Total No. of Questions – [3] Total No. of Printed Pages: IV

G.R./PRNNo.	

PAPER CODE	U123-202B(RE)

MAY 2023(INSEM+ ENDSEM) EXAM

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

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

Question No.	Question Description	Marks	CO mapped	Blooms Taxonomy Level
Q.1	i. Select the correct output of the following String operations str1 = "my isnameisisisisjameisisis bond"; sub = "is"; print(str1.count(sub, 4)) a.5 b.6 c.7 d.8	[2]	CO1	Understand
	ii. What will be displayed by the following code? list1 = [1, 3] list2 = list1 list1[0] = 4 print(list2) a.[4,3] b.[1,3] c.[1,4] d. [1,2,3]	[2]	CO1	Understand
	iii. Choose the correct way to access value **20** from the following tuple aTuple = ("Orange", [10, 20, 30], (5, 15, 25)) a. aTuple[1:2][1] b. aTuple[1:2](1) c. aTuple[2:3][1]	[2]	CO1	Understand

	d. aTuple[1][1]			
	iv. What is the output of the following code: dict1 = {"key1":1, "key2":2} dict2 = {"key2":2, "key1":1} print(dict1 == dict2) a.True b.False c.None of above	[2]	CO1	U

	v. Please select correct ways to empty the following dictionary
	
	student = {
	"name": "Emma",
	"class": 9,
	"marks": 75
	}
	a. del student
	b. del student[0:2]
	c. student.clear()
		[2]	CO1	Un

	vi. What is the output of the following code aTuple = (100, 200, 300, 400, 500) aTuple[1] = 80 print(aTuple) a. TypeError b. (100, 80, 200, 300, 400, 500) c. (80, 100, 200, 300, 400, 500)	[2]	CO1	Unde
	vii. What is the output of the following code: aList = [5, 10, 15, 25] print(aList[::-2]) a. [15,10,5] b.[25,10] c.[10,25] d[5,10,15	[2]	CO1	Under
	viii. What is the output of the following code: aList = [1, 2, 3, 4, 5, 6, 7] pow2 = [2 * x for x in aList] print(pow2) a.[2, 4, 8, 16, 32, 64, 128] b.[2, 4, 6, 8, 10, 12, 14] c.[2,4,8,6,12,10,14] d.[2, 4, 6, 12, 10, 12, 14]	[2]	CO2	Unders
	ix. Select which is true for for loop a) Python's for loop used to iterates over the items of list, tuple, dictionary, set, or string b) else clause of for loop is executed when the loop terminates naturally c) else clause of for loop is executed when the loop terminates abruptly d) We use for loop when we want to perform a task indefinitely until a particular condition is met	[2]	CO2	Underst
	x. What is the output of the following loop	[2]	CO2	Understa

for l in 'Jhon':
if l == 'o':
pass
print(l, end=", ")
a. J, h, n,
b. J, h, o, n,
c. J, h, o, n
d. J, h, n			

xi. What does the following code print to the console?
 	
hair_color = "blue"
if 3 > 2:
if hair_color == "black":
print("You rock!")
else:
print("Boring")
a. blue
b. black
c. Boring
d. You rock
	[2]	CO2	Understand

xii. Given the following function fun1() Please **select the correct function calls** def fun1(name, age): print(name, age) a. fun1(name='Emma', age=23) b. fun1(name='Emma', 23) c. fun1('Emma', 23) d. fun1()	[2]	CO2	Understand
xiii. Which of the following sequences would be generated : for i in range (5, 0, -2): print(i, end="") a.5 4 3 2 1 0 -1 b.5 4 3 2 1 0 c.5 3 1 d.None of the above	[2]	CO2	Understand
xiv. Select which is true for Python function 1. A Python function can return only a single value 2. A function can take an unlimited number of arguments. 3. A function can return multiple values. 4. Python function doesn't return anything unless and until you add a return statement a. Option 1 b. Option 2 and 3 c. Option 4 d. All of the above	[2]	CO2	Understand
xv. What will be the output of the following Python code? list1=[3, 4, 5, 20, 5, 25, 1, 3] list1.reverse() print(list1)	[2]	CO2	Understand

	a. [3, 4, 5, 20, 5, 25, 1, 3] b. [1, 3, 3, 4, 5, 5, 20, 25] c. [25, 20, 5, 5, 5, 4, 3, 3, 1] d. [3, 1, 25, 5, 20, 5, 4, 3]			
Q2	Solve any three out of four a. Write a program for following image: mtplogo.png i)Import required libraries ii)Read above image iii)Display above image iv)Rotate image by 90⁰ clockwise v)Display rotated image	[5]	CO3	Understa
	b. Justify Broadcasting rule with example: If the two arrays differ in their number of dimensions, the shape of the one with fewer dimensions is padded with ones on its leading (left) side.	[5]	CO3	Apply
	c. Write a NumPy program to Input: Array=[10 11 12 13 14] i)Calculate byte size of each element ii)Find data type of an iii)Find size of an array iv)Find shape of array v)Find of dimension of array	[5]	CO3	Apply
	d. Differentiate between Python list and NumPy array? What are the steps to display 1D, 2D and 3D arrays using numpy library, explain with example?	[5]	CO3	Understa
Q.3	Solve any three out of four Input: Refer .txt file for question: b and c. File Name:**Engineedata.txt** Engineers usually design or build things. Some engineers also use science, mathematics, and other skills to solve Technology problems. There are different types of engineers that design everything from computers and buildings to watches and websites.			
	a. Describe working of i) read() ii) read(n) iii) readline() iv) readline(n) v) readlines() Function in file handling with example.	[5]	CO4	Understa
	b. Write a program to first display odd number of lines and secondly display even number lines from the text file. (Refer **Engineedata.txt** above file)	[5]	CO4	Apply
	c. Write a program to count and display the total number of words from the file and write expected word count. (Refer **Engineedata.txt** above file)	[5]	CO4	Apply
	d. Consider following lines for the file test.txt and predict the output: Program: L = ["VIIT", " college", " for Engineers\n"] W = ["Python", " for", " Engineers "] f = open('test.txt', 'w') f.writelines(L) f.writelines(W) f = open("test.txt", "a") f.writelines([" \nWelcome!", " To the session."]) f.close() f = open("test.txt", "r") print(f.read()) f.close()	[5]	CO4	Understar