

RAN-2508000604010121

B.Com. (Data Science) (Sem. IV) Examination October - 2025
Major SPSS for Data Science (TH)

Time: 1.30 Hour]**[Total Marks: 35****સૂચના : / Instructions**

- (1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the above details on your answer book
- (2) The numbers on the right indicate the marks for that question.
- (3) Numerical tables will be provided on request.
- (4) A simple calculator may be used.
- (5) Common symbols have been used.

Seat No.:

Student's Signature

Q-1. Answer the following questions (Any Five) (10)

1. Explain the difference between descriptive statistics and inferential statistics.
2. How do you check for outliers in SPSS using the Explore procedure?
3. What is the significance of the p-value in a Chi-Square test result in SPSS?
4. Interpret the significant value is 0.04 for the paired t-test.
5. Write the purpose of the independent t-test.
6. Write any 4 uses of time series analysis.
7. Explain the term: Seasonality.

Q-2. The following information related to TWO types of car model “A” and “B” and running km per liter. Interpret and report of both the tables: (13)

Table 1: Descriptives			
		Statistic	Std. Error
Car running km per liter	Mean	46.8800	1.98101
	95% Confidence Interval for Mean	Lower Bound	42.7914
		Upper Bound	50.9686
	5% Trimmed Mean	46.9778	
	Median	45.0000	
	Variance	98.110	
	Std. Deviation	9.90505	
	Minimum	30.00	
	Maximum	62.00	
	Range	32.00	
	Interquartile Range	17.00	
	Skewness	-.003	.464
	Kurtosis	-1.274	.902

Table 2: Tests of Normality						
	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Car running km per liter	.137	25	.200*	.940	25	.149

*.This is a lower bound of the true significance.

a. Lilliefors Significance Correction

OR

A teacher wants to compare students' English subject scores before and after introducing a new teaching method.

- (1) Which statistical test should be applied?
- (2) Explain the step-by-step SPSS procedure for performing this test.
- (3) Write the Null hypothesis for this test.

Q-3. Explain the independent t-test in detail. **(12)**

OR

Write a short note on a trend in time series analysis. **(12)**
