

Total No of Questions: [12]

SEAT NO. :

[Total No. of Pages : 3]

B E. Computer 2008

High Performance Networks (410450)

(Elective - III) (Semester - II)

Time: 3 Hours

Max. Marks : 100

Instructions to the candidates:

- 1) Answers to the two sections should be written in separate answer books.***
- 2) Answer any three questions from each section.***
- 3) Neat diagrams must be drawn wherever necessary.***
- 4) Figures to the right side indicate full marks.***
- 5) Use of Calculator is allowed.***
- 6) Assume Suitable data if necessary***

SECTION I

Q1)	a)	Describe the significance of Carrier extension in Gigabit Ethernet MAC. What is the drawback associated with it? How to overcome it?	8 M
	b)	Differentiate between 10,100,1000 Mbps networks based only on their MAC characteristics	4 M
	c)	Comment on Giga Ethernet flow control strategy	4 M
		OR	
Q2)	a)	Discuss various Gigabit Ethernet cabling options available with their suitable applications	6 M
	b)	Define the term backbone network? What are various types? Explain in short collapsed backbone architecture	6 M
	c)	Calculate the worst case channel efficiency for a stream of minimum length frame of 512 bits for 10,100 and 1000Mbps networks. Which network performs badly?	4 M
Q3)	a)	Draw and explain the LAPD frame format including address field format. What is the significance of SAPI and TEI ?	6 M
	b)	Define the terms CIR, BC, Be. Explain diagrammatically the significance of these parameters in dealing with congestion	6 M
	c)	Comment on the basic functions performed at the ISDN network layer(Q.931) for call control	6 M
		OR	

Q4)	a)	Draw and explain LAPF core protocol frame format? What is the significance of DLCI field?	6 M
	b)	Define the terms FECN and BECN. Show diagrammatically their usage in dealing with congestion?	6 M
	c)	Draw the diagram of functional groups and reference points. Explain the functions of NT1,NT2 , TA	6 M
Q5)	a)	Enlist the various functions supported by TC sub layer. Also draw and explain the cell delineation state diagram	8 M
	b)	Draw the B-ISDN protocol reference model. Comment on the B-ISDN physical layer specifications	8 M
		OR	
Q 6	a)	Explain any 4 source traffic descriptors and Service traffic descriptors of ATM	8 M
	b)	Explain in short SONET hierarchy. Also draw and explain basic SONET frame format	8 M

SECTION II			
Q7)	a)	Explain any 4 types of xDSL? Why some variants of XDSL are asymmetric?	8 M
	b)	Draw and explain a typical ADSL equipment configuration	8 M
OR			
Q8)	a)	Describe in short The CAP and DMT modulation techniques used in DSL	8 M
	b)	Enlist at least 4 applications and 4 benefits of DSL technology	8 M
OR			
Q9)	a)	Why class based QOS is better than flow based QOS? Explain the concept of differentiated services	6 M
	b)	Describe the terms LER, LSR and LSP related with MPLS network	6 M
	c)	Explain the significance and working of RSVP	6 M
OR			
Q10)	a)	Describe the basic 4 label operations used in MPLS network	6 M
	b)	Describe the significance of Explicit Route Objects in an MPLS network	6 M
	c)	What is MPLS Tunnel? Explain the important characteristics of an MPLS Tunnel	6 M
Q11)	a)	Differentiate between various 802.11 standards	8 M
	b)	What is infrastructure network? How it is different than ad hoc network? Enlist the various configurable parameters of Access Points	8 M
OR			
Q12)	a)	Appropriately map the various technical challenges and potential solutions for Broadband Wireless	8 M
	b)	Explain the significance of OFDM in WiMax in brief. Enlist any 4 OFDM parameters used in Fixed WiMax	8 M