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15MT551

Fifth Semester B.E. Degree Examination, Jan./Feb. 2021
Wireless Networks and Communication

Time: 3 hrs.   Max. Marks: 80

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

Module-1

1 a. What is Wireless Communication System? Explain the block diagram of wireless communication system. **(10 Marks)**
   b. Explain various networking issues encountered in wireless network. **(06 Marks)**

OR

2 a. Define Packet Switch. Explain the packet switching with neat figure. **(08 Marks)**
   b. Define channel bandwidth. In a communication channel, the bandwidth is 3.4KHz and output S/N power ratio is 20dB. Calculate channel capacity. **(08 Marks)**

Module-2

3 a. Explain Routing protocols required for WBAN in Network layer? **(08 Marks)**
   b. Describe the network architecture of WPAN. **(08 Marks)**

OR

4 a. Explain network architecture and components of WBAN. **(08 Marks)**
   b. Calculate the minimum SNR required to support information transmission through the telephone channel of bandwidth 3.4KHz at data rate of 4800bps. **(08 Marks)**

Module-3

5 a. Describe QPSK digital Modulation Technique with neat figure. **(08 Marks)**
   b. Explain characteristics of the Air Interface with respect to outdoor and indoor propagation case. **(08 Marks)**

OR

6 a. Derive an expression relating received signal power to radio link distance. **(08 Marks)**
   b. Explain the Wireless Telecommunication Coding Technique. **(08 Marks)**

Module-4

7 a. Explain design requirement of WLAN. **(08 Marks)**
   b. Explain WMAN network architecture with neat diagram. **(08 Marks)**

OR

8 a. Explain different modes of WLAN network architecture. **(08 Marks)**
   b. List out the applications of WLAN, WMAN and WWAN. **(08 Marks)**

Module-5

9 a. Explain network architecture of Mobile AdHoc Network (MANET) with neat figure. **(08 Marks)**
   b. Explain the application and technologies of Wireless Mesh Network. **(08 Marks)**

OR

10 a. Define VANET? Explain the architecture of VANET with suitable figure. **(08 Marks)**
   b. Define Wireless Sensor Network? Explain the architecture of WSN with suitable diagram. **(08 Marks)**

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