AQ–2785

Faculty of Engineering & Technology

M.E. Sem–II Full Time (Information Technology) (C.G.S.) Examination

ELECTIVE–II : WIRELESS NETWORK AND COMMUNICATION

Paper—2 NMEF 5

[Maximum Marks : 80

Time : Three Hours]

INSTRUCTIONS TO CANDIDATES

(1) Due credit will be given to neatness and adequate dimensions.

(2) Assume suitable data wherever necessary.

(3) Illustrate your answers wherever necessary with the help of neat sketches.

(4) Use pen of blue/black ink/refill only for writing the answer book.

1. (a) Explain the concept of GSM network interface and their relationship to the OSI model. 7

   (b) What are the basic characteristics of 3G wireless mobile system ? 6

OR

2. (a) Discuss the basic concept and evaluation of CDMA technology. 7

   (b) Explain the differences between 3G and 4G wireless mobile system. 6

3. (a) Discuss the basic services offered by the GSM cellular and the frequency bands of the operations 7

   (b) Explain in brief about Hand off/Hand Over in mobile communication. 7

OR

4. (a) Describe briefly regarding cell structure, Cell cluster and frequency reuse in GSM. 7

   (b) Discuss the function of the GSM logical channels. 7

(Contd.)

5. (a) What is the fundamental difference between GSM and NA-TDMA ? 7

(b) What is the function of networking link layer in GSM protocol ? 6

OR

6. (a) What is the function of physical layer in GSM protocol ? 7

(b) Describe the CDPD operation of cell transfer. 6

7. (a) Explain about generation of pseudorandom sequence with an example. 7

(b) Explain Fast frequency hopping technique with block diagram. 7

OR

8. (a) Describe various advantages, and disadvantages of DSSS with FSSS. 7

(b) A PN sequence is generated using a feedback shift register of length M=4.

The chip rate is 10^7 chips per second.

Find : (i) PN sequence length (ii) chip duration (iii) PN sequence period. 7

9. (a) Discuss typical wireless LAN hardware and system deployment strategies. 7

(b) How the IEEE 802.11 extension do achieved higher data transfer rates ? 6

OR

10. (a) Explain the RBS transceiver Unit with suitable block diagram. 7

(b) Explain the basic architecture of IEEE 802.11 wireless LANs. 6

11. (a) Describe the various Bluetooth protocol stacks. 7

(b) What is a "piconet coordinator" as defined in 802.15.3 6

OR

12. (a) Describe IEEE 802.16 wireless MAN power control. 7

(b) Describe the basic operation of the IEEE 802.16 physical layer. 6