

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

Term-End Examination

December, 2016

00143

BICS-021 : ARTIFICIAL INTELLIGENCE

Time : 3 hours

Maximum Marks : 70

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

1. (a) Explain intelligence and artificial intelligence systems with the help of suitable examples. 5
- (b) Discuss with the help of an example, how conventional computing differs from intelligence computing. 5
2. Describe the resolution procedure which gains in efficiency as it operates on statements. 10
3. What do you understand by a conceptual dependency graph ? Give the conceptual dependency graph for the sentence "Mary drove her car to office" and describe the steps required for a program to transform the sentence to an internal conceptual dependency structure. 10

4. (a) Discuss learning. Explain the various techniques used in learning. 5
- (b) Discuss the basic elements of natural language procedure. 5
5. Explain the minimax search procedure with the help of a neat diagram. 10
6. What do you mean by forward chaining ? Explain with the help of an example taken from the real world. Can you use forward chaining in ancestor-tree classification. Why/Why not ? 10
7. What is an expert system ? Explain in short the working of DENDRAL and MYCIN and discuss the concept of uncertainty in an expert system. 10
8. How is inferencing used in deriving conclusions from the facts ? Differentiate between forward chaining and backward chaining. 10
9. (a) What is a search technique ? Explain the hill-climbing algorithm. 5
- (b) Trace the constraint satisfaction procedure for solving the following cryptarithmic problem : 5

$$\begin{array}{r}
 \text{CROSS} \\
 + \text{ROADS} \\
 \hline
 \text{DANGER}
 \end{array}$$

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

- (a) Mean-End Analysis
 - (b) AO* Algorithm
 - (c) Scripts
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