Summary in Graph

Exam Summary (GO Classes CS Test Series 2025 | C Programming Subject Wise Test)

Qs. Attempted:	**0** 0 + 0	**Correct Marks:**	**0** 0 + 0
Correct Attempts:	**0** 0 + 0	**Penalty Marks:**	**0** 0 + 0
Incorrect Attempts:	**0** 0 + 0	**Resultant Marks:**	**0** 0 + 0

Total Questions:	**30** 10 + 20
Total Marks:	**50** 10 + 40
Exam Duration:	**90 Minutes**
Time Taken:	**0 Minutes**

EXAM RESPONSE | EXAM STATS | FEEDBACK

Technical

Q #1 | Numerical Type | Award: 1 | Penalty: 0 | Programming in C

Consider the following recursive function -

```
mystery(a,b){
    if (a < 0 or b < 0) return 0;
    else if (a == 0) return b+1;
    else if (b == 0) return mystery(a-1,1);
    else return mystery(a-1, mystery(a,b-1));
}
```

What will be the value of mystery(3,3)?

Your Answer: | Correct Answer: 61 | Not Attempted | Time taken: 00min 00sec | Discuss

Q #2 | Multiple Choice Type | Award: 1 | Penalty: 0.33 | Programming in C

What is the content of array A after executing the following code snippet?

```
   int A[3] = {1, 2, 3};
   int *p;
   int **q;
   p = A;
5. p++;
   q = &p;
   p++;
   (*p) = (**q)*2;
```

A. 1 2 3
B. 1 2 4
C. 1 2 6
D. 1 4 3

Your Answer: | Correct Answer: C | Not Attempted | Time taken: 00min 00sec | Discuss

Q #3 | Multiple Choice Type | Award: 1 | Penalty: 0.33 | Programming in C

What will be printed by following the C program?

```
   #include<stdio.h>
   struct Point
   {
       int x ;
5.     int y ;
   };

   struct Point foo ( struct Point p1 , struct Point * p2 )
   {
10.    p1.x += p2→ x ;
       p2→ y += p1.y;
       return p1 ;
   }

15. int main (){
       struct Point a = {1 , 3};
       struct Point b = {5 , 4};
       struct Point c = foo (a , &b );
       printf ( "%d %d" , c.x , c.y );
20.
   }
```

A. 1 3
B. 5 7
C. 6 3
D. 6 6

Your Answer: | Correct Answer: C | Not Attempted | Time taken: 00min 00sec | Discuss

Q #4 | Multiple Select Type | Award: 1 | Penalty: 0 | Programming in C

Consider the following lines of C code

```
   int a[10]={9,8,7,6,5,4,3,2,1,0};
   int i=*(a+4);
   int j=&a[3]-&a[1];
   int k=*(a+*(a+6));
5. int m=(&a[5]-a);
```

Which of the following is/are true on the execution of the above lines?

A. Value of i is 5.
B. Value of j is 2.
C. Value of k is 6.
D. Value of m is 5.

Your Answer: | Correct Answer: A;B;C;D | Not Attempted | Time taken: 00min 00sec | Discuss

Q #5 | Multiple Choice Type | Award: 1 | Penalty: 0.33 | Programming in C

Let S be the statement:

```
for i:=1 to N do V[i]:=V[i]+1
```

Which of the following perform(s) the same changes to V as S?

I.
```
i:=0;
while i<=N do
begin i:=i+1 ; V[i]:=V[i]+1 end
```

II.
```
i:=1;
while i<N do
begin V[i]:=V[i]+1 ; i:=i+1 end
```

III.
```
 i:=0;
while i<N do
begin V[i+1]:=V[i+1]+1 ; i:=i+1 end
```

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

Your Answer: | Correct Answer: C | Not Attempted | Time taken: 00min 00sec | Discuss

Q #6 | Numerical Type | Award: 1 | Penalty: 0 | Programming in C

Consider the following C-program:

```
void Demo(int n)
{
    if (n<=1)
    {
5.      printf("%d", n);
    }
    else
    {
        Demo(n/2);
10.     printf("%d", n%2);
    }
}
```

Number of 1's in the output if the function is invoked as Demo(220) is _____

Your Answer: | Correct Answer: 5 | Not Attempted | Time taken: 00min 00sec | Discuss

Q #7 | Multiple Choice Type | Award: 1 | Penalty: 0.33 | Programming in C

Consider the following function.

```
int f()
{
    int k, result;
    result = 0;
    for ( k = 0; k < 5; k++ )
    {
        if ( ( k % 3 ) == 1 )
            result = result + k;
        else
            result = result + 1;
    }
    return result;
}
```

What value is returned as a result of the call f()?

