

Total No. of Questions : 12]

SEAT No. :

**P844**

**[4659]-103**

[Total No. of Pages : 3

**B.E. (Electronics & Telecommunication) (Semester - II)**

***a* - ARTIFICIAL INTELLIGENCE**

**(2008Pattern) (Elective-IV)**

*Time : 3Hours]*

*[Max. Marks :100*

*Instructions to the candidates:*

- 1) *Answer three questions from Section - I and three questions from Section - II.*
- 2) *Answers to the two sections should be written in separate answer books.*
- 3) *Neat diagrams must be drawn wherever necessary.*
- 4) *Use of logarithmic tables, slide rule, mollier charts, electronic pocket calculator and steam tables is allowed.*
- 5) *Assume suitable data if necessary.*

**SECTION-I**

**Q1) a)** Explain the different architectures of agents and give at least two examples where these agents are used. **[10]**

b) Compare Depth First and Breath First search methods. **[8]**

OR

**Q2) a)** Give PEAS descriptors for the following: **[10]**

i) Medical Diagnosis System,

ii) Interactive English Tutor.

b) Write C pseudo code for depth limit search method. Explain its merits and demerits. **[8]**

**Q3) a)** Compare the different uninformed searching strategies with respect to different parameters. **[8]**

b) Explain A\* algorithm and write its C pseudo code. **[8]**

OR

**P.T.O.**

**Q4) a)** Explain hill climbing algorithm. Explain plateau, ridge, local maxima and global maxima. [8]

b) Define Heuristics. Explain the significance of Heuristic function in the informed search with suitable example. [8]

**Q5) a)** Explain the working of Unification algorithm with suitable example. [8]

b) State the rules and steps for converting a given well predicate logic statements to clausal form. [8]

OR

**Q6) a)** Explain backward chaining algorithm with suitable example. [6]

b) Consider the following axioms: [10]

If a triangle is equilateral then it is isosceles.

If a triangle is isosceles then two sides AB & AC are equal.

If AB&AC are equal then angle B and C are equal.

ABC is an equilateral triangle.

i) Represent these facts in predicate logic.

ii) Use resolution to prove: "Angle B is equal to angle C".

## SECTION-II

**Q7) a)** What are the different learning methods? Explain them in short. [10]

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. [10]

b) Explain in detail architecture of artificial neural network. [8]

- Q9) a)** What is difference between expert system and traditional system?  
Comment on the advantages and disadvantages of expert system. [8]
- b) Design phases of an expert system to diagnose childhood disease. [8]

OR

- Q10)a)** Explain Waltz algorithm with example and comment on its limitations.[8]
- b) What is the perception? Give detailed structures of it. [8]
- Q11)a)** What is NLP? Explain all the five phases of NLP. [8]
- b) Parse each of the sentences using top-down and bottom-up approach.[8]
- i) Mary watered the plants.
- ii) The brown dog ate the bone.

OR

- Q12)a)** Explain the Syntactic analysis with suitable example. [8]
- b) Explain the Semantic analysis with suitable Example. [8]

*EEE*