

WEEKLY TEST - 02

Subject : C Programming


Maximum Marks 20
Q.1 to 5 Carry ONE Marks Each
[MCQ]

```
1. #include <stdio.h>

int main()
{
    int i=9;
    for(--i; i--; --i){
        printf("%d\t", i);
        if(i==1) break;
    }
    return 0;
}
```

The output is-

- (a) 8 5 2 1 (a) 7 6 4 3 1
 (c) 8 6 4 2 1 (d) 7 5 3 1

[MCQ]

```
2. #include <stdio.h>

int main(void){
    int x ;
    scanf("%d", & x);
    switch(x)
    {
        case 0: x = x + 1;
        break;
        default: x = x - 1;
        case 1: x = x + 99;
        break;
        case 2: x = x + 96;
        break;
    }
    printf("%c", x-32);
}
```

```
return 0;
}
```

When x=5, the character printed is-

- (a) e (b) G
 (c) Garbage value (d) E

[MCQ]

```
3. #include <stdio.h>

int main()
{
    int a,i;
    a= 12.4/5+33.2/2*5-5;
    for(i=a; i<90;i=i+3)
    {
        printf("%c\t", i+32);
    }
    return 0;
}
```

The output is-

- (a) p s v y (a) K L M N O
 (c) k n q t w (d) P U V W

[MCQ]

```
4. #include<stdio.h>

int main()
{
    int i=2023, j=2;
```

```

for(;j<i;j*=8)
{
    i+=1;
    printf("GATE Wallah 2023\n");
}
return 0;
}

```

The number of times 'GATE Wallah 2023' is printed is-

- (a) 3 (b) 2
(c) 4 (d) 5

[MCQ]

5. #include<stdio.h>

```

void main()
{
    int x=5;
    if(printf("%d",x>>1)-3)
    for(;x--;x--) break;
    else;
    printf("\t%d", x);
}

```

The output is-

- (a) Compiler Error

- (b) 1
(c) Infinite Loop
(d) 2 4

[MCQ]

6. #include <stdio.h>

```

int main()
{
    int a = 10 > 9 ? 0 ? 3 : -2 : 5;
    if(a = a + 1)
    printf("GATE 2023");
    else
    printf("GATE WALLAH");
    return 0;
}

```

The output is-

- (a) GATE 2023
(b) GATE WALLAH
(c) Compiler error
(d) Garbage value

Q.7 to 13 Carry TWO Marks Each

[NAT]

7. Consider the following program:

```

#include<stdio.h>

int main()
{
    int p,j=0;
    for(p=2;p<=100 && j<3;p*=2){
        switch(p+j){
            case 1: p+=3;
            break;
            case 2: p+=5;
            break;
            case 3: p+=7;
            default: p+=8;

```

```

        break;
        }
        j++;
        printf("%d\n",p);
        }
    return 0;
}

```

The sum of the values printed is _____

[NAT]

8. #include <stdio.h>

```

int main()
{
    int i=printf("best hai GATE Wallah");
    while(i>=3){

```

```

if(i%3!=0) i=i-5;
else i=i+2;
printf("Pankaj Sharma\n");
}
return 0;
}

```

The number of times printf() is executed is_____.

[MCQ]

9. #include <stdio.h>

```

int main()
{
    int i, j=4, k=3;
    i=j++<--k?++j:k--;
    for(++i; ++i; ++i){
        printf("%d\t", i);
        if(i>8) break;
    }
    return 0;
}

```

The output is-

- | | |
|--------------|-----------|
| (a) 2 4 6 8 | (a) 4 6 8 |
| (c) 4 6 8 10 | (d) 2 4 6 |

[MCQ]

10. #include<stdio.h>

```

int main()
{
    int a=2, b=4;
    while(a++<=b--);
    printf("%d\t", a);
    printf("%d", b);
    return 0;
}

```

The output is –

- | | |
|---------|---------|
| (a) 4 2 | (b) 4 1 |
| (c) 5 2 | (d) 5 1 |

[NAT]

11. #include<stdio.h>

```

int main()
{
    int a=0, b=1;
    while(++a<=5){
        do{
            b+=2;
        }while(b++<=10);
    }
    return 0;
}

```

The sum of the values of a and b is _____.

