#### **AU-6276**

## M.Sc. (First Semester) Esamination, 2014

### ADVANCED PROGRAMMING In 'C' LANGUAGE

**Paper : M.Sc.(CS)-103** 

## **Section-A**

1.

(I) Array is homogeneous data type.

C programming language provides a data structure called **the array**, which can store a fixed-size sequential collection of elements of the same type. An array is used to store a collection of data, but it is often more useful to think of an array as a collection of variables of the same type.

Instead of declaring individual variables, such as number0, number1, ..., and number99, you declare one array variable such as numbers and use numbers[0], numbers[1], and ..., numbers[99] to represent individual variables. A specific element in an array is accessed by an index.

example:- int a[10][10];

(II) The C library function **int getc(FILE \*stream)** gets the next character (an unsigned char) from the specified stream and advances the position indicator for the stream.

The C library function **int putc(int char, FILE \*stream)** writes a character (an unsigned char) specified by the argument **char** to the specified stream and advances the position indicator for the stream.

- (III) strlen() function is use to find length of string.
- (IV) Calloc function is use to request memory space at run time for storing structure, array(derived data type).

Calloc allocates multiple block of storage.

ptr= (case\_type\*) calloc (n, element\_size);

(V) An external file containing functions or macro definitions can be included as a part of a program so that we need to rewrite those functions or macro definitions. This is achieved by the Preprocessor directive

#include "filename" // search the file first in current directory and then inb standard directories.

#include<filename> // search the file only in standard directories.

(VI) clrscr function clears the screen amd move the cursor to upper left hand corner of screen.

This function available in conjo.h header file.

(VII) // is use for one line comment

and /\* \*/ is use for comment one than one line.

- (VIII) The output of 1101|1001 is 1101.
  - (IX) Size of double variable is 8 byte.
  - (X) post increment operator is ++ , the variable is first the expression is evaluated using the new value of the variable and the then incremented .

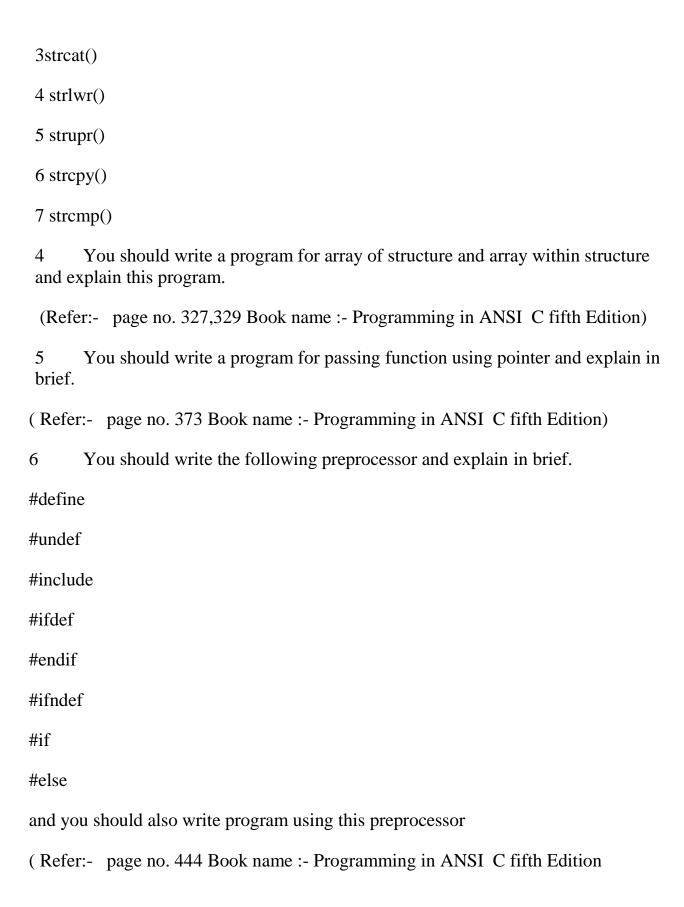
example:- x++;

# **Section-B**

- 2 You should explain loops with syntax and example.
  - I for loop
  - II do.....while loop
  - III while loop
- 3 You should write a following library functions and explain .You should also create user define library functions.

1 strlen()

2 strrev()



You should write program for finding length of string and explain the program.

```
For Example:-
#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{
int a,i;
char name[10];
clrscr();
printf("give any name:");
gets(name);
a=strlen(name);
printf("length of string using library function: %d",a);
for(i=1;name[i]!='\0';i++);
printf("length of string without using library function: %d",i);
getch();
}
```

8 You should write a program and explain this program in brief.

```
#include<stdio.h>
#include<conio.h>
void swap(int*,int*);
void main()
{
int x=10,y=20;
clrscr();
swap(&x,&y);
printf("x is %d \n y is %d",x,y);
getch();
void swap(int *x,int *y)
{
int temp;
temp=*x;
*x=*y;
*y=temp;
printf("in function\n");
printf("x is %d \n y is %d\n",*x,*y);
}
```