	Utech
Name:	
Roll No.:	To place of Exercising and Explana
Invigilator's Signature :	

CS/BCA/SUPPLE/SEM-6/BCAE-601A/2010 2010

ADVANCED NETWORKING AND COMMUNICATION

Time Allotted: 3 Hours Full Marks: 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP – A (Multiple Choice Type Questions)

1. Choose the correct alternatives for the following :

 $10 \times 1 = 10$

- i) A device operating at the physical layer is called
 - a) Bridge

- b) Router
- c) Repeater
- d) none of these.
- ii) For separating channels in FDM, it is necessary to use
 - a) Time slots
- b) Band pass filters
- c) Differentiation
- d) none of these.
- iii) Encryption and decryption are function of
 - a) Transport layer
- b) Session layer
- c) Presentation layer
- d) none of these.

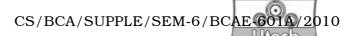
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Frame relay technique uses Circuit switching a) b) Connection oriented packet switching Message switching c) Hybrid switching. d) Which of the following networks requires all channels in v) a message transmission path be of the same speed? Packed switched networks a) b) Circuit switched networks Message switched networks c) None of these. d) vi) FDDI is a) Bus topology b) Ring topology Star topology d) none of these. c) vii) Token Bus is IEEE 802.2 b) **IEEE 802.3** a) c) IEEE 802.4 d) IEEE 802.6. viii) ISDN's BRI service has B channel(s) and D channel(s). a) one, one b) one, two two, one d) none of these. c) TCP/IP is a/an ix) Reliable connection oriented protocol a) Unreliable connection oriented protocol b) Reliable connectionless protocol c)

d)

Unreliable connectionless protocol.



- x) Unmodulated signal coming from a transmitter is called
 - a) Carrier signal
- b) Baseband signal
- c) Frequency signal
- d) all of these.

GROUP - B

(Short Answer Type Questions)

Answer any three of the following.

 $3 \times 5 = 15$

- 2. Differentiate between Character oriented protocol and Bit oriented protocol.
- 3. What is LLC? Explain.
- 4. With the help of a suitable diagram, describe an ATM cell.
- 5. Explain the following terms :Unicast, Multicast and Broadcast.
- 6. What is Transmission impairment? What are its causes?

2 + 3

GROUP - C

(Long Answer Type Questions)

Answer any three of the following.

 $3 \times 15 = 45$

7. a) An ISP is granted a block for addresses starting with 120.60.4.0./22. The ISP needs to distribute these blocks to 100 organizations with each organization receiving just eight addresses.

Design the sub-blocks and give the slash notation for each sub-block. Find out how many addresses are still available after these allocations.

b) What is a transparent bridge?

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8. a) Explain the Stop and Wait protocol.

5

b) What is IEEE 802.6?

- 5
- c) Write the advantages of optical fibre over twisted pair and coaxial cable. 5

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- 9. a) Why do we need a DNS system when we can directly use an IP address?
 - b) Differentiate between 'Symmetric Key Cryptography' and 'Asymmetric Key Cryptography'.
 - c) Explain the RSA algorithm.
- 10. a) Differentiate between TCP and UDP. 6
 - b) Five channels, each with a 100 kHz bandwidth, are to be multiplexed together. What is the minimum bandwidth of the link if there is a need for a guard band of 10 kHz between the channels to preventinterference?

4

5

- c) Distinguish between Virtual Circuit and DatagramSubnet.
- 11. Write short notes on any *three* of the following: 3×5

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- a) RIP
- b) There-way Handshake protocol
- c) Circuit switching
- d) ISDN
- e) ATM.

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