



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2021

Course: Data Management and Analytics in E&P
Program: B.Tech- CS-OGI
Course Code: CSOG 3004

Semester: V
Time: 03 hrs.
Max. Marks: 100

Instructions: all questions are compulsory

SECTION A		(5Qx 4M = 20 Marks)	
S. No.	Write short notes on the following	Marks	CO
Q 1	State the process of reading and writing a file in Hadoop HDFS	4	CO4
Q2	Describe different data management platform used in E&P	4	CO2
Q3	Define the concept of Rack Awareness and Replication factors in HDFS using appropriate example	4	CO4
Q4	Recall different geophysical property of the earth surface	4	CO1
Q5	Explain profiling and sounding in the gravity survey	4	CO1
SECTION B		(4Qx10M = 40 Marks)	
	All questions are compulsory	Marks	CO
Q6	Illustrate the framework of the oil field analytics deployed using Big data concepts. Explain with proper diagram.	10	CO2
Q7	Classify the types of NoSQL databases used for processing geophysical data. State which of the following will be best for E&P process.	10	CO3
Q8	Categorize different gravity anomalies encountered during gravity surveys. Identify different means to rectify these anomalies.	10	CO1
Q9	Explain the various different steps undertaken to perform the following geophysical surveys: Electric survey Or Magnetic Survey Also state the pros and cons of the survey with relevant example	10	CO1
SECTION-C		(2Qx 20M= 40 Marks)	
	(Scan and upload)		
	Any 1 question is to be attempted (Marks- [20])	Marks	CO
Q 10	1. Design a Map reduce architecture for identifying suspicious threat online. Support these architecture with java code. 2. Explain the following concepts: a. Hive b. H base	10+5+5	CO4

	<p>Or</p> <ol style="list-style-type: none"> 1. Design a Map reduce architecture for identifying the provoking keywords in the tweet share by a user. Support these architecture with java code. 2. Explain the following concepts: <ol style="list-style-type: none"> a. Pig b. Impala 		
Q11	Elucidate the various stages of Data integration lifecycle in E&P. Explain each phase with proper diagram	20	CO3