G-2/229/21   Roll No…………...

M.Sc. II Semester Examination, 2021

INFORMATION TECHNOLOGY

Paper V

(AI and Expert System)

Time : 3 Hours]   [Maximum Marks : 100

Note : *All questions are compulsory. Question Paper comprises of 3 sections. **Section A** is objective type/multiple choice questions with no internal choice. **Section B** is short answer type with internal choice. **Section C** is long answer type with internal choice.*

SECTION 'A'

(Objective Type / Very Short Answer Questions)

1 × 10 = 10

1. What is the term used to define inability to distinguish computer responses from human responses ?

2. What is state in terms of problem solving ?

3. Define Successor function.

4. What is relational knowledge ?

5. What is blind search ?

P.T.O.

6. Write definition of Frame.

7. What are the applications of natural language processing that impact billions of users daily ?

8. Write the name of the different learning methods.

9. Write any two characteristics of Expert Systems.

10. What is Shell ?

SECTION 'B'   6 × 5 = 30

(Short Answer Type Questions)

Note : *Answer the following questions in 250 words.*

Unit I

1. Explain Production Systems and their charactersistics.

Or

What are goals of AI ? Explain the advantages and disadvantages of AI.

Unit II

2. What is Local Search in Continuous Spaces ?

Or

Describe Mini Max Algorithm with example.

Unit III

3. What are the different types of knowledges and their Respresentation issue ?

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Or

What are the advantages and disadvantages of Forward and Backward chaining ?

Unit IV

4. Write about Analysis of Planning approaches.

Or

Explain Dempster-Shafer Theory.

Unit V

5. Explain the Architecture of rule Based Systems.

Or

Write about knowledge aquisition and validation.

SECTION'C'   **12 × 5 = 60**
(Long Answer Type Questions)

Note : *Answer the following questions in 500 words.*

Unit I

1. Define problem as state space search, with the help of water Jug Problem.

Or

Write short notes on the following :

(i) Intelligent Agents,

(ii) Concept of Rationality.

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Unit II

2. What is Search Alogrithm ? Explain in detail about various Search Algorithms.

Or

Write and explain Branch and Bound Search algorithm with their advantages and disadvantages.

Unit III

3. Explain the representation of simple facts of logic using first order predicate logic (FOPL) and the term Logic Programme.

Or

Write about :

(i) Semantic Nets,

(ii) Frames as Sets and Instances.

Unit IV

4. Explain Bayes' theorem with suitable example.

Or

Explain in detail Grammar and Chomsky Hierarchy.

UNIT V

5. What is Expert system ? Describe characteristics, limitations and applications of expert systems.

Or

Explain learning in detail with classification.

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