School of Computing Science and Engineering

B.TECH CSE Artificial Intelligence and Machine Learning
Semester End Examination - Nov 2023

Duration : 180 Minutes
Max Marks : 100

Sem VII - CSAI4703 - Genetic Algorithm

General Instructions
Answer to the specific question asked
Draw neat, labelled diagrams wherever necessary
Approved data hand books are allowed subject to verification by the Invigilator

1)	Compare and contrast crossover and mutation operators in genetic algorithms.	K1 (2)
2)	Discuss the robustness of traditional optimization methods.	K2 (4)
3)	Optimize the weights of a neural network using genetic algorithms.	K2 (6)
4)	Develop a genetic algorithm to solve a complex engineering design problem.	K3 (9)
5)	Design a hybrid genetic algorithm that combines genetic algorithms with local search methods.	K3 (9)
6)	Assess the limitations of using binary-coded genetic algorithms.	K5 (10)
7)	Evaluate the efficiency of different selection operators in genetic algorithms.	K4 (12)
8)	Devise a strategy to optimize both the architecture and hyperparameters of a neural network.	K5 (15)
9)	Interpret the appropriateness of using cooperative coevolution for a specific problem.	K5 (15)
10)	Design a multi-objective genetic algorithm to solve a complex engineering design problem with constraints and preferences.	K6 (18)