

Name:

Enrolment No:



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, July 2020

Course: Artificial Intelligence
Program: B.TECH CSE LLB
Course Code: CSEG3005

Semester: VI
Time 02 hrs.
Max. Marks: 100

Instructions:

SECTION A

S. No.		Marks	CO
Q 1	What is an expert system? What are the characteristics of an expert system?	10	CO 2, CO 3
Q 2	What are the top use cases for artificial intelligence, in terms of revenue opportunity during the next decade?	10	CO 1, CO 4
Q 3	What are the different types of AI?	10	CO 2, CO 3

SECTION B

Q 4	Elaborate iterative deepening depth-first search algorithm.	15	CO 3, CO 2
Q 5	What is the difference between inductive, deductive, and additive Machine Learning?	15	CO 2, CO 1

SECTION-C

Q 6	Use of AI in detecting fraud. Design an algorithm	20	CO 3
Q 7	<p>Ashok Chemicals Company manufactures two chemicals A and B, which are sold to the manufacturers of soaps and detergents. Based on next month's demand, the management has decided that the total production of chemicals A and B should be at least 350 kilograms. Moreover, a major customer's order for 125 kilograms of product A must also be supplied. Product A requires two hours of processing time per kilogram, and product B requires one hour of processing time per kilogram. For the coming month, 600 hours of processing time are available. The company wants to meet the above requirements at minimum total production cost. The production costs are Rs.2 and Rs.3 per kilo of product A and B respectively. The company wants to determine the optimal product mix and the total minimum cost.</p> <p>a) Formulate the above as a linear programming problem. b) Solve the problem c) Identify and Explain the Characteristics of Problem Solving Agents based on the above solution.</p>	20	CO 4