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RV College of Engineering®
Mysore Road, RV Vidyaniketan Post,
Bengaluru - 560059, Karnataka, India

Department of Artificial Intelligence and Machine Learning
CONTINUOUS INTERNAL EVALUATION (CIE)
II SEMESTER – May 2024 CIE1

Course Code: AI125AIA | **Course Title: Introduction to Python Programming**

Time: 90 min | **Max. Marks: 50**

Note: Answer all the Questions

Q.N	Questions	M	CO	BT
1a	Deliberate on "Python is cross-platform interpreter-based glue language".	5	CO1	L1
1b	With a suitable example, discuss the use of triple quotes (single or double) and line continuation character (\ ) in Python strings	5	CO1	L1
2a	Use suitable arithmetic operators in Python to find and print the result for the following problems. i) If each bottle needs 2 litters of syrup and there are 30 bottles, how much sugar syrup is needed to fill all of them, and how many drinks can be made from one bottle if each glass contains 200 ml of syrup? ii) The total money earned by the company is Rs. 42425. The money is to be divided into 15 equal parts for partners. Find the total share of 3 partners.	5	CO1	L2
2b	Apply the suitable string methods to do the following for the given String. 'Introduction to Python programming '. i) Replace the word Python with Java ii) Remove the spaces at the end of the string. iii) Find the number of characters in the given string	5	CO2	L3
3a	Accept the three sides of a triangle from the user and check whether a given triangle is equilateral, scalene, or isosceles triangle	5	CO3	L2
3b	Explain the working of break and continue statements with suitable examples	5	CO2	L2
4a.	Demonstrate identity operators in Python with syntax and examples.	5	CO2	L3
4b.	Write a Python program to find whether the given number is an Armstrong number or not. *Note: For example, 371 is an Armstrong number since 3**3 + 7**3 + 1**3 = 371* *The sum of cubes of individual digits of the number should be the number itself.*	5	CO3	L3
5a.	Compute the average of numbers given by the user using a while loop. If the user gives input as "done or DONE" the control of execution comes out of the loop.	5	CO3	L3
5b.	Illustrate the use of any 5 Augmented Assignment Operators in Python	5	CO1	L1

Course Outcomes: After completing the course, the students will be able to	
CO1	Apply fundamental knowledge of Python programming to solve the engineering problems
CO2	Identify the problems in various application domains and solve them using different concepts of Pyth programming
CO3	Design a solution using Python programming with societal, environmental, and other concerns by engagin lifelong learning for emerging technology
CO4	Demonstrate the use of modern tools by exhibiting teamwork and effective communication skills

BT-Blooms Taxonomy, CO-Course Outcomes, M-Marks

	CO1	CO2	CO3	CO4	L1	L2	L3	L4	L5	L
Marks Distribution	20	15	15	-	15	15	20	-	-	

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USN: 1RV23EC011

Department of Artificial Intelligence and Machine Learning

Course Code:AI125AIA
Sem: II

Date:22/06/2024
Duration: 90 Minutes

CIE-II
Introduction to Python Programming

Answer all Questions

SL. No		Questions	M	BT	CO
1	a)	Write a program that generates a specific series based on a given number using a for loop. The series should decrement to zero and then increment back to the given number. For example, if the input number is 5, the series should be: [5, 4, 3, 2, 1, 0, 1, 2, 3, 4, 5].	5	2	3
	b)	Illustrate any 5 String manuplation functions	5	2	1
2	a)	Discuss the following 'tuple' operations with an example for each: i)concatenation. ii)iteration. iii)membership.	6	2	2
	b)	Define function along with syntax in Python	4	3	1
3	a)	Differentiate between List and Dictionary	4	3	3
	b)	Consider the List B = [1,2,3,4,5], Perform the following operations i. Add value 12 ii. Remove the value 4 from the list. iii. find sum of all the elements in the list and add the sum at the end of the list	6	3	2
4	a)	Write a Python program to remove specified keys from the given dictionary my_dict = {1: 'baz', 2: 'bar', 3: 'foo', 4: 'qux'}. The keys to remove are specified in the list, keys_to_remove = [1, 3]. Note: Do not use functions.	6	3	3
	b)	Write a Python program using the greet function that greets a person. If a name is provided, the program should greet the person using their name. If no name is provided, the program should use a default greeting.	4	3	1
5	a)	Illustrate with an example the arbitrary arguments *args and keyword arguments **kwargs used in function	5	3	3
	b)	Write a python program to generate the prime numbers for a given number	5	3	3

Course Outcome	
CO1	Apply fundamental knowledge of Python programming to solve the engineering problems
CO2	Identify the problems in various application domains and solve them using different concepts of Python programming
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M-Marks, BT-Blooms Taxonomy Levels, CO-Course Outcomes

Marks Distribution	Particulars	CO1	CO2	CO3	CO4	L1	L2	L3	L4	L5	L6
	Max Marks	13	12	25	-	16	34	-	-	-	-

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RV College of Engineering®

Academic Year 2023-24 (EVEN Semester)

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Department of Artificial Intelligence and Machine Learning

Course Code: : AI125AIA

Semester : II

Max Marks : 50

Date : 03-07-2024

Time : 10:30 – 12:00 PM

Duration : 90 mins

Introduction to Python Programming

CIE 3 (Improvement CIE)

