

(U548)

Roll No.

S.C.No.—2214403

**B.C.A. EXAMINATION, 2024**

(Main)

(Fourth Semester)

**ARTIFICIAL INTELLIGENCE**

22BCA403

*Time : 3 Hours*

*Maximum Marks : 80*

**Note :** Attempt *Five* questions in all. Q. No. 1 is compulsory. All questions carry equal marks.

1. Attempt all of the following :

- (i) AI and related fields
- (ii) Production system
- (iii) Knowledge Base vs. Data Base
- (iv) Predicate logic
- (v) Heuristic Function

- (vi) Need of NLP
- (vii) Inductive Learning
- (viii) Syntactic and Semantic processing.

- 2. What is Artificial Intelligence ? Discuss its various characteristics. Explain the application areas of AI ? 16
- 3. Explain Production System with its various components and characteristics ? Discuss the advantages. 16
- 4. What is knowledge representation ? What properties should be processed by a knowledge representation system ? 16
- 5. Differentiate between : 16
  - (i) Procedural knowledge and Declarative knowledge
  - (ii) Logic and Predicate logic.
- 6. What is NLP ? Explain the need and fundamental problems of NLP. 16

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7. Discuss the following :

- (i) Syntactic Processing
- (ii) Semantic Network
- (iii) Inductive learning
- (iv) Explanation based learning.

8. What is Expert system ? Explain with its various components and its architecture. 16

9. Write notes on the following : 16

- (i) Cognitive behaviors
- (ii) Knowledge acquisition.