

Roll No.

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BCA-201(N)

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B. C. A. (Second Semester)

EXAMINATION, 2016

(New Course)

Paper First

C PROGRAMMING

Time : Three Hours] [Maximum Marks : 75

Note : Section A is compulsory. Attempt any two questions each from Section B and Section C.

Inst. : The candidates are required to answer only in serial order. If there are many parts of a question, answer them in continuation.

Section—A 3 each

(Short Answer Type Questions)

Note : All questions are compulsory.

1. (A) What are arrays ? How can they be initialized ? Give the memory representation of arrays.
- (B) Write a program to print even numbers upto 100 e. g. 2, 4, 6, 8 100. Store this output in a file.
- (C) Write a program to multiply of a 2 × 2 matrix.
- (D) Explain Pointers. Write a function to swap numbers using call by reference.

- (E) What are strings ? How are they stored in memory ? Explain the following standard library functions—strlen(), strcpy(), strcat(), strcmp():
- (F) What are structures ? How are they stored in memory ? What is the meaning of → in structures ? http://csjmuonline.com
- (G) Write a program to create macro definitions with arguments to calculate area and perimeter of a circle, triangle and square.
- (H) What are bitwise operators ? Use bitwise operator to set the third bit from the right of an unsigned character byte.
- (I) What are command line arguments ? Give the complete prototype of the main function and explain its arguments.

Section—B 12 each

(Long Answer Type Questions)

Note : Attempt any two questions.

2. What are two-dimensional and multi-dimensional arrays ? Write a program to add two 4 × 4 matrices using 2 D array and function also.
3. Explain Dynamic memory allocation and its associated functions in detail. Write a program to allocate and deallocate memory dynamically for 200 integers.
4. Write user defined functions and flowcharts for the following string operations :
 - (i) Finding the length of the string.
 - (ii) Copying a string.
 - (iii) Concatenating a string.

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5. What are nested structures ? Explain in detail with example. How can the fields of the nested structure be accessed ? Explain with example. Write a program to explain nested structures.

Section—C

12 each

(Long Answer Type Questions)

Note : Attempt any *two* questions.

6. What is Union ? How is it different from structures ? Explain in detail the memory representation of structure and union. Use examples to justify your answers.
7. Explain in detail with examples the following C preprocessor directives :
- (i) Macro substitution
 - (ii) File inclusion
 - (iii) Conditional compilation
8. Explain file handling in C. Explain in detail about the following standard library function with examples :
- (i) fopen() <http://csjmuonline.com>
 - (ii) fseek()
 - (iii) fscanf()
 - (iv) fprintf()
 - (v) fgetc()
 - (vi) fputc()
9. Write a program to implement your own copy command that takes in source file name and destination filename as command line arguments and copies source file to destination file.

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