333674(22)

B. E. (Sixth Semester) Examination, April-May 2020

(New Scheme)

(IT Branch)

INTERNETWORKING WITH TCP/IP

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : All questions carry equal marks. Part (a) is compulsory. Attempt any two from (b), (c), (d) part. Part (a) carry 2 marks & (b), (c), (d) carry 7 marks.

Unit - I

1. (a) How does a switch decide which outport port to place a packet on.

   (b) Which layer 1 devices can be used to enlarge the area covered by a single LAN segment? Explain their working.

(c) Why does the data communication industry use the layered OSI reference model? Explain user support layers.

(d) Explain different switching technologies. Explain with example.

Unit - II

2. (a) One of the addresses in a block is 110.23.120.14/20. Find the number of addresses, the first address, and the last address in the block.

(b) At which layer ICMP works. What are various ICMP message?

(c) An organization is granted a block of addresses with the beginning address 14.24.74.0/24. The organisation needs to have 3 subblocks of addresses to use in its three subnets as shown below :

- One subblock of 120 addresses
- One subblock of 60 addresses
- One subblock of 10 addresses

(d) Compare IPv4 and IPv6 header format.

Unit - III

3. (a) Differentiate exterior and interior routing protocol.

(b) With an example explain distance vector routing algorithm.

(c)
Topology
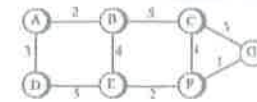
Find the shortest path tree for node B.

(d) Differentiate multicasting and multiple unicasting. Explain any one multicasting routing algorithm.

Unit - IV

4. (a) Differentiate TCP and UDP.

(b) Explain three way handshaking in TCP for connection establishment.

(c) Explain Karns algorithm. Justify its need.

(d) How congestion control is managed by TCP protocol.

Unit - V

5. (a) Compare ISDN and B-ISDN.

(b) Explain ATM architecture by giving detail of interfaces, TP VPI, and VCI.

(c) Explain IP address binding in ATM network.

(d) Describe ATM reference model.