(20519) Roll No. .....

Total Questions : **13**] [Printed Pages : **4**

18006

B.C.A. IInd Semester Examination, May-2019

C-PROGRAMMING

(BCA-202)

Time : 3 Hrs.] [*M.M. : 75*

Note :– Attempt all the Sections as per instructions.

Section–A

(Very Short Answer Type Questions)

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

1. What are *three* dimensional arrays ? How can you initialize them ?
2. How a union is different from a structure ?
3. What do you mean by a dangling pointer ?

4. What are bit fields ?
5. What are the use of standard functions fopen( ) and feof( ) ?

Section–B

(Short Answer Type Questions)

Note :– Attempt any *two* questions out of the following three questions. Each question carries 7.5 marks. Short answer is required not exceeding **200** words.

6. Write a program that will count the number occurrences of a specified character in a given line of text.
7. Write a program to pre-multiply a matrix by its transpose.
8. Design a structure named student to store data about a student which contains following data element :

Date Item	Type	Length
Roll No.	int	–
Name	char	20
College	char	40
Score	float	–

Assume that there are not more than 100 students. Write a program to input the data about students, and output the stored data according to the merit of the students.

Section–C

(Long Answer Type Questions)

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

9. (i) How is a multidimensional array defined in terms of an array pointer ? What does each pointer represent ? How does this definition differ from a pointer to a collection of contiguous arrays of lower dimensionality ?

   (ii) What is meant by dynamic memory allocation ? What library function is used to allocate memory dynamically ? How is the size of the memory block specified ? What kind of information is returned by the library function ?

10. (i) Write short notes on the following :

   (a) strlen( )

   (b) strcpy( )

   (c) strcat( )

   (d) strcmp( )

   (ii) What are the important points to be considered when implementing bit-fields in structures ?

11. (i) Describe *two* different approaches to undating a data file. Which approach is better and why ? For what kinds of applications are unformatted data files well suited ?

   (ii) Write a function using pointers to add two matrices and to return the resultant matrix to the calling function.

12. (i) What is a masking operation ? What is the purpose of each operand ? Which operand is the mask, and how is it chosen ?

   (ii) Write macro definitions with arguments for calculation of simple Interest and Amount. Store these macro definitions in a file called 'Interest.n'. Include this file in your program, and use the macro definitions for calculating simple interest and amount.

13. (i) What are the difference between Union and Structure ?

   (ii) Write short notes on the following :

   (a) fewind( )

   (b) fseek( )

   (c) fgetc( )

   (d) fscanf( )