A

(20622)

BCA-II Sem.

18006

B.C.A. Examination, June-2022

C Programming

(BCA-202)

Time : Three Hours]   *[Maximum Marks : 75*

Section-A

Note : Attempt all **five** questions. Each question carries **3** marks. Very short answer is required not exceeding 75 words.

1. Explain the need for array variables .

2. Distinguish between automatic and static variables.

3. What is meant by array of structures.

4. What is a pointer? How is a pointer initialized?

5. Describe the use and limitations of the function getc.

P.T.O.

Section-B

Note : Attempt any **two** questions. out of the following **three** questions. Each question carries 7½ marks. Short answer is required not exceeding 200 words.

6. What is a data structure? Why is an array called a data structure? Write a program to read a matrix of size mxn and print its transpose.

7. Describe the three logical bitwise operators what is the purpose of each? What types of operands are required by each of the logical bitwise operators?

8. What is the relationship between an array name and a pointer? How is an array name interpreted when it appears as an argument to a function? How can a function return a pointer to its calling routine?

18006/2

Section-C

Note : Attempt any **three** questions. out of the following **five** questions. Each question carries **15** marks. Answer is required in detail.

9. (a) Character string in C are automatically terminated by the null character. Explain how this feature helps in string manipulations.

   (b) Main is a user defined function. How does is differ from other uses-defined functions?

10. (a) Compare the working of the function strcat and strncat. Write a program, which read your name from the key board and outputs a list of ASCII codes, which represent your name.

   (b) What are the rules that govern the passing of arrays to function? Use recursive function calls to evaluate

   $$f(x) = x - \frac{x^3}{3!} + \frac{x^5}{5!} - \frac{x^7}{7!} + \ldots\ldots$$

11. (a) Explain the meaning and purpose of the following:
   (i) Struct keyword
   (ii) Tyedef keyword
   (iii) Size of operator

   (b) Write a function that receive a sorted array of integers and an integer value, and inserts the value in its correct place.

12. (a) Define auto and register variables in the content of 'C'. What is the basic difference between these two variables?

   (b) Give examples of using feof and ferror in a program.

13. (a) What do you know about bitwise operator? Explain about some bit wise operators by providing the examples for each?

   (b) Define a macro that receives an array and the number of elements in the array as arguments. Write a program using this macro to print out the elements of an array.