Dec.-23-0560

CS-702 (Wireless & Mobile Computing)

B.Tech. 7th (CBCS)

Time : 3 Hours   Max. Marks : 60

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt five questions in all, selecting one question each from section A, B, C and D. Question no. 9 is compulsory.

SECTION - A

1. Explain the concept of mobility management in mobile communication networks and how it facilitates seamless connectivity for mobile users.   (10)

2. How the handover decision takes place in GSM depending on receiver signal strength? Explain.   (10)

SECTION - B

3. (a) Give the main reason for implementing specialized MAC in wireless networks.   (5)

   (b) Explain about the Code Division Multiple Access technique.   (5)

4. Explain the concept of cellular network and frequency reuse, and how it enables efficient use of radio spectrum.   (10)

SECTION - C

5. Explain the following medium access control mechanisms:

   (a) For far and near terminals

   (b) For hidden and Exposed terminals.   (5+5=10)

6. Explain the IEEE 802.11p standard and how it is used in vehicular communication networks.   (10)

SECTION - D

7. Describe the concept of vehicular ad hoc networks (VANETs) and their applications in intelligent transportation systems.   (10)

8. Explain the following protocols used by MANETs for routing:

   (a) Dynamic Source Routing

   (b) Ad-hoc On-demand Distance Vector Routing   (5+5=10)

SECTION - E (Compulsory)

9. Answer the following questions in brief:

   (a) What is mobile computing?

   (b) Explain the concept of mobile system networks.

   (c) What are the common design issues of a WBAN?

   (d) What are some common WLAN applications?

   (e) What are the common routing protocols used in MANET?

   (f) What are wireless sensor networks?

   (g) How do wireless mesh network differ from other wireless networks?

   (h) Write about different Broadcast models.

   (i) List the applications of MANETs.

   (j) Explain the handover management in mobile IP.

                                        (10×2=20)