A. 5
B. 6
C. 7
D. 8

Your Answer: | Correct Answer: D | Not Attempted | Time taken: 00min 00sec | Discuss

Q #8 | Multiple Choice Type | Award: 1 | Penalty: 0.33 | Programming in C

What will be the output of running file main.c?

```
write.c
**********************
extern int count;

void write_extern()
{
    count +=2;
}
```

```
main.c
**********************
#include "write.c"
#include<stdio.h>
int count = 5;

main()
{
    write_extern();
    write_extern();
    printf("%d", count);
}
```

A. 0
B. 5
C. 9
D. None of these

Your Answer: | Correct Answer: C | Not Attempted | Time taken: 00min 00sec | Discuss

Q #9 Numerical Type | Award: 1 | Penalty: 0 | Programming in C

What will be output printed by $\text{mystery2}(6)$?

```
void mystery2(int n) {
    if (n > 0) {
        printf("%d", n);
        mystery2(n-2);
        mystery2(n-3);
        printf("%d", n);
    }
}
```

Your Answer: | **Correct Answer: 642211431136** | Not Attempted | Time taken: 00min 00sec | Discuss

Q #10 Numerical Type | Award: 1 | Penalty: 0 | Programming in C

What will be the output printed by $\text{mystery3}(6)$?

```
void mystery3(int n) {
    if (n == 0 || n == 1) return;
    mystery3(n-2);
    printf("%d", n);
    mystery3(n-1);
}
```

Your Answer: | **Correct Answer: 243263252432** | Not Attempted | Time taken: 00min 00sec | Discuss

Q #11 Multiple Select Type | Award: 2 | Penalty: 0 | Programming in C

We declare the following variables of different types -

```
int *A1[3][5]
int (*A2)[3][5]
int *(A3[3][5])
int (*A4[3])[5]
```

Let the integer size is 4 bytes and the pointer size is 8 bytes.

Which of the following option(s) is/are CORRECT?

A. $\text{sizeof}(*A1) = 40$

B. $\text{sizeof}(*A2) = 60$

C. $\text{sizeof}(*A3) = 40$

D. $\text{sizeof}(*A4) = 8$

Your Answer: | **Correct Answer: A;B;C;D** | Not Attempted | Time taken: 00min 00sec | Discuss

Q #12 Numerical Type | Award: 2 | Penalty: 0 | Programming in C

Consider the mutually recursive C functions.

```
    int f(int x){
        if (x==0) return 1 ;
            return f(x-1)+g(x-1);
    }
5.  int g(int x){
        if (x==0) return 2;
            return g(x-1)+f(x-1);
    }
```

What does f(g(2)) evaluate to?

Your Answer: | **Correct Answer: 96** | Not Attempted | Time taken: 00min 00sec | Discuss

Q #13 Multiple Choice Type | Award: 2 | Penalty: 0.67 | Programming in C

What will be output if the following function is executed with x equal to 3?

```
    void mystery (x)
    {
        if (x !=0)
        {
5.          mystery (x-1);
            mystery (x-1);
            printf("%d", x);
        }
    }
```

A. 112211223
B. 3211211
C. 1121123
D. 1121132

Your Answer: | **Correct Answer: C** | Not Attempted | Time taken: 00min 00sec | Discuss

Q #14 Numerical Type | Award: 2 | Penalty: 0 | Programming in C

Consider the following C program.

```
    #include<stdio.h>
    int g(int i){
        static int Y = 0;
        Y = Y + i;
 5.     return Y;
    }
    int f(int i){
        static int X = 0;
        X = X + i;
10.     X = g(X);
        return X;
    }
    int main(){
        int i, j;
15.     for (i = 0; i <= 6; i++)
            j = f(i);
        printf("%d\n", j);
        return 0;
    }
```

The value printed by the above program is _____

Your Answer: | Correct Answer: 120 | Not Attempted | Time taken: 00min 00sec | Discuss

Q #15 | Numerical Type | Award: 2 | Penalty: 0 | Programming in C

Consider the following C-program.

```c
#include<stdio.h>
int Count(int x, int y)
{
    if(x < y) return 0;
    else if(x==y) return x + Count(x-1,y);
    else return y + Count(x-2,y-1);
}
int main()
{
    printf("%d" , Count(9,6));
    return 0;
}
```

The output of the program is _____

Your Answer: | Correct Answer: 18 | Not Attempted | Time taken: 00min 02sec | Discuss

Q #16 | Numerical Type | Award: 2 | Penalty: 0 | Programming in C

What will be printed by the following program?

```c
#include<stdio.h>
int func(int n, int * fg) {
    int t, f;
    if (n <= 1) {
        *fg = 1;
        return 1;
    }
    t = func(n - 1, fg);
    f = t + *fg;
    *fg = t;
    return f;
}
int main() {
    int x = 15;
    printf("%d\n", func(5, &x));
}
```

Your Answer: | Correct Answer: 8 | Not Attempted | Time taken: 00min 00sec | Discuss

