Reg. No. :

Question Paper Code: 45402

B.E. / B.Tech. DEGREE EXAMINATION, APRIL 2019

Fifth Semester

Electronics and Communication Engineering

14UEC502 - DATA COMMUNICATION AND NETWORKS

(Regulation 2014)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. Which of the following networks allow different speed links?

    (a) Message switched networks   (b) Packet switched networks
    (c) Circuit switched networks   (d) None of the above

2. The highest data rate is provided by which of the following medium.

    (a) Coaxial cable   (b) Optical fiber
    (c) Microwave   (d) Laser beam

3. Data link control deals with the design and procedures for _____ communication.

    (a) node-to-node   (b) host-to-host
    (c) process-to-process   (d) server-to-server

4. For wireless network, _____ was invented

    (a) CSMA/CD   (b) CSMA   (c) CSMA/CA   (d) ALOHA

5. Header of datagram in IPv4 has _____.

    (a) 0 to 20 bytes   (b) 20 to 40 bytes
    (c) 20 to 60 bytes   (d) 20 to 80 bytes

6. The Routing Information Protocol (RIP) is an intra domain routing based on _____ routing.

    (a) distance vector   (b) link state   (c) path vector   (d) none of these

7. Which of the following services use TCP?

    (a) DHCP   (b) SMTP   (c) FTP   (d) TFTP

8. _____ is a class-based QoS model designed for IP.

    (a) Integrated Services   (b) Differentiated Services

    (c) Connectionless   (d) Connection-Oriented

9. In the DNS, the names are defined in _____ structure.

    (a) a linear list   (b) an inverted-tree

    (c) a graph   (d) none of these

10. Which configuration is not supported in AES?

    (a) 10 rounds with a key size of 128 bits
    (b) 12 rounds with a key size of 192 bits
    (c) 16 rounds with a key size of 228 bits
    (d) 14 rounds with a key size of 256 bits

<div align="center">PART - B (5 x 2 = 10 Marks)</div>

11. List the key elements of protocol?

12. Mention the various cryptographic techniques.

13. List the two types of packet switching.

14. Mention the concept behind E-Mail authentication.

15. List the techniques to improve the quality of service.

<div align="center">PART - C (5 x 16 = 80 Marks)</div>

16. (a) Justify the specification of RS232 interfacing.   (16)

<div align="center">Or</div>

    (b) (i) Classify the categories of network.   (6)

         (ii) Discuss about ISO reference model with a neat sketch.   (10)

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17. (a) (i) Briefly describe the services provided by the data link layer. (8)

       (ii) Explain the design and use of any one multiple access protocol. (8)

Or

  (b) (i) Describe the functional design of any one protocol defined for noisy channel. (8)

      (ii) Explain the access method used for wireless LANs. (8)

18. (a) (i) Distinguish between packet switching and datagram approach. (6)

      (ii) Illustrate link state routing with an example. (10)

Or

  (b) (i) Discuss the structure and working of Border gateway protocol. (8)

      (ii) Compare and contrast the fields in the main header of IPV4 and IPV6. (8)

19. (a) Discuss the quality of service parameters in networks and how to improve them. (16)

Or

  (b) Explain the congestion control techniques applicable for TCP networks. (16)

20. (a) (i) What are the main categories of DNS messages? Explain. (8)

      (ii) Name the common components and their functions in a browser. (8)

Or

  (b) (i) Illustrate the operation of file transfer protocol with an example from banking sector. (6)

      (ii) Analyze the operation of SMTP and analyze how it works for Email applications. (10)

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