00182

CERTIFICATE IN INFORMATION TECHNOLOGY (CIT)

Term-End Examination

June, 2011

CIT-001 : FUNDAMENTALS OF COMPUTER SYSTEMS

Time : 2 hours   *Maximum Marks : 50*

(Weightage : 75%)

Note : All the questions in Section - A are compulsory. Answer any three questions from the Section - B.

SECTION - A

1.   Answer the following objective type questions. Each objective type question carries **one** mark :

   (a)   Usually File Transfer Protocol uses Port number _____.   **10x1=10**

   (i)   80   (ii)   23

   (iii)   21   (iv)   12

   (b)   Which of the following network devices receives the signals and rebroad casts it ?

   (i)   Network Interface Card

   (ii)   Ethernet Card

   (iii)   Router

   (iv)   Repeater

(c) The symbol ⬭ in ER diagrams is used to represent the _____.
   (i) Attribute
   (ii) Multi valued Attributes
   (iii) Key Attributes
   (iv) Derived Attributes.

(d) Which of the following main memory is volatile in nature ?
   (i) RAM   (ii) ROM
   (iii) PROM   (iv) EPROM

(e) Which of the following memories has Fastest Access Time ?
   (i) ROM   (ii) RAM
   (iii) Register   (iv) Cache

(f) Which of the following is a system software ?
   (i) Window vista
   (ii) Fox Pro
   (iii) Microsoft Word
   (iv) All of the above

(g) Which of the following is not a Key principle of Information security ?
   (i) Availability   (ii) Privacy
   (iii) Confidentiality (iv) Integrity

(h) _____ is a time required to move the read/ write head on specific (address) track on a magnetic disk.
   (i) Latency Time   (ii) Access Time
   (iii) Track Time   (iv) Seek Time

(i) Which of the following option is correct for sequential file data base system ?

(1) Simple and easy to implement

(2) Data records are in form of Tuples.

(3) Duplication of data entry

(4) Its example is Fox Pro

(i) (4) and (2) (ii) (1) and (3)

(iii) (1) and (4) (iv) (2) and (3)

(j) What should be the output of following section of code in C language.

```
Sum = 0;
while (i< = 5)
{ sum = sum + i;
  i = i + +;}
Print f ("sum is %d", sum);
```

(i) 28 (ii) 21 (iii) 15 (iv) 05

2. Compare between simplex, Hay- Duplex and full duplex mode of communication. Write at least one advantage and disadvantage of each mode. 6

3. Explain how the Control unit, Memory Unit and ALU work together to execute an instruction in the CPU. 4

SECTION - B

4. (a) Explain atleast five important function of operating system. **5**

    (b) Draw and explain the Flow chart for finding the smallest number among the three given numbers. **5**

5. (a) What is the main difference between symmetric and Asymmetric key Enoryption ? Also, explain how the public key cryptosystems can be used for Encryption and Authentication. **5**

    (b) Consider the following relations with primary key underlined. **5**
    Draw an ER diagram for this data base.
    Train (Tname, <u>Tnumber,</u> Start, Dest)
    Ticket (**Pnr _ No**, Start, Dest, Fare, km)
    Passenger (Name, Address, **PNR _ No**, <u>Tnumber</u>)

6. (a) Write the advantages and disadvantages of LAN and WAN. **5**

    (b) Write a program in C language to find Greatest Common Divisior (GCD) among given two numbers. **5**

7. (a) What are the various types of printers based on speed ? Also, write advantages and disadvantages of laser, Dot- matrix and Ink - jet printers. **7**

    (b) Explain the working of packet filtering Gateway. **3**