[MSQ]

12. #include <stdio.h>

```

int main()
{
    int x=-5;
    do
    {
        printf("%d\t", ~(x+2));
        x++;
    }while(~(x+1)%2==0);
    printf("%d", x);
    return 0;
}

```

Which of the following values will be displayed in the output?

- | | |
|--------|--------|
| (a) 2 | (b) 1 |
| (c) -3 | (d) -4 |

[MSQ]

13. #include <stdio.h>

```

int main()
{
    int i, n, count=0;
    for(i=1;i<=n;i=i*3)
        count=count+i;
    printf("%d", count);
    return 0;
}

```

Which of the following CANNOT represent the final value of the COUNT variable?

(a) 3^n

(b) $\frac{n-1}{2}$

(c) $\log_3 n$

(d) $\log_3 \log_3 n$



Answer Key

1. (d)
2. (b)
3. (a)
4. (c)
5. (d)
6. (a)
7. (81)
8. (12)

9. (c)
10. (d)
11. (31)
12. (a, b, c)
13. (a, b, c, d)



Hint & Solutions

1. (d)

Sol. for (--i; i --; --i){

```

      ↓   ↓   ↓
      8   8   6
        6   4
        4   2
        2
  
```

printf("%d\t", i); // 7 5 3 1

if(i==1) break; //Loop terminated

}

Output is : 7 5 3 1

2. (b)

Sol. When, x=5, default is executed. As no break statement is there after default, case 1 is also evaluated.

x=5-1=4

x=4+99=103

Printed character is the character with ASCII (103-32) i.e 71.

3. (a)

a = 12.4/5+33.2/2*5-5

a = 80.48

∴ a is integer

∴ a = 80

The for loop converts each character to lower case corresponding to the ASCII values.

Output ASCII : (80 + 32) (83 + 32) (86 + 32)
(89+32)

Output characters : p s v y

4. (c)

Sol.for (j = 2; j < i ; j = j * 8)

2 < 2023 → true

i = 2024;

printf() → executed

j = 16

16 < 2024 → true

i = 2025;

printf() → executed

j = 128

128 < 2025 → true

i = 2026;

printf() → executed

j = 1024

1024 < 2026 → true

i = 2027;

printf() → executed

j = 8192

8192 < 2027 → false; //Loop terminated.

5. (d)

Sol. x=5

if(printf("%d",x)>>1)-3)

5>>1= 2

printf() prints and returns the number of characters it successfully printed. 2 is printed and printf() returns 1.

Condition is evaluated as-(1-3) = -2 i.e. TRUE.

for(;x--;x--) break; is evaluated.

```

      ↓
      5
  
```

Condition is True. x is decremented to 4. Then break is executed.

printf("\t%d", x); //4 is printed.

Output: 2 4

6. (a)

Sol. a = 10 > 9 ? 0 : -2 : 5;

10>9 is TRUE and 0 is False, so a=-2

Now the assignment operator assigns and returns the value. So, a=-2+1=-1; Hence, condition becomes true, "GATE 2023" is printed.

7. (81)

