UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
School of Computer Science

End Semester Examination, December 2020

Course : IT for refining and petrochemical   **Semester** : VI
Program : B.Tech CSE OGI   **Time** : 03 Hours
Course Code : CSOG 3012   **Max. Marks : 100**

SECTION A

	SECTION A **1. Each Question will carry 5 Marks**	**Marks**	
Q1	Select all those which are true for American Petroleum Institute (API) : a. It was established in 1919 and has head quarters in New York b. It is largest trade association of oil and natural gas industry c. API also defines and drafts standards for measurement for manufactured products d. API has a committee on refining equipment's	**05**	**CO1**
Q2	Which of the following is not true about artificial neural networks: a. They cannot have memory b. They are inspired from human biological neurons c. Artificial neural networks with a credit assignment path of more than 3 are an example of deep learning d. None of these	**05**	**CO2**
Q3	A GIS product has which of the following components: a. People b. Software c. Approached d. Hardware e. Data	**05**	**CO3**
Q4	GIS data is of two types – spatial and attribute. (True or False)	**05**	**CO3**
Q5	State True or False: NERC works with the North American Energy Standards Board (NAESB) to coordinate the development of business practices and reliability standards for the wholesale electric industry	**05**	**CO1**

Q6	The goal for the ArcGIS Data Model is to provide a practical template for implementing GIS projects. While most users will find the models a great starting point to work on their specific data model, they will also find related models useful in the development of their system True or False	05	CO3

SECTION B

SECTION B
1. Each question will carry 10 marks
2. Instruction: Write short / brief notes

Q7	Analyze the use of ARCgis in oil and gas industry.	10	CO3
Q8	What are the major objectives of Public petroleum data model	10	CO1
Q9	Analyze the benefits of membership of American Petroleum association	10	CO1

Q10	Analyze the following in relation to refining process:
	
	  a. Real time systems
	  b. Middle ware
	  c. Schedulers
	  d. Task state transition
		10	CO2

Q11	Analyze the design and use of Feed Forward neural networks? OR Analyze the design and use of Recurrent neural networks?	10	CO3

SECTION C

SECTION C
1. Each Question carries 10 Marks. 10*2=20
2. Instruction: Write long answer.

| Q8 | Analyze the use of following in Spatial domain:
  a. Ordinary least Square
  b. Coefficient of determination
  c. Multiple regression
  d. Autocorrelation

OR

Analyze the use of Agent based model in refining which is implemented by a robotic arm. Provide the state diagram as well as life cycle. | 20 | CO2 |