

Seat
No.

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मन - 042

Computer Network (1030)

P. Pages : 3

Time : Three Hours

Max. Marks : 100

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Answersheet 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** question from each unit.
5. Use of non-programmable calculator is allowed.
6. Draw neat diagram wherever necessary.
7. Answer to the questions must be precise & to the point.

UNIT - I

1. Explain Data link layer design issues in brief. 10
2. a) Give comparison between Go-Back-N and selective repeat protocol. 5
b) Explain Elementary Data link layer protocols. 5
3. The following character encoding is used in Data link protocol. A : 01000111;
B:11100011;
FLAG : 01111110; ESC : 11100000
Show the bit sequence transmitted (in binary) for the four-character frame :
A B ESC FLAG when each of the following framing methods are used :
a) Character count.
b) Flag bytes with byte stuffing.
c) Starting and ending flag bytes, with bit stuffing.
d) Explain any one framing method from above. 10

UNIT - II

4. Explain with neat diagram the IPV₄ to IPV₆ transition strategies. 10
5. An ISP has allocate the block with starting address 194.24.0.0/19. The administrator wants to divide this into following group.
a) First group needs 2048 addresses.
b) Second group needs 1024 addresses.
c) Third group needs 1024 addresses.
d) Fourth group needs 4096 addresses.
Design subblocks and give slash notations to each group and find out the available addresses after this allocation. 10

11. a) Explain Link state routing. 5
b) Explain source based tree and group shared tree approach in multicasting. 5
12. a) Explain e-BGP and i-BGP. 5
b) Explain process-to-process delivery with neat diagram. 5

UNIT - V

13. Explain with neat diagram, the format of TCP segment. 10
14. What are the four techniques to improve QoS ? Explain Leaky bucket technique in detail. 10
15. Explain all the techniques of prevention and removal congestion control. 10
