

5481

**M.C.A. New Syllabus IIIrd Semester Examination
ARTIFICAL INTELLIGENCE AND EXPERT SYSTEM
Paper-MCA-E-02**

Time : Three Hours] [Maximum Marks : 75

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt any five questions by selecting one question from Unit - I to IV. Question No. 9 is compulsory.

UNIT-I

- 1.** Discuss the concept of Predicate logic and representation of facts in propositional and predicate logic with examples. (15)
- 2.** (a) Distinguish between production based system and frame based system. (8)
(b) Explain in detail the frame and script representations. (7)

UNIT-II

3. Discuss various Parsing Techniques used in Natural Language Processing. (15)
4. What are Multiagent systems? Write the Genetic structure of Multiagent systems. (15)

UNIT-III

5. Write short notes on following :
(a) Genetic operators.
(b) Self-organizing maps. $(2 \times 7.5 = 15)$
6. What is Artificial Neural Networks? Explain Single-Layer Feed Forward Networks. (15)

UNIT-IV

7. Describe the concept of Pattern Recognition and various models used in it. (15)
8. Explain various stages of expert system development and discuss the tasks involved in building expert system. (15)

Compulsory Question

9. Describe following topics (3 marks each) :
(a) What is Ontology?
(b) Define Rote learning.
(c) How predicate logic is helpful in knowledge representation?
(d) Define and explain Bayes theorem.
(e) Compose the meaning of resolution /refutation.
- 1105 Page 14