Quiz-2

Question 1

Time: 00:00:10

Q1-below is a pseudo code

```
Set x = 1

Set n = 200

while(n>100):

    x=x-n

    n=n-5

    end while

Write x
```

What is the output of the above pseudocode?

- ○ -3049
- ○ -3048
- ○ -3047
- ○ -3059

◉ -3049

Ans :

```
x = 1

n = 200

while(n>100):

    x=x-n

    n=n-5

print(x)
```

In the above code, we have used the Python programming language. You can solve it using any programing language.

Here the value of x gets decremented until the number n is greater than 100

Question 2

Time: 00:00:03

Q2-Below is a pseudo-code

```
Set x = 0;

Set y = 1;

Set n = 0

print(0)

print(1)

while(n<10-2):

    Set z=x+y

    Swap x, y with  y, z

    Write z

    Increment of n by 1
```

In which series is the output

- ○ Fibonacci series
- ○ Tribonacci series
- ○ Triangular series
- ○ Arithmetic series

Ans: ◉ Fibonacci series

Question 3

Time: 00:00:28

Q 3-What will be the output of the following pseudocode?

```
Integer x,y,z

Set x=3

Set y=90

while(y is greater than 0);

    y=y/3

    x=x+6

    c=x+y

    while(c is greater than 30):

        if(c mod 3 is equals to 0):

            Write x

        else:

            Write y

        c=c/5

Write c
```

- 9, 33
- 9, 30
- 9, 36, 9
- 9 33 6

- [x] 9 33 6

Ans:

This pseudocode performs some simple mathematical operations until the value of y is greater than 0 and c is greater than 30 and prints the value of x, y and z.

below is the Python code for this pseudo code:

```
x=3

y=90

while(y>0):

    y=y//3

    x=x+6

    c=x+y

    while(c>30):

        if(c % 3 == 0):

            print(x)

        else:

            print (y)

        c=c//5

print(c)
```

Question 4

Time: 00:00:03

What will be the output of the following pseudocode?

```
int main()
{
   integer num;
   for(num equals to 80; num!=0; num++)
     Write num++
   getchar();
   return 0;
}
```

- None of the mentioned options
- Error
- 140
- Infinite loop

Ans:

This code will go to infinite loop as the value of n will never be 0 and condition num!= 0 will never be false

Question 5

Time: 00:00:24

Consider the following given algorithm and identify the task performed by this

```
int main()
{
   int n = 1;
   do
   {
      printf("%d", n);
      n--;
      if (n > 15)
        continue;
   } while (0);
   return 0;
}
```

- 15
- 1
- 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
- Run Time Error

Ans: 1

The value of n will get printed only once as the loop will read the while(false) statement after the one iteration

Question 6

Time: 00:00:03

What will be the output of the following pseudocode?

```
#include <stdio.h>

using namespace std;

int main()

{

    printf("%d", 'X' > 'x');

    return 0;

}
```

- O
- X
- x
- 1

Ans : O

Ascii value of X is not greater than x. So, the logical output will be false hence O will be printed.

Question 7

Time: 00:00:04

What will be the output of the following pseudocode?

```
#include <stdio.h>

using namespace std;

int main()

{

    for (int x = 10; x >= 0; x--) {

        int z = x & (x >> 1);

        if (z)

            printf("%d ", x);

    }

}
```

- 127
- 1098
- 763
- 963

763

& represents bitwise and
>> represents right shift
(x>>1) can be written as x/2

in the first iteration

x=10
z=10&5=0
hence if statement will not be executed

if you run all the iterations then you can find that

z=3 [at x=7]
z=2 [at x=6]
z=1 [at x=3]

hence if statement will run in these cases only

So, 7 6 3 will be printed

Question 8

Time: 00:00:03

What will be the output of the following pseudocode?

```
#include <stdio.h>

int main()

{

    int x = 10, y = 20, z = 30;

    z = x = y;

    printf("%d", z);

    return 0;

}
```

- 10
- 30
- Error
- 20

◉ 20

Ans:

