BE11-R4 : WIRELESS & MOBILE COMMUNICATION

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

Time: 3 Hours   Total Marks: 100

1. (a) Which are open issues in Wireless Communication ?

(b) Draw Frequency Spectrum which shows frequencies starting at 300 Hz and going upto over 300 THz.

(c) Explain any two disadvantages of Small Cell in Cellular System.

(d) How can waves with a very low frequency follow the earth's surface ? Why are they not used for data transmission in computer networks ?

(e) What is GSM? Which types of different services does GSM offer ? Give name of such services.

(f) Differentiate between Soft handoff and Hard handoff. Which is more efficient ?

(g) Which are the basic elements of Configuration in J2ME ?   **(7x4)**

2. (a) Explain GSM Addresses and Identifiers.

(b) Draw and explain GRPS architecture.   **(9+9)**

3. (a) What do you mean by "Ranges for transmission, detection, and interference of signals"? Explain these ranges in detail. Also explain three fundamental propagation behaviors of Radio waves depending on their frequency.

(b) Explain Shadowing, Reflection and Refraction effect in Wireless Communication.   **(9+9)**

4. (a) Explain difference between wired and wireless mobile networks (IEEE 802.3 and IEEE 802.11 standards).

(b) What are the applications of Mobile Computing ?

(c) What is Cellular Network ? Explain it in detail.   **(6+6+6)**

5. (a) Which are the advantages of Cellular System with small cells?

(b) Why CSMA/CD is not applicable in Wireless environment ? Explain CSMA/CA in 802.11.

(c) What are the problems of hidden and exposed terminals in 802.11? Explain how these problems can be solved.   **(4+7+7)**

6. (a) Draw and explain architecture of Bluetooth along with Bluetooth Protocol Stack.

(b) Compare and contrast between different Wireless Network Standards (1G, 2G, 3G, 4G and 5G). **(9+9)**

7. Write short note on **any three** of the following :

(a) J2ME Profiles

(b) Personal Digital Assistants

(c) HLR (Home Location Register) and VLR (Visitor Location Register)

(d) Circuit Switching and Packet Switching **(3x6)**

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