

Unique paper code : 61018313  
Name of Paper : Statistical Analysis Using Software Package  
Name of Course : B. Voc.  
Semester : III  
Duration : 2 Hours  
Maximum marks : 50

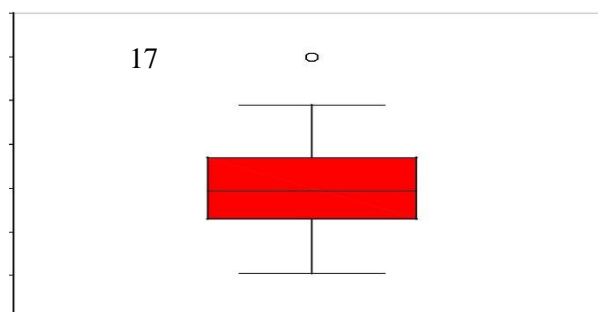
**Instructions for Candidates**

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any four questions.

- Q1. (a) Write the procedure to prepare a descriptive statistics table of the variable 'income' in the data set 'bankloan.sav' and also give the procedure to create a pie chart for the this variable in SPSS.
- (b) Data of marks (out of 75) of 50 students in five different subjects are given. One needs to know in how many subjects each students has got marks greater than 60. Give the procedure to obtain using SPSS?
- (c) Interpret the result on the basis of below table.

Amount of last sale		
N	Valid	70
	Missing	0
Mean		55.4500
Median		24.0000
Skewness		5.325
Kurtosis		34.292
Minimum		6.00
Maximum		776.50
Percentiles	25	12.0000
	50	24.0000
	75	52.8750

- (d) Explain the function "Transform" in SPSS?
- (e) How can one "recode" variables in SPSS?
- (f) Define 'Missing' and 'Columns' in variable view of SPSS
- Q2. (a) Data of sales (per day) of 25 days for a particular item are given. One needs to know the logarithm value of these sales (per day). Give the procedure to obtain it using SPSS.
- (b) Differentiate between variable labels and values labels in SPSS. Write the procedure to generate the 100 random numbers using normal distribution.
- (c) Write the procedure to construct BOX-plot and interpret the following output?



Q3. Answer the following questions on the basis of given output?

**Coefficients**

Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	2.129	.250	0.941	8.505	.000
Additive	.338	.050		6.821	.000

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.941	.886	.867	.32121	2.321

- (a) Write down the linear regression equation.
- (b) What is the value of the standard error of the estimate?
- (c) How many degrees of freedom are associated with the t-value for the line of regression?
- (d) What is the value of the correlation coefficient and interpret it.

Q4. (a)

**Two-Sample Test**

		Test Value = 65						
		T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
Weight vehicle weight (lbs.)	Equal variances assumed	3.150	150	.002	210.27	66.756	78.362	342.169
	Equal variances not assumed	3.100	122.367	0.002	210.27	67.832	75.990	344.541

- i. Interpret the result obtained in the above table.

ii. Draw inference about the difference between the two population means by calculating the confidence interval estimate.

(b) What are the different levels of measurement in SPSS. briefly explain them with examples.

Q5. (a) Write the procedure to obtain the frequency distribution and the bar chart for this frequency distribution. The following table shows the department-wise frequency. Interpret the result from the following table.

		<b>Department</b>			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Development	16	22.9	25.8	25.8
	Computer services	30	42.9	48.4	74.2
	Finance	13	18.6	21.0	95.2
	Other	3	4.3	4.8	100.0
	Total	62	88.6	100.0	
Missing	Don't know	8	11.4		
	Total	70	100.0		

(b) Give the procedure to obtain the Karl Pearson coefficient and Spearman rank correlation coefficient for bivariate data. Comment on the p-value and correlation coefficient from the following table.

			Sales in thousands	Price in thousands
Spearman's rho	Sales in thousands	Correlation Coefficient	1.000	-.492
		Sig. (2-tailed)	.	.000
		N	157	155
	Price in thousands	Correlation Coefficient	-.492	1.000
		Sig. (2-tailed)	.000	.
		N	155	155

Q6. (a) Differentiate among frequencies, descriptive and explore in descriptive statistics menu of SPSS.

(b) A company selects eight salesmen at random and their sales figures for the previous month are recorded. They then undergo a training course devised by a business consultant, and their sales figures for the following month are compared as shown in the table. Has the training course caused an improvement in the salesmen's ability?

Previous Month	75	90	94	95	100	90	70	64
Following Month	77	101	93	92	105	88	76	68

Write the null and alternative hypothesis. Select the correct statistical method and write the procedure to conduct the test in SPSS. Also mention the circumstance of p-value to reject the null hypothesis.