First Term Examination, Session 2018-19

Program :B.Tech **Branch** : CSE **Year** : I

Subject with Code : Python Programming, BCSG0001

Time: 1 Hour **Maximum Marks:** 15

Notes:

1. *You will have to attend all questions.*
2. *Please write your answers in proper format.*
3. *If you think, answer/output will be in float/int/string or any other format, then please write the same.*
4. *State the reason of error, if you think so in any question.*

Section-A

I. (a)_____ is used for providing comment in Python.

(b)_____ is used for floor division.

II. What will be the output of the following code and give reason?

```
def func(message,num):
        print(message * num)
        num=5
func('Welcome',2)
func('Viewers',0)
```

III. What is the output of the following code and give reason?

```
def myfunc(text, num):
      while num> 0:
            print(text)
      num = num - 1
myfunc('Hello', 4)
```

IV. What is the output of the following code and give reason?

```
def func():
      num = num + 3
      print(num)
num=2
func(num)
```

V. What is the output of the following code and give reason?

```
def func(num):
            num=500
            num = num + 3
            print(num)
num=100
func(num)
```

VI. What is the output of the following code and give reason?

```
x=2
y=10
x*=y*x+1
print(x)
```

VII. What is the output of the following code and explain the reason?

```
print(0.1+0.2==0.3)
```

VIII. Rectify the error if any

```
def fun():
        msg="hello, world!"
        print(msg)
                return msg
fun()
```

IX. What will be the output of the following code?

```
x = True
z = False
y=False
if not a or b:
        print 1
elif not a or not b and c:
        print 2
elif not a or b or not b and a:
        print 3
else:
        print 4
```

X. (a) What is the output of the expressionand give reason :

```
y=3*1**3
```

(b)_____ is used to convert string to float in Python.

XI. What is the output of the following program and give reason. :

```
print(10/3, 3/10, 10//3, 3//10)
print(10.0/3.0, 3.0/10.0, 10.0//3.0, 3//10.0)
```

XII. What is the output of the following program and give reason. :

```
i =0
while i< 3:
        print(i)
        i++
        print(i+1)
```

XIII. What the following code is doing?

```
def f(a,b):
        a=a+b
        b=a-b
        a=a-b
f(300,400)
```

XIV. How many times 'yeLo' will be printed and give reason?

```
yeLo = 3
i = 0
while (i>=yeLo):
        print("yeLo")
        i = i+1
```

XV. What shall the below program print?

```
num1 = 23
num2 = 10
summ = 0
n = 2
i = 0
while (i<n):
        r = num1%10
        num1 = num1//10
        num2 = num2//10
        summ = summ + r
        i = i+1
print (summ)
```

XVI. Identify the error and rectify it.

```
a=5
b=6
```

```
while True
        if a<b:
                print("Hello")
        else:
                print("Bye")
```

XVII. How to fill the below incomplete code:

```
cse = 'Python'
i = 0
while (i< 4-2):
        cse = cse + _______
        print(cse)
        i = i+1
```

So that output will be like:
PythonPython
PythonPythonPythonPython

XVIII. What will be the output of the following code?

```
a=6
if a>7:
        print("Hello")
print("Bye")
print("GLA")
```

XIX. What will be the output of the following code?

```
def myfunc(a):
    a =a +2
      a =a *2
    return a
print(myfunc(2))
```

XX. (a)To start Python from the command prompt, use the command _____

(b) 3 __ 5=243

Section-B

I. What will be the output of the following code?

```
i = 1
while True:
        if i%2 == 0:
            break
        print(i)
i += 2
```

II. What will be the output of the following code?

```
i = 2
while True:
        if i%3 == 0:
            break
        print(i)
        i += 2
```

III. What will be the output of the following code?

```
i = 1
while False:
    if i%2 == 0:
        break
    print(i)
    i += 2
```

IV. What is the output of the following code ?

```
True = False
while True:
    print(True)
    break
```

V. What is the output of the following code?

```
if (9 < 0) and (0 < -9):
        print("hello")
elif (9 > 0) or False:
        print("good")
else:
        print("bad")
```

Section:C

I. What will be the output of the following code?

```
i=1
while i<=10:
        print(i)
        #i=i+1
```

II. What will be the output of the following code?

```
i=1
while i<=10:
        """print('Hello')
           print('Bye')"""
        print("GLA")
```

