

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) What is piconet and scatternet in Bluetooth? Give difference between Piconet and Scatternet.
 - b) How Ad-Hoc Mode functions in Wireless Networking? Explain the limitation of Ad-Hoc networks.
 - c) Explain key features of Symbian Operating System used for mobile phones.
 - d) What is Personal Area Network? How it can be formed?
 - e) Write a short note on WLL.
 - f) What is WiMAX? Give comparison between WiMAX and Wifi.
 - g) Explain process of Application development using Nokia tool kit.

(7x4)

2.
 - a) What are the advantages and disadvantages of Wireless LAN?
 - b) Explain Handoff management. Differentiate Hard hand-off and Soft hand-off.

(8+10)

3.
 - a) What is Spread Spectrum? Compare between Direct Sequence Spread Spectrum and Frequency Hopping Spread Spectrum.
 - b) Explain GSM Architecture with the help of neat diagram.

(9+9)

4.
 - a) Draw and explain architecture of Bluetooth Protocol Stack.
 - b) Explain the functioning of Analog Mobile Phone Service and IS-136 standard code.
 - c) How CDMA functions. What are codes related to digital cellular standard.

(8+5+5)

5.
 - a) What is multipath propagation? What are the factors that influences small-scale fading in the radio propagation?
 - b) Differentiate between following terms:
 - i) FDMA
 - ii) TDMA
 - c) Differentiate between pure ALOHA and Slotted ALOHA.

(8+5+5)

6.
 - a) Explain MAC frame structure 801.11 Protocol family.
 - b) What is WEP? Why is it considered unsafe? What are the mechanisms advised to ensure security in Wireless LAN?

(9+9)

7.
 - a) What is circuit switched and packet switched network? Differentiate Packet Switched Network vs. Circuit Switched Network.
 - b) Explain GPRS architecture.

(9+9)