

Total No. of Questions : 8]

SEAT No. :

PD4255

[Total No. of Pages : 2

[6403]-50

T.E. (Artificial Intelligence and Data Science)

COMPUTER NETWORKS

(2019 Pattern) (Semester - V) (317521)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Figures to the right indicate full marks.
- 4) Assume suitable data if necessary.

- Q1)** a) Differentiate between Static Routing and Dynamic Routing. [6]
b) Draw and explain the IPv4 header? [6]
c) Write a Short Note on ICMP with header format? [6]

OR

- Q2)** a) State the difference between circuit switching and packet switching. [6]
b) Describe link state routing algorithm with example? [6]
c) Explain Routing Information Protocol with suitable diagram. [6]

- Q3)** a) Draw TCP header and explain TCP connection 3-way handshake. [7]
b) Explain the role of the bind(), listen(). and accept() functions in socket programming. Provide code examples for each. [6]
c) Give differences between TCP and UDP protocol. [4]

OR

- Q4)** a) Explain Stream Control Transmission Protocol (SCTP). What are its advantages over TCP and UDP, and where is it commonly used? [7]
b) Discuss the issues related to wireless network congestion and how they can be addressed in the context of TCP and UDP. [6]
c) Describe the Quality of Service (QoS) and congestion control mechanisms. [4]

P.T.O.

- Q5) a)** Discuss the Simple Network Management Protocol (SNMP) and its role in network management and monitoring. [6]
- b)** Explain HTTP request and reply message format with example? [6]
- c)** Differentiate between POP3 and IMAP protocols? [6]

OR

- Q6) a)** Describe DHCP and its need. Explain header format in detail? [6]
- b)** Differentiated between Persistent and Non-persistent HTTP? [6]
- c)** Explain FTP in detail and any four commands of FTP? [6]

- Q7) a)** Write a short note on CSMA/CD? [6]
- b)** Describe the concept of Pure and slotted Aloha? [6]
- c)** Explain IEEE 802.3 Standards and Frame Format. [5]

OR

- Q8) a)** Discuss Binary Exponential Back-off algorithm. [6]
- b)** Explain the concept of Fast ethernet and gigabit ethernet? [6]
- c)** Write Short note on IEEE 802.15 and IEEE 802.16. [5]

