Total No. of printed pages = 7

RETEST EXAMINATION – 2019

Semester : 6th (Old)

Subject Code : Et-602

DATA COMMUNICATION AND NETWORKING

Full Marks – 70

Time – Three hours

The figures in the margin indicate full marks for the questions.

Instructions :

1. *All* questions of PART – A are compulsory.

2. Answer any *five* questions from PART – B.

PART – A

Marks – 25

1. Fill in the blanks :   1×10=10

    (a) _____ is a network in which a small number of computers share hardware, software and/or information.

    (b) _____ is a device that acts as a smart hub connecting computers into a network, and it also separates your network from other networks.

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(c) _____ technology provides entirely wireless connections for all kinds of communication devices.

(d) _____ does the same job as standard Internet service providers except that you don't need a wired connection for access.

(e) A virtual private network uses software to establish a secure channel on the _____ for transmitting data.

(f) Wi-Fi (wireless fidelity, 802.11a, b, or h) transmit data about _____ feet.

(g) _____ permits you to access the Internet using your cable connection.

(h) _____ is a wireless communication medium well-suited for medium distances.

(i) _____ is made of communications media owned or exclusively leased by your company.

(j) _____ uses software to establish a secure channel on the Internet for transmitting data.

2. Write true or false : 1×10=10

(a) A telephone modem is a device that connects your computer to your phone line so that you can access another computer or network.

(b) Switch is a device that connects multiple computers into a network in which multiple communications links can be in operation simultaneously.

(c) A client/server network is a network in which only one computer is a server and provides services to the other computers, which are called clients.

(d) Broadband is a high-capacity telecommunications pipeline capable of providing high-speed Internet service.

(e) Wireless communications media transmits information over a closed, connected path.

(f) A MAN covers a limited geographic distance, such as an office, building, or a group of buildings in close proximity to each other.

(g) Coaxial cable (coax) has one central wire surrounded by insulation, a metallic shield, and a final case of insulating material.

(h) On an Ethernet network, messages sent out go to all computers on the network, and each computer looks at all the messages to see if they're meant for that computer or not.

(i) The most common wired transmission medium for home networks is Cat 5 cable, which is a cheaper version of the twisted-pair cable used for telephones.

(j) A repeater is a device that receives a radio signal, strengthens it, and sends it on.

3. Choose the correct answer :   1×5=5

(a) Which of the following is a wireless communications medium that uses light waves to transmit signals or information ?

  (i) Cat 3   (ii) Optical fiber

  (iii) Infrared   (iv) Microwave

(b) Both station can transmit and receive data simultaneously in

  (i) Simplex mode

  (ii) Half duplex mode

  (iii) Full duplex mode

  (iv) None of the Above

(c) Data communications are transfer of data through some

  (i) transmission medium

  (ii) linear medium

  (iii) Network LAN

  (iv) Protocols

(d) Protocols are, set of rules to govern

  (i) Communication

  (ii) Standards

  (iii) Metropolitan communication

  (iv) None of the Above

(e) Which type of media transmits information through the air ?

  (i) Communications media

  (ii) Wired communications media

  (iii) Wireless communications media

  (iv) All of the above.

PART – B

Marks – 45

4. (a) State the different standards introduced by IEEE for LANs. 3

(b) Define synchronous communication and asynchronous communication. 3

(c) What are the advantages of setting up a computer network ? 3

5. (a) What is token ring and how it works ? 3

(b) What are the different ISDN standards ? 3

(c) Name some network operating system (NOS) software. 3

6. (a) What is Network and explain characteristics of Networks ? 3

(b) Explain different types of Networks. 3

(c) Write about Protocol and Standards. 3

7. (a) What are the different features of SCTP ? 3

(b) Write about CSMA/CD protocol. 3

(c) What is cyclic code and explain Cyclic Redundancy Check (CRC) code ? 3

8. (a) Define channelization and list three protocols in this category. 4½

(b) Write about line coding and its characteristics. 4½

9. (a) Write about different Block Coding Techniques. 4½

(b) Explain Analog to Digital Conversion Techniques. 4½

10. Write about different steps to create a TCP Connection. 9

11. Explain different types of topologies. 9

12. Write about error control in TCP. 9