Name :	
Roll No. :	An Ageneral (V Examining and Examine
Invigilator's Signature :	

# CS/MBA (OLD)/SEM-4FT & 6PT/SM-406/2010 2010 FUNDAMENTALS OF NETWORKING

*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.

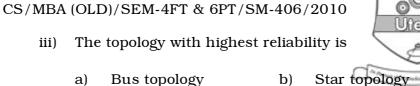
#### **GROUP – A**

## (Multiple Choice Type Questions)

- 1. Choose the correct alternatives for the following :  $10 \times 1 = 10$ 
  - i) A client server system is based on
    - a) Mainframe technology b) WAN technology
    - c) LAN technology d) Unix operating system.
  - ii) TCP means
    - a) Transmission Control Packet
    - b) Transfer Control Packet
    - c) Transmission Control Protocol
    - d) None of these.

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- a) Bus topology b)
  - Ring topology Mesh topology. d)

If an IP address is 221.6.0.6, the network ID is iv)

a)	221.6.0.0	b)	221.0.0.0
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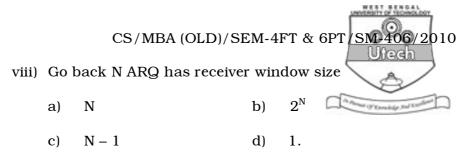
221.0.0.6 None of these. c) d)

A switch is V)

c)

- a) always a better networking device than a hub
- b) sometimes a better networking device than a hub
- always a worse networking device compared to a c) hub
- d) nothing definite can be said.
- vi) TCP is a/an
  - reliable connection oriented protocol a)
  - unreliable connection oriented protocol b)
  - c) reliable connectionless protocol
  - unreliable connectionless protocol. d)
- vii) Repeater operates in
  - Physical layer b) Data link layer a)
  - Network layer Transport layer. c) d)

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ix) Which one is the best among the CSMA techniques ?

- a) 1-persistent
- b) Non-persistent
- c) *p*-persistent
- d) Both 1-persistent and non-persistent.
- x) Envelope detector is used for

a)	AM detection	b)	FM detection
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c) PSK detection d) QPSK detection.

### GROUP – B ( Short Answer Type Questions )

	Answer any <i>three</i> of the following. $3 \times 5 = 15$
2.	Compare circuit switching, packet switching and message
	switching. 5
3.	Compare OSI and TCP reference models. 5
4.	What are the advantages of IPV6 over IPV4 ?5
5.	State the difference between network layer and transport
	layer. 5
6.	Differentiate port address, logical address and physical
	address with suitable examples. 5
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45

5

#### GROUP – C

#### (Long Answer Type Questions)

Answer any three of the following.

- 7. a) Differentiate between analog transmission and digital transmission of data. Give their relative advantages and disadvantages. 7
  - b) Name the three types of transmission models. Explain with suitable examples. 8
- 8. a) Draw the representation of digital signal 1001110 for NRZ-L, NRZ-I and Manchester coding waveforms and explain. 7
  - b) Comment on the statement "Band rate and bps are essentially the same". 4
  - c) Why are protocols and standards needed in data communications?
- 9. a) Explain the class A, B, C, D and E types of networking in terms of their addressing scheme under IPV4. 8
  - b) What are the limitations of IPV4 addressing system? 4
  - c) What are the difficulties in implementation of IPV6 addressing system ? 3
- 10. a) Discuss the terms client and server and their relationship to each other in the client server model. 6
  - b) What is a socket interface ?
  - c) What is the difference between active open and a passive open ? 4
- 11. Write short notes on any *three* of the following :  $3 \times 5$ 
  - a) Internet computing
  - b) Distributed database
  - c) LLC
  - d) IP datagram
  - e) Digital signature.

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