Reg. No. : ☐☐☐☐☐☐☐☐☐☐☐☐

Question Paper Code : 41224

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2015.

Eighth Semester

Electronics and Communication Engineering

EC 1451 — MOBILE AND WIRELESS COMMUNICATION

(Regulation 2008)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is hopping sequence?

2. Define handover.

3. For the ALOHA protocol, the vulnerable period is double the packet duration. Find the probability of no collision during the interval of 2τ.

4. Give the link layer characteristics of Cellular Digital Packet Data (CDPD).

5. What are the distinct features of ad-hoc networks?

6. Mention the applications of wireless sensor networks.

7. List out any four application of VoIP networks.

8. What are the significant features of mobileIP?

9. What are the features of GloMoSim?

10. What are the merits and demerits of NS2 software?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Describe the different multiple access techniques and discuss their application in wireless networks.   (12)

    (ii) Discuss the principle of frequency reuse.   (4)

Or

(b) (i) Explain the different handoff strategies for mobile cellular communication systems. (8)

(ii) Describe the effect of fading and Doppler effect on the performance of wireless systems. (8)

12. (a) Explain the protocols for 3G and 4G cellular networks.

Or

(b) Discuss the following :

(i) CSMA (8)

(ii) Wireless LAN. (8)

13. (a) Describe the architecture of Wireless Sensor Network (WSN) and discuss the function of each module.

Or

(b) Explain DSR and AODV routing protocols with sample topology.

14. (a) Discuss the security and authentication issues in Mobile networks.

Or

(b) (i) Explain Mobile IP and ad-hoc networks. (10)

(ii) Discuss VOIP applications in brief. (6)

15. (a) Explain designing and evaluating performance of various transport protocols with OPNET simulator.

Or

(b) Discuss NS2 simulation for designing and evaluating performance of different routing protocols.

————————