

**BALLARI INSTITUTE OF TECHNOLOGY & MANAGEMENT**

(Autonomous Institute under Visvesvaraya Technological University, Belagavi)

USN Course Code          Third Semester MBA Degree Examinations, February 2026  
**PYTHON PROGRAMMING FOR MANAGERS**

Duration: 3 hrs

Max. Marks: 100

- Note:* 1. Answer any FOUR full questions from Question No. 1 to 7.  
2. Question No. 8 is compulsory  
3. Missing data, if any, may be suitably assumed

<u>Q. No</u>	<u>Question</u>	<u>Marks</u>	<u>(RBTL:CO:PO)</u>
1.	a. What is a data frame and how is it different from a 2-D array?	03	(1:1:2)
	b. Describe and demonstrate the different methods used to create a Pandas series in Python with suitable illustrations.	07	(2:1:2)
	c. <b>Demonstrate</b> the various attributes of a Pandas series and explain how they can be used to access and analyze series data with examples.	10	(2:1:2)
2.	a. Define a keyword. List any six keywords supported in Python.	03	(1:2:4)
	b. What is a conditional statement? Discuss if and if else statements with flow chart.	07	(2:2:4)
	c. Write a python program to display grade based upon the following criteria: A: 90 and above B: between 80 and 89 C: between 70 and 79 D: between 60 and 69 F: below 60	10	(3:2:4)
3.	a. Discuss string data structure with example.	03	(1:3:4)
	b. Show that lists are mutable.	07	(2:3:4)
	c. Explain the tuples operations in Python for slicing, concatenation, repetition, and membership operator with suitable examples.	10	(3:3:4)
4.	a. What is a function? Explain the different types of function.	03	(1:3:4)
	b. Write a Python program to read a file named sample.txt and print the number of lines in Text File.	07	(3:3:4)
	c. List and explain the methods or built in functions of strings and explain them with examples.	10	(3:3:4)
5.	a. List all the meta character in regular expression.	03	(1:4:4)
	b. Explain combining searching and extraction in regular expression.	07	(2:4:4)
	c. What is regular expression? With syntax explain the re.search() and re.findall() modules in regular expressions with examples.	10	(3:4:4)

**Note: (RBTL - Revised Bloom's Taxonomy Level: CO - Course Outcome: PO – Programme Outcome)**

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| 6  | a. | What is NumPy? Explain how to create NumPy arrays from list.   | 03 | (1:5:4) |
|    | b. | <b>Compare and contrast</b> Python lists and NumPy arrays.   | 07 | (2:5:4) |
|    | c. | With an example program, explain how NumPy performs statistical computations on array data using functions such as max(), min(), sum(), mean(), and std(). | 10 | (3:5:4) |
| 7. | a. | List any three applications of classification techniques.  | 03 | (1:5:4) |
|    | b. | Discuss data classification process.   | 07 | (3:5:4) |
|    | c. | Explain K-means and K-Medoids clustering algorithms.   | 10 | (3:5:4) |

8. **Case Study**

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| a. | A Professor maintains the marks of students in a particular subject using a Python list. The professor wants to perform various operations such as adding new marks, removing low scores, sorting the list, and analyzing student performance. | 10 | (3:2:4) |
|----|--|----|---------|

Given the list of student marks:

```
marks = [78, 85, 69, 92, 88]
```

Based on the given list of marks, explain and demonstrate the use of the following Python list methods:

- (i) append()
- (ii) insert()
- (iii) remove()
- (iv) sort()
- (v) pop()

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| b. | Write a python program that uses regular expression to search for lines that start with From and have an @ sign. | 10 | (3:3:4) |
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