

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>
<u>Module-1</u>			
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. (4 < 5) and (5 < 5)	06	(2 :1 : 1.2.1)
	c. Develop a python program to calculate and display the factorial of a number using function. Pass the number as parameter to the function.	08	(3 :1 : 1.2.1)
(OR)			
2.	a. Demonstrate the 'continue' and 'break' statements using flowcharts and snippets of python code.	08	(2 :1 : 1.2.1)
	b. Explain the range () function in detail with the help of a for 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)
<u>Module-2</u>			
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)
(OR)			
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)
<u>Module-3</u>			
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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