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**First/Second Semester B.E. Degree Examination, Dec.2015/Jan.2016**  
**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 on OMR sheet page 5 of the answer booklet.  
 3. Answer to objective type questions on sheets other than OMR sheet will not be valued.

**PART – A**

- 1 a.** Choose the correct answers for the following : (04 Marks)
- i) The standard input device is \_\_\_\_\_  
 A) Mouse                      B) Monitor                      C) Keyboard                      D) Printer
- ii) Group of 4 bits of called  
 A) Byte                      B) Nibble                      C) Quad                      D) Word
- iii) Which of these is not an example of software?  
 A) Operating system    B) Device drivers              C) Utilities                      D) Floppy disk.
- iv) ASCII is a \_\_\_\_\_ bit code.  
 A) 4                      B) 6                      C) 7                      D) 10
- b.** With a neat diagram explain basic structure of a computer. (06 Marks)
- c.** List the computers for organization. Explain any one. (06 Marks)
- d.** i) Convert  $(1101101)_2$  into decimal number  
 ii) Convert  $(643)_8$  into binary number. (04 Marks)
- 2 a.** Choose the correct answers for the following : (04 Marks)
- i) A translator which reads a high level program line by line and converts into machine language is \_\_\_\_\_.  
 A) compiler                      B) loader                      C) interpreter                      D) Assembler
- ii) \_\_\_\_\_ is a secondary memory device.  
 A) RAM                      B) Cache                      C) Hard disk                      D) Register.
- iii) The acronym DOS stands for \_\_\_\_\_  
 A) Distributed Operating System                      B) Disk Operating System  
 C) Driver Operating System                      D) Diskless Operating System
- iv) In a \_\_\_\_\_ network, all devices are connected to a device called a hub and communicate through it.  
 A) Bus                      B) Star                      C) Ring                      D) Mesh
- b.** List the function of operating system and explain any two of them. (08 Marks)
- c.** Explain basic components of a network. (04 Marks)
- d.** Write the differences between Hard Disk and Floppy disk. (04 Marks)
- 3 a.** Choose the correct answers for the following : (04 Marks)
- i) The number 0567 is \_\_\_\_\_ integer.  
 A) Decimal                      B) Hexadecimal                      C) Octal                      D) All of these.
- ii) \_\_\_\_\_ is formatted input function in C.  
 A) getchar( )                      B) scant( )                      C) getch( )                      D) printf( ).
- iii) \_\_\_\_\_ is not a data type in C.  
 A) void                      B) int                      C) char                      D) main

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
 2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.

## 10CCP13/23

- iv) What is the output of the following
- ```
main( )
{
  Printf(“%d”, ‘A’);
}
```
- A) A                      B) “A”                      C) 65                      D) ‘A’
- b. With a neat diagram, explain software development life cycle. (06 Marks)
- c. What is an identifier? List the rules to be followed to name an identifier. Give example. (06 Marks)
- d. Explain the structure of a ‘C’ program. (04 Marks)
- 4 a. Choose the correct answers for the following : (04 Marks)
- i) ?: is a \_\_\_\_\_ operator.  
A) Binary                      B) Unary                      C) Ternary                      D) Relational.
- ii) What is the size of character in bytes?  
A) 2                      B) 4                      C) 8                      D) 1
- iii) The operator % yields \_\_\_\_\_  
A) Quotient                      B) Percentage                      C) Remainder                      D) Fraction.
- iv) What is the output of the following program?
- ```
void main ( )
{
  int i = 5;
  printf(“%d%d%d”, i++, ++i, i);
}
```
- A) 6 6 5                      B) 5 7 7                      C) 5 5 7                      D) 6 7 7
- b. What do you mean by type conversion? Explain explicit type conversion. (06 Marks)
- c. Write a flowchart and program to swap two variables. (06 Marks)
- d. Convert the following mathematical expressions into “C” language expression: (04 Marks)
- i)  $\frac{a+b}{2}$       ii)  $\sqrt{s(s-a)(s-b)(s-c)}$       iii)  $x^4 + 3x$       iv)  $\frac{(a+b)^2}{(a-b)^2}$

## PART – B

- 5 a. Choose the correct answers for the following : (04 Marks)
- i) The default return type of a function is \_\_\_\_\_.  
A) void                      B) int                      C) float                      D) char
- ii) A function that calls itself is known as \_\_\_\_\_ function.  
A) Iterative                      B) Recursive                      C) Main                      D) User defined
- iii) A variable declared in a function is called \_\_\_\_\_ variable.  
A) Global                      B) Actual                      C) Local                      D) Formal.
- iv) Every C program must have \_\_\_\_\_.  
A) user defined function                      B) standard function  
C) main function                      D) library function.
- b. Explain the different ways of passing parameters to function. Give examples. (06 Marks)
- c. Write a program to find the factorial of a given integer using function. (06 Marks)
- d. Explain function definition. (04 Marks)

## 10CCP13/23

- 6 a. Choose the correct answers for the following : (04 Marks)
- Break statement can be used in  
A) if                      B) if-else                      C) nested if                      D) while
  - What is the output of the following loop?  
for(i = 1; i <=5; i++ ); printf("VTU");  
A) VTU VTU VTU VTU VTU                      B) VTU  
C) syntax error                      D) VTU VTU VTU VTU VTU VTU
  - \_\_\_\_\_ loop is used when number of iterations are known in advance.  
A) while                      B) do-while                      C) for                      D) None of these.
  - \_\_\_\_\_ is not a relational operator in C.  
A) <                      B) >                      C) =                      D) !=
- b. Write the difference between while and do-while loops. (04 Marks)
- c. Explain switch statement in C language. (06 Marks)
- d. Write a program in C to find the solution of a quadratic equation. (06 Marks)
- 7 a. Choose correct answers for the following : (04 Marks)
- If a[4] is a declaration; then the first and last array index will be :  
A) 1, 4                      B) 1, 3                      C) 0, 4                      D) 0, 3
  - Array is an example of \_\_\_\_\_ data type.  
A) basic                      B) user defined                      C) standard                      D) derived.
  - Identify the correct declaration.  
A) int a [10][10];                      B) int a[10, 10];                      C) int a (10) (10);                      D) int a (10, 10);
  - The string ends with \_\_\_\_\_.  
A) \n                      B) \o                      C) /n                      D) \s
- b. Write a C program to implement bubble sorting. (08 Marks)
- c. Explain how one-dimensional array can be declared and initialized. (08 Marks)
- 8 a. Choose the correct answers for the following : (04 Marks)
- Open MP stands for \_\_\_\_\_.  
A) Open multi-parallelism.                      B) Organized multi-programming  
C) Open multi-processing                      D) organized multi-processing.
  - Which of the following is not a synchronization construct?  
A) Single                      B) Master                      C) Section                      D) Critical
  - \_\_\_\_\_ is called a single sequential flow of control within a program.  
A) instruction                      B) thread                      C) program                      D) none of these.
  - API means \_\_\_\_\_.  
A) Application processing interface                      B) Application programming interface  
C) Application programming information                      D) Application parameter interface.
- b. Explain advantages of threads. (04 Marks)
- c. List and explain the motivating factors for parallelism. (06 Marks)
- d. Explain the open MP programming model. (06 Marks)

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