Q #17 | Multiple Select Type | Award: 2 | Penalty: 0 | Programming in C

Consider the following C code where main shows the intended use of the functions relating to struct foo.

```
    struct foo {
        int x;
        int y;
        int * p;
 5. };

    struct foo* make_foo() {
        struct foo *foo = malloc(sizeof(struct foo ));
        foo->y = 2;
10.     foo->x = foo->y*2;
        foo->p = malloc(sizeof(int));
        *(foo->p) = 42;
        return foo;
    }
15.
    void update_foo(struct foo *foo) {
        int num = *(foo->p);
        foo->p = malloc(sizeof(int));
        *(foo->p) = num + 1;
20. }

    void free_foo(struct foo *foo) {
        free(foo);
        free(foo->p);
25. }

    int main() {
        struct foo *f = make_foo();
        update_foo(f);
30.     free_foo(f);
    }
```

Which of the following is true about the given program?

A. Given program has a memory leak
B. Given program has a dangling pointer
C. Given program may result in run time error
D. Given program will result in a compile-time error

Your Answer: | **Correct Answer: A;B;C** | Not Attempted | Time taken: 00min 00sec | Discuss

Q #18 Multiple Select Type | Award: 2 | Penalty: 0 | Programming in C

What does the following program print?

```
    #include<stdio.h>
    #include<string.h>
    struct MdbRec {
        char name[16];
 5.     char msg[24];
    };
    int main()
    {
        struct MdbRec m[1];
10.     strcpy(m[0].name, "dude");
        strcpy(m[0].msg, "0");

        if(m == m->name)
            printf("%d", m->msg - (char *)m );
15. }
```

A. Prints nothing
B. Prints 17
C. Prints 24
D. Prints 16

Your Answer: | Correct Answer: D | Not Attempted | Time taken: 00min 00sec | Discuss

Q #19 | Multiple Select Type | Award: 2 | Penalty: 0 | Programming in C

Mark all options which are likely to create problems with memory, i.e., run time error or have a memory leak. Assume malloc is always successful, and sizes are as follows -

```
sizeof(int *) = 8 bytes
sizeof(double) = 8 bytes
sizeof(char) = 1 byte
sizeof(int) = 4 byte
```

```
Program 1
int **p;
p = (int **)malloc( 4 * sizeof(int) );
for (int i = 0; i < 4; i++) {
    p[i] = (int *)malloc( sizeof(int) );
}
```

```
Program 2
int *p = malloc(sizeof(double));
*p = 0;
free(p);
```

```
Program 3
struct p { double x; double y; };
struct p *array = malloc(n * sizeof(struct p *));
for (int i=0; i<n; i+=1) array[i].x=2.3
```

```
Program 4
int *p = malloc(sizeof(char));
*p = 0;
```

A. Program 1
B. Program 2
C. Program 3
D. Program 4

Your Answer: | Correct Answer: A;C;D | Not Attempted | Time taken: 00min 00sec | Discuss

Q #20 | Multiple Select Type | Award: 2 | Penalty: 0 | Programming in C

Consider two files given below.

```
//file1.c
#include<stdio.h>
main ()
{
  extern int i;
  printf("file1");
}
```

```
//file2.c
#include<stdio.h>
main ()
{
  int i =1;
  printf("file2");
}
```

We compile both files independently. And link them in case compilation is successful.

Which of the following is/are TRUE ?

A. file1.c and file2.c can be compiled independently and linked together
B. file1.c has a compilation error since extern is a local variable
C. file1.c and file2.c can be compiled independently but can not be linked together
D. file1.c can be compiled and linked independently of file2.c.

Your Answer: | **Correct Answer: C;D** | Not Attempted | Time taken: 00min 00sec | Discuss

Q #21 Multiple Choice Type | Award: 2 | Penalty: 0.67 | Programming in C

What will be the output of the following program?

```
#include<stdio.h>
int rec(int x, int y) {
static int count = 0;
if (x == 0)
  return count;
count++;
if (x > y)
  rec(x - y, y);
else
  rec(x, y - x);
return count;
}
main() {
    int i = 10, j = 2, n;
    n = rec(i, j);
    printf("%d", n);
}
```

A. 4
B. 5
C. 6
D. Infinite loop

Your Answer: | **Correct Answer: D** | Not Attempted | Time taken: 00min 00sec | Discuss

Q #22 Multiple Choice Type | Award: 2 | Penalty: 0.67 | Programming in C

What will be the output of the program below-

```
    int i = 1;
    void my_extern1(void);
    void my_extern2(void);

 5. int main() {
        int count = 0;

        while (i++<5) {
            static int i = 3;
10.         i++;
            count +=i;
            my_extern1();
        }
        printf("%d", count);
15. }

    void my_extern1(){
        extern int i;
        if(i++ > 0) my_extern2();
20. }

    void my_extern2(){
        extern int i;
        if (i++ < 3) my_extern1();
25. }
```

A. Infinite recursion
B. 9
C. 4
D. 5

Your Answer: | **Correct Answer: B** | Not Attempted | Time taken: 00min 00sec | Discuss

Q #23 | Multiple Select Type | Award: 2 | Penalty: 0 | Programming in C

Consider the k bit binary pattern on 2's complement system.

