

Roll No : .....

Total No. of Questions : 11 ]

[ Total No. of Printed Pages : 3

# SP-729

## M.Sc. (Final) Examination, 2021 INFORMATION TECHNOLOGY

Paper -MIT-206(A)

### (Artificial Intelligence and Expert System)

Time : 1½ Hours ]

[ Maximum Marks : 50

#### Section-A

(Marks : 2 × 10 = 20)

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

(खण्ड-अ)

(अंक : 2 × 10 = 20)

**नोट :-** सभी दस प्रश्नों के उत्तर दीजिए (उत्तर-सीमा 50 शब्द)। प्रत्येक प्रश्न 2 अंक का है।

#### 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.

(खण्ड-ब)

(अंक : 3 × 5 = 15)

**नोट :-** सभी पाँच प्रश्नों के उत्तर दीजिए। प्रत्येक प्रश्न में विकल्प का चयन कीजिए (उत्तर-सीमा 200 शब्द)। प्रत्येक प्रश्न 3 अंक का है।

#### Section-C

(Marks : 5 × 3 = 15)

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

(खण्ड-स)

(अंक : 5 × 3 = 15)

**नोट :-** पाँच में से किन्हीं तीन प्रश्नों के उत्तर दीजिए (उत्तर-सीमा 500 शब्द)। प्रत्येक प्रश्न 5 अंक का है।

**BI-460**

( 1 )

**SP-729** P.T.O.

**Section–A**

2 each

1. Attempt all questions. Answer should not exceed **50** words in each question :
  - (i) What is Predicate Logic ?
  - (ii) Explain Artificial Intelligence in brief.
  - (iii) What is Procedure Knowledge ?
  - (iv) What is script in AI ?
  - (v) What is Uniform Search ?
  - (vi) Define A\* Searching Technique.
  - (vii) Explain unification in PROLOG.
  - (viii) What is Frame in PROLOG ?
  - (ix) What is Expert system ?
  - (x) What is Expert system shells ?

**Section–B**

3 each

2. Explain state and space search using example.

*Or*

Explain use of predicate logic in knowledge representation.

3. Explain depth first search with suitable example.

*Or*

Write Breath-Frist Algorithm with example.

4. Explain Bayes' theorem in detail.

*Or*

Explain Rule based system in brief.

5. Explain abstract data type of PROLOG.

*Or*

Write a short note on Sementic Net.

6. Write applications of Expert System.

*Or*

Explain frame architecture of Expert System.

**Section–C**

5 each

7. What is Control Strategy ? Explain the various control strategies of knowledge representation.
8. What is Frame ? Explain frames and scripts with suitable example.
9. Compare A, A\* and AO\* searching techniques.
10. What is predicate Calculus ? Explain meta-predicate with proper syntax rules.
11. Explain Decision Tree Architecture used in expert system.