Name:	UPES
Enrolment No:	UNIVERSITY WITH A PURPOSE

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2019

Course: Data Centre Transformation II Semester: VIII
Program: B. Tech (CSE+IFM) Time 03 hrs.
Course Code: CSIT4003 Max. Marks: 100

Instructions: Attempt all Questions

SECTION A

Each Question will carry 5 Marks

S. No.		Marks	CO
Q 1	List out the benefits of liquid cooling in DC.	5	CO1
Q 2	Name different Site Infrastructure Tier Standards (topology) for DC.	5	CO2
Q 3	What are the other power alternatives for Datacenter?	5	CO2
Q 4	List out the key elements required for Data Centre.	5	CO1
Q 5	List out the benefits of liquid cooling in DC.	5	CO3
Q 6	Name different components of DC.	5	CO1

SECTION B

Each Question will carry 10 Marks

Q 7	How IT equipment cooling is done in Data Centre? Define with the help of example.	10	CO4
Q 8	Define systematic approach to transform Datacenter into an Optimized and Energy Efficient Datacenter?	10	CO3
Q 9	Explain the impact of virtualizing Data Centre on power utilization in detail. **OR** How IT equipment cooling is done in Data Centre? Define with the help of example	10	CO3
Q 10	Explain how IT utility requires the understanding of following: a) New business model for IT compiler b) Green Data Center c) IT equipment in Data Centre	10	CO4
Q 11	Draw the diagram and explain the process of A Liquid cooling at Rack level B Liquid cooling at Server level.	10	CO4

SECTION-C

Each Question will carry 20 Marks

	CASE STUDY: IT departments are under more pressure than ever to deliver increasing value back to the business. In addition to responding to day-to-day operational challenges, IT is		

	being asked to define an efficient path to new deployment paradigms, including server virtualization, cloud computing, and ultimately, a software-defined infrastructure. For IT decision-makers, the question becomes: How do you help lead your business forward? While there is no silver bullet for all the challenges IT faces today, spearheading IT modernization initiatives and replacing outdated data center technologies with the latest, cost-effective innovations, IT decision-makers can better meet business needs for greater performance, security, networking, storage, and software efficiency advantages—all while lowering operating expenses. Optimizing the data center can also help IT be viewed as an enabling internal partner, moving the enterprise toward a highly efficient, software-defined infrastructure that enables the business to better use the latest technologies to take advantage of future opportunities. Many organizations consider the benefits of IT modernization through the lens of infrastructure modernization technology benefits, including better performance, efficiency, and security. This is a common and valid way to think about modernization. However, another way to look at modernization is to examine the financial aspects of a modernization effort and to seek answers to key questions:		
Q 12	Does it cost more to get these new capabilities? Can the business afford the incremental cost in a tight budgetary environment? OR What is the short term / long term financial impact and ROI related to these efforts?	**20**	**CO5**