

[Total No. of Questions: 12]

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**UNIVERSITY OF PUNE****[4364]-806****B. E. (IT)(May/June) Examination - 2013****ADVANCED COMPUTER NETWORKS (ELECTIVE-III)****(414450) (2008 Course)****[Time: 3 Hours]****[Max. Marks: 100]****Instructions:**

- 1 *Answers to the two sections should be written in separate answer-books.*
- 2 *Black figures to the right indicate full marks.*
- 3 *Your answer will be valued as a whole*
- 4 *Neat diagrams must be drawn wherever necessary.*
- 5 *Use of logarithmic tables, slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.*
- 6 *Assume suitable data, if necessary.*

**SECTION –I**

- |     |    |   |     |
|-----|----|---|-----|
| Q.1 | A) | Explain the logical layers of ISO/OSI model in detail   | [8] |
|     | B) | Discuss in detail various principles of network design. | [8] |

**OR**

- |     |    |   |     |
|-----|----|---|-----|
| Q.2 | A) | Describe in detail protocol stack of Bluetooth. | [8] |
|     | B) | Explain network architecture with neat diagram  | [8] |

- |      |    |   |     |
|------|----|---|-----|
| Q. 3 | A) | What is Network Address Translator? Explain in detail | [8] |
|      | B) | State and explain the protocols of MPLS.              | [8] |

**OR**

- |      |    |  |     |
|------|----|--|-----|
| Q. 4 | A) | Explain in detail CIDR                           | [8] |
|      | B) | Explain the general characteristics of Mobile IP | [8] |

- |      |    |                                  |      |
|------|----|----------------------------------|------|
| Q. 5 | A) | Write a short notes on : (any 3) | [18] |
|      |    | 1) The structure of ATM header   |      |
|      |    | 2) Various delays of the network |      |
|      |    | 3) IPv6                          |      |
|      |    | 4) RSVP                          |      |

OR

- Q. 6      A)      Explain mobility management issue in wireless networks [8]  
              B)      Explain in details various parameters specified in the Quality of Service. [10]

**SECTION II**

- Q. 7      A)      Explain various service classes of ATM network along with their attributes [8]  
              B)      Explain architecture of wireless network. State its applications. [10]

OR

- Q. 8      A)      Explain 5 different delays encountered by ATM cell with the help of figure. [8]  
              B)      Explain how ATM network can transport IP packets [10]
- Q. 9      A)      What are different QoS requirements of Voice and Video over IP? [8]  
              B)      Explain blocking probability in circuit switch network [8]

OR

- Q. 10     A)      How the concept of queuing theory is used to analyze datagram networks [10]  
              B)      Explain circuit switched network in brief [6]
- Q. 11     A)      Explain SSL in detail [8]  
              B)      Explain how firewall is implemented in the network [8]

OR

- Q. 12     A)      Explain in detail PGP protocol. [8]  
              B)      What are overlay networks? What is the importance of overlay networks. [8]