis. Discuss with reference to Eigen value and Eigen vectors and their importance. **[8]**

OR

Q8) a) Discuss the Linear Discriminant Analysis. **[8]**

b) Take an example of Template Matching theory and Prototype Matching Theory and compare them for pattern recognition. **[8]**

Q9) a) What is Discourse understanding? What is Grammar Induction? Explain with examples. **[9]**

b) Discuss the ambiguity and disambiguity. Give examples to explain the concepts. How do we do disambiguation? **[9]**

OR

Q10)a) What is parsing? Develop the parsing tree with suitable labels for the sentence: "A beautiful bird sat on the delicate branch". **[9]**

b) Enlist and discuss the three different ambiguities in Natural Language Processing. **[9]**