

16U124

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Name: .....

Reg. No.....

**FIRST SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2016**

(Regular/Supplementary/Improvement)

(CUCBCSS-UG)

**CC15UBCS1B01/CC15UBCA1B01- PROBLEM SOLVING USING 'C'**

(Computer Science – Core Course)

(2015 Admission Onwards)

Time: Three Hours

Maximum: 80 Marks

**PART A**

**Answer all questions. Each question carries 1 mark.**

1. What is the output of the following statement ?  

```
for ( i =1 ; i < 4 ; i ++ )  
    printf ( "%d " , ( i % 2 ) ? i : 2 * i );
```
2. The variable that are declared outside all the functions are called \_\_\_\_\_.
3. A self contained block of statements that perform a coherent task of some kind is called a \_\_\_\_\_.
4. The << operator is used for \_\_\_\_\_.
5. The statement that transfers control to the beginning of the loop is \_\_\_\_\_.
6. To access a structure element using a pointer, \_\_\_\_\_ operator is used.
7. The \_\_\_\_\_ operator is a technique to forcefully convert one data type to the others.
8. Elements of array are accessed by \_\_\_\_\_.
9. The function scanf ( ) returns to \_\_\_\_\_.
10. What is the result for the following declaration \_\_\_\_\_  

```
int array [ ] = { 1,2,3,4,5 };  
printf ( "%d", &array[4] - &array[0]);
```

(10 x 1 = 10 marks)

**PART B**

**Answer all questions. Each question carries 2 marks.**

11. What is structure ? How it differ from arrays ?
12. What are the differences between malloc ( ) and calloc ( ) ?
13. What is conditional operator ?
14. Distinguish between break and continue statement in C.
15. What is pointer variable ?

(5 x 2 = 10 marks)

### PART C

Answer *any five* questions. Each question carries 4 marks.

16. Explain the process of compiling and running a c program in unix with a diagram.
17. Write a C program to find the factorial of a number using recursion.
18. Describe the procedure in creating and using and closing a random access file.
19. What are C preprocessors ? List explain the common types of C preprocessors.
20. What are bit fields ? How are bit fields defined and used ? What are its advantages ?
21. What is storage class ? Describe various storage classes in C .
22. Write a C program to add two complex numbers by passing structure to function.
23. Explain the functioning of a switch statement ? Illustrate with an example ?

(5 x 4 = 20 marks)

### PART D

Answer *any five* questions. Each question carries 8 marks.

24. Explain the different looping structures in C with examples .
25. Write a C program to find the product of two matrices using function.
26. (a) What are pointer expressions ? Write a C program using pointers to compute the sum of all elements stored in an array ?  
(b) Write a C program to swap the contents of two variables using pointers.
27. Explain any three String manipulation functions and Math library functions in C with examples.
28. Explain different types of operators available in C language with suitable examples?
29. Write a C program to copy the contents of one file into another.
30. Define a function ? What are the important categories of functions ? Explain each with suitable examples ?
31. Explain command line arguments with example.

(5 x 8 = 40 marks)

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