

[5254] - 175

B.E. (Computer Engineering)
HIGH PERFORMANCE NETWORKS
(2008 Pattern) (Elective - III)

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates :

- 1) Attempt Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6 from Section I and 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) Neat diagrams must be drawn wherever necessary.*
- 4) Assume suitable data, if necessary.*
- 5) Figures to the right indicate full marks.*

SECTION - I

- Q1)** a) Explain why half duplex operation of Gigabit Ethernet incorporates Carrier Extension. What are its drawbacks? [8]
- b) Explain the architecture of Gigabit Ethernet. [10]

OR

- Q2)** a) Explain in short the need of flow control in gigabit Ethernet? How it is supported? [8]
- b) Differentiate between 10, 100, 1000 Mbps n/w based on their MAC characteristics. [10]

- Q3)** a) Explain physical configurations for ISDN User-Network Interfaces with examples. [8]
- b) Draw and explain ISDN protocol Architecture. [8]

OR

- Q4)** a) Describe the SS7 protocol architecture. [8]
- b) Draw and discuss LAPF Protocol Frame format. [8]

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- Q5) a)** Explain in short the functional architecture of B-ISDN. [8]
- b)** What is Quality of Service? Explain in detail the various ATM QoS parameters specifying their category of assessment. [8]

OR

- Q6) a)** Explain in details the ATM adaptation layer. [8]
- b)** What are the different ATM Service Categories? Explain in details. [8]

SECTION - II

- Q7) a)** Draw and explain a typical ADSL equipment configuration. [8]
- b)** Draw and explain the general block diagram of DMT Transmitter. [8]

OR

- Q8) a)** Explain architecture of VDSL. [8]
- b)** Explain in short why are some variations of xDSL asymmetric? [8]

- Q9) a)** Explain step-by-step MPLS operations that can occur on data packets in an MPLS domain. [8]
- b)** Explain working of RSVP [8]

OR

- Q10) a)** Describe the following terms related to MPLS operation : [8]
- i) LER
 - ii) LSR
 - iii) LDP
 - iv) LSP
- b)** Explain tunneling in MPLS. [8]

Q11)a) What is Wi-Fi? Explain with configuration steps. **[10]**

b) What is WiMax? Explain in details. **[8]**

OR

Q12)a) Comment on any 3 WiMax QoS classes along with suitable Application support. **[8]**

b) Explain the following terms related to WiMax : **[10]**

i) Fixed wireless access

ii) Nomadic wireless access

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