USN ☐☐☐☐☐☐☐☐☐☐ **06EC71**

Seventh Semester B.E. Degree Examination, June/July 2011
Computer Communication Networks

Time: 3 hrs.

Max. Marks:100

Note: *Answer any FIVE full questions, selecting*
at least TWO questions from each part.

PART – A

1 a. With a neat diagram, explain the TCP/IP reference model, giving a brief description of the protocols in each layer. **(10 Marks)**
   b. Differentiate between CM and CMTS. **(04 Marks)**
   c. Explain the operation of ADSL using discrete multi one modulations indicating the different channels, with a neat diagram. **(06 Marks)**

2 a. Explain byte stuffing and unstuffing and bit stuffing and unstuffing, with necessary diagrams. **(10 Marks)**
   b. With a neat diagram, explain three different types of HDLC frames. **(10 Marks)**

3 a. Define random access method explain three different protocols in this category. **(10 Marks)**
   b. Explain reservation, polling and token passing in controlled access method. **(10 Marks)**

4 a. What are the advantages of dividing an Ethernet LAN with a bridge? Explain with a neat diagram. **(06 Marks)**
   b. Compare the data rates for standard, fast, gigabit and ten-gigabit Ethernet. Mention one example in each case. **(04 Marks)**
   c. Explain DCF and PCF modes of 802.11 MAC protocol. **(10 Marks)**

PART – B

5 a. Define repeater, hub, switch, router and gate way with necessary neat diagrams. **(10 Marks)**
   b. Create a system of three LANs with four bridges. The bridges (B1 to B4) connect the LANs as follows :
      i)   B1 connects LAN1 and LAN2
      ii) B2 connects LAN1 and LAN3
      iii) B3 connects LAN2 and LAN3
      iv) B4 connects LAN1, LAN2 and LAN3.
      Choose B1 as the root bridge. Show the forwarding and blocking parts, after applying the spanning tree procedure. **(10 Marks)**

6 a. Distinguish between class A, class B and class C addressing. **(06 Marks)**
   b. What is subnetting? Why it is required? What is the maximum number of subnets in class C networks with the following subnet mask?
      i)   255.255.255.0
      ii) 255.255.255.224
      iii) 255.255.255.248. **(06 Marks)**
   c. Explain IPV4 header format. **(08 Marks)**

7 a. With necessary diagrams, explain distance vector routing. **(10 Marks)**
   b. Explain briefly forwarding techniques. Explain three different forwarding techniques. **(10 Marks)**

8 a. Explain connection establishment and connection termination in TCP. **(10 Marks)**
   b. Describe DNS in the internet. **(10 Marks)**

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