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 necesssary.***
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 lPv4 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 Persistant and Non-persistant 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]**

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