

Total No. of Questions : 12]

SEAT No. :

**P711**

**[4458] - 775**

[Total No. of Pages : 2

**B.E. (Computer Engineering) (Semester - II)**

**HIGH PERFORMANCE NETWORKS**

**(2008 Course) (Elective - III (b))**

*Time : 3 Hours]*

*[Max. Marks : 100*

*Instructions to the candidates:*

- 1) *Solve Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6 from Section - I, Q.7 or Q.8, Q.9 or Q.10, Q.11 or Q.12 from Section - II.*
- 2) *Answers to the two sections should be written in separate answer books.*
- 3) *Figures to the right indicate full marks.*
- 4) *Neat diagrams must be drawn wherever necessary.*
- 5) *Assume suitable data, if necessary.*

**SECTION - I**

- Q1)** a) Differentiate between Traditional Ethernet, Fast Ethernet and Gigabit Ethernet. [8]  
b) Compare among the 100BASE-X, 100BASE-T4 and 100 BASE-T2. [6]  
c) Explain in detail Frame bursting. [4]

OR

- Q2)** a) Draw the architecture of Gigabit Ethernet & also explain its uses. [8]  
b) Explain the need of Carrier Extension at MAC Layer and draw Carrier-Extended Frame format? [6]  
c) Explain in short the need of flow control in gigabit Ethernet. [4]

- Q3)** a) Explain the functions of ISDN functional groupings. [8]  
b) Draw and Explain frame structure of LAPD protocol. [8]

OR

- Q4)** a) Would it be possible to provide a circuit switched rather than a packet switched implementation of SS7? What would be the relative merits of such an approach? [8]  
b) Explain ISDN protocols at the user-network interface. [8]

- Q5)** a) Explain the following terms : [8]  
i) Header Error Control                      ii) Cell Rate Decoupling  
iii) Cell Scrambling

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- b) Explain in detail various ATM QoS parameters specifying their category of assessment. [8]

OR

- Q6)** a) Explain OAM functions of the ATM Cell-Based Physical Layer. [8]  
b) How is STS-1 frame organized? How can lower data rate Synchronous Transport Signal [STS] be made compatible with higher-data-rate STSs? [8]

**SECTION - II**

- Q7)** a) List and Explain various xDSL types. [8]  
b) Explain with diagram DSLAM. [4]  
c) What modulation technique is used by ADSL technology? Explain. [6]

OR

- Q8)** a) Explain architecture of VDSL. Compare VDSL with SDSL and HDSL. [10]  
b) Explain in detail about DMT process. How it is related to xDSL [8]

- Q9)** a) Explain in detail network components of MPLS. [8]  
b) Explain working of RSVP and its message types in detail. [8]

OR

- Q10)** a) Why class based QoS is better than flow based QoS? Explain the concept behind differentiated services. [6]  
b) What is upstream Label Switch Router and compare with downstream LSR. [6]  
c) Explain what is Forwarding Equivalence Class (FEC) in MPLS. [4]

- Q11)** a) Explain functional stages of WiMAX Physical layer. [8]  
b) What is OFDM? Explain OFDM parameters in WiMax? [8]

OR

- Q12)** a) Explain various IEEE 802.11 standards related to WiFi? [8]  
b) Explain how WiMAX can meet QoS requirements for wide range of data services and applications. [8]

