

**BIM / Fifth Semester / IT 223: Advance Internetworking**

*Candidates are required to answer all the questions in their own words as far as practicable.*

**Group "A"**

**1. Brief Answer Questions:**

**[10 × 1 = 10]**

- i. What do you mean by Jitter?
- ii. Why aggregation of network is done?
- iii. Why OSPF is not used in exterior routing?
- iv. Make distinction between prune and graft message.
- v. What is the advantage of P2P architecture?
- vi. Write a disadvantage of connection oriented service in Layer 3.
- vii. Compare IPV6 with IPV4.
- viii. Define PCM audio format.
- ix. What is the use of ICMP message?
- x. Place the following protocols/mechanisms in the correct TCP/IP protocol layer:  
IGMP, SCTP and DNS.

**Group "B"**

**Exercise Problems:**

**[5 × 4 = 20]**

2. From the following information use EUI-64 method to convert MAC address into IPv6 address  
MAC address: 0C:AB:2D:1E:AA:FE  
IPv6 Network ID: 2001:AFBC:1B7E::/64
3. You are assigned an IP address 12.1.120.128/25 and have to develop CIDR. Here are some requirements which you have to fulfill: Subnets A, B, and C should have 25, 50 and 11 hosts respectively; you are also required to calculate: Subnet mask, range, net Id, broadcast Id for each subnet.
4. Assume a new link layer protocol called EXAM\_NET with MTU 1720 bytes. A UDP datagram with 5996 bytes of user data are to be sent over a EXAM\_NET link. There are 30 bytes of IP options involved. Find:  
(a) how many IP fragments are transmitted?  
(b) what is the offset and IP payload length of each fragment?
5. Illustrate Association establishment and shutdown process of SCTP with an appropriate diagram.



6. Consider a router D in a network where distance vector routing is used. D has the following routing table:

Network	Next Router	Distance
N <sub>1</sub>	A	4
N <sub>2</sub>	A	5
N <sub>3</sub>	B	6
N <sub>4</sub>	A	6
N <sub>5</sub>	C	4
N <sub>6</sub>	C	2

D receives a routing message from router A with following information:

Network	Distance
N <sub>1</sub>	5
N <sub>2</sub>	4
N <sub>3</sub>	6
N <sub>4</sub>	3
N <sub>5</sub>	4
N <sub>6</sub>	2

Show the routing table for D, after D has processed the routing message.

Group "C"

**Comprehensive Questions:**

[2 × 5 = 10]

7. Why TCP is not suitable for multimedia application? How can we stream stored audio/video? Explain any two streaming methods.
8. Explain ATM architecture, Compression techniques and Token bucket algorithm in brief.

