



Name :

Roll No. :

Invigilator's Signature :

CS/B.Tech/ICE(OLD)/SEM-6/CS-611/2013

2013

**COMPUTER NETWORK AND INTERNET
WORKING**

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.*

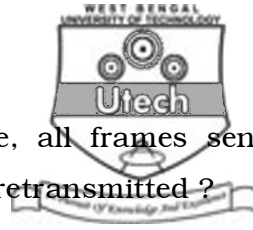
GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for the following : $10 \times 1 = 10$
 - i) Subnet mask in class A has fourteen 1's. How many subnets does it define ?
 - a) 31
 - b) 8
 - c) 64
 - d) 128.
 - ii) The monitor station in what standard ensures that one and only one token is circulating ?
 - a) FDDI
 - b) 802.5
 - c) 802.3
 - d) All of these.

6241(O)

[Turn over



- iii) In which ARQ, when a NAK receive, all frames sent since the last frame acknowledge are retransmitted ?
- a) Stop and wait b) Selective reject
- c) Go back- n d) Both (a) and (b).
- iv) Routers function in which layers ?
- a) Data link layer b) Physical layer
- c) Transport layer d) Network layer.
- v) If digital data rate of 9600bps is encoded using 8 level phase shift keying (PSK) method the baud rate is
- a) 3200 b) 1200
- c) 9600 d) 4800.
- vi) If CDMA network has eight stations, the medium bandwidth has bands
- a) 1 b) 8
- c) 2 d) 16.
- vii) Which error detection method involves polynomials ?
- a) Simple parity check
- b) CRC
- c) Two dimensional paritycheck
- d) Checksum.



viii) Which is present in all HDLC control fields ?

- | | |
|--------------|-----------|
| a) P/F bits | b) N (S) |
| c) Code bits | d) N (R). |

ix) Rip is based on

- Link state routing
- Distance vector routing
- Dijkstra algorithms
- Path vector routing.

x) Four bits are used for packet sequence numbering in a sliding window protocol used in computer network. Maximum window size is

- | | |
|-------|-------|
| a) 15 | b) 16 |
| c) 4 | d) 8. |

GROUP – B

(Short Answer Type Questions)

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

- What is Socket Address ? What do you mean by process to process delivery ? $3 + 2$
- Write the difference between reliable service and unreliable service.
- How does delay and throughput measure in network performance ?
- Explain channel utilization for ALOHA is 18%. Explain random access and channel access. $2 + 3$
- What is routing ? What is the difference between static routing and dynamic routing ? What default routing ? $1 + 2 + 2$



GROUP – C

(Long Answer Type Questions)

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

7. a) What is bit stuffing ? Why is it used ? Give an example. 3
- b) Draw the coding using differential Manchester codes for a bit pattern of 100101101. 3
- c) What is two dimensional parity ? What is its advantage ? Explain with suitable example. 5
- d) Suppose 4 signals each with a band width of 4 kHz be transmitted under TDM with a frame guard band of 1 kHz. What is the maximum bandwidth of the path required for this purpose ? 4
8. a) Which class of IP address is used for multicast communication ? What is the function of DHCP ? 1 + 4
- b) What is CRC ? Explain the performance of CRC. 5
- c) Explain circuit switching and packet switching. 5
9. a) What are Datagram switching and Virtual circuit switching ? Explain. 8
- b) What type of address is 255.255.255.255 ? 2
- c) What is routing table ? Discuss IPV4 frame format. 5
10. a) Explain CSMA/CD Technique. Explain persistence strategy. 4 + 3
- b) Explain priority management scheme of token ring. 5
- c) A modem has a baud rate of 30 signals/sec. If the transmits data is at the rate of 1200 bps, what is the coding rate ? 3