PRACTICE PAPER 1

Computer Network

Paper / Subject Code: 48891

Time: 3 hours **Max. Marks: 80**

N.B. (1) Question one is Compulsory.
(2) Attempt any 3 questions out of the remaining.
(3) Assume suitable data if required.

Q. 1

a) Explain LAN, MAN and WAN with their characteristics. **[05 marks]**

b) 4-bit data bits with binary value 1101 is to be encoded using even parity Hamming code. What is the binary value after encoding? **[05 marks]**

c) Differentiate between TCP and UDP protocols. **[05 marks]**

d) Write short note on Circuit switched vs Packet switched networks. **[05 marks]**

Q. 2

a) Explain OSI/ISO reference model with a neat diagram and compare it with TCP/IP reference model. **[10 marks]**

b) What is Channel Allocation problem? Explain CSMA/CD protocol. A network with CSMA/CD has 10 Mbps bandwidth and 25.6 ms maximum propagation delay. What is the minimum frame size? **[10 marks]**

Q. 3

a) Explain sliding window protocol using GO Back-N technique with suitable example. **[10 marks]**

b) Explain IPv4 classful addressing and state its disadvantages. Also explain classless addressing (CIDR). **[10 marks]**

Q. 4

a) A bit stream 10011101 is transmitted using the standard CRC method. The generator polynomial is x^3+1. What is the actual bit stream transmitted? Verify that the receiver had received the correct bit stream. **[10 marks]**

b) What is Routing? What are desirable characteristics of routing algorithms? Explain distance vector routing with suitable example. **[10 marks]**

Q. 5

a) What is SDN? Explain SDN architecture along with Operations of control and data planes. **[10 marks]**

b) Elaborate the architectures of NOX and POX controllers of SDN with their comparison. **[10 marks]**

Q. 6

Write a short note on:

a) DNS **[05 marks]**

b) NAT **[05 marks]**

c) Cisco PPDIOO Network design Methodology **[05 marks]**

d) DHCP **[05 marks]**

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