


Name:	 <b>UPES</b> UNIVERSITY WITH A PURPOSE
Enrolment No:	

**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**  
**End Semester Examination, July 2020**

**Course: Data Centre Transformation II**  
**Program: B. Tech (CS+IFM)**  
**Course Code: CSIB 439**

**Semester: VII**  
**Time 03 hrs.**  
**Max. Marks: 100**

**Instructions: Attempt all Questions**

**SECTION A**

S. No.	Question	Marks	CO
Q1	List out the benefits of liquid cooling in DC.	5	CO1
Q2	Define different challenges of today's Data Centre.	5	CO1
Q3	List out the key elements required for Data Centre	5	CO1
Q4	What do you understand by Green Data Centre	5	CO2
Q5	What are the other power alternatives for Datacenter?	5	CO2
Q6	What do you understand by Datacenter Infrastructure Management?	5	CO2

**SECTION B**

Q7	Define the Technologies for Effective and Efficient ways to setup Datacenter for Virtualized IT.	10	CO2
Q8	How IT equipment cooling is done in Data Centre? Define with the help of example	10	CO3
Q9	In context of Data Centre, explain the different type of transformation trends	10	CO3
Q10	List out the different attributes of a smart Data Centre Infrastructure.	10	CO4
Q11	Explain Air Containment strategies for Data Centre. List out the benefits of liquid cooling in DC	10	CO4

**SECTION-C**

<p><b>CASE Study:</b> Hurricane Sandy left roughly 90 percent of Long Island Power Authority's (LIPA's) 1.1 million customers without power. The recovery has been the slowest on Long Island. Many customers were without electricity for weeks after power was restored to most of New York City and other parts of the metropolitan area. As a result, customers, municipalities, and the business stakeholders demanded faster,</p>		
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	<p>more responsive engagement with accurate information. To better serve its customers, LIPA needed to develop a plan for a new storm process with a supporting power outage management system. At the heart of this effort was the transformation of the IT infrastructure. To implement the new process, the project team needed to upgrade dozens of interfaces from multiple generations of technology. Mainframe applications were over 20 years old. Countless copies of data left users wondering what information was accurate. Hurricane Sandy revealed the weakness in this complexity. When the power went out, LIPA experienced significant issues delivering outage information due to middleware and interface performance and reliability during the stresses of the storm. Connecting hundreds of mismatched components and data models, not to mention licensing costs and unsupported software, was complicating architectures and support plans in the new data centers. LIPA needed to modernize its IT infrastructure and deliver a transformational storm process</p>		
<p>Q12</p>	<p>How the modernizing and restructuring the infrastructure with an enterprise approach can meet the business requirements?  <b>OR</b>  How the Data Virtualization greatly reduced system complexity and improved performance and reliability?</p>	<p><b>20</b></p>	<p><b>CO5</b></p>