

B3.E8-R5 : WIRELESS & MOBILE COMMUNICATION

NOTE :

1. Answer question 1 and any FOUR questions from 2 to 7.
2. Parts of the same question should be answered together and in the same sequence.

Total Time : 3 Hours

Total Marks : 100

1. (a) Compare the merits and demerits of Wired and Wireless LANs.
(b) What is scattering ?
(c) Explain the various limitations of GPRS.
(d) What is the significance of propagation model ?
(e) What are the advantages and disadvantages of Mobile TCP ?
(f) What is Spatial Multiplexing (SM) in MIMO ?
(g) What are the IEEE standards of WiFi, Bluetooth, and WiMaX ?

(7X4)
2. (a) The main aim in the cellular system design is to be able to increase the capacity of the channel. There are several different ways to allow access to the channel. These include FDMA, TDMA and CDMA. Explain each method with their features.
(b) What are the problems of hidden and exposed terminals in 802.11 ? Explain how these problems can be solved.

(10+8)
3. (a) What is the role of communication standards in wireless communication ? Differentiate between ZigBee and Wi-Fi.
(b) Draw and explain GSM architecture in detail.

(9+9)
4. (a) What is cellular network ? Define co-channel interference.
(b) Differentiate between soft and hard hand off.
(c) Draw the architecture of CDMA. How are guard spaces realized between users in CDMA ?

(6+4+8)
5. (a) Explain the different types of services offered by Bluetooth.
(b) Differentiate between WiFi and WiMAX.
(c) Explain frequency hopping spread spectrum with suitable example.

(6+6+6)
6. (a) What are the tasks performed by MAC layer in IEEE802.11 protocol architecture ?
(b) Explain the wireless topologies with examples.
(c) What are the similarities and dissimilarities between Virtual RAN and Open RAN ?

(5+6+7)
7. Write Short Note on following :
(a) LoRA
(b) 6lowPAN
(c) Zwave

(6+6+6)

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