　　　　　　　MLISC/VI/07

2007

INFORMATION TECHNOLOGY-I

PAPER-VI

Full Marks : 80

Time : 3½ hours

Answer Q. No.1 and any **four questions,
taking one from** etch Unit

The figures in the right-hand margin indicate marks

1. **(a) Distinguish** between the concepts belonging to *any
      two* of the **following** pairs :　　　　3x2

    (i) UTF-8 and UTF-16

    (ii) Gopher and WWW

    (iii) DNS and **EP address**

    (iv) HTTP and SMTP.

   (b) Show **your acquaintance** with *any two* of the follo-
        wing :
                                            2½ x2

    (i) Institutional Repository

    (ii) Open Knowledge Movement

    (iii) RFC-2731

    (iv) Z 39.50.

(c) Mention the domain of application for the following open source software :

$\frac{1}{2}$ x 4

(i) My core

(ii) Tomcat

(iii) Post Gre SQL

(iv), **Sendmail.**

(d) Differentiate the commands/tags/functions belonging to *any two* of the following pairs :

$1\frac{1}{2}$ x 2

(i) printf O and scarf O functions of C

(ii) mput and put commands in a FTP **session**

(iii) finger and who commands in Unices

(iv) < A HREF > and <MARQUEE > tags in HTML.

UNIT-4

2. (a) What is a system software ? **Enumerate the major roles of Operating Systems as system software.** 1+3

(b) Categorize Operating Systems on the basis of their intrinsic features. Give example for each category. 4

(c) Mention the commands to perform following tasks **(any four)** **in Linux Operating System** . (**Assume you are a mortal user of the system and IP address of the server is** 192.168.1.5): 4x2

    (i) To display FQDN for your system

    (.ii) To show amount of free primary memory

    (iii) **To make alias for the Linux Command 'Is' as**

    (iv) To **display running processes in the server.**

    (v) **To transfer** a file (**x. txt**) **from client to server.**

    (vi) **To create a text file.**

3. (a) **What do you mean by** `Loop' **in computer programming? Describe the** `Loop' **constructs in- C programming language.** 2+6

  (b) **Write a C program that can be used to store the cost of books until the user wants and can calculate the sum and**. average cost of books.

UNIT-11

4. (a) **Compare** different **wired media for data transmission.** 8

  (b) Write in brief **on modes** and speed **of data transmission**. Why is the speed of data **transmission measured in terms** of `bits per second' **instead** of `bytes per second'. 6+2

5. *(a)* Describe different switching techniques used in communication system.

(b) What is multiplexing? Describe various kinds of multiplexing with suitable diagrams. 2

UNIT III

6. (a) Define `Digital Library'. How such a library system can help in Open'Knowledge Movement?

$1\frac{1}{2}$ +2$\frac{1}{2}$

(b) Make a compara ive^.tgdy,of *any three* Open source digital library software **against the** following major checkpoints : 3x4

(i) **Standardisation in metadata encoding**, **inter-**operability and crosswalk

(ii) **Requirements** of dependency (third party) software

(iii) Mode of processing and User access

(iv) Support for platforms, programming envi-**ronments** and backend **databases.**

7. (a) Explain how India is connected to the Internet backbone system. 4

(b). Compare `Search Engine' and `Meta Search Engine' as web searching tool. 4

(c) What is OAI/PMH? Discuss the `six verbs' of OAI/PMH version 2.0. 2+6

UNIT-N

8. Comment on the basic requirements of an acquisit ion module of any library management software. How much significant they are for the smooth functioning of circula-tion module. 10+6

9. (a) Design SDI service in an electronic environment. 6

   (b) `A Standard library management software brings in transparency, increases accountability and adds value in the library system.'— Justify the statement in the light of available library management software packages in India. 10