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22MCA31

Third Semester MCA Degree Examination, Dec.2024/Jan.2025
Data Analytics using Python

Time: 3 hrs.

Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	Describe arithmetic operators, assignment operators, logical operators and comparision operators in detail with example.	10	L2	CO1
	b.	Explain with syntax and example different types of python data types and type( ) function.	10	L2	CO1
		OR			
Q.2	a.	Explain how to define and call a user defined function in python. Write a python program to check whether a given number is odd or even using function.	10	L2	CO1
	b.	Discuss different forms of if control statements with example. Explain the need of break and continue statements.	10	L2	CO1
		Module – 2			
Q.3	a.	Explain any five operations performed on string with an example.	10	L2	CO2
	b.	Explain list creation, indexing and built-in functions used on lists with syntax and examples.	10	L2	CO2
		OR			
Q.4	a.	Create a function product and demonstrate function overloading by accepting input and print their product.	10	L3	CO2
	b.	What is a file? What are the different modes of opening a file?	10	L3	CO2
		Module – 3			
Q.5	a.	What is data preprocessing? Explain the steps involved in preprocessing the data.	10	L3	CO3
	b.	Discuss in detail about data transformations.	10	L3	CO3
		OR			
Q.6	a.	Write a note on string manipulation using the regular expression methods.	10	L3	CO3
	b.	Explain combining and merging data-sets with an example.	10	L3	CO3

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		Module – 4			
Q.7	a.	What is web scrapping? Explain the python libraries used for web scrapping.	10	L3	CO4
	b.	Explain the steps involved in fetching the data by submitting the form.	10	L3	CO4
		OR			
Q.8	a.	Explain NumPy array attributes with example.	10	L3	CO4
	b.	Write a note on aggregation functions available in NumPy with example.	10	L3	CO4
		Module – 5			
Q.9	a.	Implement a python program to demonstrate data visualization using matplotlib.	10	L3	CO4
	b.	Write short notes on: i) Matplot library ii) Seaborn library.	10	L3	CO4
		OR			
Q.10	a.	Create a python program to demonstrate data visualization to plot a line plot, scatter plot using seaborn.	10	L3	CO4
	b.	Write a note on multiple subplots with examples.	10	L3	CO4

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