

Roll No.

67143

**M.C.A. 3rd Sem. (with new notes)
(Current Scheme)**

Examination–December, 2014

Artificial Intelligence & Expert Systems

Paper-MCA-303

Time : 3 hours

Max. Marks : 80

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard will be entertained after the examination.

Note : Question no. 1 is **compulsory**. Attempt any **four** more questions, selecting at least **one** question from each unit. All questions carry equal marks.

1. Answer the following questions briefly :

- (a) Discuss two applications of AI. 2
- (b) List two major advantages of PROLOG. 2

- (c) Explain two advantages of best first search. 2
- (d) Discuss fuzzy controller briefly. 2
- (e) Explain uses of knowledge acquisition.
- (f) Define knowledge base. 2
- (g) Write the use and advantages of dynamic database. 2
- (h) Explain fuzzy expert system. 2

Unit-I

- 2. (a) What is Hill climbing ? How is it useful and used ? Discuss with examples. 8
- (b) Discuss architecture of an expert system with an example. 8

- 3. Explain the following briefly with suitable examples :
 - (a) Problem characteristics 4
 - (b) Best first search algorithm 4
 - (b) Use of AI in problem solving 4
 - (b) Expert system 4

- (b) Inference process for fuzzy expert system. 8

Unit-IV

8. (a) What are file operations ? How these are used and useful in PROLOG ? Discuss with examples. 8
- (b) Explain recursion with a suitable example through Prolog code segment. 8
9. Explain the following with PROLOG code segments :
- (a) String operations 4
- (b) Output predicates 4
- (c) Lists handling 4
- (d) Prolog variables 4