

USN

10CCP13/23

First/Second Semester B.E. Degree Examination, June/July 2013

**Computer Concepts and C Programming**

Time: 3 hrs.

Max. Marks: 100

- Note:** 1. Answer any FIVE full questions, choosing at least two from each part.  
 2. Answer all objective type questions only in OMR sheet page 5 of the answer booklet.  
 3. Answer to objective type questions on sheets other than OMR will not be valued.

**PART – A**

- 1 a. Choose the correct answers for the following : (04 Marks)
- The term dots per inch (dpi) refers to printer's \_\_\_\_\_.  
 A) resolution      B) speed      C) output      D) colours
  - \_\_\_\_\_ is used to identify product and provide information such as price.  
 A) Price check      B) Bar code reader  
 C) Numeric digit      D) Light sensitive detector
  - \_\_\_\_\_ is not a computer language.  
 A) Assembly language      B) High level language  
 C) Natural language      D) Machine level language
  - Which operating system first appeared with IBM PC?  
 A) Windows      B) Linux      C) Mac OS      D) DOS
- b. What is information processing cycle? Explain four steps with flow chart. (04 Marks)
- c. With a neat diagram, explain functions of each units of basic model of computer. (06 Marks)
- d. Convert the following: (06 Marks)
- $(10101)_2 = (?)_{10} = (?)_{16}$
  - $(50)_8 = (?)_{10} = (?)_2$
- 2 a. Choose the correct answers for the following : (04 Marks)
- \_\_\_\_\_ is two or more LAN's connected together across large geographical area.  
 A) GAN      B) LAN      C) WAN      D) MLAN
  - Temporary storage in main memory is called as \_\_\_\_\_.  
 A) Buffer      B) Secondary memory  
 C) Tirtary memory      D) None of these
  - Which of the following unit represents largest amount of data?  
 A) Kilobyte\*      B) Terabyte      C) Gigabyte      D) Megabyte
  - Identification number of every computer connected to internet is \_\_\_\_\_.  
 A) Sub net mask      B) Gate way      C) MAC address      D) IP address
- b. Explain basic components of a network. (04 Marks)
- c. Define operating system. Discuss functions of operating system. (06 Marks)
- d. Explain working of hard disk with a neat diagram. Give advantages and disadvantages. (06 Marks)
- 3 a. Choose the correct answers for the following : (04 Marks)
- The number 0987 is \_\_\_\_\_ integer.  
 A) octal      B) decimal      C) hexadecimal      D) invalid
  - What kind of language is C?  
 A) Machine language      B) Procedural language  
 C) Assembly language      D) Object oriented language



- 3 a. iii) The result after evaluating the expression  $1/2 * 4$  is \_\_\_\_\_.  
 A) 0.25                      B) 2                      C) 0                      D) 0.125
- iv) What is the output if following program executed?
- ```
main ( )
{
    printf("%d", 'A');
}
```
- A) 65                      B) A                      C) "A"                      D) Error
- b. Explain software development and life cycle. (04 Marks)
- c. What are identifiers? Discuss the rules to be followed while naming identifiers. Give examples. (06 Marks)
- d. Explain format specifiers used in scanf( ) function to read int, float, char, double and longint data types. (06 Marks)
- 4 a. Choose the correct answers for the following : (04 Marks)
- i) An operator which acts on two operands to produce result is \_\_\_\_\_ operator.  
 A) ternary                      B) binary                      C) unary                      D) complex
- ii) The modulus operator (%) can be used only for \_\_\_\_\_ values.  
 A) floating                      B) integer  
 C) both integer and floating                      D) all data type
- iii) In C, TRUE is represented by  
 A) true                      B) zero                      C) non-zero                      D) 1
- iv) Which of the following is not valid assignment statement?  
 A)  $i + j = 23$                       B)  $j = 23$                       C)  $j + = 23$                       D)  $j = 23 + i$
- b. Write C program to swap values of two integers without using third variable and give flow chart for the same. (06 Marks)
- c. Find the result of each of the following expressions with  $i = 4, j = 2, k = 6, a = 2$ .  
 i)  $k * = i + j$                       ii)  $j = i / = k$                       iii)  $i \% = i / 3$   
 iv)  $m = i + (j = 2 + k)$                       v)  $a = i * (j / = k / 2)$  (10 Marks)

