LINUX CAMPUS CLUB , SJCE MYSURU

FOSS CAMP 2017

C CODING

ROUND – I

Date: 30/10/2017 **Total Marks:** 50

INSTRUCTIONS :

1.	This round contains questions based on C language concepts for a total of 50 marks.
2.	Each question carries 1 mark unless specified otherwise.
3.	There is no negative marking.
4.	Shortlisted students will receive a mail from **lccsjce04@gmail.com**.
5.	Decisions of organizers are final.
6.	The soft copy of question paper along with solutions will be shared with all the participants after the completion of the event.

USN / SR NO. :	**SEMESTER :**
NAME :	**BRANCH :**
MOBILE:	**EMAIL:**

FOR USE OF ORGANIZERS

Marks obtained :

Tick (√) the correct option for the following questions :

1.What will be output if you will compile and execute the following C code?

```
#include<stdio.h>
int main(){
short i=320;
char *ptr=(char *)&i;
printf("%d",*ptr);
return 0;
}
```

A. 320
B. 1
C. 64
D. Compiler error
E. None of the above

2. What will be output if you will compile and execute the following C code? [3 Marks]

```
#include<stdio.h>
#define x 5+2
int main(){
int i;
i=x*x*x;
printf("%d",i);
return 0;
}
```

A. 343
B. 27
C. 133
D. Compiler error
E. None of the above

3. What will be output if you will compile and execute the following C code?

```
#include<stdio.h>
int main(){
char c=125;
c=c+10;
printf("%d",c);
return 0;
}
```

A. 135
B. +INF
C. -121
D. -8
E. Compiler error

4. What will be output if you will compile and execute the following c code? [3 Marks]

```
#include<stdio.h>
int main(){
float a=5.2;
if(a==5.2)
printf("Equal");
else if(a<5.2)
printf("Less than");
else
printf("Greater than");
return 0;
}
```

A. Equal
B. Less than
C. Greater than
D. Compiler error

5.What will be output if you will compile and execute the following c code? [3 marks]

```
#include "stdio.h"
#include "string.h"
void main(){
int i=0;
for(;i<=2;)
printf(" %d",++i);
i=i++ + ++i;
}
```

A. 0
B. 0 1 2 3
C. 1 2 3
D. Compiler error

6. What will be output if you will compile and execute the following c code?

```
#include<stdio.h>
int main(){
char *str="Hello world";
printf("%d",printf("%s",str));
return 0;
}
```

A. 11Hello world
B. 10Hello world
C. Hello world10
D. Hello world11
E. Compiler error

7.Prototype of a function means _____

A. Name of Function
B. Output of Function
C. Declaration of Function
D. Input of a Function

8.A C variable name can start with a ____

A. Number
B. Plus sign (+)
C. Underscore (_)
C. Asterisk (*)

9.Which one is not a reserve keyword in C Language?

A. auto
B. main
C. case
D. register

10.An uninitialized pointer in C is called ___

A. Constructor
B. Dangling pointer
C. Wild pointer
D. Destructor

11. A pointer pointing to a memory location of the variable even after deletion of the variable is known as _____

A. far pointer
B. dangling pointer
C. null pointer
D. void pointer

12.An array elements are always stored in _____ memory locations.

A. Sequential
B. Random
C. Sequential and Random
D. None of the above

13.Let x be an array. Which of the following operations are illegal? [2 marks]

I. ++x

II. x+1

III. x++

IV. x*2

A. I and II

B. I, II and III

C. II and III

D. I, III and IV

E. III and IV

14. What does the following declaration mean?

Int (*ptr)[10];

A. ptr is array of pointers to 10 integers

B. ptr is a pointer to an array of 10 integers

C. ptr is an array of 10 integers

D. ptr is an pointer to array

15.What will be the output of the program if the array begins at address 65486?

```
#include<stdio.h>
void main()
{
int arr[] = {12, 14, 15, 23, 45};
printf("%u, %u", arr, &arr);
}
```

