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**RF-4830**

**M. C. A. (Sem. IV) Examination**  
**April / May – 2010**  
**Paper - 405 : Artificial Intelligence &**  
**Knowledge Based System**

Time : 3 Hours]

[Total Marks : 70

**Instructions :**

(1)

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| नीचे दृशावेव निशानीवाणी विगतो उत्तरवही पर अवश्य लपवी.<br>Fillup strictly the details of signs on your answer book. |  | Seat No.:  |  |
| Name of the Examination :  |  | <input type="text"/>                             |  |
| M. C. A. (Sem. 4)  |  | <input type="text"/>                             |  |
| Name of the Subject :  |  | <input type="text"/>                             |  |
| 405 : Artificial Intelligence & Know. Based System   |  | <input type="text"/>                             |  |
| Subject Code No. : <input type="text"/> 4 <input type="text"/> 8 <input type="text"/> 3 <input type="text"/> 0     |  | Section No. (1, 2,.....): <input type="text"/> 1 |  |
|  |  | Student's Signature                              |  |

1 (a) Define Artificial Intelligence. How AI problem areas are different than other areas? 6

(b) Define knowledge. How knowledge is different from information? 4

(c) Define state space. 4

**OR**

(c) Explain back tracking. 4

2 (a) What is knowledge representation? Also explain different levels of knowledge representation. 5

(b) How performance of a learning model can be measured? 6

(c) What is inference rule? 3

**OR**

(c) What is back tracking? 3

- 3 (a) Giving appropriate example explain conceptual graph. 5  
 (b) Explain syntax and semantic of associative network. 6
- OR**
- (b) What is conceptual dependency? Explain any four 6  
 tenses of conceptual dependency.  
 (c) Explain what is matching. 4
- 4 (a) Compare informed and uninformed searching methods. 4
- OR**
- (a) How an appropriate searching method can be 4  
 selected for a problem?  
 (b) Define an expert system and also explain various 5  
 components of an expert system.  
 (c) Explain knowledge acquisition. 5
- 5 (a) There are three missionaries and three cannibals 10  
 are on one side of the river, along with a boat that  
 can hold one or two people. Find a way to get  
 everyone to the other side without ever leaving  
 a group of missionaries in one place outnumbered  
 by the cannibals in that place. Write production  
 rules for this problem.  
 (b) Write a short note on any **one** : 4  
 (1) Hill climbing method  
 (2) Heuristic information.
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