UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, April/May 2018

Course: Data Structures **Semester: II**
Program: IT Infrastructure Landscape Overview
Course Code: CSIT 1002
Time: 03 hrs. **Max. Marks: 100**

Instructions: All questions are compulsory.
Explain the answers with proper diagrams wherever required.

SECTION A

S. No.		**Marks**	**CO**
Q 1	Pick the correct answer: (1*4 =4 marks) i) Masquerade is an example of: a) Active attack b) Passive attack c) Serious attack d) None ii) Which of the following storage device is directly accessible by the CPU? a) Hard Disk Drive b) Optical Disks c) RAM d) Flash Drives iii) When any message is encrypted using the sender's private key for achieving the authenticity, it is called_____. a) Digital Certificate b) Digital Signature c) Hashing d) None iv) _____is the standard unit of measure of height of rack for rack servers. a) X b) U c) H d) None of these	**4**	**CO1, CO3, CO5**
Q 2	Fill in the blanks: (1*4= 4 marks) i) Entries are stored in tree like structure called as _____. ii) Full form of OLAP is _____. iii) Full form of LDIF is _____. iv) Different RAID functions are parity, mirroring and _____.	**4**	**CO1, CO4, CO6**
Q 3	Explain 4 Aggregate operators of SQL with the help of SQL query. (1*4= 4 marks)	**4**	**CO1**
Q 4	Explain web tier deployment and demilitarized zone. (3+1= 4 marks)	**4**	**CO6**
Q 5	Explain classification of SQL commands and give at least two examples of each classification. (1*4= 4 marks)	**4**	**CO1**
	SECTION B		
Q 6	How does a switch learn switch table? What are the different functions performed at layer 2 switch, explain. (4+6= 10 marks)	**10**	**CO5**

Q 7	What do you understand by cryptography? Why we need it? Explain different types of cryptography also. Give names of at least two algorithms under each type of cryptography. (2+2+5+1= 10 marks)	**10**	**CO5**
Q 8	What do you understand by disk scheduling? Why we need it? Explain the internal structure of Hard Disk Drive also. (2+2+6= 10 marks)	**10**	**CO1**
Q 9	Q) Explain the following LDAP models: (2.5*4= 10 marks) a) Information model b) Naming model c) Functional model d) Security model	**10**	**CO4**
	SECTION-C		
Q 10	What do you understand by Hypervisor? Why we need it? Explain different types of Hypervisors with their limitations. Explain with the help of proper diagrams. (3+3+10+4= 20 marks)	**20**	**CO2**
Q 11	Explain the following terms: (2.5*8=20 marks) a) OLTP & OLAP b) Blade server & Rack server c) Data Mining & Data Warehousing d) Multitasking & Multiprogramming	**20**	**CO3, CO6**

Name: **Enrolment No:**	UPES