Total No. of Questions : 8]

SEAT No. : [ ]

PC2839

[Total No. of Pages : 2

[6352]-63
S.E. (IT)
BASICS OF COMPUTER NETWORK
(2019 Pattern) (Semester - III) (214445)

Time : 2½ Hours] ***[Max. Marks : 70***

Instructions to the candidates:

1) ***Answer Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Assume suitable data, if necessary.***

Q1) a) Compare TDMA & FDMA with neat Diagram. **[6]**

b) Explain the following physical layer implementations in standard Ethernet: **[6]**

i) 10 Base5

ii) 10 BaseT

iii) 10 BaseF

c) Explain the various controlled access methods. **[6]**

OR

Q2) a) Discuss Fast Ethernet and Gigabit Ethernet. **[6]**

b) Discuss CSMA/CD random access technique. How is collision detection achieved in this technique? **[6]**

c) Draw & Explain each Field of MAC frame format of IEEE 802.3. **[6]**

Q3) a) Compare between IPv4 and IPv6. **[6]**

b) What do you mean by Classful addressing? Explain classes with ranges with examples. **[6]**

c) Draw and Explain IPv6 header format. **[5]**

OR

Q4) a) Draw and Explain IPv4 header format. **[6]**

b) What is NAT? Explain operation of NAT with suitable example. **[6]**

c) What is fragmentation? Explain how it is supported in IPv4 and IPv6. **[5]**

P.T.O.

Q5) a) Explain the difference between Interdomain and Intradomain routing protocol with example. **[6]**

b) What is BGP protocol? Explain the operation of BGP protocol with suitable example. **[6]**

c) Explain the Concept of Subnetting and Supernetting. **[6]**

OR

Q6) a) Differentiate between Distance Vector Routing and Link State Routing. **[6]**

b) Explain EIGRP protocol. Compare with OSPF. **[6]**

c) Explain Optimality Principle in Unicast routing. **[6]**

Q7) a) Differentiate between connection oriented and Connection less services with an example. **[6]**

b) Explain all the fields of TCP header. **[6]**

c) Explain three-way handshake algorithm for TCP connection establishment. **[5]**

OR

Q8) a) What is a socket? Explain the various socket primitives and types of socket with Example. **[6]**

b) Explain different timers used in TCP. **[6]**

c) What is Congestion control? Explain leaky bucket and token bucket algorithm. **[5]**