

**D 53522**

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Name

Reg. No. ....

**FIRST SEMESTER B.C.A. DEGREE EXAMINATION  
JANUARY 2014**

(UG-CCSS)

Core Course

CA 1B 01— COMPUTER FUNDAMENTALS AND PROGRAMMING IN C

Time : Three Hours

Maximum : 30 Weightage

**I. Answer all questions :**

1. The maximum integer value which can be represented using n bits is
2. The generation of computers had transistors as building blocks.
3. The terms Hit and Miss are related to memory.
4. In the signed magnitude representation of numbers, \_\_\_\_\_ bit is used to represent the sign.
5. The equivalent representation for  $p \neq 1$  using increment operator is
6. The control string used to read in an unsigned decimal integer is
7. The `clrscr ( )` function is a component of header file.
8. is an example for unconditional branching statement of C.
9. An array of characters is popularly known as a in C.
10. The syntax for declaring a pointer 'p', to a character variable is
11. The operator used to perform one's complement in bitwise operation is
12. The use of `malloc ( )` and `calloc ( )` helps in allocating memory at time.

(12 x  $\frac{1}{4}$  = 3 weightage)

**II. Answer all questions :**

13. Explain the importance of program counter and instruction register in execution of programs.
14. Explain the significance of complements in binary number system.
15. What do you mean by EPROM? Explain its use.
16. Explain the use of Size of ( ) operator in C.
17. What is Type Casting explain its importance in C?

**Turn over**

18. Explain the general syntax of one dimensional array declaration.
19. Explain the use of storage class 'register' in C.
20. Explain the use of \* and & in using pointers.
21. Explain the syntax and working of `strcat ( )` function with example.

(9 x 1 = 9 weightage)

III. Answer any *five* questions :

22. Compare and contradict the working of compilers and interpreters.
23. Perform the subtraction using one's and two's complement method and verify your answer  $(32)_{10} - (17)_{10}$
24. Explain nested loops. How does the break statement affect the working of nested loops ?
25. Explain variant forms of if statements in C.
26. Write a C program to find the average of 10 given integers.
27. Write a C program using concept of functions and call by value method to find the distance between two points, given their co-ordinates.
28. What do you mean by files ? Explain the syntax of declaration and different modes of opening a file.

(5 x 2 = 10 weightage)

IV. Answer any *two* full questions :

29. (a) Explain the working of hard disks and optical storage devices in storing information  
(b) Explain the concept and importance of Direct Memory Access.
30. Write a C program using the concept of functions to multiply two given matrices, after checking whether multiplication is possible.
31. Explain the concept of array of structures. Write a C program to find the average mark obtained by each student, given the marks in three subjects for a group of 10 students.

(2 x 4 = 8 weightage)