

Question 1

2.5 out of 2.5 points

What is the value of **result** after the following code fragment is executed?

```
s = "5843619270"  
result = len(s) - int(s[4])  
print(result)
```

$len(s) = 10$
 $s[4] = 6$
 $10 - 6 = 4$

Answer: 4

Question 2

2.5 out of 2.5 points

What is the correct order of evaluating the operators in the following expression: (The order is from left to right)

$(a > b \text{ or not } b < c) \text{ and } c != 1$

Answer: $>$, $<$, not, or, $!=$, and

Question 3

2.5 out of 2.5 points

What will be the result of executing the following C code?

```
1  #include<stdio.h>  
2  int main(void)  
3  {  
4      int y = 3, x = 7, *p1, *p2;  
5  
6      p1 = &y;  
7      *p1 += 4;  
8      p2 = &x;  
9  
10     if(p1 == p2)  
11         printf("104 ");  
12     if(*p1 == *p2)  
13         printf("ICS ");  
14     p2 = p1;  
15     *p1 = -3;  
16     printf("%d %d", x, *p1);  
17  
18     return 0;  
19 }
```

Answer: ICS 7-3

Question 4

2.5 out of 2.5 points

Given the following Python code fragment:

```
if x > 0 or x < 0:
    z=y/x
else:
    z=0
```

which of the following is an equivalent C code that produces the same result as the above code fragment? You can assume that x, y, and z are of type float.

Answer: `if (x > 0 || x < 0) {
 z=y/x;
}
else {
 z=0;
}`

Question 5

2.5 out of 2.5 points

Consider the following C code fragment:

```
#include <stdio.h>

int main() {
    int i=2, j = 7;
    double k = 1.5, m = 0.5;
    double result;
    result = j / i + k - m;
    printf("result = %.1f\n", result);

    return 0;
}
```

The output of running the above code is:

Answer: `result = 4.0`

Question 6

2.5 out of 2.5 points

Given the python statement `y = 5*3**2//2 + 5`, which of the following is an equivalent C statement that results in the same value for y? You can assume that y is of the same data type in both statements. Note that the C function `pow(base, exponent)` returns the double value (base to the power exponent)

Answer: `y = (int) pow(3, 2) * 5 / 2 + 5;`

Question 7

2.5 out of 2.5 points

Which of the following Python commands is used to open a file `tempFile.txt` in read-mode only?

Answer: `inFile = open("tempFile.txt", "r")`

Question 8

2.5 out of 2.5 points

```
class student:
    def __init__(self, id, name):
        self.id = id
        self.name = name

    def display_info(self):
        print("Student ID: ", self.id)
        print("Student Name: ", self.name)
```

*I didn't noticed earlier that it depends on choices 😊

Which of the following statements will create a class object that can be called later on

Answer: In this question try to find the valid syntax name
 Same as: Student - A = student(201920301, "Abdullah")
 class

Question 9

2.5 out of 2.5 points

What is the output of the following Python code fragment?

```
def fun(x):
    if x//3==1:
        return 1
    elif x//2==1:
        return 2
    else:
        return 3

print(fun(2))
```

Answer: 2

Question 11

2.5 out of 2.5 points

What will be the result of executing the following Python code:

```
myValues = {2:5, -4:6, 3:-2, -1:-4}
sum = 0
for keys in myValues.keys():
    sum = sum + keys
print(sum)
```

I explained it at test 3 go back and check it

Answer: 0

Question 12

2.5 out of 2.5 points

What is the output of the following Python code fragment?

```
def fun(a, b, c):
    if a > b: 12 > 15 X
        if a > c: —
            return a —
    if b > a: 15 > 12 ✓
        if b > c: 15 > 8 ✓
            return b
    if c > a:
        if c > b:
            return c
    return None

print(fun(12, 15, 8))
```

Answer: 15

Question 13

0 out of 2.5 points

Which of the following statements is correct for this Python code, when the user enters his name ("Ahmad") instead of his age.

we can't input string. choices were tricky.

```
In [*]: age = int(input("Enter your age: "))
```

Enter your age:

Answer: ValueError

Question 14

2.5 out of 2.5 points

What is the output of the following C code?

```
#include <stdio.h>

int main(void)
{
    int x,y,z;
    double a,b;
    x = 3 / 4;
    y = 10.0 / 4;
    a = 10 % 4;
    b = (double) 10 / 4;
    z = x / y * a + b;

    printf("%d %d %d %.5f %.3f", x, y, z, a, b);

    return 0;
}
```

Answer: 0 2 2 2.00000 2.500

By: Abdulellah Alghamdi



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Question 16

2.5 out of 2.5 points

What is the output of the following Python code?

```

x = [24, 4]
smallest = min(x)
i = 1
s = 0
while (i <= smallest):
    if (x[0] % i == 0) and (x[1] % i == 0):
        s += i
    i += 1
print(s)

