Paper / Subject Code: 89342 / Computer Communication Networks

1T01036 - T.E.(Electronics and Telecommunication)(SEM-VI)(Choice Base Credit Grading System) (R-20-21) (C Scheme) / 89342 - Computer Communication Networks

QP CODE: 10011372   DATE: 09/12/2022

Time: 3 Hours   **Marks: 80**

N.B.:   (1) Question No. 1 is compulsory.
         (2) Solve any three questions from the remaining five
         (3) Figures to the right indicate full marks
         (4) Assume suitable data if necessary and mention the same in the answer sheet.

Q1. Attempt **any 4** questions   20M
   A) Explain the need of layered protocol architecture in OSI reference model.   [5]
   B) Give comparison among coaxial, optical fiber and twisted pair cables.   [5]
   C) Explain the persistent strategies of CSMA.   [5]
   D) Draw and explain IPv6 Datagram format.   [5]
   E) Distinguish between TCP and UDP transport layer protocol.   [5]
   F) Analyze how SMTP protocol in application layer helps to deliver the electronic
      mail?   [5]

Q2.) A) Explain physical, logical, port addressing and socket addressing in networking. [5]
      B) Explain in brief DSL, and HFC.   [5]
      C) Give classification of routing protocol. Explain in brief the link state and distance
         vector algorithm with example.   [10]

Q3)   A) Compare Static Routing and Dynamic Routing.   [5]
      B) Explain the fields related to the fragmentation in the IP datagram header. [5]
      C) Explain the classful addresses of IPv4 with net ID and host ID.   [5]
      D) Identify class, subnet mask, network address and broadcast address of the following
         IP addresses: [10]
         1. 214.25.6.3   2.   191.5.8.9   3   5.6.45.4   4.   230.45.89.63

Q4)   A) Draw and explain User datagram Protocol (UDP) Header.   [5]
      B) Compare TELNET and SSH application layer protocol.   [5]
      C) Draw and explain User datagram Protocol (UDP) Header.   [5]
      D) Explain in brief working of DHCP.   [5]

Q.5) A) For the classless address 129.65.33.01/24 find
         1. Number of addresses in the block N   2. First address   3. Last address   [6]
      B) Explain congestion control techniques used in TCP.   [4]
      C) Explain in detail the Routing protocols OSPF.   [5]
      D) Give comparison between Star, Mesh and Bus Topology.   [5]

Q.6) A) Explain Go-Back –N ARQ and Selective Repeat ARQ.   [5]
      B) Compare Repeaters, Hubs, Bridges, Switches, Routers network hardware devices. [5]
      C) Explain in brief working of HTTP application layer protocol   [5]
      D) Draw and explain different fields of TCP header.   [5]

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