



Name :

Roll No. :

Invigilator's Signature :

**CS/BCA/SEM-6/BCAE-601A/2012
2012**

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 × 1 = 10

- i) ARP is used to find
 - a) IP Address
 - b) MAC Address
 - c) Subnet Address
 - d) Host Address.
- ii) Before data can be transmitted, they must be transformed to
 - a) periodic signals
 - b) electromagnetic signals
 - c) aperiodic signals
 - d) all of these.



- iii) Video on demand, Live television, from many sources, full motion media, electronic mail is offered by
- a) X.25
 - b) Frame Relay
 - c) N-ISDN
 - d) B-ISDN.
- iv) Unipolar encoding uses
- a) only one voltage level
 - b) two voltage levels
 - c) three voltage levels
 - d) none of these.
- v) Optical transmission mainly uses
- a) TDM
 - b) WDM
 - c) FDM
 - d) CDM.
- vi) In FDDI, data normally travels on
- a) primary ring
 - b) secondary ring
 - c) both rings
 - d) neither rings.
- vii) Microwaves are used for
- a) unicast communication
 - b) multicast communication
 - c) both (a) and (b)
 - d) none of these.
- viii) Baud is
- a) number of bits per second
 - b) number of signal changes per second
 - c) number of bytes per second
 - d) number of character changes per second.



- ix) GSM stands for
- Good Service Management
 - Global Service Management
 - Good Sender Memory
 - Global System for Mobile Communication.
- x) The speed of Ethernet is
- | | |
|------------|-------------|
| a) 64 kbps | b) 64 Mbps |
| c) 10 kbps | d) 10 Mbps. |

GROUP - B

(Short Answer Type Questions)

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

- What are Asynchronous protocol and Synchronous protocol ?
- Briefly explain the function of Packet Switch.
- Give a brief comparison between I-frame and U-frame.
- Briefly describe the SNA architecture.
- Briefly discuss the RSA algorithm.

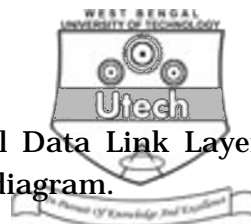
GROUP - C

(Long Answer Type Questions)

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

- What is digital signature ?
 - Give the frame format of X.25.
 - Discuss Manchester and differential Manchester encoding with a suitable example.
 - What are the tasks performed in transport layer ?

$3 + 4 + 4 + 4$



8. a) Briefly explain the Synchronous-Level Data Link Layer (SDLC) protocols with neat labelled diagram. 5
- b) What are the different classes of addresses used in IPv4? List their ranges in dotted decimal notation. 5
- c) Why is frequency modulation superior to amplitude modulation? 5
9. a) What are the reasons for congestion in a network? Describe any one method for congestion control. 7
- b) Could HDLC be used as a data link protocol for a LAN? Explain your answer. 4
- c) Describe the advantages of a small cell size in ATM. 4
10. a) Why are transport layer protocols like TCP or UDP called end-to-end protocols? Bring out the difference between them. 4
- b) Compare the following : 2 × 4
- i) Optical fibre and Co-axial cable
- ii) Firewall and Proxy.
- c) Explain the concept of framing with respect to Data Link Layer. 3
11. Write short notes on any *three* of the following : 3 × 5
- a) LEO
- b) SMTP
- c) ARP
- d) UDP
- e) CSMA/CD.