


<b>Name:</b> <b>Enrolment No:</b>			
<b>UNIVERSITY OF PETROLEUM AND ENERGY STUDIES</b> <b>End Semester Examination, May 2022</b>			
<b>Course: Real World Scalable Architecture</b> <b>Program: B.Tech CSE-SPZ-BD</b> <b>Course Code: CSBD4003</b>		<b>Semester: VIII</b> <b>Time: 03 hrs.</b> <b>Max. Marks: 100</b>	
<b>Instructions: Explain in short. (60-70 words)</b>			
<b>SECTION A</b> <b>(5Qx4M=20Marks)</b>			
S. No.		Marks	CO
Q 1	Define the role of data ingestion and extraction in case of BigData architecture.	4	CO1
Q 2	Discuss the role of Batch layer in Lambda architecture.	4	CO2
Q 3	Explain the concept of sensors and actuators in case of IoT architecture.	4	CO3
Q 4	Describe the implementation of distributed file systems in case of Zeta architecture.	4	CO3
Q 5	Explain the concept of sensing and networking layer in case of an IOT devices with suitable examples.	4	CO4
<b>SECTION B</b> <b>(4Qx10M= 40 Marks)</b>			
<b>Instruction: Write brief notes. (100-150 words)</b>			
Q 6	Deliberate the importance of 4 V's of Big Data in detail.	10	CO1
Q 7	Discuss the design goals in case of Lambda architecture with suitable example.	10	CO1
Q 8	Give a detailed overview of Zeta architecture. Discuss the use case of CEP on streams.  OR  Deliberate as how data management is handled in case of scalable architecture.	10	CO2
Q 9	Differentiate in between architecture of Netflix and Facebook with the help of suitable diagram.	10	CO2
<b>SECTION-C</b> <b>(2Qx20M=40 Marks)</b>			

**Instruction: Write long answer. (Up to 350 words while explaining)**  
**Attempt any part of question no. 10 as there is an option “a” OR “b”.**  
**There is no choice for question no.11.**

Q 10	Explain the scalable architecture of the following top tech companies in complete detail with suitable example. a. Pinterest  b. Airbnb  <b>OR</b>  Elaborate on the implementation of IoT architecture and its usage in case of real time analytics.	<b>20</b>	<b>CO4</b>
Q 11	Provide a detailed overview of Kappa architecture in case of “Twitter” use case scenario.	<b>20</b>	<b>CO3</b>