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BICS-021

B.Tech. – VIEP – COMPUTER SCIENCE AND ENGINEERING (BTCSVI)

Term-End Examination

00226

December, 2014

BICS-021 : ARTIFICIAL INTELLIGENCE

Time : 3 hours *Maximum Marks : 70*

Note : *Attempt any **seven** questions. All questions carry equal marks.*

1. (a) Differentiate between Intelligence and Artificial Intelligence. 5

(b) Describe the breadth first search and depth first search techniques. 5

2. (a) Explain the A^* algorithm and illustrate the over-estimation and under-estimation of heuristics. 5

(b) Describe the various types of control strategies. 5

3. (a) What factors justify whether the reasoning is to be done in forward or backward reasoning ? 5

(b) What are the limitations in using propositional logic to represent the knowledge base ? 5

4. Explain the concepts of Bayesian Network in representing knowledge in an uncertain domain. *10*

5. (a) Represent the following sentences in symbolic logic : *5*

   (i) All that glitters is not gold.

   (ii) A drunkard is an enemy of himself.

   (b) Describe Inductive learning with suitable examples. *5*

6. Explain the concepts of planning with state space search. How does it differ from partial order planning ? *10*

7. (a) Explain the various steps in natural language understanding process. *5*

   (b) Explain the minimax search producer with a neat illustration. *5*

8. Discuss the advantages of expert system architecture based on decision tree and production rules. *10*

9. What do you understand by parsing ? Draw parser tree and define the grammar *10*

   "A boy ate the frog".

10. Write short notes on any ***two*** of the following : *2×5=10*

   (a) Conceptual Dependency

   (b) Hill Climbing Technique

   (c) Fuzzy Logic
