6E1555

Total No. of Questions : 14 Total No. of Pages : 04

Roll No. : .....

6E1555

B.Tech. VI-Sem. (Back) Exam. - 2024

COMPUTER SC. & ENGG.

6CS4-05 Artificial Intelligence

CS, IT

Time : 2 Hours **Maximum Marks : 80**

Instructions to Candidates :

Attempt all five questions from Part-A, four questions out of six questions from Part-B and two questions out of three questions from Part-C.

Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used / calculated must be stated clearly.

Use of following supporting material is permitted during examination.

(Mentioned in Form No. 205)

1. ..... 2. .....

PART-A **[5x2=10]**

(Answer should be given up to 25 words only)

All questions are compulsory

Q.1. Define the Bayesian Networks.

Q.2. What do you mean by Agent?

Q.3. What is an expert system?

Q.4. What are the features of NLP?

Q.5. Explain Alpha, beta pruning in brief.

PART-B [4x10=40]

(Analytical/Problem solving questions)

Attempt any four questions

Q.1. What do you mean by AI? Explain the contribution of AI in various fields. Also explain the importance of AI.

Q.2. Explain supervised and unsupervised learning. Also differentiate between supervised and unsupervised learning.

Q.3. Explain the process of inductive learning using decision trees in detail.

Q.4. Differentiate between Depth first search and Breadth first search with the help of example.

Q.5. Explain the model of artificial neural network.

Q.6. Explain constraint satisfaction problem in detail.

PART-C [2x15=30]

(Descriptive/Analytical/Problem Solving/Design questions)

Attempt any two questions

Q.1. (a) Write AO* search algorithm and explain with suitable example. [8]

(b) Define the heuristic search. Discuss benefits and shortcomings. [7]

Q.2. Explain best first search with suitable example. Also explain how it is based on hill climbing. [15]

Q.3. Enumerate classical "water jug problem". Describe the space for this problem and also give the solution. [15]

----- x -----