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10MT73

**Seventh Semester B.E. Degree Examination, Feb./Mar.2022**  
**Wireless Networks**

Time: 3 hrs.

Max. Marks:100

**Note: Answer any FIVE full questions, selecting at least TWO questions from each part.**

**PART – A**

- 1 a. With a neat block diagram, explain the wireless communication system. Calculate the channel capacity for a given channel bandwidth of 3.4 kHz and output S/N power ratio of 20 dB. (10 Marks)
- b. Explain the multiple access method for wireless communication channel specification. (10 Marks)
- 2 a. What are wireless networks? Explain the types of wireless networks. (10 Marks)
- b. Explain various networking issues encountered in wireless network. (10 Marks)
- 3 a. Explain the network architecture and components of wireless body area network. (10 Marks)
- b. Explain the properties and design issues of wireless body area networks. (10 Marks)
- 4 a. Explain the piconett and scatternet architecture defined in the wireless personal area network. (10 Marks)
- b. Explain Bluetooth protocol stack. (10 Marks)

**PART – B**

- 5 a. Explain design requirements of WLAN. Determine the transfer of 40 kB file with an 802.11 WLAN operating at 2 Mbps. (10 Marks)
- b. Explain the following in WLAN physical layer protocol:
  - (i) Layer description of IEEE 802.11.
  - (ii) Direct sequence spread spectrum physical sublayer.
  - (iii) Peer to Peer data routing (10 Marks)
- 6 a. Explain WMAN network components, features of WiMAX with neat diagram of WMAN architecture. (10 Marks)
- b. Explain the IEEE802.16 protocol stack with neat diagram. (10 Marks)
- 7 a. Explain with neat diagram GSM network architecture. (10 Marks)
- b. Explain architecture, key features, functioning and limitations of CDPD. (10 Marks)
- 8 a. Explain five routing protocols of WSN (Wireless Sensor Network). (10 Marks)
- b. Explain the unique characteristics, architecture of VANET. (10 Marks)

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