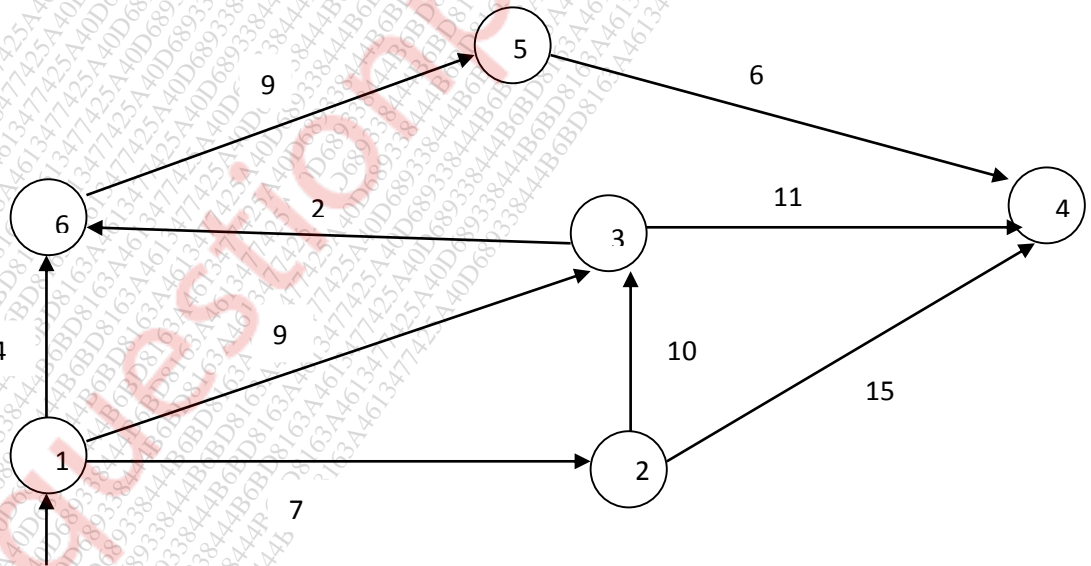


(3 Hours)

[Total Marks: 80]

- N.B.:
- (1) Question No. 1 is compulsory.
 - (2) Solve any three questions from remaining five questions.
 - (3) Draw neat diagrams and assume suitable data wherever necessary. Justify your assumptions.

1. Attempt any **four**: **20**
 - (a) What do you mean by multiple access? Compare between CSMA/CD and CSMA/CA.
 - (b) Compare between circuit switching and packet switching.
 - (c) What are the different type of network addresses ? Explain each with an example.
 - (d) Explain xDSL with a neat diagram.
 - (e) Compare IPv4 and IPv6.
2. (a) Describe in detail physical transmission media for computer communication networks. **10**
 (b) Explain ISO-OSI reference model with a neat diagram. **10**
3. (a) Explain with neat diagram the connection establishment and connection termination in TCP using Three way Handshaking **10**
 (b) Explain IPv6 datagram format with a neat diagram. Also explain transition from IPv4 to IPv6 **10**
4. (a) What are the conditions to be satisfied by a good CRC generator polynomial? **10**
 For P= Predetermined divisor= 110101 (LSB) and
 D= K bit block of data= 1010001101 (LSB). Find the CRC.
- (b) Explain different types of ARQ techniques . Compare their merits and demerits **12**
5. (a) Apply Dijkstra's and Bellman Ford Algorithm to the given network and find the least cost path between the source node 1 to all other nodes: **10**



Source Node

6. (a) Explain LAN protocol architecture with IEEE 802 reference. Sketch the general MAC frame and LLC PDU structure. Explain the functions of different fields. **10**
 (b) Draw HDLC frame format. Explain each frame in detail. Also explain data transparency and Data transfer modes in HDLC **10**