A. 65486, 65488

B. 65486, 65490

C. 65486, 65487

D. 65486, 65486

16. What is the purpose of “rb” in fopen() function used below?

```
FILE *fp;
fp=fopen(“source.txt”,”rb”);
```

A. Open “source.txt” in binary mode for reading.

B. Open “source.txt” in binary mode for reading and writing.

C. Create a new file “source.txt” for reading and writing.

D. None of the above.

17. State **True** or **False** for the following statements, about command-line arguments? [3 Marks]

i. Every time we supply new set of values to the program at command prompt, we need to recompile the program.	
ii. Even if interger/float arguments are supplied at command prompt they are treated as strings.	
iii. The first argument to be supplied at command-line must always be the count of total arguments.	

18. Point out the error, if any, in the following code. [2 Marks]

```
#include<stdio.h>
int main()
{
    struct emp
    {
        char name[25];
       int age;
       float bs;
     };
  struct emp e;
  e.name=”LCC”;
  e.age=25;
  printf(“%s %d \n”,e.name,e.age);
  return 0;
}
```

ANSWER:

19. Which of the following is the correct output for the program given below?

```
#include<stdio.h>
int main()
{
  int arr[1]={10};
  printf(“%d \n”,0[arr]);
  return 0;
}
```

A. 1

B. error

C. 10

D. None of the above.

20. Pick the best statement for the above C program snippet.

```
 #include "stdio.h"
int main()
{
    void *pVoid;
   pVoid = (void*)0;
   printf("%lu",sizeof(pVoid));
   return 0;
}
```

A. Asssigning (void *)0 to pVoid isn’t correct because memory hasn’t been allocated. That’s why no compile error but it'll result in run time error.

B. Assigning (void *)0 to pVoid isn’t correct because a hard coded value (here zero i.e. 0) can’t assigned to any pointer. That’s why it'll result in compile error.

C. No compile issue and no run time issue. And the size of the void pointer i.e. pVoid would equal to size of int.

D. sizeof() operator isn’t defined for a pointer of void type.

21. Suppose a C program has floating constant 1.414, what's the best way to convert this as "float" data type?

A. 1.414f

B. float(1.414)

C. (float) 1.414

D. 1.414 itself of "float" data type i.e. nothing else required

22. What's going to happen when we compile and run the following C program snippet?

```
#include "stdio.h"
 int main()
 {
  int a = 10;
  int b = 15;
  printf("=%d",(a+1),(b=a+2));
  printf(" %d=",b);
  return 0;
  }
```

A. =11 15=

B. =11 12=

C. Compiler Error due to (b=a+2) in the first printf().

D. No compile error but output would be =11 X= where X would depend on compiler implementation.

23. Consider a program P that consists of two source modules M1 and M2 contained in two different files. If M1 contains a reference to a function defined in M2, the reference will be resolved at ?

A. Edit-time

B. Compile-time

C. Load-time

D. Link-time

24. Assume the following C variable declaration.

```
int *A [10], B [10][10];
```

Of the following expressions

I. A [2]
II. A [2] [3]
III. B [1]
IV. B [2] [3]

which will not give compile-time errors if used as left hand sides of assignment statements in a C program ?

A. I, II and IV only
B. II, III and IV only
C. II and IV only
D. IV only

25. Consider the following C program:

```
# include <stdio.h>
int main( )
{
int i, j, k = 0;
j = 2 * 3 / 4 + 2.0 / 5 + 8 / 5;
k -= --j;
for (i = 0; i < 5; i++)
{
        switch(i + k)
        {
                case 1:
                case 2: printf("\n%d", i + k);
                case 3: printf("\n%d", i + k);
                default: printf("\n%d", i + k);
        }
}
return 0;
}
```

The number of times **printf** statement is executed is _____.

