

Total No. of Questions :12]

SEAT No. :

P1794

[4859]-196

[Total No. of Pages :3

**B.E (Information Technology)**  
**d:ADVANCED COMPUTER NETWORKS**  
**(2008 Course) (Elective - III) (Semester - II)**

*Time : 3 Hours]*

*[Max. Marks :100*

*Instructions to the candidates:*

- 1) *Answers to the two sections should be written in separate books.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*

**SECTION - I**

**Q1) a)** What are the Networking principles and Network services with Layered architecture? **[12]**

b) Explain in detail Internet, ATM and cell phone. **[6]**

OR

**Q2) a)** Explain the logical layers of ISO/OSI model in detail. **[12]**

b) Discuss in detail various principles of network design. **[6]**

**Q3) a)** What is Wireless communication and explain its architecture? **[8]**

b) Explain WDM system with diagram in optical Networks. **[8]**

OR

**Q4) a)** Explain the ATM header with appropriate diagram. Explain the structure of the header. **[8]**

b) Explain mobility management issues in wireless networks. **[8]**

*P.T.O.*

- Q5) a)** Explain Congestion control mechanism of ATM network w.r.t. [6]  
i) Internal congestion control  
ii) Global congestion control
- b)** Explain Marcov Chain Models w.r.t. M/M/1 queue and M/M/2 queue. [10]

OR

- Q6) a)** Explain in details various parameters specified in the Quality of Service. [8]
- b)** Explain Congestion control and Flow control mechanism of Datagram network w.r.t. Open Loop and Closed Loop. [8]

### SECTION - II

- Q7) a)** Explain different BGP messages with their formats. [10]
- b)** What are VPNs? Explain the significance of tunneling in VPNs. [8]

OR

- Q8) a)** Write notes on: [8]  
i) BGP  
ii) RIP
- b)** What is Traffic Engineering and explain TE with MPLS. [10]

- Q9) a)** Explain RTP and RSVP. [8]
- b)** Explain Application Programming Interface for IPv6. [8]

OR

- Q10) a)** Explain the general characteristics of Mobile IP. [8]
- b)** Explain various features of IPv6. [8]

**Q11)a)** Explain how firewall is implemented in the network. **[8]**

b) What are overlay networks? What is the importance of overlay networks?  
**[8]**

OR

**Q12)a)** Explain cluster based network architecture for ad-hoc networks. **[6]**

b) What is ad hoc network? Explain its limitations and application areas.**[10]**

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