

C022613(022)

B. Tech. (Sixth Semester) Examination, April-May 2022

(AICTE Scheme)

(Computer Science and Engineering Branch)

ARTIFICIAL INTELLIGENCE & EXPERT SYSTEM

Time Allowed : Three hours

Maximum Marks : 100

Minimum Pass Marks : 35

Note : Attempt all questions. Part (a) is compulsory from each questions and carry 4 marks. Attempt any two out of part (b), (c) and (d) in each question carry 8 marks. Diagram in necessary whenever if necessary.

Unit-I

1. (a) Differentiate informed search and uninformed search.
- (b) State and explain best first search algorithm with example.

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(c) Explain Alpha-Beta Pruning with example.

(d) Solve the crypt arithmetic problem :

$$\text{SEND} + \text{MORE} = \text{MONEY}$$

And describe how heuristic is implemented in it.

Unit-II

2. (a) Define FOPL.

(b) Write short note on :

(i) Skolemization

(ii) Resolution principle

(c) Distinguish between forward and backward chaining with example.

(d) State Bayes theorem along with example.

Unit-III

3. (a) What are the components of planning?

(b) What is Learning? Explain supervised and unsupervised learning.

(c) Explain blocks world problem.

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(d) Write short note on :

(i) Naive Bayesian Classifier

(ii) Explanation based learning

Unit-IV

4. (a) What is NLP? What are its steps in NLP?

(b) Explain Bag of Words with example.

(c) Describe text classification in NLP with example.

(d) Write short note on :

(i) Information Retrieval

(ii) Question Answering

Unit-V

5. (a) What do you understand by Swarm Intelligence and Swarm Agents?

(b) Define Agents. Discuss the types of agent architecture.

(c) Explain expert system architecture with neat diagram and relationship between components.

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(d) Write short note on :

(i) Expert System Shell

(ii) Knowledge Acquisition