

Total No. of Questions : 10]

SEAT No. :

**P1879**

**[4859]-1072**

[Total No. of Pages : 2

**B.E. (Computer Engineering)**

**SMART SYSTEM DESIGN AND APPLICATIONS**

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

*Time : 2½ 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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