Sol. P ~~1~~ ~~2~~ ~~3~~ ~~4~~ ~~5~~ ~~6~~ ~~7~~ ~~8~~ ~~9~~ ~~10~~ ~~11~~ ~~12~~ ~~13~~ ~~14~~ ~~15~~ ~~16~~ ~~17~~ ~~18~~ ~~19~~ ~~20~~ ~~21~~ ~~22~~ ~~23~~ ~~24~~ ~~25~~ ~~26~~ ~~27~~ ~~28~~ ~~29~~ ~~30~~ ~~31~~ ~~32~~ ~~33~~ ~~34~~ ~~35~~ ~~36~~ ~~37~~ ~~38~~ ~~39~~ ~~40~~ ~~41~~ ~~42~~ ~~43~~ ~~44~~ ~~45~~ ~~46~~ ~~47~~ ~~48~~ ~~49~~ ~~50~~ ~~51~~ ~~52~~ ~~53~~ ~~54~~ ~~55~~ ~~56~~ ~~57~~ ~~58~~ ~~59~~ ~~60~~ ~~61~~ ~~62~~ ~~63~~ ~~64~~ ~~65~~ ~~66~~ ~~67~~ ~~68~~ ~~69~~ ~~70~~ ~~71~~ ~~72~~ ~~73~~ ~~74~~ ~~75~~ ~~76~~ ~~77~~ ~~78~~ ~~79~~ ~~80~~ ~~81~~ ~~82~~ ~~83~~ ~~84~~ ~~85~~ ~~86~~ ~~87~~ ~~88~~ ~~89~~ ~~90~~ ~~91~~ ~~92~~ ~~93~~ ~~94~~ ~~95~~ ~~96~~ ~~97~~ ~~98~~ ~~99~~ ~~100~~ ~~101~~ ~~102~~ ~~103~~ ~~104~~ ~~105~~ ~~106~~ ~~107~~ ~~108~~ ~~109~~ ~~110~~ ~~111~~ ~~112~~ ~~113~~ ~~114~~ ~~115~~ ~~116~~ ~~117~~ ~~118~~ ~~119~~ ~~120~~ ~~121~~ ~~122~~ ~~123~~ ~~124~~ ~~125~~ ~~126~~ ~~127~~ ~~128~~ ~~129~~ ~~130~~ ~~131~~ ~~132~~ ~~133~~ ~~134~~ ~~135~~ ~~136~~ ~~137~~ ~~138~~ ~~139~~ ~~140~~ ~~141~~ ~~142~~ ~~143~~ ~~144~~ ~~145~~ ~~146~~ ~~147~~ ~~148~~ ~~149~~ ~~150~~ ~~151~~ ~~152~~ ~~153~~ ~~154~~ ~~155~~ ~~156~~ ~~157~~ ~~158~~ ~~159~~ ~~160~~ ~~161~~ ~~162~~ ~~163~~ ~~164~~ ~~165~~ ~~166~~ ~~167~~ ~~168~~ ~~169~~ ~~170~~ ~~171~~ ~~172~~ ~~173~~ ~~174~~ ~~175~~ ~~176~~ ~~177~~ ~~178~~ ~~179~~ ~~180~~ ~~181~~ ~~182~~ ~~183~~ ~~184~~ ~~185~~ ~~186~~ ~~187~~ ~~188~~ ~~189~~ ~~190~~ ~~191~~ ~~192~~ ~~193~~ ~~194~~ ~~195~~ ~~196~~ ~~197~~ ~~198~~ ~~199~~ ~~200~~ ~~201~~ ~~202~~ ~~203~~ ~~204~~ ~~205~~ ~~206~~ ~~207~~ ~~208~~ ~~209~~ ~~210~~ ~~211~~ ~~212~~ ~~213~~ ~~214~~ ~~215~~ ~~216~~ ~~217~~ ~~218~~ ~~219~~ ~~220~~ ~~221~~ ~~222~~ ~~223~~ ~~224~~ ~~225~~ ~~226~~ ~~227~~ ~~228~~ ~~229~~ ~~230~~ ~~231~~ ~~232~~ ~~233~~ ~~234~~ ~~235~~ ~~236~~ ~~237~~ ~~238~~ ~~239~~ ~~240~~ ~~241~~ ~~242~~ ~~243~~ ~~244~~ ~~245~~ ~~246~~ ~~247~~ ~~248~~ ~~249~~ ~~250~~ ~~251~~ ~~252~~ ~~253~~ ~~254~~ ~~255~~ ~~256~~ ~~257~~ ~~258~~ ~~259~~ ~~260~~ ~~261~~ ~~262~~ ~~263~~ 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$$p = 22 * 2 = 44$$

switch (44 + 2) –

default: ✓ $p += 8 \rightarrow 52$ is printed

$$52 * 2 = 104$$

$$104 <= 100 \rightarrow \text{false}$$

$$\therefore \text{sum of printed values} = 7 + 22 + 52 = 81$$

8. (12)

Sol. printf() prints and returns the number of characters it printed. “best hai GATE Wallah” is printed.

i=20;

The iteration while() executes for i=20, 15, 17, 12, 14, 9, 11, 6, 8, 3, 5.

