**Q. P. Code: 24646**

Duration – 3 hours

Maximum Marks - 80

Note:

1. Question No 1 is compulsory.
2. Attempt any 3 questions from the remaining 5 questions.
3. Draw neat diagrams wherever necessary.

Q.No. 1　　Explain in Brief:　　　　　　　　　　　　　　　　　　　　　　　20

    a.　Explain the method to find number check bits required to correct single bit error for a 10 bit message and compute the check bits for 11100 00101.

    b.　Encode the message 101111100001 using binary encoding, Manchester encoding and differential Manchester encoding

    c.　Find the shortest path between A and D using Dijkstra Algorithm.
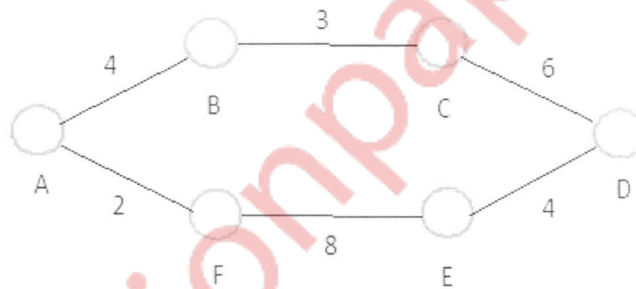
    d.　What are the different world wide unique identifiers? Explain the components of Uniform Resource Locators.

Q.No. 2(a)　Explain how a strong Generator Polynomial is formed. Give the Algorithm for computing the checksum.　　10

Q.No. 2(b)　Explain any two collision free protocols　　10

Q.No. 3(a)　Explain the reasons for congestion in a network. Explain open loop congestion control methods.　　10

Q.No. 3(b)　Explain TCP IP reference model and compare it with OSI reference model.　　10

Q.No. 4(a)　Explain how the value of 'n' is decided in an n bit sliding window protocol. Explain the advantages of Selective repeat over go-back n protocol.　　10

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Q.No. 4(b)   Prove that the slotted ALOHA performs better than Pure ALOHA.   10

Q.No. 5(a)   Compare Guided media w.r.t unguided media   10
Q.No. 5(b)   Compare Routing   protocols RIP, OSPF and BGP   10

Q.No. 6   Give Short notes on any two   20
                 a.   DNS
                 b.   SNMP
                 c.   Sockets and Socket Programming

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