Note: Answer all the Questions

SL. No		Questions	M	BT	CO
1	a	Write a program to Create a text file called my_file.txt with some content, capitalize the first letter of every word, and print the content of the file in reverse order.	06	2	2
	b	Write a Python program to handle a ZeroDivisionError exception when dividing a number by zero. (Hint: Take inputs from the user)	04	2	1
2		What are the three types of access modifiers that limits access to the class members. Showcase three separate programs, each illustrating different access modifiers, by defining a class named 'Employee' with members {Empid, name, salary, designation}.	10	3	2
3	a	Write a Python program to raise an exception by defining a function to check the age of a person. (Hint1: Accepting input as age and throwing an exception if age is less than 18. Hint 2: Use try block to catch the exception.)	04	3	2
	b	Write a Python program to create a class 'Student' with members {id, name, gender, branch, percentage}. Define appropriate member functions for reading and displaying the student's information.	06	3	1
4	a	Write a Python program to create a class 'Person' with members {firstname, lastname}. Create a child class inheriting from the parent class (Inheritance)	06	2	1
	b	Define polymorphism. Write a Python program that overloads + operator, to add two objects of a class.	04	2	1
5	a	What is a Constructor? Discuss different types of Constructors.	05	1	1
	b	Differentiate between class method and static method with suitable examples.	05	2	1

M-Marks, BT-Blooms Taxonomy Levels, CO-Course Outcomes

Marks Distribution	Particulars	CO1	CO2	CO3	CO4	CO5	L1	L2	L3	L4	L5	L6
	Max Marks CIE	30	20	-	-	-	05	25	20	-	-	-

Course Outcomes: After completing the course, the students will be able to:-	
CO1	Apply fundamental knowledge of Python programming to solve the engineering problems
CO2	Identify the problems in various application domains and solve them using different concepts of Python programming
CO3	Design a solution using Python programming with societal, environmental, and other concerns by engaging in lifelong learning for emerging technology
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AI115AIA / AI125AIA / 22PL25A

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RV COLLEGE OF ENGINEERING®

(An Autonomous Institution Affiliated to VTU)

I / II Semester B. E. Regular / Supplementary Examinations Aug-2024

INTRODUCTION TO PYTHON PROGRAMMING

Time: 03 Hours *Maximum Marks: 100*

Instructions to candidates:

1. Answer all questions from Part A. Part A questions should be answered in first three pages of the answer book only.
2. Answer FIVE full questions from Part B. In Part B question number 2 & 11 are compulsory. Answer any one full question from 3 and 4, 5 and 6, 7 and 8, 9 and 10, and 11 lab components (compulsory).

PART-A

			M	BT	CO
1	1.1	What is the output of the following snippet? $T1 = (10, 20, [100, 200, 300], 30, 40, 50)$ $T1[2][1] = "RVCE"$ $print(T1)$	01	3	1
	1.2	What will be the output of this code? $a = "RV\ College\ of\ Engineering\ Bengaluru"$ $print(a.lower())$	01	4	1
	1.3	What is the output of the following snippet? $a = int(input("Enter\ the\ Number:"))$ $print(type(a))$	01	4	1
	1.4	What is the output of the following code? $str = "ARTIFICIAL\ INTELLIGENCE"$ $print(str[-5:-2])$	01	3	1
	1.5	Consider the following sequence and predict the output. $l = [10, 20, 30, 40, 50, 60, 70, 80, 100]$ $print(l[::2])$ $print(l[1::2])$	01	4	1
	1.6	Define typecasting in Python.	01	1	1
	1.7	For the following snippet, write the output $d = \{\}.fromkeys(["Name", "Age", "Street"], None)$ $print(d)$	01	3	1
	1.8	Write an example for the Global variable.	01	1	1
	1.9	List the differences between rstrip() and lstrip().	01	1	2
	1.10	Write the output for the following code? $D = \{1: "Mahesh", 2: "Suresh", 3: "Vignesh", 4: "Viresh", 5: "Vijay"\}$ $if\ (3\ in\ D):$ $\quad print(D[4])$	01	3	1

PART-B

2	a	Discuss the primitive Data Types in Python with an example.	07	1	1
	b	Illustrate the use of escape sequences with strings in python and list the advantages of it.	07	3	1
3	a	Demonstrate if, if-elif, if-elif-else statements with an example.	07	3	1
	b	Illustrate how to avoid Infinite Loops with a snippet and also trace the program.	07	3	2

OR

4	a	Summarize string manipulation functions for the string str = "RV College of Engineering." Using if-elif-else statements.	07	3	1
	b	Consider a string "Engineer" and terminate a program when the interpreter gets a character 'i'. Demonstrate it using While loop.	07	3	1
5	a	Illustrate break, continue, and pass statements.	07	3	1
	b	Create a tuple and perform the following operations. i) Adding the items into the tuple. ii) Concatenating the tuple iii) Iterating the tuple iv) Deleting the tuple	07	3	1
		OR			
6	a	Create a student database using the concept of Dictionaries.	07	3	2
	b	Write a program to perform the addition of two matrices using lists.	07	3	1
7	a	Discuss arbitrary keyword arguments and default values.	07	2	1
	b	Illustrate the different modes of file with their syntax and perform the read and writing operation in files.	07	3	1
		OR			
8	a	Summarize Global variables and constants in Python.	07	2	1
	b	Illustrate use of try, except and finally blocks in Python.	07	3	1
9	a	Illustrate the concept of encapsulation in Python.	07	3	1
	b	Create a class called Vehicle with the constructor to initialize the variable brand, model, and type. Also, create the appropriate methods to alert the driver when the speed reaches certain threshold.	07	3	2
		OR			
10	a	Illustrate Function Polymorphism in Python.	07	3	1
	b	Discuss the usage of Private, Public and Protected access modifiers in Inheritance.	07	2	1
11	a	Implement Set and Tuple Operations.	10	3	2
	b	Read a paragraph from the user and count the number of words, and frequency of words appearing, and search for the specific word.	10	3	2