UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, Feb 2022

Course: Problem Domains of AI   Semester: I
Program: MCA with spl. AIML   Time: 03 hrs.
Course Code: CSAI7012   Max. Marks: 100

Instructions: Attempt all Questions

SECTION A (20 Marks)			
S. No.		Marks	CO
Q1	Write down the four rules for AI agents.	4	CO1
Q2	Give all the logical connectives used in Natural deduction systems.	4	CO2
Q3	Write down about the different phases of expert systems.	4	CO3
Q4	Write about sentence analysis phases of natural language processing.	4	CO5
Q5	What are the four characteristics of Expert systems?	4	CO3
SECTION B (40 Marks)			
Q 6	What are intelligent agents? How would you define rationality of an AI agent?	10	CO1
Q 7	Describe in detail a single layer feed forward neural network.	10	CO5
Q 8	Explain the three different components of expert systems in details. Or Discuss about the different application areas of expert system.	10	CO3
Q 9	Write a detailed note on support vector machines.	10	CO4
SECTION-C (40 Marks)			
Q 10	What are various methods of learning? Write about the components of a learning system. Or Explain, what is meant by machine learning. Differentiate between supervised and unsupervised learning in detail.	20	CO4
Q11	Represent following in predicate logic using: a) Isa relation b) Instance relation	20	CO2

	1. Marcus was a man.		
	2. Marcus was a Pompeian.		
	3. All Pompeiians were Romans.		
	4. Caesar was a ruler.		
	5. All Pompeiians were either loyal to Caesar or hated him.		

1. Marcus was a man.
2. Marcus was a Pompeian.