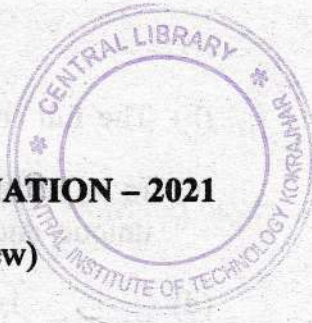


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**END SEMESTER EXAMINATION – 2021**

Semester : 5th (New)

(Regular)

Subject Code : Co-502

**COMPUTER 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

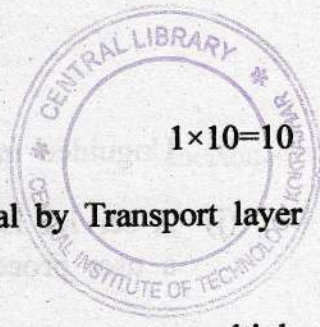
(a) \_\_\_\_\_ is a sub layer of data link layer of the open system interconnections (OSI) reference model for data transmission.

[Turn over

- (b) The full forms of OSI, ISO are \_\_\_\_\_, \_\_\_\_\_.
- (c) In a network, a machine is identified by unique address called \_\_\_\_\_.
- (d) \_\_\_\_\_ is a technique which combines multiple signals, suitable for transmission over a communication channel such as coaxial cable or optical fibre.
- (e) Basic transmission data unit of data link layer concern with \_\_\_\_\_.
- (f) The full form of the ISDN is \_\_\_\_\_.
- (g) A \_\_\_\_\_ is an artificial satellite that relay and amplifies radio telecommunication signals via a transponder.
- (h) The rules and procedures by two communicating devices communicate each other is called \_\_\_\_\_.
- (i) In \_\_\_\_\_ token is passed over physical ring formed by the station and the coaxial cable network.
- (j) \_\_\_\_\_ is a protocol for error control in data transmission, when the receiver detects error in a packet it automatically requests the transmitter to resend the packet.







2. Write true or false :

1×10=10

- (a) The basic data unit dealt by Transport layer is called Packet.
- (b) A switch is a device that connects multiple computers into a network in which multiple communication 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 computer called clients.
- (d) Physical layer defines the direction of transmission between two devices : Simplex, Half duplex Full duplex.
- (e) During message routing, every intermediate switch in the network stores the whole message.
- (f) Routing is a function of data link layer.
- (g) The higher layer always provides service to its lower layer.
- (h) The internet layer is responsible for logical transmission of data packet over the internet.

- (i) Unguided media are called wireless media.
- (j) A service is a set of primitives available to a user process to access the service.

3. Choose the correct answer : 1×5=5

(a) Geostationary satellites are :

- (i) placed at a fixed point above the earth
- (ii) rotate the earth at the varying axis
- (iii) rotate the earth about a fixed axis
- (iv) All of the above

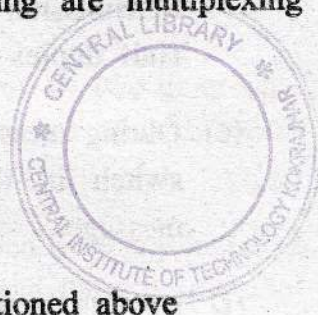
(b) Which of the following are multiplexing technique ?

- (i) TDM
- (ii) Both (i) and (iii)
- (iii) FDM
- (iv) None of the mentioned above

(c) Electronic mail uses which Application layer protocol ?

- (i) SMTP
- (ii) FTP
- (iii) HTTP
- (iv) None of these

81/Co-502(R)/CC&N(N) (4)





(d) Application layer offers \_\_\_\_\_ function.

- (i) Exchange messages
- (ii) Both (i) and (iii)
- (iii) Access for Global information
- (iv) None of the above

(e) Which one of the following is a function of Network layer ?

- (i) Routing
- (ii) Flow control
- (iii) Error correction and detection
- (iv) Both (ii) and (iii).

PART - B

Marks - 45

- 4. (i) Explain TCP/IP reference model. 3
- (ii) Write about Fibre optic cable. 3
- (iii) Write about the differences between Slotted ALOHA and Pure ALOHA. 3

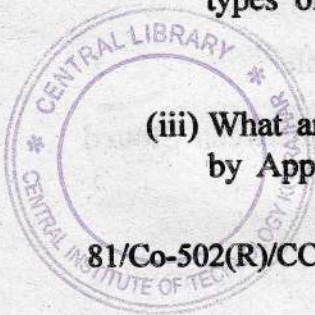
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(5)

[Turn over



5. (i) What are the design issue of Data link layer ?  
3
- (ii) What are the differences between service and protocol ?  
3
- (iii) What are the design issue of physical layer ?  
3
6. (i) What are the different types of transmission media ?  
3
- (ii) Write about the Fibre optic cable or Radio wave.  
3
- (iii) What are the design issues of Data link Session Layer ?  
3
7. (i) What is Bridge ? What are the different types of Bridges ?  
3
- (ii) What is Electronic mail ? Name the different types of E-mail protocol used for E-mail.  
3
- (iii) What are the different functions performing by Application layer ?  
3





8. (i) Write one Congestion algorithm or one Routing algorithm. 3
- (ii) What is the difference between Token Bus and Token Ring? 3
- (iii) What do you mean by the connection-oriented and connection-less service? 3
9. (i) What are the different types of data compression technique used by presentation layer? 3
- (ii) What are the different types of IP addressing? 3
- (iii) Discuss about Telephone system or ARPANET. 3

