

15/12/2014

BE-ET
Sem VII (Rev)

CCN

QP Code :15629

61

(3 Hours)

[Total Marks : 100

- N.B. :** (1) Questions No. 1 is **compulsory**.
(2) Attempt any 4 questions out of remaining **six** questions.
(3) Illustrate answers with **sketches** wherever required.
(4) Figures to the **right** indicate **marks**.

1. (a) What is port address? What is significance of port address? 20
(b) What is data transparency? Explain the property of data transparency with reference to HDLC.
(c) Explain the difference between a connection oriented and connectionless service.
(d) How does reservation work with medium access control?
(e) Why do you require a limit on the minimum size of Ethernet frame?

2. (a) With neat diagram explain sliding window flow control. suppose that frames are 1250 bytes long including 25 bytes of overhead. ACK frames are 25 bytes long. Calculate the efficiency of stop and wait ARQ in a system that transmits at channel transmission rate $R = 1$ Mbps. Round trip propagation delay is given as 1 ms. (Assuming channel is noiseless) 10
(b) Explain Looping problem in Distance vector routing protocol with an example and method to avoid this problem. 10

3. (a) Compare circuit switching, Datagram packet switching and virtual packet switching techniques. 10
(b) Explain the meaning of various fields in TCP header. 10

4. (a) Explain in detail Repeaters, hub, bridges, Routers and Switches. 10
(b) For a classful network address 209.100.78.0 10
 - (i) How many host can this network support using the default mask.
 - (ii) What subnet mask is necessary to establish six usable subnets.
 - (iii) List the six subnet address in classless address notation.
 - (iv) How many host can be supported in each subnet?
 - (v) What is the broadcast address for subnet three.

5. (a) Explain HDLC frame format. Describe configuration and response modes supported by HDLC protocol. Differentiate between HDLC and PPP protocols. 10
(b) Explain fragmentation and the fields related to the fragmentation in the IP datagram header. Discuss why IPV4 protocol needs to fragment some packets. 10

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6. (a) Explain the M/M/I model of queuing theory. 10
(b) Explain Dijkstras Algorithm and Bellman ford Algorithm using suitable example. 10
7. Write Short Notes on any three 20
(a) IEEE 802.3 standard
(b) ARP and RARP
(c) Spanning tree Algorithm
(d) OSI Model.
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