[6179]-270

S.E. Artificial Intelligence & Machine Learning
COMPUTER NETWORKS
(2019 Pattern) (Semester-III) (218543)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:
  1) *Answer question 1 or 2, 3 or 4, 5 or 6 and 7 or 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) Explain the working mechanism of.   **[9]**

  i) Stop and Wait ARQ.

  ii) Selective Repeat ARQ.

  b) What is CRC? Generate the CRC code of message 1101011101. Given generator Polynomial $g(x) = x^3 + x^2 + 1$.   **[9]**

OR

Q2) a) Discuss CSMA/CA random access technique. How collision avoidance is achieved in the same?   **[9]**

  b) What is hamming code? Also find Hamming Code word for following Data word 1001011 using even parity.   **[9]**

Q3) a) Discuss EIGRP protocol in detail.   **[9]**

  b) Explain Subnetting and Subnetting with example.   **[8]**

OR

Q4) a) Explain classful and classless addressing with suitable example.   **[9]**

  b) Discuss in detail fragmentation in terms of IPv4.   **[8]**

P.T.O.

Q5) a)   Discuss TCP services and TCP timers in detail.   **[9]**

      b)   Explain implementation of Leaky bucket in detail with diagram.   **[9]**

                                    OR

Q6) a)   Describe the process of connection establishment in TCP.   **[9]**

      b)   Explain the mechanism of congestion control in detail.   **[9]**

Q7) a)   What is DNS server? Explain lookup methods used by the DNS to resolve the remote names.   **[9]**

      b)   What is MIME? Explain the MIME header with suitable example.   **[8]**

                                    OR

Q8) a)   Explain SMTP protocol and SNMP protocol.   **[9]**

      b)   Explain FTP with suitable diagram. Which port does it use and for what purpose?   **[8]**

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