BE11-R4: WIRELESS & MOBILE COMMUNICATION

«QP_SRLNO»

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)   Define Internetworking. Compare and contrast internetworking models: TCP/IP and OSI.
b)   What is Multipath Fading? How does it occurs in CDMA system?
c)   Compare Hard Handoff and Soft Handoff.
d)   List the important features of Wideband Code Division networks (WCDMA).
e)   What is Quality of Service? List main characteristics of a network delivering QoS to an end user.
f)   What are Wireless Technologies? Explain Briefly.
g)   Differentiate WLL, Mobile Wireless and Wireline.

(7x4)

2.
a)   What is an Error? How does it occur in communication? How to Detect or Correct Errors? Explain with an example.
b)   Define Switching. Compare circuit switching, packet switching and message switching.

(9+9)

3.
a)   Explain Digital Enhanced Cordless Telecommunications system standard (DECT) and its layered architecture. Discuss Mobile initiated sequence of steps in this system.
b)   What is Spread Spectrum Technique? What are the Advantages of Spread Spectrum? How many types of Spread Spectrum Techniques are used in CDMA?

(9+9)

4.
a)   What is General Packet Radio Service (GPRS)? Discuss GPRS goals, benefits, applications and its architecture.
b)   What is a hidden terminal problem? What is the solution to address the problem?

(12+6)

5.
a)   What is GSM? Explain GSM Protocol stack in detail.
b)   What is NGN? List the important requirements from NGN. Also, list the major issues and problems that are to be addressed in NGN. Draw a neat and clean diagram to explain NGN conceptual model and its functional layers.

(9+9)

6.
a)   Suppose the IEEE 802.11 RTS and CTS frames were as long as the standard DATA and ACK frames. Would there be any advantage to using the CTS and RTS frames? Why or why not?
b)   What is WiMAX? Explain in detail the goals of WiMAX with the help of block diagram describe its architecture also.

(6+12)

7.
a)   Define cochannel interference. How is it measured at the mobile unit and cell site?
b)   Write short notes on:
    i)   Mobile Operating Systems: Windows CE and Symbian OS
    ii)   Bluetooth Protocol Stack

(9+9)