

Roll No. :

Total No. of Questions : 11]

[Total No. of Printed Pages : 3

BFMS-475

M.Sc. (Final) Examination, 2023 INFORMATION TECHNOLOGY

Paper - MIT-206 (A)

(Artificial Intelligence and Expert System)

Time : 3 Hours]

[Maximum Marks : 50

Section-A

(Marks : 2 × 10 = 20)

Note :- Answer all *ten* questions (Answer limit **50** words). Each question carries **2** marks.

Section-B

(Marks : 3 × 5 = 15)

Note :- Answer all *five* questions. Each question has internal choice (Answer limit **200** words). Each question carries **3** marks.

Section-C

(Marks : 5 × 3 = 15)

Note :- Answer any *three* questions out of five (Answer limit **500** words). Each question carries **5** marks.

Section-A

1. (i) What is Goal State of search process ?
- (ii) What is Meta Knowledge ?
- (iii) What is Metric variable ?

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- (iv) Define Slot Filter Knowledge representation in AI.
- (v) What is Greedy search ?
- (vi) What are Ridges ?
- (vii) What are Atoms ?
- (viii) What are Meta Predicates ?
- (ix) What is DENDRAL ?
- (x) Define applications of Expert System.

Section-B

2. Define components of a Production System in AI.

Or

Explain the Resolution.

3. Define Inference Engine.

Or

Define Certainty Factors.

4. Define Heuristics Function.

Or

Define Stochastic Hill Climbing algorithm.

5. Define the Unifications in PROLOG language.

Or

Define Meta Interpreters in PROLOG.

6. Explain Expert System shells.

Or

What is Expert System ? Define its feature, advantage and disadvantage.

Section-C

7. Define Tic-Tac-Toe Game problem of state space search in AI.
8. Write notes on the following topics :
 - (a) Difference between Procedure Knowledge and declarative Knowledge.
 - (b) Semantic Nets.
9. Explain in Formed search algorithm in AI.
10. Define Frames in PROLOG.
11. Define various types of architectures in Expert System.