Total No. of Questions : 10]

SEAT No. :

P1879

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[4859]-1072

B.E. (Computer Engineering)

SMART SYSTEM DESIGN AND APPLICATIONS

(2012 Course) (End-Semester) (410443) (Semester-I)

Time : $2^{1}/_{2}$ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Attempt Q. 1 or Q. 2, Q. 3 or Q. 4, Q. 5 or Q. 6. Q. 7 or Q. 8, and Q. 9 or Q. 10.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Assume suitable data, if necessary.***

Q1) a) Explain the architecture of a general learning agent. **[6]**

b) Explain any two local search algorithms. **[6]**

c) Explain the procedure for conversion of FOL to CNF with example. **[8]**

OR

Q2) a) Explain any three foundations of intelligent systems? **[6]**

b) Describe effectiveness of a alpha-beta pruning. **[6]**

c) Write a note on planning graphs. **[8]**

Q3) a) Explain the baye's rule and its use with a suitable example. **[6]**

b) Explain Bayesian networks with a suitable example. **[6]**

OR

Q4) a) Write a note on Hidden Markov Models. **[6]**

b) Explain the construction of Dynamic Bayesian Networks with a suitable example. **[6]**

Q5) a) Explain any one supervised learning approach. **[6]**

b) Explain Nonparametric Models. **[6]**

OR

P.T.O.

Q6) a) Write a note Artificial Neural Networks. **[6]**

b) Explain Ensemble Learning. **[6]**

Q7) a) What are the Information Retrieval characteristics? How to Evaluate and Refine Information Retrieval system. **[6]**

b) Explain the procedure for Machine translation. **[6]**

OR

Q8) a) Describe Robotic Perception in brief. **[6]**

b) Write a note on Robotic Software Architectures. **[6]**

Q9) a) Describe the Basis of Utility Theory. **[6]**

b) How to Evaluate and Choose the Best Hypothesis. **[8]**

OR

Q10)a) How to Represent and Evaluate decision problem with a decision network. **[6]**

b) Explain any four prime application domains of robotics technology. **[8]**

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