Reg. No. : | | | | | | | | | | |

Question Paper Code: 45402

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2018

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. The _____ layer is responsible for delivering data units from one station to the next without errors.

   (a) physical (b) data link (c) transport (d) network

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. Mark the main protocol used to access data on the WWW.

(a) HTTP (b) SCTP (c) SMTP (d) FTP

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

PART - B (5 x 2 = 10 Marks)

11. List the key elements of protocol.

12. Define framing and the reason for its need.

13. List the two types of packet switching.

14. What is the maximum size of the process data that can be encapsulated in a UDP datagram?

15. Specify the purpose of inverse domain.

PART - C (5 x 16 = 80 Marks)

16. (a) How are the layers abstracted in OSI model? Explain their functions. (16)

Or

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

17. (a) Given the data word as 1010101010 and the divisor 10111. Show the generation of the code word at the sender site. Show the checking of the code word at the receiver site. (16)

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) (i) Summarize the concept of congestion control with a leaky bucket algorithm. (6)

(ii) Discuss the quality of service parameters in networks and how to improve them. (10)

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) Explain why FTP does not have a message format. (6)

(ii) Illustrate cryptography with three examples of various forms. (10)

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