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Third Semester MCA Degree Examination, Dec.2023/Jan.2024 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 the following with examples: i) Keywords ii) Data types iii) Statements iv) Expressions.	8	L2	CO1
	b.	Discuss on various types of operators with examples.	8	L2	CO1
	c.	Write a python program to check whether the given year is leap year or not.	4	L2	CO1
OR					
Q.2	a.	Describe the for statement with an example.	5	L2	CO1
	b.	Write a python program to print the following pattern: 1 1 2 1 2 3 1 2 3 4 1 2 3 4 5	5	L2	CO1
	c.	What is function? Discuss on various types of functions with examples.	10	L2	CO1
Module – 2					
Q.3	a.	Explain any five string methods with examples.	10	L3	CO2
	b.	Explain the concepts of sets and dictionary with examples.	6	L3	CO2
	c.	Illustrate the concepts of list slicing with examples.	4	L3	CO2
OR					
Q.4	a.	Explain the following with an example program: i) Inheritance ii) Operator overloading.	10	L3	CO2
	b.	Illustrate the various modes of opening files with examples.	10	L3	CO2
Module – 3					
Q.5	a.	Explain the following methods related to database with examples: i) create ii) insert iii) execute iv) fetchall	8	L3	CO3
	b.	How to handle missing values in python? Explain with examples.	6	L3	CO3
	c.	Explain the reading and writing data in text format in python.	6	L3	CO3

OR

Q.6	a.	Explain the following merge methods: i) Outer ii) Left iii) Right	10	L3	CO3
	b.	Explore the following data transformation methods: i) Discretization and binning ii) Detecting and filtering outliers iii) Renaming axis indexes.	10	L3	CO3

Module – 4

Q.7	a.	What is Web scraping? Explain the various methods available in requests module with an example program.	10	L3	CO3
	b.	Discuss the implementation of web scraping in python with beautiful soup.	10	L3	CO3

OR

Q.8	a.	Explain the attributes of arrays in numpy with examples.	10	L3	CO3
	b.	Write a python program to demonstrate the following operations using numpy array: i) Array searching ii) Sorting iii) Splitting iv) Broadcasting v) Concatenation	10	L3	CO3

Module – 5

Q.9	a.	Describe the concepts of matplotlib package in detail.	10	L4	CO4
	b.	Write a python program for visualization of lineplot, histogram and scatter plot using matplotlib package.	10	L4	CO4

OR

Q.10	a.	Explain the concepts of seaborn package in detail.	10	L4	CO4
	b.	Explain the concepts of time series analysis with pandas.	10	L4	CO4

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