M.G.K.V.P. University, Varanasi - 2017
C – PROGRAMMING (BCA 106)

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

1. (a) How we can access elements of one dimensional array ? Write a program in 'C' language to illustrate operations on an 'Array'. **8**
   (b) Write a program to sort the elements of an array. **7**

2. (a) What are the characteristics of two-dimensional array ? How we declare a two dimensional array in 'C' language ? Explain with an example. **7**
   (b) Describe the Row major and column major memory representation of 2-dimensional array with a suitable example. **8**

3. (a) What is the role of indirection operator ? How we can define and declare pointers in 'C' language ? **5**
   (b) Write a program in 'C' language to demonstrate the concept of pointers in 'C'. **10**

4. (a) What is dynamic memory allocation ? Mention the limitation of static memory allocation also. Explain the malloc () and calloc () function. **8**
   (b) Mention the difference between 'call by value' and 'call by reference' by writing a 'C' program. **7**

5. (a) In what way is a string different from a character array ? Explain with example, how we can define, declare and initialize stings in 'C' program. **5**

   (b) Write the functionality of strlen () and strcpy () using 'C' program. Do not use library functions. **10**

6. (a) Why we use structures ? How we can access member variable and member function of a structure ? **5**
   (b) Write 'C' program to demonstrate the use of a union. **5**
   (c) Mention the differences between a Union and a structure. **5**

7. (a) Why we use 'File' in 'C' language ? Explain the operating modes of files. **5**
   (b) Explain the following file functions with example : **10**
   (i) fopen ()   (ii) fclose ()
   (iii) feof ()   (iii) fseek()

8. Write a program in C using pointers to implement a linked list. Also perform the functions of inserting and deleting a mode from it. **15**