[6180]-61

T.E. (AI & DS)

COMPUTER NETWORKS

(2019 Pattern) (Semester-I) (317521)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

    1) *Attempt Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8.*

    2) *Figures to the right indicate full marks.*

    3) *Neat diagram must be drawn wherever necessary.*

    4) *Assume suitable data if necessary.*

Q1) a) Explain with suitable example the different Switching techniques in the network. **[6]**

    b) What is Network Address Translation (NAT)? Explain how it maps the multiple addresses in the network. **[6]**

    c) Give the different functions of the Network Layer. **[6]**

OR

Q2) a) Explain in detail, any two network layer protocols. **[6]**

    b) What is Routing? Explain the different routing protocols. **[6]**

    c) Write a short note on: Mobile IP. **[6]**

Q3) a) What is Socket? Explain the different Socket Primitives. **[6]**

    b) Compare TCP and UDP Transport layer protocols. **[6]**

    c) Give the different parameters of the Quality of Service (QoS). **[5]**

OR

Q4) a) What is Congestion? Explain the different causes of congestion. **[6]**

    b) Explain the following elements of the Transport Layer:

      i) Flow Control

      ii) Congestion Control **[6]**

    c) Explain in short: RTP and SCTP Transport Layer Protocols. **[5]**

P.T.O.

Q5) a) What is DNS? Explain how DNS is used to resolve the mapping problem. **[6]**

b) Explain the working of Dynamic Host Configuration Protocol (DHCP). **[6]**

c) Explain the following Mail based protocols: **[6]**

    i) SMTP

    ii) POP3

<div align="center">OR</div>

Q6) a) Define HTTP. Explain persistent and Non-Persistent HTTP. **[6]**

b) What is TELNET? How it provide a communication interface with a remote server? **[6]**

c) What is SNMP? How it is used to manage network devices over an IP? **[6]**

Q7) a) Explain in detail, Static and Dynamic Channel Allocation. **[6]**

b) What is CSMA/CA? How it is used in a wireless network for collision avoidance. **[6]**

c) With a suitable diagram, explain the Binary Exponential Back-off algorithm. **[5]**

<div align="center">OR</div>

Q8) a) Explain Point-to-Point and Client-Server Communication. **[6]**

b) Differentiate between Pure Aloha and Slotted Aloha. **[6]**

c) Explain: IEEE 802.15 and IEEE 802.16 Standard. **[5]**

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