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| **GOEL INSTITUTE OF TECHNOLOGY & MANAGEMENT, LUCKNOW** | | |
| **(Affiliated to Dr. APJ Abdul Kalam Technical University, Lucknow)** | | |
| **Assignment 4th** ODD Semester (2021-22) | | |
| **Program:** B. Tech (CSE/IT) | **Semester : 3rd** | |
| **Subject Code:** KCS055 | **Subject: MLT** | **M.M**. 10 |
| **Knowledge Level (KL)** | KL1- Remembering | KL4- Analyzing |
| KL2- Understanding | KL5- Evaluating |
| KL3- Applying | KL6- Creating |
| **Date of Assignment: 17/11/2022** | **Date of submission: 24/11/2022** | |

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| **1.** | What is reinforcement learning ,types , application and elements? | CO4 | KL3 |
| **2.** | Describe Markov decision process in reinforcement learning. | CO4 | KL4,5 |
| **3.** | Discuss the various phases considered in genetic algorithm. | CO4 | KL2,6 |
| **4.** | What is learning task and also explain different machine learning task? | CO4 | KL2 |
| **5.** | What is Genetic Algorithm (GA) ,its pseudo code and also explain flowchart, advantage, disadvantage and various applications? | CO4 | KL2,3 |
| **6.** | Explain various genetic operators (encoding, selection, mutation, crossover) with an example. | CO4 | KL 2,3 |
| **7.** | Describe deep Q-learning , its pseudo code and what are the steps involved in deep Q-learning network? | CO4 | KL 2,3 |
| **8.** | What is the difference between Q-learning and deep Q-learning? | CO4 | KL 3,4 |
| **9.** | Let the population of chromosome in genetic algorithm is represented in terms of binary number. The strength of fitness of a chromosome in decimal form, x, is given by | CO4 | KL5 |
| **10.** | What is temporal difference (td) learning? | CO4 | KL2 |