



MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL
(A constituent unit of MAHE, Manipal)

SEVENTH SEMESTER B.TECH. (INSTRUMENTATION AND CONTROL ENGG.) END SEMESTER DEGREE EXAMINATIONS, MARCH - 2021

Computer Networks and Protocol (ICE4017)

TIME: 3 HOURS

22-03-2021

MAX. MARKS: 50

Instructions to candidates : Answer ALL questions and missing data may be suitably assumed.

- 1A Explain the functionalities of various organizations involved in the administration of Internet with neat diagram.
- 1B Differentiate computer network and distributed system with an example for each.
- 1C Explain the characteristics and functionalities of Interfaces available in different OSA protocol layers. List out the limitations of these.
- (4+2+4)
- 2A Explain the different types of addressing used in Internet associated with each layer of TCP/IP protocol suite. Give an example for each.
- 2B Differentiate between distance vector routing and link state routing techniques.
- 2C Compare all the features of Static and Dynamic routing.
- (4+3+3)
- 3A The inter-network shown in table has four statically configured routers that share three networks. To reduce the configuration time it was recommended to go for RIP. Configure and verify the routers. Draw the network diagram for the same.

Router	Network address	Interface	Address
3501	172.18.10.0	S0	172.18.10.1
501A	172.18.10.0	S0	172.18.10.2
3501A	172.18.20.0	S1	172.18.20.1
3501A	172.18.30.0	E0	172.18.30.1
3501B	172.18.30.0	E1	172.18.30.2
3501C	172.18.20.0	S1	172.18.20.2

- 3B Describe the different layers of a virtualization with a neat block diagram and example for each layer.
- 3C Define cloud computing. Explain elastic block store package.

(4+4+2)

4A An organization is granted the IP address block 130.34.12.64/26. The organization needs four subnetworks, each with an equal number of hosts. Design the subnetworks and find the information about each network. Diagrammatically show the representation.

4B Explain different types of server farms in an enterprise datacentre. Give an overview of different server farms available in educational institution like a University.

(5+5)

5A What are different services available in Cloud computing? List any two advantages and disadvantages for each service.

5B Illustrate the process of delivery of IP packets in a network. With the help of a network diagram show the stages of packet transfer.

(6+4)
