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

Program: M. Tech CSE
Subject (Course): Security of e-System and Networks
Course Code   : CSCS7004
No. of page/s: 2

Semester – II
Max. Marks   : 100
Duration   : 3 Hrs

Instructions: Attempt 4 Questions each from Section A and B. Attempt 2 Questions from Section C.

SECTION A

S. No.		Marks	CO
Q 1	What is a Network? Why it is needed?	5	CO1
Q 2	Describe Naming Conventions of Computers in networks.	5	CO1
Q 3	What is Network Surveillance and why it is needed?	5	CO5
Q 4	Explain how packet switching is utilized in VOIP.	5	CO2

SECTION B

Q 5	Network operates in layers. List different devices used at different layers in network.	10	CO1 & CO2
Q 6	How you will establish Home-Networks? What is role of IP address in a network?	10	CO3
Q 7	How Virtual Private Networks operates and ensure secure communication?	10	CO3
Q 8	Justify the use of Firewalls. Explain the management aspects of firewalls. OR How S/MIME ensures security of email communications?	10	CO4

SECTION-C

Q 9	Why Email security is required at all? How PGP secures Emails? Explain internals of PGP. (20) OR (a) List the security precautions while using public computers. What is role of Anti-	20	CO4

	Virus in secure communications and computing? (10) (b) List steps of establishing Home Networks using Windows OS. (10)		
Q 10	Network Layer security is must in scenarios where upper layers don't offer any security mechanism. Explain with reference to IP Sec. How ESP is complimenting security Lacks of AH?	**20**	**CO3 & CO4**

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SECTION A

S. No.		Marks	CO
Q 1	Differentiate between wired and wireless networks.	5	CO1
Q 2	What you understand by Client-Server Model in Networks?	5	CO1
Q 3	How Man-in-Middle attacks works?	5	CO4
Q 4	Can you list safety tips for using public computers?	5	CO4

SECTION B

Q 5	How names are resolved to IP address? Also explain hierarchy of components in IP addressing.	10	CO2
Q 6	Proxy servers works as gateways in networking. Justify.	10	CO2
Q 7	Explain terms like Internet, Intranet and Extranet with reference to networks. How Classless networking helps in better management of network?	10	CO1 & CO3
Q 8	Justify the use of Firewalls. Explain the management aspects of firewalls.	10	CO4

SECTION-C

Q 9	Attempt Following: (a) Differentiate between Vulnerabilities and Threats. What is role of Anti-Virus in secure computing? (10) (b) List steps of establishing Home Networks using Windows OS.(10) OR (a) Explain concept of Public and Private IP. How Proxy Servers helps in	20	CO4

	realizing this aspect? (b) Can you differentiate functionality of Hardware and Software Firewalls? Also, list representative examples of both the method.		
Q 10	List few vulnerabilities of email application. How Pretty Good Privacy or S/MIME ensures security of email communications?	**20**	**CO5**