III. What will be output of the following code?

```
i=10
while i>=1:
        if i%5==0:
                print("GLA")
        i=i-1
```

IV. Which of these loops will not finish?

a)
```
i = 1
while i<= 10:
        j = i * 3
        print j
        i = i + 2
```

b)
```
i = 1
while i != 20:
        j = i * 5
        print j
        i = i + 2
```

c)
```
i = 1
while True:
        j = i * 7
        print j
        break
        i = i + 2
```

V. Fill in the blanks to get the output as Sum of starting 10 natural numbers.

```
i=____
s=____
while i<=_____:
        s=s+____
        i=___+1
print(s)
```

I Mid-Term Examination
Even Semester, 2018-19

Programme: B.Tech. **Branch: CSE** Year: I

Python Programming (BCSG0001)

Time: 1 Hour **Maximum Marks: 15**

Section – A

Attempt all questions: 3 x 2 = 6 Marks

1. Define algorithm. Discuss building blocks of algorithm.
2. The LCM (Lowest Common Multiple) of two integers X and Y is the smallest number that divides both of X and Y (without leaving a remainder). Write a program in Python to find LCM.
3. Develop a program in python for finding average of n numbers.

Section – B

Attempt all questions: 3 x 3 = 9 Marks

1. Discuss and differentiate between iteration and recursion. Give examples using both methods in Python.
2. Write an algorithm and a program in Python to print all prime numbers between two intervals.
3. Develop a function **"FahrenToCelcius"** in Python that takes temperature in Fahrenheit as argument and returns temperature in Celsius. The formula for conversion from Celsius to Fahrenheit is given as: $F = C \times 9/5 + 32$

   Also write main program that takes temperature in Fahrenheit from user and passes it to function **"FahrenToCelcius"** for conversion and prints the returned value.

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Mid-Term Examination, Odd Semester 2019-20

Program : B.Tech **Year : I** **Semester : I**

Subject:Python Programming **Subject Code:BCSG0001**

Time : 2 Hours **Maximum Marks: 30**

Section- A

Note: Attempt All Three Questions. 3 x 2 =06 Marks

I. What is the difference between mutable and immutable data structures? List all mutable and immutable data structures.

II. Write naming conventions for variables in python.

III. Write a program in python to find the factorial of a number.

Section- B

Note: Attempt All Three Questions. 3 x 3 =09 Marks

I. Consider the dictionary as

Details={1:"John",16:"Jill",105:"Joe",145:"Jack"}

Write Python code to perform following operations:-

a. Print number of customers

b. Print Customer names in ascending order

c. Delete the record of 145

II. Write a program in python to find whether a given integer number is "Armstrong" or not.

III. Write a python program to remove duplicates from a list.

Section – C

Note: Attempt Any Three Questions. 3 x 5 = 15 Marks

I. Consider the string s= **"This is python programming"** .Write the statements which performs the following operations :

a) Write the string in reverse order.

b) Extract "programming" from string and print it.

c) Print alternate characters.

d) Print in the list format ['This','is','python','programming']

e) Print the string three times using only 1 print function.

II. What are the situations where we can use 'pass' keyword. Explain with the help of the example.

III. How a list is different from a dictionary in python. Write a program which will find all such numbers from 1000 to 2000 (both included) such that each digit of the number is even.

IV. A) Write the statements for the following :-

(i) Initialize a single element "Hello" in a tuple variable t.

(ii) Create an empty set.

B) What will be the output of the following statements:-

(i) print([1,2,3]+[3,4,5])

(ii) print(type(3+5j))

(iii) print(s[::-1]) if s="Hello"

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Mid-Term Examination, Even Semester 2019-20

B.Tech. (All Branch), 1st Year, 2nd Semester

Subject Code: Python Programming (BCSG0001)

Time: 2 Hours **Maximum Marks: 30**

Section- A

Note: Attempt All ThreeQuestions. 3 x 2 =06 Marks

1. Discuss the function id(), str(), ord() and chr() in python with examples
2. Write the output for the following code

```
a = 'first'
b = 'last'
k = 'a' if a is b else 'a' and 'b'
out = eval(k)
print(out, type(out))
```

