



Name :

Roll No. :

Invigilator's Signature :

CS/BCA/SEM-6/BCAE-601A/2013

2013

**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 any *ten* of the
following : 10 × 1 = 10

- i) Shanon Capacity determines
 - a) noise present in a channel
 - b) highest data rate in a noisy channel
 - c) whether channel is noiseless
 - d) all of these.



- vi) Flooding in networks and data communication has certain properties. Which of the options below is a property of flooding ?
- a) All possible routes are tried
 - b) All paths are loaded
 - c) All nodes are linked
 - d) Cannot be used to set up virtual circuit.
- vii) The synchronous modems are more costly than the asynchronous modems because
- a) they produce large volume of data
 - b) they contain clock recovery circuits
 - c) they operate with a larger bandwidth
 - d) none of these.
- viii) In which type of switching do all the packets of a message follow the same channels of a path ?
- a) Datagram packet switching
 - b) Virtual packet switching
 - c) Message switching
 - d) None of these.



- ix) IEEE 802.5 is
- a) Token bus
 - b) Ethernet
 - c) Token ring
 - d) Voice data transmissions.
- x) In Ethernet CSMA/CD, the special bit sequence transmitted by media access management for collision handling is called a
- a) preamble
 - b) port-amble
 - c) jam
 - d) none of these.
- xi) Which of the following protocols does not guarantee delivery, preservation of sequence or protection against duplication ?
- a) HTTP
 - b) FTP
 - c) UDP
 - d) SMTP.



GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. $3 \times 5 = 15$

2. Explain Delta Modulation with proper example. Mention its limitations. 3 + 2
3. What is IP addressing ? What are the classes of IP addressing ? What is the difference between static and dynamic IPs ?
4. Define Cookies.
5. Differentiate between Narrowband ISDN and Broadband ISDN.
6. Briefly explain FDM process.

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

7. a) What is the need of Flow control ?
b) Describe the mechanism of Go Back n ARQ protocol through suitable for (i) lost frame and (ii) lost acknowledgement.

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c) Compare Stop and Wait ARQ and Selective Repeat ARQ protocol.

d) A bit word 1011 is to be transmitted. Construct the even parity seven-bit hamming code for this data.

2 + 5 + 3 + 5

8. a) Why is Modulation useful for data transmission ? What is Sampling ?

b) Draw the Digital Signal Encoding for Polar RZ, AMI, Manchester, Differential Manchester coding for 110010101100 and write down the procedure in brief.

c) Define Bit rate and Baud rate. 2 + 2 + 8 + 3

9. a) Compare between Asynchronous TDM and Synchronous TDM with proper diagram.

b) Briefly explain Virtual Packet switching network.

c) Briefly define Repeater, Bridge and Router. 5 + 4 + 6



10. a) What is MAC address ?
- b) What is Channelization ? Briefly explain CDMA method.
- c) Briefly explain Token passing Ring network approach as controlled access mechanism.
- d) What is Hamming distance ? $1 + 2 + 5 + 5 + 2$
11. Write short note on any *three* of the following : 3×5
- a) SMTP
- b) Virtual LAN
- c) Fragmentation
- d) Leaky Bucket Algorithm
- e) ALOHA.

