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CST-101

00431

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

Term-End Examination

December, 2011

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 the three questions in **section B**.*

SECTION - A

1. State ***True/False*** for the following statements. Each correct answer of ***True/False*** carries ***one*** mark. **1x10=10**

(a) Virtual memory is an illusion of an extremely large memory.

(b) Binary equivalent of 63 is 00111111.

(c) Program counter is a type of register of the CPU.

(d) The checking operation performed on input data is called the validation of data.

(e) In Unix the free data blocks are arranged as files.

(f) Cache memory is the cheapest of all memories in computer system.

(g) The semantic and syntax errors in the program are checked during analysis phase.

(h) A chip having 150 gates will be classified as VLSI.

(i) ViEditor is a kind of system software which always resides in main memory.

(j) SQL is an example of 4^{th} generation programming language.

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

(a) SRAM and DRAM

(b) Function and Subroutines

(c) Compiler and Interpreter

(d) Multitasking and Time Sharing Operating System.

3. What are the steps involved in testing ? How are these steps useful in system development ? 4

SECTION - B

4. (a) Explain CISC and RISC architecture using their functional block diagrams. Also, write one advantage and one disadvantage of each. 8

   (b) What is critical section ? Explain it using an example. 4

5. (a) What is fragmentation in operating system ? How does it occur ? Compare different memory management schemes with respect to fragmentation. 8

   (b) What are 3 Generation Languages (3GLs) and 4 GLs ? Write the main differences between both. 4

6. (a) List the goals of an operating system. Differentiate between the serial processing and batch processing. 6

   (b) Explain the use of following UNIX Commands with the help of an example for each : 6

   (i) Nice

   (ii) Cal

   (iii) Cmp