Assigning the value of y to x and z

Question 9

Time: 00:00:

What will be the output of the following pseudocode?

```
#include <stdio.h>

int main()

{

    int x = 210;

    int y = 0;

    ;

    ;

    printf("%d", y);

    ;

    ;

    return 0;

}
```

○ 0

○ 210

○ Run Time Error

○ Compile Time Error

◉ 0

No error it will print 0 as the value of y as y is initialized to 0

Question 10

Time: 00:00:15

What will be the output of the following pseudocode for the given set of input?

```
#include <stdio.h>

void main()

{

    int a = 1.0, b = 2, c = 3.12;

    char d = 0.0;

    if (a, b, c, d)

    {

        printf("KHUDSOLVEKRO");

    }

}
```

- No output
- Error
- KHUDSOLVEKRO
- 1.0

No output

Here it statement will check the last parameter only which is d. As d=0 the print statement will not get executed.

Pseudocode Quiz 2

1] $x = 1$; $n = 200$

while (200 > 100) ✓

$x = 1 - 200$

$n = 200 - 5 = 195$

while (195 > 100) ✓

$x = 1 - 200 - 195$

$n = 195 - 5 = 190$

$\therefore x = 1 - 200 - 195 - 190 - 185 \dots - 105$

$= 1 - \left(\frac{20}{2}(105 + 200)\right)$

$= -3049$

Ans : -3049

2] $x = 0$; $y = 1$; $n = 0$

while ($n < 8$)

$z = x + y$

swap $(x \to y)$ $(y \to z)$

Print z

Print:

0, 1, 1, 2, 3, 5

Ans : Fibonacci Series

3] $x = 3$

$y = 90$

1st iteration:

$y = \frac{90}{3} = 30$

$x = 3 + 6 = 9$

$c = 39$

while ($c > 30$) ✓

if ($c \% 3 == 0$) ✓

print (9)

$c = 39/5 = 7$

while ($c > 30$) X

Output = 9 . 33 . 6

2nd :

while ($y > 0$) ✓

$y = \frac{30}{3} = 10$

$x = 9 + 6 = 15$

$c = 25$

while ($c > 30$) X

3rd :

while ($y > 0$) ✓

$y = \frac{10}{3} = 3$

$x = 15 + 6 = 21$

$c = 24$

while ($c > 30$) X

4th:

while ($y > 0$) ✓

$y = 1$

$x = 27$

$c = 28$

while ($c > 30$) X

5th:

while ($y > 0$) ✓

$y = 0$

$x = 33$

$c = 33$

while ($c > 30$) ✓ → print (c) → 6

print (33)

$c = 33/5 = 6$

∴ Ans :

9 33 6

4] for (num = 80; num != 0 ; num++)

↳ 80, 81, 82. . .

Ans: infinite loop

5] n = 1

iteration - 1

print (1)

n = 0

if (n > 1) X

while (0) X

Ans: 1

6] printf ("%d", 'x' > 'x');

return 0

'x' = 120

Ans: 0

7]

x = 10

x = 1010

(x >> 1) = 0101

z = 0000

if (z) X

x = 9

x = 1001

(x >> 1) = 0100

z = 0000

if (z) X

x = 8

x = 1000

0100

0000

x = 7

x = 0111

x >> 1 = 0011

z = 0011

= 3

if (3) ✓

print (7)

x = 6

x = 0110

x >> 1 = 0011

z = 0010

= 2

print (6)

x = 5

x = 0101

0010

z = 0000

x = 4

0100

0010

z = 0000

x = 3

0011

0001

z = 1

print (3)

x = 2

0010

0001

z = 0000

x = 1

0001

0000

z = 0000

Ans: 7 6 3

8] x = 10, y = 20, z = 30

z = x = y

20 ← 20 ← 20

∴ z = 20

print(20)

Ans: 20

9] print(0)

Ans: 0

10] int a = 1.0 ; b = 2 c = 3.12

char d = 0.0 ;

if (a, b, c, d) ← comma operator return the last value

Ans: No output