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Course Code

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Third Semester MBA Degree Examinations, March/April 2024

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. Discuss the Data classification process.	03	(1 :1 : 1)
	b. What are the key insights we can derive from analyzing a confusion matrix in the context of classification problems?	07	(2 :1 : 1)
	c. How does the K-medoids algorithm differ from the K-means algorithm, and what advantages does it offer in clustering tasks?	10	(2 :1 : 1)
2.	a. What are the rules for naming variables in Python? Give example	03	(1 :2 : 1)
	b. Develop a Python function that computes the area of a rectangle using length and width as parameters accepted by user.	07	(3 :2 : 2)
	c. Demonstrate with example, the break and continue statements are used in while loop.	10	(3 :2 : 2)
3.	a. Write output for the following range functions (i) range(10) (ii) range(1, 10) (iii) range(2, 10, 2)	03	(2 :2 : 2)
	b. Write a Python function to read specific lines of text from a file.	07	(3 :2 : 3)
	c. For given string S = "PYTHON", find the output for the following (i) S[0:len(S)] (ii) S[:] (iii) S[0:3] (iv) S[-4:-1] (v) S[-4:] (vi) S[-4:4]	10	(2 :2 : 2)
4.	a. What are Lists? Justify the statement "Lists are mutable" with an example.	03	(2 :3 : 1)
	b. Differentiate Remove and Pop methods on Lists with examples. How to delete more than one element from a List.	07	(3 :3 : 2)
	c. Discuss methods to create a tuple and compare tuple elements with an example.	10	(3 :3 : 2)
5.	a. Implement a python program using lists to store and display the average of N integers.	03	(3 :3 : 3)
	b. Define dictionary. Discuss any four operations on dictionaries.	07	(2 :3 : 3)
	c. Explain the syntax of user defined function in python. Write python function to find sum of three numbers.	10	(3 :2 : 3)

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| 6. | a. What is the use of the len() function? Give one example. | 03 | (2 :2 : 1) |
| | b. Define regular expression. Write a Python program to find the substrings within a string | 07 | (3 :4 : 3) |
| | c. Identify the various metacharacters supported in PYTHON and explain the significance of any six metacharacters. | 10 | (3 :4 : 1) |
| 7. | a. How the concatenation of two arrays in NumPy is accomplished? Give example. | 03 | (3 :5 : 2) |
| | b. Define Pandas Data Frame. Construct a Data Frame from a dictionary with any suitable data. | 07 | (3 :5 : 3) |
| | c. Implement the following methods of descriptive and summary statistics with suitable example.
(i) sum (ii) mean (iii) std (iv) cumsum (v) argmin | 10 | (2 :5 : 3) |
| 8. | <u>Case Study</u> | | |
| | a. Write a python program that uses regular expression to search for lines that start with From and have an @ sign. | 10 | (3 :4 : 3) |
| | b. Compare and contrast the Agglomerative and Divisive Hierarchical clustering methods | 10 | (3 :1 : 3) |

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