Code : 061101

B.Tech 1st Semester Exam., 2013

FUNDAMENTALS OF INFORMATION TECHNOLOGY

Time : 3 hours   Full Marks : 70

Instructions :

(i) All questions carry equal marks.

(ii) There are **NINE** questions in this paper.

(iii) Attempt **FIVE** questions in all.

(iv) Question No. **1** is compulsory.

1. Answer/Choose the correct answer/Fill in the blanks of the following (any *seven*) :

   (a) Which of the following is not an input device?
      (i) Keyboard
      (ii) Mouse
      (iii) Web camera
      (iv) Stylus ✓

   (b) Which of the following is the fastest form of memory that exists in computer system?
      (i) Register
      (ii) Floppy disk
      (iii) USB disk
      (iv) RAM ✓

(2)

   (c) Can an executable of a C program, that has been prepared on Windows OS, run on Linux OS?
      (i) Yes ✓
      (ii) No

   (d) What is the unit for measuring speed of RAM?

   (e) GSM mobile communication is
      (i) full-duplex
      (ii) simplex
      (iii) half-duplex
      (iv) None of the above

   (f) HDD is a
      (i) primary storage device
      (ii) secondary storage device
      (iii) cache
      (iv) None of the above

   (g) CPU stands for ——

   (h) Google Chrome is a

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(i) Gtalk is a

    (i) mailing application

    (ii) instant messaging application

    (iii) serial messaging application

    (iv) None of the above

(j) << is a/an

    (i) logical operator

    (ii) arithmetic operator

    (iii) control operator

    (iv) bitwise operator

2. *(a)* Discuss, in detail, different types of memory used in a computer system. Why is there a need of having different types of memory in computer system? Why cannot we replace these different types of memory in one type of memory?

    (b) What are different data types in C? Why do we need to have different data types? Is it possible at all to replace all different data types with same data type? What shall be the disadvantage in doing that?

3. *(a)* Discuss different generations of computer in detail. Does a comparative study between major changes that occur between two successive generations?

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    (b) Write a C program to calculate electricity bill of a user at the below mentioned rate :

First 100 units	@ 5 INR per unit
Next 200 units	@ 7 INR per unit
Next 100 units	@ 9 INR per unit
Next all units	@ 10 INR per unit

[Program should not terminate only after calculating the bill once, rather it should keep running till users want to terminate it]

4. *(a)* What is Internet? What are the major applications of Internet? Discuss the major advantages and disadvantages of Internet on society.

    (b) What are different types of operator in C programming language? Demonstrate the use of each operator with proper illustrating codes.

5. *(a)* What are different types of looping structure available in C programming language? Demonstrate each type of looping structures with proper code segments.

    (b) What is E-mail? How does E-mail work? What are the benefits of using E-mail?

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(5)

6. (a) Discuss the role of Information Technology in your Engineering stream.

   (b) Write a C program to input your name and print it in reverse order.

7. What is an array in C programming language? What are the important properties of an array? Write a C program to store marks scored by the students of a class which has got a student strength of 90.

8. What are user-defined functions? What are the advantages of using user-defined functions? Can we achieve all the same without using user-defined functions, which one can do with after using functions? What are the important parts of a user-defined function? Write a C program function which should input two numbers as its parameter and return the sum of those two numbers.

9. Write short notes on any *two* of the following :

   (a) Search Engine

   (b) Web Browser

   (c) Flowchart