

**M.G.K.V.P. University, Varanasi - 2016**  
**C – PROGRAMMING (BCA 106)**

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

1. (a) What is "array" data structure? How can we define one dimensional and two –dimensional array.  
(b) Write a program in C language to compute addition of two matrix.
2. (a) Explain the row major and column major memory representation of array. Also mention how we can compute the address of an element in each case.  
(b) Write a C Program to show how arrays can be used as a function argument.
3. (a) What is a pointer? How does it help in dynamic memory allocation.  
(b) Write short notes on:  
(i) Arrays and pointers (ii) Functions and pointers
4. (a) What is 'String'? how can we declare and initialize a string variable?  
(b) Explain with example the following string functions –  
(i) Strlen ( ) (ii) strcpy ( ) (iii) strcat ( )  
(iv) strcmp ( ) (v) strstr
5. (a) Implement the following string function without using library function:  
(i) Copy the string (ii) Compute the length of the string  
(ii) Reverse the string.
6. (a) What is Function? What is function definition and function call?  
(b) What is Structure? How can we access element of a structure?  
(b) What is Union? Mention its advantages.  
(c) Mention the difference between structure and union with example.
7. (a) What is pre –processor? What is its advantages? Explain any three pre – processors in 'C'  
(b) Explain the bit wise AND, Or and NOT operations. Mention the role of shift operators.
8. (a) How do we declare a file in a C program? Explain the opening mode of files.  
(b) Explain the following file function with example –  
(i) fopen ( ) (ii) fclose ( ) (iii) feof ( )  
(iv) fgetc ( ) (v) fputc ( )