[Time: Three Hours] [Marks:80]

Please check whether you have got the right question paper.

N.B: 1. Question.No.1 is compulsory.

Q. 1 Answer **(any 4)** 20
a) What are the functions of data link layer?
b) What is IP address, MAC address and Port address
c) How many networks and Hosts are possible using 'Class B' IP address? What is a subnet mask?
d) Compare Windows and Linux Operating system
e) What is p - persistent CSMA
f) Compare Circuit switched and Packet switched networks

Q. 2 a) Explain the frames of HDLC with a neat diagram. 10
b) Explain the OSI model in detail. List the networking devices used at each layer of the OSI model 10

Q. 3 a) Explain DVR with an example. What are the problems in DVR algorithm? 10
b) What is the difference between Stop and wait and Sliding window protocol? Explain Selective Repeat technique 10

Q. 4 a) Explain IP V4 header with a neat and labeled diagram, 10
b) What is congestion? Explain any one algorithm to control congestion in a network 10

Q. 5 a) Draw and explain TCP segment header. 10
b) What is Routing? Explain OSPF in detail. 10

Q. 6 Write short notes on **(any 4)** 20
a) Satellite Communication
b) ALOHA and its types
c) Switches, Repeaters, Gateway
d) TCP timers
e) CRC with an example