

Enrollment No.....



Faculty of Management Studies

End Sem Examination Dec 2024

MS3CO40 Data Analytics with Python

Programme: BBA

Branch/Specialisation: Business Analytics

Duration: 3 Hrs.**Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

- | | | Marks | BL | PO | CO | PSO |
|--------|--|-------|----|------|----|-----|
| Q.1 i. | What will be the output of the following Python code?
<pre>>>>t = (1, 2, 4, 3, 8, 9) >>>>[t[i] for i in range(0, len(t), 2)]</pre> (a) [2, 3, 9] (b) [1, 2, 4, 3, 8, 9]
(c) [1, 4, 8] (d) (1, 4, 8) | 1 | 1 | 1, 2 | 1 | |
| ii. | To shuffle the list(say list1) what function do we use?
(a) list1.shuffle()
(b) shuffle(list1)
(c) random.shuffle(list1)
(d) random.shuffleList(list1) | 1 | 1 | 1 | 1 | |
| iii. | Which of the following is a correct syntax for the map() function in Python?
(a) map(function, sequence)
(b) map(sequence, function)
(c) map(sequence)(function)
(d) map(function)(sequence) | 1 | 1 | 1 | 2 | |
| iv. | Which of the following statements is wrong about inheritance?
(a) Protected members of a class can be inherited
(b) The inheriting class is called a subclass
(c) Private members of a class can be inherited and accessed
(d) Inheritance is one of the features of OOP | 1 | 1 | 1, 2 | 2 | |
| v. | NumPy arrays can be _____. | 1 | 1 | 1, 2 | 3 | |

P.T.O.

		[2]			
		(a) Indexed	(b) Sliced		
		(c) Iterated	(d) All of these		
vi.	Observe the following code and identify what will be the outcome? import numpy as np x = np.array([[0, 1], [2, 3]]) np.transpose(x) (a) array([[0, 2],[1, 3]]) (b) array([[0, 1],[2, 3]]) (c) array([[2, 3],[0, 1]]) (d) None of these	1	1	1, 2	3
vii.	What will be the output of following code? import pandas as pd pd.Series([1,2], index= ['a','b','c']) (a) Syntax error (b) Index error (c) Value error (d) None of these	1	1	1, 2	4
viii.	Amongst which of the following is a correct syntax for panda's dataframe? (a) Pandas.dataframe(data, index, dtype, copy) (b) Pandas.dataframe(data, index, columns, dtype, copy) (c) Pandas.dataframe(data, index, dtype, copy) (d) Pandas.dataframe(data, index, rows, dtype, copy)	1	1	1	4
ix.	To remove noise and inconsistent data _____ is needed. (a) Data cleaning (b) Data transformation (c) Data reduction (d) Data integration	1	1	1	5
x.	_____ investigates how computers can learn (or improve their performance) based on data. (a) Artificial Intelligence (b) Machine Learning (c) Statistics (d) Visualization	1	1	1	5
Q.2	i. What is the difference between mutable data type and an immutable data type?	2	1	1, 2	1
	ii. What are the key features of Python?	3	1	1	1

		[3]			
		iii. Explain operations of list.	5	2	1, 2
OR	iv. Write a program to reverse a tuple.	5	3	3, 4	1
Q.3	i. Explain map(), filter() methods.	2	2	1, 2	2
	ii. What is an inheritance? Explain all types with a suitable example.	8	3	1, 3	2
OR	iii. What is method overloading and overriding? Explain both with an example.	8	3	1, 3	2
Q.4	i. What's the difference between a Python list and a NumPy array?	3	1	1	3
	ii. How do you reshape a NumPy array?	7	3	2, 3	3
OR	iii. How do you find the mean, median, and standard deviation of a NumPy array?	7	3	2, 3	3
Q.5	i. What is the difference between a series and a DataFrame?	4	1	1	4
	ii. Write a program to create the pandas series of all the characters in the name accepted from user.	6	3	2, 3	4
OR	iii. What is multi indexing in pandas? How would you merge two data frames in pandas?	6	3	1, 3	4
Q.6	Attempt any two:				
	i. How to extract data from PDF files in Python?	5	3	2, 3	5
	ii. What is data cleaning, and why is it important?	5	1	1, 2	5
	iii. How can you create dataset in Python?	5	3	2, 3	5

Marking Scheme
MS3CO40 (T) Data Analytics with Python (T)

Q.1	i)	(c) [1, 4, 8]	1
	ii)	(c) random.shuffle(list1)	1
	iii)	(a) map (function, sequence)	1
	iv)	(c) Private members of a class can be inherited and accessed	1
	v)	(d) All of these	1
	vi)	(a) array ([[0, 2], [1, 3]])	1
	vii)	(c) Value error	1
	viii)	(b) Pandas.dataframe(data, index, columns, dtype, copy)	1
	ix)	(a) Data cleaning	1
	x)	(b) Machine Learning	1
Q.2	i.	Difference between – 2 marks	2
	ii.	Key features - 3 marks	3
	iii.	List 2 marks, Explanation – 3 marks	5
OR	iv.	Type – 2 mark, Explanation – 3 mark	5
Q.3	i.	Map -1 mark, filter mrthod – 1 mark	2
	ii.	Importance- 2 marks Explanation & types – 6 marks	8
OR	iii.	Overloading and overriding 2 mark Explain both with an example. 6 mark	8
Q.4	i.	What's the difference between a Python list and a NumPy array?	3
	ii.	Reshape 4 mark NumPy 2 mark Array 2 mark	7
OR	iii.	find the mean, median, and standard deviation 4 mark explain 3 mark	7

Q.5	i.	Series 2 mark Data Frame 2 mark	4
	ii.	pandas 2 mark program 4 mark	6
OR	iii.	indexing in pandas 2 mark merge 4 mark	6
Q.6		Attempt any two:	
	i.	Explain PDF files 2 mark Python 3 mark	5
	ii.	data cleaning 2 mark important 3 mark	5
	iii.	create dataset 2 mark process 3 mark	5
