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

Program: MBA (Oil & Gas Management) **Semester – III**
Subject (Course): DATA ANALYTICS & APPLICATIONS IN OIL & GAS **Max. Marks: 100**
Course Code : OGOG 8003 **Duration: 3 hrs**
No. of page/s: 2

SECTION A

1. Each Question will carry 5 Marks
2. Attempt all Questions

		Marks	CO

Q 1	Complete the Abbreviations
	   i. ANN........
	   ii. FL...........
	   iii. GA.........
	   iv. EDA........
	   v. DDM...........
		5	CO1

Q2	Fill in the blanks
	  1. The objective of clustering is.................
	
	  2. Give an example of Law of First Principal...............
		5	CO2

Q3	Explain in one-liner the term Self Organizing Maps (SOM)........	5	CO1
Q4	Two distinct branches of data mining that can turn raw data into actionable knowledge are................	5	CO3
Q5	Two major areas that Descriptive modelling techniques cover are...........	5	CO2
Q6	Give one-liner explanation of BI and its relation to analytics.....................	5	CO1

SECTION B

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

Q7	Describe the Time series data forecasting and explain the driven analytical workflows to forecast oil & gas production in a well.	**10**	**CO2**
Q8	Describe the four main predictive modelling techniques detailed as important upstream Oil & Gas data driven analytics methodologies.	**10**	**CO4**
Q9	.Describe Deep Learning. Give one example of neural network application across E&P value chain.	**10**	**CO2**
Q10	.Describe Grid Computing and its applications in Oil & Gas business analytics environments.	**10**	**CO2**
Q11	.Describe the THREE tenets of Upstream Data and how these are addressing the current business issues by an Oil & Gas critical asset data.	**10**	**CO3**

SECTION-C

1. Question carries 20 Marks.
2. Instruction: Case Study and Whitepaper discussed in the Class

Q12 (a)	Reference to case study *Research Report by SAS "How AI changes the Rules: New Imperative for intelligent Organizations*, Summarize your reflections on 1. Building the intelligent Organization 2. Building workforce skills for AI	**10**	
(b)	Reference to AVEA whitepaper on *Digital Pipeline 4.0: Elevation pipeline Safety and Operational Excellence,* summarize the Predictive applications in real time pipeline operations using analytics and simulations.	**10**	**CO5**