Exam. Code: 0937
Sub. Code: 33789

2125
B.E. (Electrical and Electronics Engineering)
Seventh Semester
OE-EE-704: Artificial Intelligence

Time allowed: 3 Hours **Max. Marks: 50**

NOTE: Attempt five questions in all, including Question No. 1 (Section-A) which is compulsory and selecting two questions from each Section B-C.

x-x-x

Section -A

Q 1(a) Describe the main characteristics of Production Systems. Why they are called so? (10)

(b) What types of problems are solved using means ends analysis.

(c) What is the use of Alpha beta cutoff in Min-Max algorithm?

(d) How cost is calculated in AO* search?

(e) What are Fuzzy sets?

Section -B

Q2 (a) Why do we use Heuristic search techniques? Explain the steepest ascent hill climbing algorithm. What are the main limitations of it? Describe the solutions to overcome each limitation. (6)

(b) Highlight the main issues in representation of different types of knowledge. (4)

Q3 (a) How crypt-arithmetic problem solved using constraint satisfaction algorithm. Explain the algorithm. (5)

(b) What are the exit conditions in Min Max algorithm? How rating of a game board is determined? (5)

Q 4 (a) Analyze the A* Algorithm. Explain the role of f', g and h in this. Prove that it follows the graceful decay of admissibility (5)

(b) Discuss the advantages and disadvantages of Conceptual Dependency and represent the following sentence using CD." While going home I saw a frog". (5)

Section -C

Q5 (a) Why Bayesian Theorem is intractable? How Dempster shafer theory solves this problem. (5)

(b) What is the meaning of Fuzzy set operations: Union, Intersection, Dilation, Complement (5)

Q6 (a) What are different types of mutex relations in Graphplan algorithm? Explain the algorithm in detail. (5)

(b) Explain different types of Expert system architectures. Describe the decision tree based expert systems in detail. (5)

Q7 (a) Explain how default logic is different from non-monotonic logic. What are the different approaches to resolve conflicts in approximate matching? (5)

(b) List the different phases of NLP. What is the purpose of pragmatic analysis. (5)

x-x-x