```

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Answer: 7

Question 18

2.5 out of 2.5 points

What is the value of **result** after the following code fragment is executed?

```

n = 5
result = 1 + 2 * n
print(result)

```

Answer: 11

Question 19

2.5 out of 2.5 points

What will be the result of executing the following Python code?

```

myNumbers = [1.0, 2.0, 3.0]
hisNumbers = myNumbers[1] + (myNumbers[2] * 3)
print(hisNumbers)

```

Answer: 11



What is the output of the below C code?

```
#include <stdio.h>

int main()
{
    int Red = 90, Blue = 95, Green = 99 ;

    if(Red > Blue){
        if(Red > Green)
            printf("Red");

        else
            printf("Green");
    }
    else{
        if(Blue > Green)
            printf("Blue");
        else
            printf("Green");
    }
    return 0;
}
```

Answer: Green

Question 21

2.5 out of 2.5 points

What will be the result of executing the following C code?

```
#include <stdio.h>
int main()
{
    int i, n = 5;
    int f_1 = 1, f_2 = 1;

    if (n==0 || n==1)
        printf("%d ", 1) ;
    else if (n>=2)
        for (i=2; i<=n ; i++) {
            f_1 = f_1 + f_2 ;
            f_2 = f_1 - f_2 ;
        }
    if (n>=2)
        printf("%d", f_1);
    return 0;
}
```

Answer: 8

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Question 22

2.5 out of 2.5 points

What will be the result of executing the following C code?

```
1  #include<stdio.h>
2
3  int main(void)
4  {
5      char O = 'C';char P = 'I';char *u;
6
7      u = &P;printf("%c", *u);
8      u = &O;printf("%c", *u);
9      *u = 'C';printf("%c", O);
10
11     return 0;
12 }
```

Answer: ICC

Question 23

2.5 out of 2.5 points

What is the output of the following Python code:

```
i = 2
x = 2
for i in range(6):
    print(i, end = ' ')
    x += 1
print(x, end = ' ')
```

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Answer: 0 1 2 3 4 5 8

Question 24

2.5 out of 2.5 points

What will be the output of the following python code:

```
class Square:
    def __init__(self, side = 1):
        self.area = side*side
        self.perimeter = side*4
```

we called area only so ignore that

```
s1 = Square() ⇒ we use original value of side, side = 1
s2 = Square(5) ⇒ 5*5 = 25
print(s1.area, s2.area)
```

Answer: 1 25

By: Abdullatif Alghamdi



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Question 26

2.5 out of 2.5 points

What will be the result of executing the following C code?

```
#include <stdio.h>
void fun(int a, int *b, int *c) ;
int main()
{
    int x,y, n = 3;
    fun(n, &x, &y) ;
    printf("%d %d", x, y);
    return 0;
}

void fun(int a, int *b, int *c)
{
    int x = 5;
    int y = 10;
    *b = a * a ;
    *c = *b * a ;
}
```

Answer: 9 27

Question 27

2.5 out of 2.5 points

What is the output of the following Python code:

```
d = { 1: 'a', 2: 'b' , 3: 'c' }
d['b'] = 13
d[2] += 'k'
d.pop(2)
for i in d:
    print( i, d[i], end = ' ' )
```

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Answer: 1 a 3 c b 13

Question 28

2.5 out of 2.5 points

What will be the result of executing the following Python code:

```
tmp = [[01, 14, 22], [119, 17, 28], [2'a', 23, 2'c']]
tmp[1].append(5) [19, 7, 8, 5]
tmp[2].pop() ['a', 3]
tmp[1].insert(1,5) [19, 5, 7, 8, 5]
print(tmp)
```

Answer: [1, 4, 2], [19, 5, 7, 8, 5], ['a', 3]

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Question 29

2.5 out of 2.5 points

Consider the following C code:

```
#include <stdio.h>

int myFun (int value);
int hisFun (int value);
int herFun (int value);

int main() {
    int i, j = 4;
    int herFun = 3;
    i = myFun(j);
    printf("The values of i and j are %d and %d\n", i, j);

    return 0;
}

int myFun (int value) {
    int myVar;
    myVar = value + value;
    return myVar;
}

int hisFun(int value) {
    int myFun = 8;
    return (myFun + value);
}

int herFun(int value) {
    int hisFun = 4;
    return (hisFun - value);
}
```

The function `herFun` is visible inAnswer: `myFun`, `hisFun` and `herFun`

Question 30

2.5 out of 2.5 points

What is the output of the following Python code:

```
def fun(number):
    f = 1
    if number == 0:
        return 1
    else:
        while(number >= 1):
            f = f * number
            number -= 1
        return f
print(fun(4))
```

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Answer: 24

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Question 31

2.5 out of 2.5 points

What will be the result of executing the following Python code:

```
aList = ["ICS 104 is EASY!", [4, 8, 12, 16]]
print(aList[0][1])
print(aList[1][2])
```