### PART – B

- 5 a. Choose the correct answers for the following : (04 Marks)
- i) In c, default return type of function is \_\_\_\_\_.  
 A) void                      B) int                      C) float                      D) char
- ii) Parameters used in function call are \_\_\_\_\_ parameters.  
 A) formal                      B) local                      C) dummy                      D) actual
- iii) Every C program must have \_\_\_\_\_.  
 A) user defined function                      B) standard function  
 C) main function                      D) library function
- iv) Arguments of a function are separated with \_\_\_\_\_.  
 A) comma ( , )                      B) semicolon ( ; )                      C) colon ( : )                      D) blank space ( )
- b. Write C program to print n fibonacci numbers using function. (08 Marks)
- c. Differentiate call by value and call by address parameter passing mechanisms. (04 Marks)
- d. Explain the scope of local and global variables with simple example. (04 Marks)
- 6 a. Choose the correct answers for the following : (04 Marks)
- i) break statement can be used in \_\_\_\_\_.  
 A) if                      B) if - else                      C) nested if                      D) while

- 6 a. ii) Which of the following is not comparator operator in C?  
 A) < B) > C) = D) !=
- iii) What is the output if following loop is executed?  
 for (i = 1; i < 5; i++); printf("VTU");  
 A) syntax error B) VTU  
 C) VTUVTUVTUVTU D) VTUVTUVTUVTUVTUVTU
- iv) while (0) {printf("CCP")}, how many times this loop will execute?  
 A) 0 B) 1 C) error D) infinite times
- b. Write C program to find roots of quadratic equation. Consider all possible cases of roots. (06 Marks)
- c. Write C program to evaluate following expression:  

$$\text{answer} = 1 + x + \frac{x^2}{2!} + \frac{x^3}{3!} + \frac{x^4}{4!} + \dots$$
 using function. (06 Marks)
- d. Differentiate pre-test and post-test loops. Illustrate your answer with a suitable example. (04 Marks)
- 7 a. Choose the correct answers for the following : (04 Marks)
- i) The subscript of first item of an array in C is always \_\_\_\_\_.  
 A) 1 B) 0  
 C) depends in size of array D) not fixed and assigned at run-time.
- ii) In a variable length string, the string ends with \_\_\_\_\_ delimiter.  
 A) \n B) \0 C) \b D) none of these
- iii) Which of the following is correct declaration of array in C?  
 A) int marks [3 + a]; B) float marks [5.5];  
 C) int marks [2 - 2]; D) int marks [5];
- iv) ASCII stands for  
 A) American Standard Code for International Information  
 B) American Standard Company for International Integration  
 C) American Standard Code for International Integration  
 D) American Standard Code for Information Interchange.
- b. Write C program to search an element from unsorted list using binary search. (12 Marks)
- c. What is the difference between a character and a string containing a single character? (04 Marks)
- 8 a. Choose the correct answers for the following : (04 Marks)
- i) Parallel computing is \_\_\_\_\_ execution of instructions.  
 A) serial B) accurate C) complete D) sequential
- ii) Single sequential flow of control within a program is \_\_\_\_\_.  
 A) thread B) instruction C) program D) none of these
- iii) POSIX stands for  
 A) Preliminary Operating System Integration for extended system.  
 B) Portable Operating System Interface for Unix  
 C) Preliminary Operating System Interface for Unix  
 D) Portable Operating System Integration for Unix.
- iv) API stands for  
 A) Application Programming Interface B) Application Parameter Interface  
 C) Application Processing Interface D) Application Programming Information
- b. Explain motivating factors for parallelism. (06 Marks)
- c. Explain advantages of threads. (04 Marks)
- d. What are Open MP directives which help in synchronization of task? Explain. (06 Marks)