

Total No. of Questions : 12]

SEAT No. :

P777

[Total No. of Pages : 2

[4659] - 127

B.E. (Electronics) (Semester - II)

C : ARTIFICIAL INTELLIGENCE

(2008 Pattern) (Elective - IV)

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:

- 1) *Answers to the two sections should be written in separate answer books.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right side indicate full marks.*
- 4) *Use of Calculator is allowed.*
- 5) *Assume Suitable data if necessary*

SECTION - I

- Q1)** a) Formulate missionaries and cannibals problem to derive solution. Draw complete state space diagram. [8]
- b) Explain problem characteristics in detail. What are the functionalities of an agent function? [8]

OR

- Q2)** a) List the characteristics of intelligent agents. [8]
- b) Use toy problem to illustrate various problem solving methods. [8]

- Q3)** a) What is the significance of adding alpha-beta cutoffs in min-max search? Explain with example. [10]
- b) Explain constraint satisfaction problem as an incremental formulation and need of backtracking in CSP. [8]

OR

- Q4)** a) Elaborate on games that include an element of chance. Draw and explain game tree for backgammon game position. [10]
- b) Justify relevance of game playing theory in AI with example games explored under AI domain. [8]

P.T.O.

- Q5)** a) What is first order logic? Show with an example how it is used to represent knowledge. [8]
b) Represent the following sentences in first order logic : [8]
- Some students take French in spring 2011
 - Every student who takes French passes it
 - Only one student took Greek in spring 2011
 - The best score in Greek is always higher than the best score in French

OR

- Q6)** a) State the rules and steps for converting a given well predicate logic statements to clausal form. [8]
b) Explain the working of unification algorithm with suitable example.[8]

SECTION - II

- Q7)** a) What are the different learning methods? Explain them in short. [8]
b) Which are the different ways to assess the performance of learning Algorithm? [8]

OR

- Q8)** a) Explain the decision tree algorithm with suitable example. [8]
b) Explain in detail architecture of artificial neural network. [8]

- Q9)** a) Explain Waltz algorithm with example and comment on its limitations. [10]
b) Explain the architecture of expert systems and justify expert systems.[8]

OR

- Q10)** a) How reinforcement learning differs from statistical learning. [10]
b) Explain learning by decision trees. [8]

- Q11)** a) Why use NLP? What are the phases of NLP? [8]
b) What is augmented grammar? [8]

OR

- Q12)** a) What is syntactic analysis? [8]
b) Explain ambiguity and disambiguation. [8]

