Total No. of Questions – [3]

Total No. of Printed Pages: 4

G.R. No.	

PAPER CODE	U111-2021B(RE)

DECEMBER 2021 (INSEM+ ENDSEM) EXAM

F.Y. B. TECH. (SEMESTER - I)

COURSE NAME: PYTHON FOR ENGINEERS

COURSE CODE: CS10202B

(PATTERN 2020)

Time: [2Hr] [Max. Marks: 60]

(*) Instructions to candidates:

1) **Figures to the right indicate full marks.**
2) **Use of scientific calculator is allowed**
3) **Use suitable data where ever required**

Q1 Solve the following **[30]**

i. What will be the output of the following Python code? [2]

```
a={1,2,3}
b=a.copy()
b.add(4)
print(a)
```

a) {1,2,3} b) Error, invalid syntax for add
c) {1,2,3,4} d) Error, copying of sets isn't allowed

ii. What will be the output of the following Python code? [2]

```
numbers = [13, 30, 17, 45, 32]
numbers.sorted()
print(numbers)
```

a)[13, 17, 30, 32, 45] b)[13, 30, 17, 45, 32]
c)[13, 17, 30, 45, 32] d)[13, 30, 17, 45, 32] e)AttributeError

iii. What will be the output of the following Python code? [2]

```
numbers = [2, 3, 5, 7]
numbers.sort(reverse=true)
print('Reversed List:',numbers)
```

a)[7, 5, 3, 2] b)[2, 3, 5, 7] c)NameError d)[7,3,5,2]

iv. What will be the output of the following Python code? [2]

```
l2=[1,2,3,4,"XYZ",5]
l2.insert(3,[1.0,2.0,3.0])
print(l2)
```

a) [1, 2, 3, 1.0, 2.0, 3.0, 4, 'XYZ', 5]
b) [1, 2, 3, [1.0, 2.0, 3.0], 4, 'XYZ', 5]
c) [1, 2, 3, [1.0, 2.0, 3.0], 'XYZ', 5]
d) [1, 2, 3, 4, 'XYZ', 5, [1.0, 2.0, 3.0]]

v. What is the output of the following? [2]

```
A=[12,14]
B=[1,2,5,4]
A<B
```

a)False b)True c) Invalid Operation d) [1,2]

vi. What is the output of the following code [2]

```
sampleDict = dict([ ('first', 1),('second', 2), ('third', 3)])
print(sampleDict)
```

a)[('first', 100), ('second', 200), ('third', 300)]
b)Options: SyntaxError: invalid syntax
c) {'first': 1, 'second': 2, 'third': 3}

vii. Select the correct output of the following String operations [2]

```
str1 = "my isnameisisisisjaeisisis bond";
sub = "is";
print(str1.count(sub, 4))
```

a)5 b)6 c)7 d)8

viii. Which of the following will give "Simon" as output? [2]

```
str1="John,Simon,Aryan"
```

a) print(str1[-7:-12]) b) print(str1[-11:-7])
c) print(str1[-11:-6]) d) print(str1[-7:-11])

ix. What will be the output of the following Python code? [2]

```
i = 1
while True:
    if i%007 == 0:
        break
    print(i)
    i += 1
```

a) 1 2 3 4 5 6 b) 1 2 3 4 5 6 7 c) error d) none of the mentioned

x. What will be the output of the following Python code? [2]

```
i = 1
while True:
    if i%3 == 0:
        break
    print(i)
    i + = 1
```

a) 1 2 b) 1 2 3 c) error d) none of the mentioned

xi. What does the following code print to the console? [2]

```
if 5 > 10:
    print("fan")
elif 8 != 9:
    print("glass")
else:
    print("cream")
```

a) fan b) cream c) glass d) none of the above

xii. What does the following code print to the console? [2]

```
name = "maria"
if name == "melissa":
   print("usa")
elif name == "mary":
   print("ireland")
else:
   print("colombia")
```

a) usa b) maria c) Ireland d)Colombia

xiii. What will be the output of given Python code? [2]

```
str1="hello"
c=0
for x in str1:
  if(x!="l"):
     c=c+1
  else:
     pass
print(c)
```

a)2 b) 0 c) 4 d)3

xiv. What will be the output of the following Python code? [2]

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

a) 1 b) 1 3 5 7 ... c) 1 2 3 4 ... d) none of the mentioned

xv. Select the correct output of the following String operations [2]

```
str1 = "my isname isisis jameis isis bond";
sub = "is";
print(str1.count(sub, 4))
```

a) 5 b) 7 c) 6 d) 10

Q2 Solve any three out of four

a. Define broadcasting? Describe Rules for broadcasting? Write a numpy program to broadcast on different shapes of arrays where p(3,3) + q(3). [5]

b. Reshape the given input to 4 rows and 3 columns and Write a python code to get sum of last column only? [5]

Input: arr = np.array([1,2,3,4,5,6,7,8,9,10,11,12])
Expected Output: 30

c. Write a python code to find minimum and maximum values from each row and columns respectively from the following 2-D array. [5]

Input: A1=numpy.array([[34,43,73],[82,22,12],[53,94,66]])
Expected Output:
Original Array= [[34,43,73]
[82,22,12]
[53,94,66]]

Min from each row: [34,12,53]
Max from each col: [82,94,73]

d. Describe subplot? Write a python code to plot sin wave and cosine wave signal in vertical subplot. [5]

Q3 Solve any three out of four

a. Differentiate between write and append mode? Describe with code and example [5]

b. Write a user defined function Display_Odd_Lines() to display odd number lines from the text file. Consider file name as – friends.txt. [5]

Input:
Friends are crazy, Friends are naughty!
Friends are honest, Friends are best!
Friends are like keygen, friends are like license key !
We are nothing without friends, Life is not possible

c. Write a function count_lines() to count and display the total number of lines from the file. Consider file name as – friends.txt. [5]

Input:
Friends are crazy, Friends are naughty!
Friends are honest, Friends are best!
Friends are like keygen, friends are like license key !
We are nothing without friends, Life is not possible

d. Consider following lines for the file friends.txt and predict the output: [5]

Input:
Friends are crazy, Friends are naughty!
Friends are honest, Friends are best!
Friends are like keygen, friends are like license key !
We are nothing without friends, Life is not possible

Program:

```
f = open("friends.txt")
l = f.readline()
l2 = f.readline(18)
ch3=f.read(10)
print(l2)
print(ch3)
print(f.readline())
f.close()
```