Answer: C
12

Question 32

2.5 out of 2.5 points

#What is the output of the following Python code, given that the user entered 111 then 222?

```
x = input('Enter a number')    # Assume 111 is entered
y = input('Enter another number') # Assume 222 is entered
z = int(x)
w = float(y)
s1 = x + y
s2 = z + w
print(s1, end = ' ')
print(s2)
```

Answer: 111222 333.0

Question 33

2.5 out of 2.5 points

What is the output of the following Python code:

```
a = 2.2
b = 3.6
print("The result of %.0f + %.1f = %.2f" % (a,b,a+b))
```

Answer: The result of 2 + 3.6 = 5.80

Question 34

2.5 out of 2.5 points

Given a string 'Ali horses' in Python, we want to add a verb to make a sentence such as 'Ali likes horses'. Suppose we have a string-variable name as defined below (names has one space between the two words - Ali and horses), and we want to insert a string 'likes' in this space, which of the following solutions is the correct answer.

```
names = 'Ali horses'
```

I = empty space
= " "

Answer: sentence = names.replace(I, "I likesI")

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Question 35

2.5 out of 2.5 points

An input to a Python program that expects a positive input such as any of these **YES, Yes, yes, YeS, YEs, yES, yEs, yeS.** to terminate the program (showing **Quit** on the screen),

```
userinput = input('If you want to quit type Yes:')
```

Can be validated as follows:

```
if userInput in ['YES', 'Yes', 'yes', 'YeS', 'YEs', 'yES', 'yEs', 'yeS']:
    print('Quit')
```

Question 36

2.5 out of 2.5 points

What is the output of the following Python code fragment?

```
set1 = {1, 2, 3}
set1.add(4)
set1.add(4)
set1.discard(1)

print(set1)
```

it will be added one time only

Answer: $\{2, 3, 4\}$

Question 37

2.5 out of 2.5 points

```
def MyFunction(a,b,c):  
    c = a + b  
    return c
```

```
x = 1; y = 2; z = 0
print(MyFunction(x,y,z))
```

Which of the following C codes produce result(s) similar to the above Python code

```
#include <stdio.h>

void fun1(int *x, int *y, int *z){*z = *x + *y;}
void fun2(int x, int y, int z){z = x + y;}
int fun3(int x, int y, int z){
    z = x + y;
    return z;}

int fun4(int x, int y, int z){
    printf("%d\n", x + y);
    return z;}
```

```
void main(void){
    int i = 1, j = 2, k = 0;
    // //////////////////////////////////////
    // Your choice goes here //
    // //////////////////////////////////////
}
```

try it by
yourself 😊

Selected Answer: None of the given answers is correct

Correct Answer: ☒ None of the given answers is correct

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Question 38

2.5 out of 2.5 points

What is the output of the below C code?

```

#include <stdio.h>

void test1(int m, int n);

void test3(int a, int *b);

int main(void) {
    int a=10, b=16;

    test1(a,b);
    printf("a=%d, b=%d, ",a,b);

    test3(a,&b);
    printf("a=%d, b=%d\n",a,b);

    return 0;
}

void test1(int m, int n) {
    m=5;
    n=24;
}

void test3(int a, int *b) {
    a=38;
    *b=57;
}

```

Answer: "a=10, b=16, a=10, b=57"

Question 39

2.5 out of 2.5 points

What is the output of the following Python code fragment?

```

class Person:
    def __init__(self, name, id):
        self.name = name
        self.id = id * 2
p1 = Person("Omar", 100)
print(p1.id)

```

*Handwritten note: $100 * 2 = 200$*

Answer: 200

What is the expected outcome of the following Python code when executed?

```

num=5

try:
    y=num/10
    print("Message 1")
except: executed if there is error
    print("Message 2")

```

Answer: Message 1

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Question 41

2.5 out of 2.5 points

What is the output of the following C code?

Assume the following inputs to the program:

num1 = 8.99, num2 = 1, and '+' as operator

```

1  #include <stdio.h>
2
3  int main() {
4      double num1, num2;
5      char oper;
6      double total;
7
8      scanf("%lf", &num1); // Assume num1 = 8.99
9      scanf("%lf", &num2); // Assume num2 = 1
10     scanf(" %c", &oper); // Assume oper is +
11
12     if (oper == '+') {
13         printf("Sum of two numbers is %.4f", (num1+num2));
14     }
15     else if (oper == '*') {
16         printf("Product of two numbers is %.5f", (num2*num1));
17     }
18     else {
19         printf("\nInvalid operator is used! ");
20     }
21     return 0;
22 }
```

Answer: Sum of two numbers is 9.9900

Question 42

2.5 out of 2.5 points

```

for x in range(5):
    print("x + x = 2 * x")
    print("x / 2 = 0.5 * x")
```

Which of the following C codes produce result(s) similar to the above Python code

Answer: try to convert it by yourself

```

for (x=0; x < 5; x+=1)
    printf("x + x = 2 * x\n");
    printf("x / 2 = 0.5 * x\n");
```

Good luck with your exam.. 😊 دعواتكم لنا