- $\mathrm{T}_{\max}$ and $\mathrm{T}_{\min}$ are maximum and minimum signed numbers we can represent using k bits.
- $\mathrm{U}_{\max}$ and $\mathrm{U}_{\min}$ are maximum and minimum unsigned numbers we can represent using k bits.

Which of the following(s) is/are true for $k = 32$?

A. $\mathrm{T}_{\min} = 1 << 31$
B. $\mathrm{T}_{\max} = \sim (1 >> 31)$
C. $\mathrm{U}_{\min} =!(1 >> 31)$
D. $\mathrm{U}_{\max} = \sim (1 >> 31)$

Your Answer: | **Correct Answer: A;D** | Not Attempted | Time taken: 00min 00sec | Discuss

Q #24 | Multiple Choice Type | Award: 2 | Penalty: 0.67 | Programming in C

What is the output of the following code? Assume that int is 32 bits, short is 16 bits, and the representation is two's complement.

```
    unsigned int x = 0xDEADBEEF;
    unsigned short y = 0xFFFF;
    signed int z = -1;
    if (x > (signed short) y)
5.      printf("Hello");
    if (x > z)
        printf("World");
```

A. Prints nothing
B. Prints "Hello"
C. Prints "World"
D. Prints "HelloWorld"

Your Answer: | Correct Answer: A | Not Attempted | Time taken: 00min 00sec | Discuss

Q #25 | Numerical Type | Award: 2 | Penalty: 0 | Programming in C

What will be the output of the following C program?

Assume that negative numbers are represented using $2's$ complement.

```
#include<stdio.h>
void main()
{
    int a = 2;
5.  a = ~a+2 << 1;
    printf("%d",a);
}
```

Your Answer: | Correct Answer: -2 | Not Attempted | Time taken: 00min 00sec | Discuss

Q #26 | Numerical Type | Award: 2 | Penalty: 0 | Programming in C

What will be the output of the following program?

```
#include<stdio.h>
main()
{
    int a[2][3][4];
5.  printf("%d", a[1][0]-a[0][2]);
}
```

Your Answer: | Correct Answer: 4 | Not Attempted | Time taken: 00min 00sec | Discuss

Q #27 | Multiple Choice Type | Award: 2 | Penalty: 0.67 | Programming in C

```
#include<stdio.h>
int bar(int data[], int i, int a, int x) {
    if (x<0) return 0;
    x--;
5.  int b = a + data[i];
    if(data[i] >0) return bar(data, i+1, b, x);
    if(data[i] == 0 || i ==x-1) return a;
    return -a;
}
10. int main()
{
    int data[5] = {1,2,3, -1};
    int x = (int *)(&data+1)-data;
    printf("%d", bar(data, 0, 0, x) );
15. }
```

What will be the output of a given program?

A. 6

B. -6
C. 0
D. 5

Your Answer: | Correct Answer: B | Not Attempted | Time taken: 00min 00sec | Discuss

Q #28 | Multiple Select Type | Award: 2 | Penalty: 0 | Programming in C

Which of the following expressions will evaluate to true?
INT_MIN is the minimum signed integer in the system which is using 2's complement representation for signed integers and variables are defined as follows:

```
int x = 5, i = -7;
```

A. ((x >> 2) << 2) <= x
B. ~ 1&& 1
C. INT_MIN == -INT_MIN
D. -10 < i <-1

Your Answer: | Correct Answer: A;B;C | Not Attempted | Time taken: 00min 00sec | Discuss

Q #29 | Numerical Type | Award: 2 | Penalty: 0 | Programming in C

How many times is foo activated (called), including the first "$\text{foo}(3, 12)$"

$\max()$ and $\min()$ are functions that return maximum and minimum respectively.

```
int foo(int a, int b) {
    if (a==b) {
        return b;
    }
5.  int mn =min(a,b), mx =max(a,b);
        return foo(mn,mn) + foo( mx - mn , mn);
}
```

Your Answer: | Correct Answer: 7 | Not Attempted | Time taken: 00min 00sec | Discuss

Q #30 | Numerical Type | Award: 2 | Penalty: 0 | Programming in C

Consider the following recursive function. What is $f(0)$?

```
int f(int x) {
    if (x > 1000) return x - 4;
    else return f(f(x+5));
}
```

Your Answer: | Correct Answer: 997 | Not Attempted | Time taken: 00min 00sec | Discuss

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