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MCA 3rd Semester Current Scheme with new notes

Maximum Marks Scheme 80

Examination, December-2015

ARTIFICIAL INTELLIGENCE AND EXPERT SYSTEM

Paper-MCA-303

Time allowed : 3 hours]

[Maximum marks : 80

Note : Question No. 1 is compulsory. Attempt four more questions selecting one question from each unit.

1. Answer the following questions briefly :
 - (a) Explain role of AI in an expert system.
 - (b) Discuss two major applications of PROLOG.
 - (c) Explain two advantages of fuzzy logic.
 - (d) Discuss fuzzy expert system briefly.
 - (e) Explain knowledge engineer.
 - (f) Define semantic net.
 - (g) Write the use and advantages of problem solving with AI.
 - (h) Explain artificial neural network. $8 \times 2 = 16$

Unit-I

2.
 - (a) Define best first search ? How is it useful and used?
Discuss its applications with examples. 8
 - (b) Discuss problem reduction process with an example. 8

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(2)

3. Explain the following briefly with suitable examples :

- (i) Problem characteristics
- (ii) Knowledge role in expert systems
- (iii) Hill climbing
- (iv) Expert system applications.

4 each

Unit-II

4. (a) What is inference engine ? How is it useful and used ? Explain with an example.

(b) Discuss formal logic with suitable examples.

8

5. Describe the following with examples :

- (i) Cognitive behaviour
- (ii) Knowledge representation
- (iii) Prototype construction
- (iv) Problem selection.

4 each

Unit-III

6. (a) What is fuzzy controller ? How is it used and useful ? Explain with examples.

8

(b) Discuss applications of biological neural networks with examples.

8

7. Explain the following with examples :

(i) Differentiate between fuzzy logic and fuzzy subset

(ii) Learning in neural networks.

8 each

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Unit-IV

(3)

8. (a) What are string operations ? How these are used and useful in PROLOG ? Discuss with examples.
- (b) What is recursion ? Discuss its advantages through PROLOG code segments.

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9. Explain the following with PROLOG code segments :
 - (i) File operations
 - (ii) Input predicates
 - (iii) Arithmetic operations
 - (iv) Fail and cut predicates

4 each

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