

Roll No. ....

**67113**

**MCA 3rd Semester (New)**

**Examination – December, 2012**

**ARTIFICIAL INTELLIGENCE & EXPERT SYSTEMS**

**Paper : MCA-303**

*Time : Three Hours ]*

*[ Maximum Marks : 80*

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

*Note : Attempt five questions selecting one question from each unit. All questions carry equal marks.*

**UNIT – I**

1. Define and describe the difference between knowledge, belief, hypothesis, data and intelligence. Also discuss how you represent a problem using state space technique.
2. (a) Write down the algorithm for best first search and its complexity.  
  
(b) Define role based and frame based expert system.

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### UNIT – II

3. Differentiate between knowledge base databases in detail. Also discuss different types of knowledge with examples.
4. Explain scripts in detail and make the scripts for the following problems :
  - (a) Going to market and purchase some items,
  - (b) Leaving from office for home.

### UNIT – III

5. Differentiate between backward and forward propagation networks in detail.
6. What is learning ? Explain its types and applications in detail.

### UNIT – IV

7. What are different operations on string ? Write a program for breadth first search using PROLOG.
8. Write the short notes on the following :
  - (a) CUT predicates,
  - (b) Horn Clause,
  - (c) File operation in PROLOG,
  - (d) Recursion,