**Variable Scope and Storage Specifier Assignments**

**Mandatory**

**1. Refer the code snippet below and answer the queries**

**int val;**

**extern void display();**

**static int function()**

**{**

**val++;**

**int x = 10;**

**int i = 0;**

**static int j = 20;**

**for (; i < 3; i++)**

**{**

**int x = 20;**

**printf(“\n %d”, x+i);**

**x+=3;**

**j++;**

**display();**

**}**

**return val;**

**}**

**int main(int argc, char \*argv[])**

**{**

**val= 0;**

**function();**

**return 0;**

**}**

**a. What is the change required if val declaration line below is to be moved to an other file?**

If the val is declared in another function we need to use extern key word in this file. For eg: extern int val**;**

**b. What is the value of x after for loop execution?**

The value of x after for loop execution is 10. Because inside the for loop the value of x is defined and its scope is the loop. But outside the loop the value of x=10.

**c. What does the keyword static in following lines mean?**

**static int function()**

**static int j = 20;**

Static function() means the function is accessible only in this file. It cannot be called from other files.

Static int j means the variables are defined and preserved throughout the program

**d. What is the value of j after for loop execution?**

The value of j is 23 as it is a static variable the changes updated inside the loop also taken

**e. Identify the variables which would be in the stack of function()**

The variables in stack of function are x and i

**f. What does extern in the following line mean?**

**extern void display();**

The word extern means the display function is in another file.