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**UNIVERSITY OF PUNE**

[4364]-775

**B. E. (Computer Engineering) Examination - 2013**

**High Performance Networks (Elective III)**

**(2008 Course)(410450)**

[Time: 3 Hours]

[Max. Marks: 100]

**Instructions:**

- 1 Answer Q1 or Q2, Q3 or Q4, Q5 or Q6 from section I and Q7 or Q8, Q9 or Q10, Q11 or Q12 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 Black figures to the right indicate full marks.

**SECTION -I**

- Q.1    A    Explain the applications of Gigabit Ethernet.    [8]
- B    Explain high level system architecture of Gigabit Ethernet.    [10]
- OR**
- Q.2    A    Explain Gigabit Ethernet physical layer in detail    [10]
- B    Explain Carrier extension frame and the need of frame bursting at MAC Layer.    [8]
- Q.3    A    Explain physical configurations for ISDN User-Network Interfaces with examples.    [8]
- B    Explain in brief elementary functions for ISDN    [8]
- OR**
- Q. 4    A    Describe the SS7 protocol architecture.    [8]
- B    Explain Frame-Mode Control Signaling with example.    [8]
- Q. 5    A    Explain HEC operation at receiver and effect of error in Cell Header with diagram.    [8]

B Draw and explain ATM Cell Format at User-network interface. [8]

**OR**

Q. 6 A Explain traffic management functions of maintain the QoS of ATM connections. [8]

B Explain the causes of cell delay variation in ATM network. [8]

**SECTION II**

Q. 7 A Compare different DSL technologies. [8]

B Explain various service characteristics provided by VDSL standards. [8]

**OR**

Q. 8 A Explain architecture of VDSL [8]

B Explain what is x DSL and its types? [8]

Q. 9 A Explain tunneling in MPLS. [8]

B Explain working of RSVP [8]

**OR**

Q. 10 A Explain step-by-step MPLS operations that can occur on data packets in an MPLS domain. [8]

B Explain MPLS Protocol stack architecture. [8]

Q. 11 A Explain IP based WiMax Network Architecture. [10]

B Explain Modulation and Coding supported in WiMax. [8]

**OR**

Q. 12 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