SREENIVASA INSTITUTE OF TECHNOLOGY AND MANAGEMENT STUDIES

(Autonomous)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
QUESTION BANK
16ECE415D – WIRELESS COMMUNICATION NETWORKS

Question No.	Questions	PO Attainment
UNIT – 1: INTRODUCTION TO WIRELESS NETWORKING		
PART A (2 Marks)		
1	Write a short note on cordless telephone systems?	PO1
2	Write a short note on 2G cellular systems?	PO1
3	Distinguish between circuit switching and packet switching.	PO1
4	Sketch the hierarchy of X.25 in OSI model.	PO1
5	Define the IS-41 protocol in cellular radio network.	PO1
6	Differentiate FDMA and TDMA.	PO1
7	Write about Packet Reservation Multiple Access (PRMA).	PO1
8	Compare pure ALOHA with slotted ALOHA.	PO1
9	Write a short note on SDMA.	PO1
10	List the advantages of CDMA.	PO1
PART-B (10 Marks)		
1	Explain the a) Autonomous registration. b) Interoperated roaming. In the 1st generation Cellular Systems.	PO1, PO2
2	Discuss the traffic routing in wireless networks.	PO1, PO2
3	Distinguish between connection oriented services and connectionless services.	PO1, PO2
4	Explain the difference between data gram and virtual circuit operation.	PO1, PO2
5	Explain the following, a) Circuit Switching b) Packet switching.	PO1, PO2
6	In a CDMA system, the required E_b/No is 7 dB and the processing gain is 22dB. Find the number of available users, assuming that there is no forward power control.	PO1, PO2, PO4
7	Explain Frequency hopped multiple Access (FHMA)	PO1, PO2
8	Explain the following, a) Non persistent CSMA b) 1-Persistant CSMA	PO1, PO2
9	Explain the PRMA (Packet Reservation Multiple Access)	PO1, PO2
10	Explain the CDPA (Capture Division Packet Access)	PO1, PO2

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Question No.	Questions	PO Attainment
	UNIT – 2: MOBILE IP & MOBILE DATA NETWORKS	
	PART A (2 Marks)	
1	State the goal/objective of mobile IP.	PO1
2	List the terminologies of Mobile IP.	PO1
3	Difference between Co-located COA and foreign agent COA.	PO1
4	Define Tunneling.	PO1
5	Give the advantages of GRE encapsulation.	PO1
6	Give the advantages of IPV6 over IPV4.	PO1
7	What are the functions of short messaging service in GSM?	PO1
8	Write a note on GPRS.	PO1
9	Write note on data oriented CDPD network.	PO1
10	State the objective of mobile TCP.	PO1
	PART-B (10 Marks)	
1	Draw the block schematic of CDPD network and explain its functioning?	PO1, PO2
2	List the entries of mobile IP and describe data transfer from a mobile node to a fixed node and vice versa.	PO1, PO2
3	Compare the advantages and disadvantages of two routing schemes in mobile IP.	PO1, PO2
4	Discuss about location management in GPRS?	PO1, PO2
5	Determine the normal GSM time slot consists of six training bits, 8.25 guard bits, 26 training bits and two traffic bursts of 58 bits of data, find the frame efficiency.	PO1, PO2, PO4

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Question No.	Questions	PO Attainment
	UNIT – 3: WIRELESS DATA SERVICES & WIRELESS ACCESS PROTOCOL	
	PART A (2 Marks)	
1	List the link layer characteristics for CDPD.	PO1
2	How simultaneous transmissions are detected in ARDIS.	PO1
3	Write a note on ARDIS and its frequency bands.	PO1
4	Compare the channel characteristics of ARDIS with RAM mobile data.	PO1
5	List some characteristics of RMD.	PO1
6	What is meant by CCS?	PO1
7	Write a short note on BISDN.	PO1
8	Draw the block diagram of ISDN.	PO1
9	Write a note on WAP session protocol.	PO1
10	Name some SS7 user part.	PO1
	PART-B (10 Marks)	
1	Write short notes on "cellular digital packet data (CDPD)"	PO1, PO2

2	Explain the following signaling in ISDN with a neat block diagram
	   a) Access signaling
	   b) Network signaling
		PO1, PO2

3	Explain the types of bearer services in ISDN in terms of speed of transmission, type of channel, type of service.	PO1, PO2
4	Draw the wireless Application protocol (WAP) layered protocol architecture?	PO1, PO2
5	Discuss in detail about signaling traffic in SS7.	PO1, PO2

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Question No.	Questions	PO Attainment
	UNIT – 4: BLUETOOTH	
	PART A (2 Marks)	
1	List some of the functions covered by Link Manager Protocol of Bluetooth.	PO1
2	Give state diagram for major baseband states of Bluetooth.	PO1
3	What is piconet and scatternet?	PO1
4	Give the low power states of Bluetooth.	PO1
5	What are the states of Bluetooth?	PO1
6	Name the type of modulation is used in Bluetooth?	PO1
7	Define Bluetooth.	PO1
8	Write an IEEE standard name for Wi-Fi &Bluetooth?	PO1
9	Define WLL?	PO1
10	Write about hiperlan WLL.	PO1
	PART-B (10 Marks)	
1	List the Bluetooth radio and baseband parameters?	PO1, PO2
2	Explain the two major states in establishing a link for piconets?	PO1, PO2
3	Tell how synchronization of clocks is provided in link manager protocol of Bluetooth?	PO1,PO4
4	Determine how many different voice services does Bluetooth support and how they are different from one another?	PO1,PO4
5	Illustrate in detail about WLL technology.	PO1,PO2

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Question No.	Questions	PO Attainment
UNIT – 5: WIRELESS LAN TECHNOLOGY, WIRELESS ATM & HIPER LAN	
	PART A (2 Marks)	
1	List the advantages of WLAN.	PO1
2	Compare standards of IEEE 802.11 a, b, g and n standards.	PO1
3	Define WATM?	PO1
4	What are enhancements in IEEE 802.16?	PO1
5	Explain briefly IEEE 802.11 medium access control?	PO1
6	Give the layered model of BRAN Wireless access networks.	PO1
7	What are the three Handover situations in HIPERLAN2?	PO1
8	What are the purpose of scrambler and interleaver in the HIPERLAN-2 modem?	PO1
9	Specify requirements for HiperLAN?	PO1
10	List the applications of WATM.	PO1
	PART-B (10 Marks)	
1	What are the strengths and drawbacks of Infrared wireless LANs?	PO1, PO2
2	List and briefly explain the IEEE.802 protocol layers?	PO1, PO2
3	Sketch in detail about one routing protocol in adhoc networking?	PO1, PO2
4	Explain the adhoc network architecture in HIPERLAN1?	PO1, PO2
5	Discuss the applications supported by IEEE 802.15 home RF technology?	PO1, PO2