BTS 182 (B)

B.Tech Degree VIII Semester Examination in Computer Science and Engineering November 2002

CS 805 (B) OPTICAL FIBRE COMMUNICATION
(1998 Admissions)

Time: 3 Hours

Max. Marks: 100

I.	(a)	With block diagram explain the key components in an optical fibre communication system.	(10)
	(b)	List the advantages of OF communication over electrical communication.	(10)

OR

II.	(a)	Explain the various loss mechanisms in OF systems.	(8)
	(b)	With neat schematic explain the Burrus type LED.	(12)

III.	(a)	Discuss the FDDI connector standards.	(12)
	(b)	Describe the losses in splicing.	(8)

OR

IV.	(a)	Draw and explain an expanded beam connector with spherical lens.	(10)
	(b)	Explain any one splicing method in detail.	(10)

V.	(a)	Describe the working of a 2 x 2 fibre coupler. How are 2 x 2 couplers cascaded to yield an 8 x 8 coupler ?	(10)
	(b)	With block diagram explain an active coupler.	(10)

OR

VI.	(a)	Define	
		(i) splitting loss	
		(ii) excess loss	
		(iii) insertion loss pertaining to star couplers.	(10)
	(b)	With schematic explain a WDM coupler.	(10)

VII.	(a)	Explain the star architecture of an OF LAN.	(8)
	(b)	Explain any one optical amplifier. What are its advantages ?	(12)

OR

VIII.	(a)	Explain the operational modes of a ring structure.	(12)
	(b)	Explain one method of link testing.	(8)

IX.	(a)	Explain the various noise sources in an optical receiver.	(12)
	(b)	Define	
		(i) S N R	
		(ii) Noise figure	(8)

OR

X.	(a)	Explain why a fibre is less prone to noise than wire line channels.	(8)
	(b)	Define	
		(i) Noise equivalent bandwidth	
		(ii) Bit error rate	
		(iii) Carrier to noise ratio.	(12)

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