Bachelor in Information Technology (BIT)

Term-End Examination

December, 2007

CSI-09 : COMMUNICATION TECHNOLOGY

Time : 3 Hours   *Maximum Marks : 75*

Note :   *There are **two** sections in this paper. Section A is **compulsory** and carries 10 objective type questions and two descriptive questions. Section B consists of 4 questions from which you have to answer any **three** questions.*

SECTION A

1. (a) There are 10 objective type questions in this. There are four choices given for each question. Select the best choice as your answer. If you feel that none of the given choices is correct then mark '0' as your answer. Attempt all the questions. Each question carries one mark.   *10×1=10*

   (i) A well planned network will be

        (a) more reliable and lower in cost

        (b) more flexible

        (c) simple to support and use

        (d) All of the above

   (ii) Bridges are _____ layer devices.

        (a) Physical

        (b) Network

        (c) Data link

        (d) Application

   (iii) RSA is a

        (a) Public key algorithm

        (b) Private key algorithm

        (c) Simple password based system

        (d) None of the above

   (iv) Personnel training and transformation of operational procedures comes under _____ of networking.

        (a) Direct costs

        (b) Indirect costs

        (c) Miscellaneous costs

        (d) None of the above

(v) Collection of communication lines and routers form the
- (a) Hosts
- (b) End systems
- (c) Gateways
- (d) Subnet

(vi) Some broadcast systems which also support transmission to a subnet of the machines is known as
- (a) Digital broadcasting
- (b) Multicasting
- (c) Transmitting
- (d) MBONE

(vii) Which of the following statements is *false* ?
- (a) RAID provides real time data recovery when a hard drive fails
- (b) There are 6-levels of RAID (level 0 to level 5)
- (c) RAID uses a single drive
- (d) Each level of RAID supports a different layout scheme on the disk drives

(viii) A low cost computing device that works in a server centric computing model which typically does not require state of art, powerful processors and large amounts of RAM or ROM as they access applications from the central server, is
- (a) Host
- (b) Gateway
- (c) Switch
- (d) Thin client

(ix) IPv6 is the next generation of IP which retains many of the basic concepts of
- (a) IPv3
- (b) IPv4
- (c) IP
- (d) IPv5

(x) Repeaters are _____ layer devices.

    (a)   Physical

    (b)   Network

    (c)   Transport

    (d)   None of the above

(b) What is ISDN ? Mention what kind of communication will it be using. List various types of ISDN, their advantages and applications of ISDN.   *15*

(c) Explain simplex, half duplex and full duplex mode of data transmission. Also, give an example for each.   *5*

SECTION B

*Answer any **three** questions from this section (numbered from 2 to 5).*

2. (a) Explain the Diffie-Hellman and RSA public key algorithms.   8

   (b) Explain the role of the following WAN devices in a network :   7

   (i) CSU/DSU

   (ii) ISDN Terminal Adopter

   (iii) Modem

3. (a) What is MBONE ? Mention the applications of MBONE.   5

   (b) With the help of an example, explain the various phases of the software development life cycle for an E-commerce application.   10

4. What is a RAID technology and what is its need ? Explain all the levels of RAID alongwith their applications.   15

5. (a) What is a firewall ? Explain the usage of a firewall in networking. Also, discuss the different types of firewalls.   7

   (b) Compare and contrast the following :   8

   (i) Analog Broadcasting vs Digital broadcasting

   (ii) Bridges vs Routers

   (iii) Smart cards vs Credit cards

   (iv) Point-to-point link vs Circuit switching