

**BALLARI INSTITUTE OF TECHNOLOGY & MANAGEMENT**

(Autonomous Institute under Visvesvaraya Technological University, Belagavi)

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Course Code 

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Fifth Semester B.E. Degree Examinations, September / October 2024

**INTRODUCTION TO PYTHON PROGRAMMING**

Duration: 3 hrs

Max. Marks: 100

*Note: 1. Answer any FIVE full questions choosing ONE full Question from each Module.**2. Missing data, if any, may be suitably assumed*

<u>Q. No</u>	<u>Question</u>	<u>Marks</u>	<u>(RBTL:CO:PI)</u>
<b><u>Module-1</u></b>			
1.	a. Demonstrate the difference between the == and = operators using python code snippets	06	(2 :1 : 1.2.1)
	b. List the Boolean and comparison operators in python and evaluate the following expression. <b>(4 &lt; 5) and (5 &lt; 5)</b>	06	(2 :1 : 1.2.1)
	c. <b>Develop</b> a python program to calculate and <b>display</b> the factorial of a number using function. Pass the number as parameter to the function.	08	(3 :1 : 1.2.1)
<b>(OR)</b>			
2.	a. Demonstrate the 'continue' and 'break' statements using flowcharts and snippets of python code.	08	(2 :1 : 1.2.1)
	b. Explain the <b>range ()</b> function in detail with the help of a <b>for</b> loop, along with python code.	06	(2 :1 : 1.2.1)
	c. Develop a program to read details such as Name and Year of Birth, calculate the person's current age, and then display the age after two years along with appropriate messages.	06	(3 :1 : 1.2.1)
<b><u>Module-2</u></b>			
3.	a. Illustrate the string concatenation and replication with the help of python piece of code.	06	(2 :2 : 1.2.1)
	b. Explain four different types of string literals.	08	(2 :2 : 1.2.1)
	c. Explain string methods join (), split () and strip () with python piece of code as an example.	06	(2 :2 : 1.2.1)
<b>(OR)</b>			
4.	a. Explain <i>in</i> and <i>not in</i> operators in string, how they print in the python programming language.	06	(2 :2 : 1.2.1)
	b. Demonstrate indexing and slicing in the python programming language using the given variable in the "Introduction To Python Programming"	06	(2 :2 : 1.2.1)
	c. Demonstrate upper () and isupper () string methods with the piece of python code.	08	(2 :2 : 1.2.1)
<b><u>Module-3</u></b>			
5.	a. Explain the following with piece of code and output. (i) Slicing of the list (ii) Updating the list (iii) Concatenation of the list.	06	(2 :3 : 1.2.1)
	b. Demonstrate the multiple assignment trick in lists.	04	(2 :3 : 1.2.1)
	c. Write a python code to read N numbers from the console and create a list and print, the mean, variance, and standard deviation of entered numbers.	10	(2 :3 : 1.2.1)

**Note: (RBTL - Revised Bloom's Taxonomy Level: CO - Course Outcome: PI- Performance Indicator)**

(OR)

6. a. What are dictionaries in python? What is the difference between list and dictionary? Give an example to show how 'in' operator can be used in dictionaries. **06** (1 :3: 1.2.1)
- b. **Illustrate** the keys (), values () and items () functions in dictionaries with an example. **06** (2 :3: 1.2.1)
- c. Numbers=['12374236017368509']. Develop a python program to count the frequency of occurrences of each digit and display the output as dictionary of numbers and its occurrences as key value pairs Respectively. **08** (3 :3: 1.2.1)

**Module-4**

7. a. Develop a class point representing a point on coordinate system. Implement following functions **10** (3 :4: 1.2.1)
- (i) A function read point () to receive x and y attributes of a point object as user input.
- (ii) A function distance () which takes two objects of point class as arguments and computes the Euclidean distance between them.
- b. Differentiate between copy.copy () and copy.deepcopy () with an object rectangle. **10** (2 :4: 1.2.1)

(OR)

8. a. Illustrate pure functions with help of real time class time. **10** (2:4: 1.2.1)
- b. Construct the class called rectangle and initialize its height = 100, width = 200 starting point as x=0, y=0 write a program to display the center point coordinate of a rectangle. **10** (3 :4: 1.2.1)

**Module-5**

9. a. Mention any four tasks involved in working with excel spread sheets using python. **06** (2 :5: 1.2.1)
- b. Illustrate conversion between letters and numbers in column using openpyxl module. **06** (2 :5: 1.2.1)
- c. Demonstrate the following with the piece of python codes, **08** (2 :5: 1.2.1)
- (i) Getting row and column number (ii) Cell value.

(OR)

- 10 a. Write python snippets of code to read an excel spread sheets documents. **06** (2 :5: 1.2.1)
- b. What are the common tasks performed using openpyxl module with excel spread sheets using python illustrate. **06** (2 :5: 1.2.1)
- c. Display the third column and maximum row and column in the following spread sheet using the python program. **08** (2 :5: 1.2.1)

4/5/2015 1:34:02 PM	Apples	73
4/5/2015 3:41:23 AM	Cherries	85
4/6/2015 12:46	Pears	14
4/8/2015 8:59	Oranges	52
4/10/2015 2:07	Apples	152
4/10/2015 18:10	Bananas	23
4/10/2015 2:40	Strawberries	98

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