PRIYADARSHINI COLLEGE OF ENGINEERING, NAGPUR

Department :CT Semester: VII Section: A/B

CAT-I (2023-24)

Subject: Data Visualization Subject Code: BTCT702T-3

Duration: 1.5 Hrs Max. Marks: 35

Note:
1) All questions are compulsory.

2) All questions carry marks as indicated.

Q.No.	Questions	Marks	CO	BL
1 a.	i) _____ statistics describes the characteristics or properties of the data.	1	1	1
	a) Descriptive b) Inferential c) Continuous d) Normal			
	ii) _____ statistics is generally used when the user needs to make a conclusion about the whole population at hand, and this is done using the various types of tests available.	1	1	1
	a) Descriptive b) Inferential c) Continuous d) Normal			
b.	Differentiate between Descriptive and Inferential Statistics.	5	1	2
c.	Explain any three data types of the R-object.	7	1	2

OR

Q.No.	Questions	Marks	CO	BL
2 a.	i) _____ are tabular data objects.	1	1	1
	a) Data frames b) List c) Matrix d) Vector			
	ii) A _____ in R can store an atomic vector, group of atomic vectors or a combination of many R objects.	1	1	1
	a) Variable b) List c) Matrix d) Vector			
b.	Explain the statement of Hypothesis in detail	5	1	2
c.	Explain in short the following term	7	1	2
	i) Random Variables ii) Normal Probability Distribution			
3 a.	i) _____ package is used to arrange data set values on ascending or descending order	1	2	1
	a) dplyr b) data.table c) ggplot2 d) readr			
	ii) _____ provides you with the environment and tools to solve your business problems by collaboratively working with data.	1	2	1
	a) Pycharm Studio b) Visiual Studio			
	c) Watson Studio d) all of the mentioned			
b.	Explain Scatter Plot ? Also explain the advantage and limitation of scatter plot.	5	2	2
c.	What is dataframe and how it is created in R ?	7	2	2

OR

Q.No.	Questions	Marks	CO	BL
4 a.	i) _____ helps in reading various forms of data into R with 10x faster speed.	1	2	1
	a) dplyr b) data.table c) ggplot2 d) readr			

b. _____package reduces the pain of working of data time variable in R.	1	2	1

a) dplyr   b) Lubridate   c) reshape2   d) readr

b. Explain Bar plot in detail.	5	2	2
c. Explain Box and Histogram plot with advantgae and limitation.	7	2	2

5 a. i) What will be the output of the following Python code?	1	3	1

```
x = 'abcd'
for i in range(len(x)):
    print(i)
```

a) error   b) 1 2 3 4   c) a b c d   d) 0 1 2 3 ✓

ii) What will be the output of the following code snippet?	1	3	1

```
print(type(5 / 2))
print(type(5 // 2))
```

a) float and int ✓   b) int and float   c) float and float   d) int and int

b. What are the features and applications of Python?	5	3	2

OR

6 a. i) Which type of Programming does Python support?	1	3	1

a) object-oriented programming   b) structured programming

c) functional programming   d) all of the mentioned ✓

ii) Which of the following is not a core data type in Python programming?			1

a) Tuples   b) Lists   c) Class ✓   d) Dictionary

b. What is dictionary? Explain the methods available in dictionary.	5	3	2