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35002

BT-5 / D-19

COMPUTER NETWORKS

Paper–CSE-303

Time allowed : 3 hours] *[Maximum marks : 75*

Note:- *Attempt five questions in all selecting at least one question from each unit. All questions carry equal marks.*

Unit-I

1. (a) What is the importance of switching in data communication? Distinguish between circuit switching and packet switching.

   (b) Explain the polynomial code method for detecting errors in transmission.

2. Answer the following questions in brief:

   (a) Enumerate the functions of transport and network layers in OSI reference model.

   (b) How is data communicated using optical fibers?

   (c) What is the purpose of SNMP and TCP in TCP/IP architecture?

Unit-II

3. Describe the role of ARQ in flow control and error control. How is it different from go back in and selective repeat sliding window protocols?

4. Bring out the distinction between:

   (a) ALOHA and Slotted ALOHA

   (b) FDMA, TDMA and CDMA

Unit-III

5. Which topology is most suitable for packet switched networks? Bring out a distinction between Virtual Circuit and Datagram packet switching in the context of packet switched networks. Also describe the role of a router in packet switched network.

6. (a) How is data routed using link state routing?

   (b) How are choke packets and load shedding used to control congestion?

Unit-IV

7. Sketch the format of IP datagram and explain the purpose of each of its fields. Also describe the addressing used in IPv4. In what way is IPv6 different from IPv4?

8. Answer the following in brief:

   (a) How are connections managed in TCP protocol?

   (b) What is the purpose of CIDR?

   (c) How does OSPF support routing in the Internet?