

Time: 3 Hours

Total Marks: 80

- N.B. : (1) Question No.1 is compulsory
 (2) Write any three questions from Q. 2 to Q.6.
 (3) Draw a neat diagrams wherever necessary.

- Q1 Solve any four**
- a Draw a neat communication diagram using OSI model and state the functions of Application layer and data link layer. 05
- b Compare TCP and UDP 05
- c What is IPv4 address? Explain its classes with address range, default mask, number of networks and number of hosts per network. 05
- d Explain addressing at application layer and transport layer with examples 05
- e Explain various LAN topologies with neat diagram. 05
- f Compare HTTP and HTTPS 05
- Q2**
- a Draw a neat diagram of IPv4 header and explain each field in details 10
- b Explain TCP three way handshaking during connection establishment and connection release with neat diagrams. 10
- Q3**
- a Explain the concept of Bellman ford and Dijktras algorithms with examples 10
- b What is Aloha? Explain pure aloha and slotted Aloha with neat diagrams and compare them. 10
- Q4**
- a Explain classfull IP addresses. Justify why subnetting is required. 10
- b Compare twisted pair cables, coaxial cables and optical fibre cables 10
- Q5**
- a Explain stop and wait, Go-Back-N and Selective repeat ARQ mechanisms with neat diagrams 10
- b Explain TCP header with the help of suitable diagram & list the applications of TCP. 10
- Q6 Write a short note on (Solve any 2)** 20
- a Network hardware devices
- b link state routing and distance vector routing
- c IPv4 subnetting
- d Error control at data link layer
