

**Thapar Institute of Institute of Engineering and Technology, Patiala**  
**Computer Science and Engineering Department**  
**BE Third Year Odd Semester**  
**End Semester Exam**

Course Code: CS 008  
 Course Name: Computer Networks  
 Instructor: Ashima Singh

Date: 14.12.2006  
 Time: 3 Hrs  
 Max. Marks: 45

- Note: 1. Question 1 is Compulsory. Out of Remaining Six( Q2-Q7) do any Four.  
 2. Questions should be done in sequence as given and all parts of the questions must be attempted at one place.  
 3. Answers should be to the point.  
 4. Marks will be deducted for over attempted questions.

Q1	Discuss the following	
(i)	Why does Ring interface introduce delay.	2
(ii)	Given data bits: 110110000101011 and Generator Bits G: 11000001. Find CRC Code	2
(iii)	How Bridge is different from routers. Explain the working of Bridge.	2
(iv)	Which is better in performance CSMA/CD or CSMA/CA. Explain Why	2
(v)	What is Two-node loop instability in distance vector routing. Discuss techniques to overcome.	3
(vi)	Distinguish between X.25 and Frame relays	3
(vii)	a) Create the subnet mask for the following and also calculate the subnet ranges for each subnet (i) IP Address: 10.0.0.0 of Class A and number of subnet: 30 (ii) IP Adresss: 180.10.0.0 of Class B and number of subnets: 6	3
Q2	What is the purpose of ICMP? Discuss various ICMP Messages in detail with their proper format.	7
Q3	Write a technical note on Asynchronous Transfer Mode (ATM) while discussing Layers, Multiplexing, Architecture and Header format.	7
Q4	Discuss the following a) SMTP b) FTP	3.5 3.5
Q5	Discuss the following a) TCP b) UDP	3.5 3.5
Q6	Discuss Link State Routing in detail. Also contrast Link State Routing with Distance vector Routing.	7
Q7	Discuss Time division Multiplexing and Frequency division Multiplexing in detail . Also discuss its respective applications.	7

----- Good Luck -----