UPES
UNIVERSITY OF TOMORROW

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2022

Course: IT Systems & Network Security　　　　　　**Semester: VI**
Program: B.Tech CSE with spz in CCVT　　　　　　**Time　　: 03 hrs.**
Course Code: CSEG3022P　　　　　　　　　　　　**Max. Marks: 100**

Instructions: Use diagrams to support your explanation wherever applicable.

SECTION A
(5Qx4M=20Marks)

S. No.		Marks	CO
Q 1	Discuss the layered architecture of OSI Model.	4	CO1
Q 2	Justify the task of NIS in supporting administrative roles.	4	CO2
Q 3	Compare Hub, Repeater and modem on different attributes.	4	CO3
Q 4	Describe the role of redundancy in avoiding single point of failure.	4	CO4
Q 5	Discuss the various network topologies with their merits and de-merits.	4	CO2

SECTION B
(4Qx10M= 40 Marks)

Q 6	Compare Ethernet, Token Ring and FDDI LAN topologies on various attributes.	10	CO1
Q 7	Explain the different steps of finding optimal routes using Link State Routing with an example.	10	CO2
Q 8	Discussing the threats, suggest few systematic methods for E-Mail Security. OR Describe the technique that enables an organization to connect its offices at geographical distant location as a part of same LAN using public network.	10	CO3
Q 9	Explain below mentioned WAN technologies: a.　ATM b.　ISDN	10	CO4

SECTION-C
(2Qx20M=40 Marks)

Q 10	Explain the LAN standards ETHERNET, TOKEN RING and FDDI in detail.	20	CO1
Q 11	Describe the various steps of penetration testing along with the	20	CO4

activities to be performed for each step. OR Explain below mentioned technologies in context of computer network: a. PPP b. SSL		