

Paper Code : 21309

F-409

B. C. A. (Second Semester)

EXAMINATION, 2018

(New Course)

Paper No. BCA—N—204

PROGRAMMING IN C

Time : Three Hours]

[Maximum Marks : 70

Note : Attempt any five questions. All questions carry equal marks.

1. (a) List the various types of operators available in 'C'. Write the hierarchical order of evaluation of these. 7
- (b) Write a function which accepts an array of size n containing integer values and returns the average of all values. Call the function from main program. 7
2. (a) What is an array ? Show different methods to declare and initialize one-dimensional array.

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Draw how an integer array of 6 elements having base address 5001 is stored in memory. Explain actual storage of two dimensional array $d[3][4]$ in the memory with diagram. 7

- (b) Write and explain the action of 'while' statement. Develop a program in 'C' language to compute the average of every third integer number lying between 1 and 100. Include appropriate documentation. 2, 5
3. (a) Explain with the help of an example and flow-charts the action of break statement and the continue statement. 7
- (b) What are the disadvantages of vested if else statement ? Give an example of nesting of loops. 5, 2
4. (a) Write a 'C' program to find out sum of diagonal elements of a matrix. 7
- (b) Input two different arrays of integers. Write a 'C' program using pointer variables to merge them into third array of sufficient size. 7
5. (a) How does passing an array as an argument to a function differ from call by value ? Is it legal for a function f_1 and f_2 , which then calls f_1 ? Justify your answer. 5, 2
- (b) Define recursion. Write a C program to find out factorial of a given number using function recursion. 2, 5

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6. (a) What is dynamic memory allocation ? Mention four functions used for dynamic memory manipulation. Give an example of dynamic memory allocation. 1, 4, 2
- (b) What do you mean by macros ? Write a macro that clears an array to zero. 3, 4
7. (a) Give the main advantages of storing data as a file. Describe various ways in which data files can be categorized in 'C'. Illustrate by examples. 1, 4, 2
- (b) What do you mean by a pointer variable ? Write a function in 'C', using pointers for the array of elements, for sorting the elements. 1, 6
8. (a) What are the various storage classes available in 'C' ? Explain and give one example of each. 7
- (b) Write a function to accept two strings as arguments. The function should return the index of the second string in the first string, if it exists, and -1 otherwise. Don't use any library routines related to strings. MJPRUonline.com 7

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