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Question Paper Code : 70482

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2023.

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. What is HiperLAN1 and HiperLAN2?
2. Mention the different standards of WIFI Network.
3. Write the features of COAP Protocol.
4. List out the Routing protocols to support IPV6.
5. State the applications of UMTS.
6. What are the 3G standards of CDMA-2000 family?
7. Give the advantages and disadvantages of GPRS.
8. What are the requirements of internetworking?
9. List out the challenges of 4G Network.
10. Why Multicarrier Modulation is required?

PART B — (5 × 13 = 65 marks)

11. (a) Formulate the basic structure of an IEEE 802.11 MAC data frame and also explain the special control packets.

Or

- (b) (i) Discuss about Zigbee Topologies with diagram. (6)
- (ii) Draw and explain architecture of Wireless HART. (7)

12. (a) (i) Draw the header format of IPv6 and explain. (6)
(ii) Infer about the basic structure of hierarchical mobile IPv6. (7)

Or

- (b) Examine the motivation behind dynamic source and how does dynamic source routing handle routing.
13. (a) Discuss in detail about the overview and system architecture of CDMA 2000.

Or

- (b) Develop the core network associated with TD-SCDMA wireless network for Release 5.
14. (a) Outline the WLAN adaptation function (WAF) in tight coupling architecture and explain with an appropriate diagram.

Or

- (b) (i) Illustrate the MMDS system for digital video and wireless internet. (8)
(ii) Summarize the functional operation of MMDS. (5)
15. (a) What is OFDM? Write the significance and its advantages in using in 4G wireless communication system.

Or

- (b) Determine the categories of MVNO and explain the architecture in detail.

PART C — (1 × 15 = 15 marks)

16. (a) Imagine the following scenario. A Japanese and a German meet at a conference on Hawaii. Both want to use their laptops for exchanging data, both run mobile IP for mobility support. Explain the optimizations used in the mobile IP networks

Or

- (b) Estimate the effective distributed system as a management goal in broadband wireless access.