

Cluster Innovation Centre, University of Delhi, Delhi-110007

Examination	: End Semester Examination – November 2021
Name of the Course	: B.Tech (Information Technology and Mathematical Innovations)
Name of the Paper	: Computer and Brain: Knowledge Discovery and Artificial Intelligence
Paper Code	: 32861503
Semester	: V
Duration	: 3 Hours
Maximum Marks	: 75

Instructions:

This question paper contains six questions, out of which any four are to be attempted. Each question carries equal marks.

1. Define in your own words: intelligence, artificial intelligence, agent, rationality, logical reasoning.
2. For each of the following activities, give a PEAS description of the task environment and characterize it in terms of the properties: Playing soccer. Exploring the subsurface oceans of Titan. Shopping for used AI books on the Internet.
3. Give a complete problem formulation for the following problem and choose a formulation that is precise enough to be implemented. You have a program that outputs the message “illegal input record” when fed a certain file of input records. You know that the processing of each record is independent of the other records. You want to discover what record is illegal.
4. Explain the Informed search methods: The generic best-first search algorithm, Greedy best-first search and A* search.
5. What is Support Vector Machine(SVM)? Describe its functionality in machine learning?
6. What is Artificial Neural Networks(ANNs)? Explain its functionality with its limitations.