



DHARMSINH DESAI UNIVERSITY, NADIAD

FACULTY OF TECHNOLOGY

B.TECH. SEMESTER V [IT]

SUBJECT: (IT-505) COMPUTER & COMMUNICATION NETWORK

Examination : Repeater Seat No. : _____
Date : Day :
Time : 11:00 to 12:15 Max. Marks : 36

INSTRUCTIONS:

1. Figures to the right indicate maximum marks for that question.
 2. The symbols used carry their usual meanings.
 3. Assume suitable data, if required & mention them clearly.
 4. Draw neat sketches wherever necessary.
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Q. Do as directed.

- 1 [12]**
- (a) What are the two reasons for using layered protocols? [2]
)
 - (b) Differentiate: ARP & RARP. [2]
)
 - (c) Differentiate: Subnetting and supernetting. [2]
)
 - (d) Explain the meaning of following socket primitive: [2]
) BIND, LISTEN, ACCEPT and CONNECT.
 - (e) Why Gateways are used during mail transfer? [2]
)
 - (f) Give two examples of a 'collision-free' protocol? [1]
)
 - (g) What is the use of urgent pointer in TCP segment? [1]
)

- Q. 2 [12]**
- Attempt the following questions.
- (a) Explain Three-Way Handshake Mechanism used by TCP to [6]
) terminate a Session.
 - (b) (i) Explain IEEE 802.4 standard. [4]
) (ii) What are the differences between TCP and UDP? [2]

- Q. 3 [6]**
- (a) Consider a directed graph shown in fig.1 there are multiple shortest path between [6]
) vertices S and T. Which one will be reported by Dijkstra's shortest path.
 - (b) The following character encoding is used in a data link protocol: [6]
) 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 methods are used:
(a) Character count.
(b) Flag bytes with byte stuffing.
(c) Starting and ending flag bytes, with bit stuffing.