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

Course: Mobile Communication Protocol   Semester: IV
Program: B.Tech-CSE+MC   Time: 03 hrs.
Course Code: CSMC 2002   Max. Marks: 100

Instructions: Attempt all the questions.

SECTION A

S.No.		Marks	CO
Q 1	Compute the appropriate bit rate and signal level for a channel with a 100-MHz bandwidth. The SNR for this channel is 31.	4	CO2
Q 2	Discuss the significance of frequency reuse pattern in brief.	4	CO1
Q 3	State the differences between the "BSS" and "ESS" modes of WLAN.	4	CO5
Q 4	Name dedicated control channels available in GSM with a brief description of each of them.	4	CO3
Q 5	Differentiate between TDD and FDD modes of UMTS.	4	CO3

SECTION B

Q 6	Describe the UMTS-architecture with the brief description of each of its components.	10	CO3
Q 7	Describe the various components of OSS.	10	CO5
Q 8	Show the steps required for a handover from one foreign agent to another foreign agent in mobile IP.	10	CO3
Q 9	Explain the Tight-coupling architecture for WLAN-Cellular integration with a suitable diagram. OR Define following in the context of IS-95: (a) MIN (b) SSD (c) ESN (d) Challenge	10	CO4 or CO3

	SECTION-C		
Q 10	Compare the call establishment processes (mobile-originated calls only) in GSM and cdmaOne.	**20**	**CO3**
Q 11	Explain the packet flow if two mobile nodes communicate and both are in foreign networks. What additional routes do packets take if reverse tunneling is required? OR (a) Describe the user validation process in GSM network. (b) Describe the agent advertisement packet in mobile-IP with each of its field in detail.	**20**	**CO4 or CO3& CO4**

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

Course: Mobile Communication Protocol   Semester: IV
Program: B.Tech-CSE+MC   Time: 03 hrs.
Course Code: CSMC 2002   Max. Marks: 100

Instructions: Attempt all the questions.

SECTION A

S.No.		Marks	CO
Q 1	A network with a bandwidth of 100 Mbps can pass only an average of 20,000 frames per minute with each frame carrying an average of 500 bits. Determine the throughput of the network.	4	CO2
Q 2	Differentiate between inter-cell handover and inter-cell inter-BSC handover in GSM.	4	CO3
Q 3	State the differences between the "adhoc" and "BSS" modes of WLAN.	4	CO1
Q 4	Name the channels available in cdmaOne with suitable categorization.	4	CO3
Q 5	Differentiate between TDM and FDM.	4	CO2

SECTION B

Q 6	Describe the various BSS (Business Support System) components.	10	CO5
Q 7	Describe the following terms in the context of LTE: (a) PDN Gateway (b) Serving Gateway (c) Mobility Management Entity (d) HLR	10	CO3
Q 8	Discuss the architecture of GPRS with each of its components in detail.	10	CO3
Q 9	Explain the Loose-coupling architecture for WLAN-Cellular integration with a suitable diagram. OR Discuss various types of frauds in telecom industry with a proper categorization.	10	CO4 or CO5

	SECTION-C		
Q 10	Explain the packet flow if two mobile nodes communicate and both are in foreign networks. What additional routes do packets take if reverse tunneling is required?	**20**	**CO4**
Q 11	Define the following terms: (a) IP-in-IP (b) Route Optimization in Mobile IP (c) Tunneling (d) CDMA OR Discuss the following: (a) MPE (in 3G cellular services) (b) MSISDN vs. MSRN (c) Node and eNodeB (d) NCHO vs. MAHO	**20**	**CO4 & CO1 Or CO3**