“Pankaj Sharma” is executed for the above 11 values of i.

The number of times printf() executed is 12.

9. (c)

Sol. $i=j++<-k?++j:k--;$ // $4 < 2 \rightarrow \text{TRUE}$, so, k—is evaluated. i takes the value 2.

i = 2, k=1, j=5;

for (++i; ++i; ++i)

{

↓↓↓

3 4 5

6 7

8 9

10

printf (“%d\t”, i); // 4 6 8 10

if(i > 8) break;

10 > 8 \rightarrow break

}

Output: 4 6 8 10

10. (d)

Sol.

a ~~7~~ ~~8~~ ~~9~~ 5 b ~~4~~ ~~5~~ ~~6~~ 1

while (a++ <= b--);

$$2 <= 4 \rightarrow \text{True}$$

$$3 <= 3 \rightarrow \text{True}$$

$$4 <= 2 \rightarrow \text{True}$$

\therefore Post – decrement / increment operator assigns and then decrements / increments.

\therefore a 5 b 1

\therefore Output is : 5 1

11. (31)

a ~~0~~ ~~1~~ ~~2~~ ~~3~~ ~~4~~ ~~5~~ 6

b ~~1~~ ~~2~~ ~~3~~ ~~4~~ ~~5~~ ~~6~~ ~~7~~ ~~8~~ ~~9~~ ~~10~~ ~~11~~ ~~12~~ ~~13~~ ~~14~~ ~~15~~ ~~16~~ ~~17~~ ~~18~~ ~~19~~ ~~20~~ ~~21~~ ~~22~~ ~~23~~ ~~24~~ ~~25~~

while (++a <= 5)

{

$$1 <= 5 \rightarrow \text{True}$$

$$2 <= 5 \rightarrow \text{True}$$

$$3 <= 5 \rightarrow \text{True}$$

$$4 <= 5 \rightarrow \text{True}$$

$$5 <= 5 \rightarrow \text{True}$$

$$6 <= 5 \rightarrow \text{False}$$

do {

b = b + 2;

$$1 + 2 \rightarrow 3 \quad 10 + 2 \rightarrow 12 \quad 19 + 2 = 21$$

$$4 + 2 \rightarrow 6 \quad 13 + 2 \rightarrow 15 \quad 22 + 2 = 24$$

$$7 + 2 \rightarrow 9 \quad 16 + 2 \rightarrow 18$$

}

while (b ++ <= 10);

$$3 <= 10 \rightarrow \text{true}$$

$$6 <= 10 \rightarrow \text{true}$$

$$9 <= 10 \rightarrow \text{true}$$

$$12 <= 10 \rightarrow \text{False}$$

$$15 <= 10 \rightarrow \text{False}$$

$$18 <= 10 \rightarrow \text{False}$$

$$21 <= 10 \rightarrow \text{False}$$

$$24 <= 10 \rightarrow \text{False}$$

Final value –

\therefore a 6 b 25

$$\text{Sum} = a + b = 6 + 25 = 31$$

12. (a, b, c)

$\sim(x+2)$ i.e $\sim(-5+2+1)=2$ is printed.

$x++;$ // $x=-4$

$\sim(x+1)=2$. ($\sim(x+1)\%2==0$) condition becomes TRUE.

$\sim(x+2)$ i.e $\sim(-4+2+1)=1$ is printed.

$x++;$ // $x=-3$

$\sim(x+1)=1$. ($\sim(x+1)\%2==0$) condition becomes FALSE.

Loop terminates.
`printf("%d", x);` -3 is printed.

Output: 2 1 -3

13. (a, b, c, d)

None of the options are correct.

□□□



For more questions, kindly visit the library section: Link for web: <https://smart.link/sdfcz8ejd80if>



PW Mobile APP: <https://smart.link/7wwosivoicgd4>