



**A-5731**

**M. C. A. (Sem. V) Examination**

**March / April - 2015**

**Paper - 502 : Artificial Intelligence &  
Knowledge Based Systems**

Time : 3 Hours]

[Total Marks : 70

**Instruction :**

नीचे दशावेक निशानीवाणी विगतो उत्तरवडी पर अवश्य लभवी. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
<input type="text" value="M.C.A. (Sem. V)"/>	<input type="text"/>
Name of the Subject :	<input type="text"/>
<input type="text" value="Paper - 502 : Artificial Intelligence &amp; Knowledge Based Systems"/>	<input type="text"/>
Subject Code No. : <input type="text" value="5"/> <input type="text" value="7"/> <input type="text" value="3"/> <input type="text" value="1"/>	<input type="text"/>
Section No. (1, 2,.....) : <input type="text" value="NIL"/>	<input type="text"/>
	Student's Signature

- 1 (a) Define characteristics of problems fall within AI problem areas. Explain mundane tasks in detail. 5
- (b) Define knowledge. Also explain state space. 5

**OR**

- (b) What is production rule ? Write any two production rules for solving chess playing problem. 5
- (c) Define proposition. Also explain compound proposition using an appropriate example. 4
- 2 (a) What is symbolic knowledge ? Explain syntax rules of proposition logic. 5
- (b) Explain semantic rules for interpreting propositional logic. 5
- (c) Explain any TWO : 4
- |                          |                 |
|--------------------------|-----------------|
| 1. Satisfiable Statement | 2. Equivalence  |
| 3. Logical Consequence   | 4. Substitution |
| 5. Formal Statement      | 6. Chain rule   |

- 3 (a) What is structured knowledge ? Describe conceptual graph in detail. 5
- (b) Explain conceptual tenses. 4

**OR**

- (b) Explain means end analysis. 4
- (c) Explain blind search. In what situation unblind search method is useful ? 5
- 4 (a) Explain bidirectional search algorithm. 5
- (b) Explain the use of heuristic. 4
- (c) Explain branch and bound algorithm with an appropriate example. 5
- OR**
- (c) Explain matching process. 5
- 5 (a) What is importance of knowledge acquisition phase in solving an AI problem ? 4
- (b) Explain various learning methods. 5
- (c) Define expert system. Also discuss inference process. 5
- OR**
- (c) Explain architecture of a rule based system. 5
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