3. What is the purpose of is, is not, in, not in operators in Python?

Section- B

Note: Attempt All Three Questions. 3 x 3 =09 Marks

1. Name any three list methods that returns any values other than None and explain with suitable example. What is the output of the following program?

```
lst = ['vehicle', 'objects', 'human', 'water']
slc = lst[10:0:-2]
print(slc, type(slc))
```

2+1

2. What is tuple in Python? Explain with example. Write a python program to find the intersection between two tuples.

sample input	sample output
(2, 4, 7, 9)	(4, 9)
(4, 6, 8, 9)	

1+2

3. Write any five string methods in Python that return integer and explain each method with example. Write a python program to check if all characters in string are same. Print 'all characters are same' if all characters are same otherwise print None.

sample input:	sample output:	
'aaaaa'	'all characters are same'	2+1

Section – C

Note: Attempt Any Three Questions. 3 x 5 = 15 Marks

1. What is the difference between a python tuple and python list? Explain with suitable examples. Write a Python program to merge the two list into a list of tuples (pair of similar index). (don't use zip() function)

sample input	sample output	
[2, 6, 8, 9] [3, 0, 7, 1]	[(2, 3), (6, 0), (8, 7), (9, 1)]	3+2

2. Explain the different string formats available in Python with examples. Write a python program to find the number of vowels, consonants, digits and white space characters in a string. String is entered by user at runtime. 2+3

3. Illustrate the different types of control flow statements or control flow structure available in Python with examples. Also discuss break and continue keywords with suitable example.
   What is the output of the following lines? Brief the error if code having error

```
y = '10%d0%True
print(int(y, 2))
```

2+2+1

4. What are the rules for writing an identifier? Explain with suitable example.
   What is difference between mutable and immutable objects in Python? List all the immutable types with example.
   What is the output of the code below?

```
input = 'hello'
hello = None
out = hello or input
print(eval(out))
```

2+2+1

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Mid-Term Examination, Odd Semester 2021-22

B. Tech (IOT/AIML/DA/CCV/CSF), 1st Year, 1st Sem.

BCSG1001: Python Programming

Time: 2 Hours **Maximum Marks: 30**

Section- A

Note: Attempt All Three Questions. 3 x 2 = 6 Marks

Q1. What is type conversion in Python? Explain any four built-in functions that is used for type conversion. Write the name of the built-in function which can convert the string '0xf7' to number decimal directly.

Q2. Discuss the function id(), str(), ord() and chr() in python with suitable examples

Q3. Name any three list methods that returns any values other than None and explain each with suitable example.

Section- B

Note: Attempt All Three Questions. 3 x 3 = 9 Marks

Q1. Polycarp has n coins, the value of the i-th coin is ai. Polycarp wants to distribute all the coins between his pockets, but he cannot put two coins with the same value into the same pocket.

For example, if Polycarp has got six coins represented as an array a=[1,2,4,3,3,2], he can distribute the coins into two pockets as follows: [1,2,3],[2,3,4].

Polycarp wants to distribute all the coins with the minimum number of used pockets. Help him to do that.

Input

The single line of the input contains n integers space separated a1 a2 (1≤ai≤100) values of coins.

Output

Print only one integer — the minimum number of pockets Polycarp needs to distribute all the coins so no two coins with the same value are put into the same pocket.

Examples

Input0	Input1
1 2 4 3 3 2	64 100
Output0	Output1
2	1

Q2. What is tuple in Python? Explain the difference between the tuple and list with example. Write the output of the following lines below.

```
lst = ['vehicle', 'objects', 'human', 'water']
slc = lst[10:0:-2]
print(slc, type(slc))
```

Q3. Write a Python program to print following pattern using * where the number of rows entered by the user. Examples

row=4

```
*       *
**     **
***   ***
********
```

row=3

```
*     *
**   **
******
```

Section – C

Note: Attempt Any Three Questions. 3 x 5 = 15 Marks

Q1. Explain the different string formats available in Python with suitable examples. What is f-string in Python and its uses? WAP program to find the number of vowels, coesonants, digits and white space in a user given string.