A. 8
B. 9
C. 10
D. 11

26. Output of Below C Code? Assume that int takes 4 bytes.

```
#include<stdio.h>
int x = 5;
int main()
{
        int arr[x];
        static int x = 0;
        x = sizeof(arr);
        printf("%d", x<<2);
        return 0;
}
```

A. Compiler error in line "static int x = 0" B. 7

C. 80 D. 20

27. What will be the output of the following C code ? [2 Marks]

```
#include <stdio.h>
#include <string.h>
int main()
{
   char a[] = {'L','C','C','S','J','C','E'};
   char b[] = "LCC";
   char c[] = "SJCE";
   char d[] = "1234";
   int l = strlen(a);
   int o = printf("%d", sizeof((sizeof(l)+(c[5]+d[0]+a[1]+b[2]))) );
   printf("%c", a[o]);
   return 0;
}
```

A. 4E B. 8C

C. 1234C D. Compile error

28. What is the expected output of the following code snippet ?

```
#include <stdio.h>
int var = 20;
int main()
{
   int var = var;
   printf("%d ", var);
   return 0;
}
```

A. Garbage Value
B. 20
C. Compiler error
D. Runtime error

29. Consider the program below in a hypothetical language which allows global variable and a choice of call by reference or call by value methods of parameter passing. [2 Marks]

```
int i ;
program main ()
{
   int j = 60;
   i = 50;
   call f (i, j);
   print i, j;
}
procedure f (x, y)
{
   i = 100;
   x = 10;
   y = y + i ;
}
```

Which one of the following options represents the correct output of the program for the two parameter passing mechanisms?

A. Call by value : i = 70, j = 10; Call by reference : i = 60, j = 70
B. Call by value : i = 100, j = 60; Call by reference : i = 10, j = 70
C. Call by value : i = 10, j = 70; Call by reference : i = 100, j = 60
D. Call by value : i = 50, j = 60; Call by reference : i = 50, j = 70

30. Which of the following statements mentioning the name of the array begins DOES NOT yield the base address?

I. When array name is used with the **sizeof** operator.
II. When array name is operand of the **&** operator.
III. When array name is passed to **scanf()** function.
IV. When array name is passed to **printf()** function.

A. I
B. I, II
C. II, III
D. I, II, IV

31. What will be the output of the program? [2 Marks]

```
#include<stdio.h>
int addmult(int ii, int jj)
{
   int kk, ll;
   kk = ii + jj;
   ll = ii * jj;
   return (kk, ll);
}

int main()
{
   int i=3, j=4, k, l;
   k = addmult(i, j);
   l = addmult(i, j);
   printf("%d, %d\n", k, l);
   return 0;
}
```

A. 12,12
B. 7,7
C. 7,12
D. 12,7

32. What is the output of the following code snippet ?

```
#include<stdio.h>
void main()
{
  int x = 5;
  if(x==5)
  {
     if(x==5) break;
     printf("Hello");
  }
  printf("Hi");
}
```

A. Hi

B. HelloHi

C. Hello

D. Compile error

33. What is the output of the following code ?

```
#include<stdio.h>
int main()
{
  fprintf(stdout,"Hello, World!");
  return 0;
}
```

A. Hello, World!

B. No output

C. Compile error

D. Runtime error

34. Choose the correct order from given below options for the calling function of the code “a = f1(23, 14) * f2(12/4) + f3();” ?

A. f1, f2, f3

B. f3, f2, f1

C. f2, f1, f3

D. order may vary for different compiler.

35. Which of the following statements correct about the below program?
[2 Marks]

```
#include<stdio.h>
int main()
{
   struct emp
   {
      char name[25];
      int age;
      float sal;
   };
   struct emp e[2];
   int i=0;
   for(i=0; i<2; i++)
      scanf("%s %d %f", e[i].name, &e[i].age, &e[i].sal);

   for(i=0; i<2; i++)
      scanf("%s %d %f", e[i].name, e[i].age, e[i].sal);
   return 0;
}
```

A. Error: **scanf()** function cannot be used for structures elements.

B. The code runs successfully.

C. Error: Floating point formats not linked Abnormal program termination.

D. Error: structure variable must be initialized.

36. How will you free the allocated memory ?

A. remove(var-name);

B. free(var-name);

C. delete(var-name);

D. dalloc(var-name);

* * * * * * THANK YOU * * * * * *