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Question Paper Code : 20440

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2022.

Sixth Semester

Electronics and Communication Engineering

EC 8004 — WIRELESS NETWORKS

(Regulations 2017)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. List the services provided by IEEE802.11.

2. Outline the challenges in 6LoWPAN.

3. Mention the different entities in mobile IP.

4. Outline the functions of SIP.

5. Mention the techniques used in HSDPA.

6. Define user equipment.

7. Write the functions of tight coupling in internetworking.

8. Mention the networking models used to describe the protocol.

9. Based on transmitting and receiving, how many kinds of antennas are available?

10. State the design challenges of 4G system.

PART B — (5 × 13 = 65 marks)

11. (a) Analyze the basic structure and handover scenarios of HiperLAN2 with necessary diagrams.

Or

(b) Infer the characteristics and architecture of IEEE 802.15.4 WPAN.

12. (a) (i) Draw and explain the header format of IPv6. (6)

(ii) Infer about the basic structure of hierarchical mobile IPv6. (7)

Or

(b) Explain the working principle of CoAP Protocol with architecture and message format.

13. (a) Summarize the following in detail:

(i) UTRAN Interfaces. (5)

(ii) Transport Network Control plane and Transport Network User plane. (8)

Or

(b) Describe the following in detail:

(i) Packet Data Serving Node (PSDN) in CDMA 2000. (6)

(ii) Base Transceiver Station (BTS). (7)

14. (a) (i) Brief the WLAN system architecture reusing the 3GPP subscription. (6)

(ii) How is authentication achieved in loose coupling architecture? (7)

Or

(b) (i) Illustrate the MMDS system for digital video and wireless internet. (10)

(ii) Write the advantages of LMDS. (3)

15. (a) Explain end to end architecture of LTE network.

Or

(b) (i) Explain about cognitive Radio. (10)

(ii) List the different types of MCM techniques. (3)

PART C — (1 × 15 = 15 marks)

16. (a) Discuss the features, importance and working of smart antenna techniques. (15)

Or

(b) Illustrate the mechanism of tunnelling and encapsulation in mobile IP packet delivery with necessary diagrams. (15)