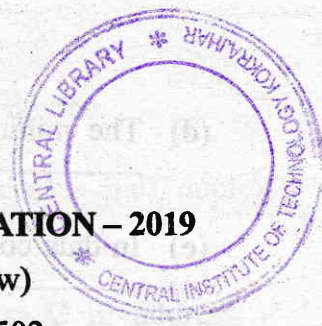


Total No. of printed pages = 7



END SEMESTER EXAMINATION – 2019

Semester : 5th (New)

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. Questions on PART – A are compulsory.
2. Answer any *five* questions from PART – B.

PART – A

Marks – 25

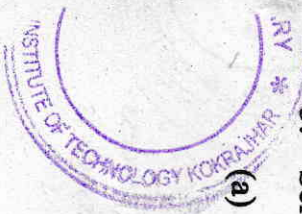
1. Fill in the blanks : $10 \times 1 = 10$
 - (a) Router operates in _____ layer.
 - (b) The _____ protocol is used to transfer, access and manage files.
 - (c) Standard Ethernet uses _____ encoding.

[Turn over

- (d) The minimum frame size in 802.3 LAN is _____.
- (e) In data communication, ATM is acronym for _____.
- (f) HTTP operates at port _____.
- (g) _____ transmission allows receiving and transmitting data simultaneously.
- (h) UDP is a _____ layer protocol.
- (i) Default Subnet mask for class B network is _____.
- (j) IP is an unreliable, best effort _____ protocol.
2. State true or false : $10 \times 1 = 10$
- (a) IPv6 uses 16 bit addresses.
- (b) Asynchronous transmission is known as start/stop transmission.
- (c) TCP header can vary from 20 bytes to 60 bytes.
- (d) UDP is a reliable protocol.



- (e) A Hub is a broadcasting device.
- (f) A ring topology network uses half duplex communication.
- (g) 192.168.256.100 is a class C IP address.
- (h) HTTP operates in transport layer.
- (i) MAC address on a network is the computer's unique hardware number.
- (j) ARP is used to find out MAC address of corresponding IP address.



3. Select the correct answer : $5 \times 1 = 5$
- (a) The _____ sub layer is responsible for the operation of the CSMA/CD access method and framing.
- (i) LLC
- (ii) MII
- (iii) MAC
- (iv) None of the above.

(b) The range of first octet of class B IP address is

- (i) 0 to 127
- (ii) 192 to 223
- (iii) 224 to 239
- (iv) 128-191

(c) The highest data rate is provided by the transmission medium

- (i) Coaxial cable
- (ii) Optical fiber
- (iii) Microwave
- (iv) Twisted pair

(d) The layer responsible for end to end (process to process) delivery of the entire message is

- (i) Network layer
- (ii) Transport layer
- (iii) Session layer
- (iv) Data link layer

7/CO-502/CC&N (N) (4)

(e) What is the potential IPv4 address available ?

- (i) 4, 294, 967, 296
- (ii) 65, 536
- (iii) 16, 777, 216
- (iv) Limitless.

PART - B

Marks - 45

Answer any *three* questions from (4-7).

4. (a) Explain the concept of network with its advantages. 3

(b) Why multiplexing is used ? Explain the various multiplexing techniques. 4

(c) What do you mean by Transmission media ? Classify them. 5

5. (a) Explain the working of CSMA/CD protocol. 3

(b) Write the working principle of Hamming code. 4

(c) Explain the various switching techniques used in computer network. 5

7/CO-502/CC&N (N) (5)

[Turn over



6. (a) Explain briefly the IP address (both classfull and classless). 3
- (b) Why TCP is called a reliable protocol? Justify. 4
- (c) Draw and explain the Frame structure of Ethernet (IEEE 802.3, MAC frame format). 5
7. (a) Explain the main functions of presentation layer in the ISO reference model. 3
- (b) Define the terms DNS, MIME, SMTP and ARP. 4
- (c) Draw and explain the IP header format. 5
- Answer any *one* question from (8–9).
8. (a) Explain encryption and decryption with example. 2
- (b) Differentiate between a Switch and a Hub. 2
9. (a) How Subnet mask is useful? Also define Supernetting. 2
- (b) Explain the term ISDN. 2



- Answer any *one* question from (10–12).
10. Draw and explain the OSI reference model and compare it with TCP/IP model. 5
11. Explain any one of the routing algorithm. 5
12. Write the working principle of sliding window protocol. 5

