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UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
Online End Semester Examination, May 2021

Course: Real World Scalable Architecture   **Semester: VIII**
Program: B.Tech CSE-SPZ-BD   **Time: 03 hrs.**
Course Code: CSBD4003   **Max. Marks: 100**

Instructions:

SECTION A
1. Each Question will carry 5 Marks
2. Instruction: Complete the statement / Select the correct answer(s)

S. No.		Marks	CO

Q1	Big data Architecture helps to
	
	Select one:
	
	   a. Provide different language for the various stakeholders involved in the project
	   b. Provide different standards, specifications and patterns for development
	   c. Support for interoperability, portability and reusability
	   d. All of the above
		5	CO1

Q2	Ubiquitous service provision depends on _____
	
	Select one:
	
	   a. QoS
	   b. Management
	   c. Interoperability
	   d. Routing
		5	CO2

Q3	Lambda architecture is a data processing architecture designed to handle
	
	   a. Batch processing
	   b. Stream processing
	   c. Both A & B
	   d. None
		5	CO3

Q4	Aggregation layer of IoT architecture _____ a. aggregates and brokers the communications from device to gateway b. performs security roles c. makes requests to the identity and access management layer to validate access request d. All of the above	**5**	**CO4**
Q5	Benefits of Kappa architecture are a. Lesser code maintenance b. Simplifies the data processing c. Lesser resource requirement d. All of the mentioned	**5**	**CO4**
Q6	Which of the following is false? a. APIs are glue b. SOA components are not loosely coupled c. Kapua also provides a core integration framework d. None of the above	**5**	**CO2**

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

Q7	Discuss the generic Big Data architecture in detail. Explain its features.	**10**	**CO1**
Q8	How is Lambda architecture useful in batch and stream processing? Explain.	**10**	**CO2**
Q9	Give a detailed overview of Kappa architecture. Discuss the use case of CEP on streams.	**10**	**CO3**
Q10	Describe the implementation of enterprise applications in case of Zeta architecture.	**10**	**CO3**
Q11	How the concept of Device Management and Data Collection is implemented in case of an IOT architecture? Give suitable examples.	**10**	**CO4**

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SECTION-C
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1. Each Question carries 20 Marks.
2. Instruction: Write long answer.

Q12.	Explain the scalable architecture of the following top tech companies in complete detail with suitable example. a. Netflix b. Airbnb	**20**	**CO4**