USN | | | | | | | | | | **18MT56**

Fifth Semester B.E. Degree Examination, June/July 2024
Wireless Networks and Communication

Time: 3 hrs.   Max. Marks:100

Note: *Answer any FIVE full questions, choosing ONE full question from each module.*

Module-1

1 a. Explain how wireless network are classified on basis of range and applications. **(08 Marks)**
   b. With a neat block diagram, explain Wireless Communication System. **(08 Marks)**
   c. Calculate the minimum SNR required to support information transmission through the telephone channel of bandwidth 3.4 kHz at the data rate of 4800 bps. **(04 Marks)**

OR

2 a. Discuss the various wireless communication problems encountered in wireless network. **(08 Marks)**
   b. Explain wireless switching technologies. **(06 Marks)**
   c. Explain various networking issues encountered in wireless network. **(06 Marks)**

Module-2

3 a. With a neat sketch, explain the WBAN network architecture. **(10 Marks)**
   b. Discuss WBAN network protocols in network layer. **(10 Marks)**

OR

4 a. Discuss design issues in WBAN system. **(10 Marks)**
   b. Discuss Bluetooth and Zigbee of WBAN technologies. Mention WBAN applications. **(10 Marks)**

Module-3

5 a. Explain with a neat diagram, QPSK digital modulation technique. **(07 Marks)**
   b. Explain with a neat diagram, multipath and Doppler's effects. **(06 Marks)**
   c. Explain Rake receiver with a neat diagram. **(07 Marks)**

OR

6 a. Explain spread spectrum modulation technique. **(10 Marks)**
   b. Explain diversity techniques in wireless communication. **(10 Marks)**

Module-4

7 a. Explain the design requirements of WLAN. **(10 Marks)**
   b. Briefly explain the description of PHY layer of 802.11 and Direct Sequence Spread Spectrum (DSSS) PHY sub layer in WLAN physical layer protocol. **(10 Marks)**

OR

8	a.	Compare IEEE 802.11 standard and IEEE 802.16.	(05 Marks)
	b.	Explain the methods to increase capacity in cellular network.	(05 Marks)
	c.	Explain with a neat diagram, GSM network architecture.	(10 Marks)

Module-5

9	a.	Explain the characteristics of VANET.	(10 Marks)
	b.	With a neat diagram, explain the architecture of VANET.	(10 Marks)

OR

10	a.	Explain wireless Mesh network architecture.	(10 Marks)
	b.	List out quantitative and qualitative features of Ad-hoc networks.	(10 Marks)

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