



Computer Network (1030)

P. Pages : 2

Time : Three Hours

Max. Marks : 100

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Answer sheet should be written with blue ink only. Graph or diagram should be drawn with the same pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Attempt **any two** sub questions from each unit.
5. Answer to the questions must be precise and to the point.

UNIT - I

1. a) Explain with neat diagram the Go-back-N and selective repeat protocols. **10**
b) What is framing ? Why it is essential ? What are the techniques to achieve framing ? **10**
c) A slotted ALOHA network transmits 200 bit frames using a shared channel with a 200 kbps bandwidth find the throughput if the system produces. **10**
i) 1000 frames per second.
ii) 500 frames per second.
iii) 250 frames per second.

UNIT - II

2. a) Explain the IPV 6 datagram format in detail. Also explain the IPV6 extension headers. **10**

- b) An ISP is granted a block of addresses starting with 150.80.0.0/16. The ISP wants to distribute these addresses to 2600 customers as follows. **10**
- i) The first group has 200 medium size businesses, each needs 128 addresses.
 - ii) The second group has 400 small businesses, each needs 16 addresses.
 - iii) The third group has 2000 house holds, each needs 4 addresses.
- Design the subblocks and give the slash notation for each subblock. Find out how many addresses are still available after these allocations.
- c) Explain with neat diagrams the IPv4 to IPv6 transition strategies. **10**

UNIT - III

3. a) What is address mapping ? Why it is necessary ? Explain all the address mapping protocols. **10**
- b) What is the ICMP protocol ? Explain different types of ICMP query messages. Also explain the debugging tools based on ICMP protocol. **10**
- c) Explain the forwarding techniques in detail. **10**

UNIT - IV

4. a) Explain the source based tree and group - shared tree approach in multicast routing. **10**
- b) Explain two - node loop instability and three - node loop - instability in distance vector routing. **10**
- c) Explain the path vector routing in detail. **10**

UNIT - V

5. a) Explain with neat diagram the format of TCP segment. **10**
- b) What is three-way handshaking in TCP connection ? Explain TCP connection in detail. **10**
- c) Explain scheduling techniques to improve quality of service (gos). **10**
