

(3 Hours)

[Total Marks: 80]

- (1) Question No. 1 is compulsory.
- (2) Solve any three questions from the remaining five
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary and mention the same in answer sheet.

Attempt any 4 questions

- a) Compare circuit switching and packet switching. [20]
- b) Illustrate byte count framing method in Data Link Layer.
- c) Explain the tools to achieve Error control in TCP.
- d) How the medium access with Collision avoidance (MACA) protocol works in wireless LAN?
- e) Describe Border Gateway protocol (BGP) as a inter-domain Routing protocol?

- a) Explain Link state Routing protocol with the help of building of Link state packets and distribution of link state packets. [10]
- b) Explain HDLC frame format. Describe configuration and response modes supported by HDLC protocol. [10]

- a) Draw TCP header and explain the meaning of various fields associated with it. [10]
- b) What are the different types of CSMA protocols? Explain 4-persistent CSMA protocol. [10]

- a) The following is a dump of a UDP header in hexadecimal format. [10]
CB8400D001C001C
 - (i) What is the source port number?
 - (ii) What is the destination port number?
 - (iii) What is the total length of the user datagram?
 - (iv) What is the length of the data?
 - (v) Is the packet directed from a client to a server or vice versa?
- b) Explain Go back N protocol with suitable diagram. [10]

- a) Explain the function of Repeater, hub, bridge, routers and switches in details and mention in which layer they work. [10]
- b) A company is granted the site address 181.56.0.0 (class B). The company needs 1000 subnets. Design the subnets. [05]
- c) A bit stream 10011001 11100010 00100100 10000100 is transmitted to the receiver. Apply checksum error detection scheme and check whether data will be accepted at receiver or not? [05]

- Short notes on: (Attempt any four) [20]
 - a) IPv4 datagram
 - b) Point to Point Protocol (PPP)
 - c) Digital Subscriber Line (DSL)
 - d) OSI Model
 - e) Adaptive tree walk Protocol
