



Name : .....

Roll No. : .....

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.*

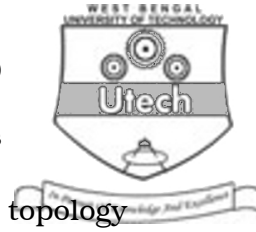
*Candidates are required to give their answers in their own words as far as practicable.*

**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.



- iii) The topology with highest reliability is
- a) Bus topology
  - b) Star topology
  - c) Ring topology
  - d) Mesh topology.
- iv) If an IP address is 221.6.0.6, the network ID is
- a) 221.6.0.0
  - b) 221.0.0.0
  - c) 221.0.0.6
  - d) None of these.
- v) A switch is
- a) always a better networking device than a hub
  - b) sometimes a better networking device than a hub
  - c) always a worse networking device compared to a hub
  - d) nothing definite can be said.
- vi) TCP is a/an
- a) reliable connection oriented protocol
  - b) unreliable connection oriented protocol
  - c) reliable connectionless protocol
  - d) unreliable connectionless protocol.
- vii) Repeater operates in
- a) Physical layer
  - b) Data link layer
  - c) Network layer
  - d) Transport layer.





**GROUP – C**

**( Long Answer Type Questions )**

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

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 ? 4
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 ? 5
- 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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