**MCQ Questions - 1 Mark**

1. What is #include <stdio.h>?

**a) Preprocessor directive**

b) Inclusion directive

c) File inclusion directive

d) None of the mentioned

2. Which of the following are C preprocessors?

a) #ifdef

b) #define

c) #endif

**d) all of the mentioned**

3. What will be the output of the following C code?

#include <stdio.h>

int main()

{

int y = 1, x = 0;

int l = (y++, x++) ? y : x;

printf("%d\n", l);

}

**a) 1**

b) 2

c) Compile time error

d) Undefined behavior

4. What will be the output of the following C code?

#include <stdio.h>

void main()

{

int k = 8;

int m = 7;

int z = k < m ? k++ : m++;

printf("%d", z);

}

**a) 7**

b) 8

c) Run time error

d) 15

5. What will be the output of the following C code?

#include <stdio.h>

void main()

{

int k = 8;

int m = 7;

int z = k < m ? k = m : m++;

printf("%d", z);

}

a) Run time error

**b) 7**

c) 8

d) Depends on compiler

6. Choose a right statement.

int a = 3.5 + 4.5;

A) a = 0

B) a = 7

**C) a = 8**

D) a = 8.0

7. Choose a right statement.

int main()

{

float c = 3.5 + 4.5;

printf("%d", (int)c);

return 0;

}

A) 8.0

B) 8.000000

C) 7

**D) 8**

8. What is the output of the C statement.?

int main()

{

int a=0;

a = 4 + 4/2\*5 + 20;

printf("%d", a);

return 0;

}

A) 40

B) 4

**C) 34**

D) 54

9. What is the output of C Program.?

#include <stdio.h>

#define MULTIPLY(a, b) a\*b

int main()

{

    // The macro is expended as 2 + 3 \* 3 + 5, not as 5\*8

    printf("%d", MULTIPLY(2+3, 3+5));

    return 0;

}

a) 32

b) 18

**c) 16**

d) 20

10. What is the output of C Program.?

#include <stdio.h>

#define merge(a, b) a##b

int main()

{

printf("%d ", merge(12, 34));

}

**a) 1234**

b) 3421

c) Compile time error

d) Undefined behavior

**MCQ Questions - 2 Marks**

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

#include<stdio.h>

int main()

{

int a=2,b=3,c=6,d=5;

int ans = a/b\*c+d\*2;

printf("%d",ans);

return 0;

}

A.12

**B.10**

C.16

D.14

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

#include<stdio.h>

int main(){

int a=4;

if(a!= 4){

a = (a&7);

printf("%d",a);

}

else{

a = a>>2;

printf("%d",a);

}

return 0;

}

**A.1**

B.2

C.3

D.4

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

#include <stdio.h>

void main()

{

int i = 1;

goto label2;

if (i == 0)

{

goto label1;

label2: printf("There");

}

else

{

printf("Hi ");

label1: printf("Hello");

}

}

**A.There**

B.HelloThere

C.Hi There

D. No Output

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

#include <stdio.h>

int main()

{

int i = (3,1,2);

i++;

printf("%d", ++i);

return 0;

}

A.2

B.5

**C.4**

D.6

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

#include <stdio.h>

int main()

{

int a=3;

switch(a)

{

case 0: printf("0 "); break;

case 3: printf("3 "); break;

case 5: printf("5 ");

default: printf("Go ");

}

a=5;

switch(a)

{

case 0: printf("0 ");break;

case 3: printf("3 ");break;

case 5: printf("5 ");break;

default: printf("Go "); break;

}

return 0;

}

**A.3 5**

B.3 5 Go

C.3 Go 5

D.3 5 Go 5 Go

**Coding Questions - 5 Marks**

**1.** **Write a program to take input of length of side of the square and print its area and perimeter.**

#include "stdio.h"

int main(){

int l=0;

scanf("%d",&l);

int area= l\*l;

int perimeter= 2\*(l+l);

printf("%d ", area);

printf("%d", perimeter);

return 0;

}

**Test Cases:**

| **Test case 1** | **Test case 2** | **Test case 3** | **Test case 4** | **Test case 5** |
| --- | --- | --- | --- | --- |
| **Input**  10  **Output**  100 40 | **Input**  4  **Output**  16 16 | **Input**  7  **Output**  49 28 | **Input**  15  **Output**  225 60 | **Input**  5  **Output**  25 20 |

**2.** **Write a program to take input of radius of the circle and print its area and circumference.Consider PI=3.14 .**

#include "stdio.h"

int main(){

float l=0;

scanf("%f",&l);

float perimeter= 2\* 3.14 \* l;

float area= 3.14\*(l\*l);

printf("%f ", area);

printf("%f", perimeter);

return 0;

}

**Test Cases:**

| **Test case 1** | **Test case 2** | **Test case 3** | **Test case 4** | **Test case 5** |
| --- | --- | --- | --- | --- |
| **Input**  10  **Output**  314.00 62.800 | **Input**  4  **Output**  50.240 25.12 | **Input**  7  **Output**  153.860 43.960 | **Input**  15  **Output**  706.500 94.200 | **Input**  5  **Output**  78.500 31.400 |

**Coding Questions - 10 Marks**

1. **Teacher told the students to meet them whose roll number is the perfect number. Write a program to display students if their roll number is the perfect number between a given range of roll numbers.**

**Ans:**

**#include <stdio.h>**

**// Function declarations**

**int isPerfect(int num);**

**void printPerfect(int start, int end);**

**int main()**

**{**

**int start, end;**

**// Inputting lower and upper limit to print perfect numbers**

**printf("Enter lower limit to print perfect numbers: ");**

**scanf("%d", &start);**

**printf("Enter upper limit to print perfect numbers: ");**

**scanf("%d", &end);**

**printf("All perfect numbers between %d to %d are: \n", start, end);**

**printPerfect(start, end);**

**return 0;**

**}**

**int isPerfect(int num)**

**{**

**int i, sum;**

**// Finding sum of all proper divisors**

**sum = 0;**

**for(i=1; i<num; i++)**

**{**

**if(num % i == 0)**

**{**

**sum += i;**

**}**

**}**

**/\***

**If sum of proper positive divisors equals to given number**

**then the number is perfect number**

**\*/**

**if(sum == num)**

**return 1;**

**else**

**return 0;**

**}**

**//Printing all perfect numbers**

**void printPerfect(int start, int end)**

**{**

**// Iterating from start to end**

**while(start <= end)**

**{**

**if(isPerfect(start))**

**{**

**printf("%d ", start);**

**}**

**start++;**

**}**

**}**

|  | **Test Case 1** | **Test Case 2** | **Test Case 3** |
| --- | --- | --- | --- |
| **Input** | 5  10 | 5  100 | 5  500 |
| **Output** | 6 | 6  28 | 6  28  496 |