Q2. Illustrate the different types of control flow statements and control flow structures available in Python and also discuss the break and continue keywords with examples. What is the output of the following lines? Brief the error if code having error

```
y = '10%d0'%True
print (int(y, 2))
```

Q3. Write any five string methods in Python that return integer only and explain each method with example. Write a python program to check if all characters in string are same or not. Print 'all characters are same' if all characters are same otherwise print None.

sample input: 'aaaAa'

sample output: 'all characters are same'

Q4. Define any four operators in Python which work with list or tuple. Write a Program to check whether given number is prime or not. (In Python-looping use while loop only)

Write the output of the code below?

```
input = 'hello'
hello = None
out = hello or input
out = eval(out)
print(out, type(out))
```

Course Name: Python Programming (BCSG1001)

Course Outcome

CO1- Basic principles of Python programming language.
CO2- Work with user input to create fun and interactive programs. Use in-built functions and packages defined in Python.
CO3- Understand to solve problems with smaller Lines of Code using Python as compared to other programming languages. Python Short circuit evaluation.
CO4- Acquire programming skills in core Python: flow control structure in Python Programming. Build basic programs using fundamental programming constructs like variables, conditional logic, looping, and functions (built-in)
CO5- Data Structure and Python collections (Lists, Tuples, etc.) with all built-in defined methods.

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Mid Term Examination, Even Semester 2022-23
B. Tech (CS/ECE(CS)/EE), I Year, II Semester
BCSG1001 Python Programming

Time: 2 Hours **Maximum Marks: 30**

Instruction for students:
1. Read question paper carefully.
2. Don't over write.
3. Write the complete code in one place neatly.
4. Maintain appropriate indentation while writing program in python if needed.
5. Commenting code is optional.

Section – A 3 X 5 = 15 Marks

No.	Detail of Questions	Marks	CO	BL	KL
1	Illustrate the different types of control flow statements and control flow structures available in Python3 and also discuss the break and continue keywords with suitable examples.	03	CO4	R	P
2	A perfect number is a positive integer that is equal to the sum of its proper divisors. The smallest perfect number is 6, which is the sum of 1, 2, and 3. Write a Python program to check whether a given Number is Perfect number or not.	03	CO5	E	C
3	A chocolate distributor unit has installed two new automatic arms for the unloading the chocolate bars from containers. Arm A has the capacity to unload one chocolate bar whilst the other arm B unload two bars at a time. In order for any two containers to be unloaded fully and simultaneously by both arms, the distributors have to choose the correct chocolate bars quantity (quantity "X" for container unloaded by arm A and quantity "Y" container unloaded by arm B) in those containers from supplier. The task to develop a code to identify a pair of container quantities (maximum quantity 5000) such that both arms unload all chocolate bars from those containers fully and complete their unloading simultaneously so the following containers can be placed for unloading automatically. The correct pair identified can be marked as 'Yes' And for incorrect pairs as 'No'.	03	CO3	E	C

	Example 1: *Input:* 100--- Value of X 200--- Value of Y *Output:* Yes—Print Yes indicating 100 and 200 chocolate bars can be fully emptied simultaneously Explanation: Arm A unloads 100s bars in 100 times Arm B also unloads 200 bars in 100 times; hence both the containers are emptied at the same time and the next pair of containers can be automatically placed for unloading. Hence, the output is a 'Yes'.				

4	a) What is list in Python? Explain the difference between the mutable and immutable data types with examples.
	b) Write the output of the following lines below.
	>>> lst = 'hello python programming'.split()
	>>> slc = lst[-1:0:-1]
	>>> print (slc, type(slc))
		03	CO5	C	PC

5	Name any three string methods in Python3 that returns integer only Explain each with suitable example.	03	CO3	An	PC

Section – B 5 X 3 = 15 Marks

No.	Detail of Questions	Marks	CO	BL	KL
6	a) What are packing and unpacking in tuples? Explain with the help of an example? b) Write a Python program to find the sum of all non-negative integers in a user given array (list). Sample Input -2 3 -3 2 12 Sample Output 17	02 + 03	CO5	R	S
7	Write a Python program to print following pattern using *(Asterisk) where the number of rows entered by the user. Examples test cases. rows = 5 ********** **** **** *** *** ** ** * * rows = 4 ******** *** *** ** ** * *	05	CO4	C	PC
8	a) How strings are represented in Python3? Explain with suitable Example. b) Write the output of the following lines below. Enemy, Friend = 5, 2 st = 'No Better Friend No Worse Enemy'.split() re=st[Enemy%20] and None if Enemy+Friend < len(st) else st[Friend%20] print(re, eval(re))	03 + 02	CO3	U	D