

Total No. of Questions : 8]

SEAT No. :

P4129

[4860] - 333

[Total No. of Pages : 2

M.E. (Computer Engineering) (Semester - I)

INTERNET ROUTING DESIGN

(Elective - I (C)) (2008 Pattern)

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates :

- 1) *Answer any three questions from each section.*
- 2) *Answer to the two sections should be written in separate answer books.*
- 3) *Neat diagrams must be drawn wherever necessary.*
- 4) *Figures to the right indicate full marks.*
- 5) *Assume suitable data, if necessary.*

SECTION - I

Q1) a) Compare between TCP/IP and OSI model. **[8]**

b) Explain IPv6 headers in detail. **[8]**

Q2) a) Write and explain router architecture with respect to functional view in detail. **[8]**

b) An IPv4 network with IP address 192.168.4.0 is being subnetted into 4 subnets. Give the netmask, netid for each subnet and IP range for each subnet. **[8]**

Q3) a) Develop a specialized K-shortest path algorithm, given that a path can not consist of more than two links. **[8]**

b) Discuss the role of ASes (Autonomous Systems) and BGP in routing. Describe the current architectural view of the Internet. How ASes are related to ISPs? **[8]**

Q4) a) Write and explain the features of IS-IS protocol. Compare it with OSPF. **[9]**

b) Explain the PIPv2 Protocol. Explain 3 timers in RIPv1. **[9]**

P.T.O.

SECTION - II

- Q5)** a) List OSPF packet types. Explain the format of Link state Request and update packets. [8]
b) Write and explain BGP path attributes. [8]
- Q6)** a) What is IP lookup problem? Explain with example any two algorithms for IP lookup. [8]
b) Explain in detail classful addressing and CIDR. [8]
- Q7)** a) What is packet classification problem? Explain any two algorithms used in packet classification. [8]
b) Explain QoSPF protocol for QoS routing. [8]
- Q8)** Write short notes on any three : [18]
a) Layer 2 VPN traffic engineering.
b) Voice over MPLS.
c) Source based QoS routing.
d) MPLS and GMPLS.

