


Name:	
Enrolment No:	

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

Course: Mobile Communication Network Design
Program: B. Tech CSE-Telecom Informatics
Time: 03 hrs.

Semester: VI
Max. Marks: 100

Instructions: Attempt all the questions.

SECTION A

S. No.	Question	Marks	CO
Q 1	Explain the concept of “Frequency Reuse”.	4	CO4
Q 2	Why is a wired network usually part of the wireless infrastructure ?	4	CO1
Q 3	Illustrate the security aspects of Telecom domain.	4	CO2
Q 4	What are general problems of mobile IP regarding security and support of quality of service?	4	CO5
Q 5	Give an overview of GPRS network? How does GPRS provides a variety of data rates.	4	CO1

SECTION B

Q 6	What are different wireless multiple access protocols? Discuss any two such protocols.	10	CO3
Q 7	Using a Timing diagram, illustrate how a call to a PSTN initiated by another mobile subscriber is established.	10	CO4
Q 8	Compare the three generations of mobile technology systems on basis of features, technology used and applications.	10	CO1
Q 9	What are the major problems that arise in network when a mobile node moves from Home network to foreign network, explain how the mobile provides a solution to the problem of address mobility in wireless internet?	10	CO5

SECTION-C

Q 10	CSMA is a contention access protocol with partial co-ordination among multiple users. Compare and explain why and how CSMA should provide better throughput performance than ALOHA systems. Create the throughput curves and give your comments.	20	CO3
Q 11	Identify and evaluate the advantages of the following and relate with the existing tools/model/technology. a. eTOM Business Process Framework Level 1 b. IEEE 802.11	2*10= 20	CO2 CO5

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SECTION A

S. No.	Question	Marks	CO
Q 1	Define the term mobile computing and also give the any suitable example with merit of mobile computing.	4	CO4
Q 2	Differentiate third and fourth generation of Mobile Technology.	4	CO1
Q 3	How we prevent external and internal frauds, Explain.	4	CO2
Q 4	Compare Mobile IPv4 and Mobile IPv6 on the basis of security.	4	CO5
Q 5	How do HLR/VLR database approach will solve scalability problem in GSM?	4	CO1

SECTION B

Q 6	Explain the term interference in the space, time, frequency, and code domain. What are countermeasures in TDM, WDM and CDMA systems?	10	CO3
Q 7	Using a Timing diagram, illustrate how a call to a Mobile initiated by another mobile subscriber is established.	10	CO4
Q 8	Discuss the similarities and difference between WLAN and Cellular LAN.	10	CO1
Q 9	List the entities of mobile IP and describe data transfer from a mobile node to a fixed node and vice versa. Why and where is encapsulation needed?	10	CO5

SECTION-C

Q 10	CSMA is a contention access protocol with partial co-ordination among multiple users. Compare and explain why and how CSMA should provide better throughput performance than ALOHA systems. Create the throughput curves and give your comments.	20	CO3
Q 11	Identify and evaluate the advantages of the following and relate with the existing tools/model/technology. a. eTOM Business Process Framework Level 0 b. UMTS Network	2*10= 20	CO2 CO5