Advanced Diploma in Information Technology (ADIT)/
Bachelor in Information Technology (BIT)

00107

Term-End Examination

June, 2010

CST-101 : Foundation in Information Technology

Time : 2 hours *Maximum Marks : 50*

Note : *There are **two** sections in this paper. **Section-A** consists of objective type and short answer type questions. All the questions in **section-A** are **compulsory**. **Section-A** carries **26** marks. **Section-B** carries **24** marks. **Attempt** any **two** out of three questions in **section-B**.*

SECTION - A

1. Attempt the following 10 objective type questions. There are four choices given for each question. Select the best choice. If none of the given choices are correct then mark '0' as your answer. Each objective question carries one mark. **10x1=10**

(a) _____ is usually the measure of the computing power of a computer.

(i) RAM

(ii) Operating System

(iii) Word length

(iv) Binary operation capacity

(b) A group of 4-bits is called _____ .

(i) Octave

(ii) Byte

(iii) Semi-Byte

(iv) Nibble

(c) Which of the following is machine independent ?

(i) Assembly language

(ii) Machine language

(iii) High level language

(iv) None of the above

(d) The binary equivalent of 25 is :

(i) 01100001

(ii) 00110000

(iii) 00110001

(iv) 00011001

(e) A _____ is a program that places programs into main memory.

(i) Linker

(ii) Loader

(iii) Assembler

(iv) Transformer

(f) _____ retains its contents even when the computer is tuned off.

(i) RAM

(ii) DRAM

(iii) ROM

(iv) All of the above

(g) The PID of a process in UNIX is displayed by the _____ command.

(i) LS

(ii) PS

(iii) gS

(iv) DS

(h) The UNIX _____ acts as the command interpreter.

(i) Kernel

(ii) Tile

(iii) Process

(iv) Shell

(i) Virtual memory is :

(i) an extremely large main memory

(ii) an extremely large secondary memory

(iii) a type of memory used in UNIX

(iv) an illusion of an extremely large memory

(j) The statement echo 2+5 will display :

(i) 2+5

(ii) 7

(iii) 25

(iv) 2 5

2. Compare and give at least three differences between the following : **4x3=12**

(a) Mini computer and Super computer

(b) Compiler and Interpreter

(c) RAM and ROM

(d) Multitasking and Time Sharing Operating System

3. How is an instruction executed in Von Neumann machine ? Explain with the help of an example. **4**

SECTION - B

Attempt *any two* questions from this section :

4. (a) What is virtual memory ? When is it used ? Explain the relation between address and memory space in virtual memory system. **6**

   (b) What is mutual exclusion problem ? How can it be solved using semaphores ? Explain. **6**

5. (a) Write a shell program to find the Greatest Common Divisor (GCD) for any two given numbers. **6**

   (b) What are the steps involved in system analysis ? How are these steps useful in system design and development ? **6**

6. (a) Explain the use of the following UNIX commands with the help of an example for each : **6**

   (i) wall

   (ii) nice

   (iii) cal

   (b) Explain the following with the help of an example/diagram, if needed. **6**

   (i) Contiguous allocation of disk space

   (ii) Use of CASE tools

   (iii) Paging memory allocation scheme
