UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2019

Course: Expert Systems   Semester: 7
Program: B.Tech CSE BAO   Time 03 hrs.
Course Code: CSIB496   Max. Marks: 100

Instructions:

1. **Section A** shall have 5 Questions of 4 marks each. . All the questions shall be compulsory.

2. **Section B** This section shall have 4 Questions of 10 marks each, out of which 3 Questions shall be compulsory
   and 1 Questions may have internal choice to attempt any one.

3. **Section C** shall have 2 Questions of 20 marks each, out of which 1 Question shall be compulsory and 1 Question
   shall have internal choice to attempt any one. This section may be further subdivided as per the requirement of
   course. These Questions shall be of long answer type.

	SECTION A		
S. No.		**Marks**	**CO**
Q 1	Discuss the application of AI in Game Playing and Medical field .	**4**	**CO1**
Q2.	Explain resolution in Predicate Logic with help of an example.	**4**	**CO2**
Q3.	"Semantic Netwoks are represented using Frames ."Explain Minskey frames .	**4**	**CO3**
Q4.	Enumerate and explain the four major characteristics of Expert Systems.	**4**	**CO4**
Q5.	Discuss the advantages of Rule Based Expert Systems.	**4**	**CO5**
	SECTION B		
Q 6.	Describe the mechanism of Mamdani Fuzzy Inference Method.Support your answer with an example	**10**	**CO6**
Q7.	Explain Evidential Reasoning with help of an example .	**10**	**CO7**
Q8.	The process of ES development is iterative. List the steps involved in developing the ES .	**10**	**CO8**
Q9.	Explain Discrete Hopfield Network . OR	**10**	**CO9**

	Explain Continuous Hopfield Network .		
	SECTION-C		
Q 10.	Illustrate any four types of Neuro Fuzzy Systems.	**20**	**CO10**
Q11.	Genetic Algorithms have the ability to deliver a "good-enough" solution "fast-enough". This makes genetic algorithms attractive for use in solving optimization problems. Explain any four application areas of Genetic Algorithm . OR Explain Hybrid intelligent Systems and draw architecture of Neural Expert Systems.	**20**	**CO11**