Total No. of Questions : 12] [Total No. of Pages : 2

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B.E. (Computer Engg.)

ARTIFICIAL INTELLIGENCE

(2003 Course)

Time : 3 Hours] [*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 books.*
3) *Neat diagrams must be drawn wherever necessary.*
4) *Assume suitable data, if necessary.*

SECTION - I

Q1) a) What is AI? Give any two applications of AI in detail. **[8]**

b) Compare Forward and Backward reasoning. With example explain the Backward reasoning elaborately. **[8]**

OR

Q2) a) What are the characteristics of good search strategy? What is a production system? **[8]**

b) Give an architecture of a typical agent in AI system? Explain in detail. **[8]**

Q3) a) Explain A* algorithm in detail with example. **[10]**

b) Explain waiting for quiescence and secondary search. **[8]**

OR

Q4) a) Apply constraint satisfaction method to solve the cryptarithmetic problem **[8]**

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b) Illustrate AO* algorithm with a typical example. **[10]**

Q5) a) What are the drawbacks of predicate logic used in representation of facts? Give five examples where it becomes extremely difficult to use predicate logic for representations. **[8]**

b) Write a note on statistical and probablistic reasoning. **[8]**

OR

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Q6) a) Explain the process of resolution with proper example. **[8]**

b) Write a note on conceptual Dependancy and frames. **[8]**

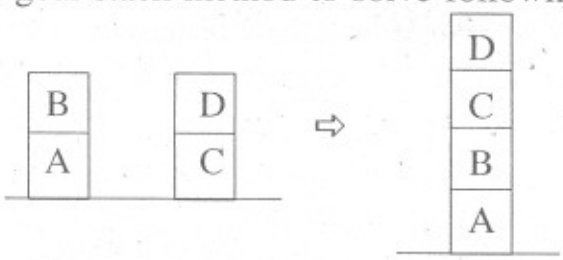
SECTION - II

Q7) a) Write a note on Hierarchical planning and least commitment strategy. **[8]**

b) Explain Rote learning and learning by Analogy. **[8]**

OR

Q8) a) Use goal stack method to solve following Block's problem. **[10]**



b) Explain the significance and impact of learning in problem solving. **[6]**

Q9) a) Explain RTN with an example. **[8]**

b) Give a typical Robot architecture. **[8]**

c) What is morphological Analysis in NLP. **[2]**

OR

*Q10)*a) In detail discuss all the phases of Natural Language processing. **[10]**

b) Give the details of Waltz's algorithm. **[8]**

*Q11)*a) Draw the multilevel ANN for satisfying EX-OR function of Diginal gate. Explain **[8]**

b) Design an expert system for chemical synthesis. **[8]**

OR

*Q12)*a) What is Artificial Neural Network? Give any two applications of ANN in detail. **[8]**

b) Draw and explain typical Expert system architecture. **[8]**

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