


Name:			
Enrolment No:			
<b>UNIVERSITY OF PETROLEUM AND ENERGY STUDIES</b> <b>Supplementary Examination, December 2023</b>			
Course: Big Data Ingestion		Semester: III	
Program: B.Tech CSE (Big Data)		Time : 03 hrs.	
Course Code: CSBD2006		Max. Marks: 100	
<b>SECTION A</b> <b>(5Qx4M=20Marks)</b>			
S. No.		Marks	CO
Q 1	Justify the scalability and fault-tolerance feature of HDFS.	4	CO1
Q2	List the factors responsible for digital data growth. What do you understand by qualitative and quantitative data?	4	CO1
Q3	What are the different storage solution developed before big data?	4	CO1
Q4	Define microservice architecture? Explain with example.	4	CO3
Q5	Explain the significance of using –split-by clause in Apache Sqoop with example.	4	CO2
<b>SECTION B</b> <b>(4Qx10M= 40 Marks)</b>			
Q6	Draw the HDFS architecture and explain the working of all its daemons.	10	CO1
Q7	Interprocess communication channel among micro services can be synchronous or asynchronous. Explain.	10	CO3
Q8	Illustrate the push model and pull model of message queuing with the help of diagrams.  Or  Distinguish between a broker-less and broker system. Explain the working of both with the help of diagrams.	10	CO4
Q9	Explain the saved job process in Sqoop. Write a new sqoop job to show all the databases in MySQL server. Also, write commands to get a list of sqoop jobs and to execute a job.	10	CO2
<b>SECTION-C</b> <b>(2Qx20M=40 Marks)</b>			
Q10	Provide an overview of Apache Kafka. What are some of the features of Apache Kafka? Using a flowchart, explain how the producer works in Kafka.  Or  Identify different use cases for Kafka. Explain how Kafka can act as a messaging system, storage system and stream processing system.	20	CO4

Q11	<p>i. Draw and explain the Sqoop architecture. Consider that I am having around 500 tables in a database. I want to import all the tables from the database except the tables named Table 498, Table 323, and Table 199. How can we do this without having to import the tables one by one?</p> <p>ii. Create a table in MySQL. Use that table to illustrate:</p> <ul style="list-style-type: none"><li>a. Sqoop import of data into a new directory.</li><li>b. Sqoop import of data in Parquet format.</li><li>c. Sqoop import using multiple mappers.</li></ul>	<b>10+10</b>	<b>CO2</b>
-----	--	--------------	------------