UNIVERSITY OF RUHUNA

FACULTY OF MANAGEMENT AND FINANCE

No. of Pages : 04
No. of Questions: 06
Total Marks :70

BACHELOR OF BUSINESS ADMINISTRATION HONOURS DEGREE

4000 LEVEL FIRST SEMESTER END EXAMINATION – AUG/SEP 2025

Three Hours

MKT 41523 – Marketing Research Analysis Academic Year 2024/2025

Instructions

- This paper contains seven questions.
- Answer five questions, including questions one and two.
- Calculators are permitted.

Question 01

a) Distinguish between one-way ANOVA and ANCOVA with examples.

(04 Marks)

b) Briefly explain "Reliability" and "Validity".

(04 Marks)

The following SPSS output shows the results obtained by a researcher in examining whether intention to travel differs between males and females.

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Travel intention	Male	15	3.60	0.828	0.214
	Female	15	2.80	1.424	0.368

		Levene's Test for Equality of Variances		t-test for equality of Means						
				t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
		F	Sig.						Lower	Upper
Travel Intention	Equal variances assumed	7.268	0.012	1.881	28	0.070	0.800	0.425	-0.071	1.671
	Equal variances not assumed			1.881	22.494	0.073	0.800	0.425	-0.081	1.681

c) Interpret the Levene's test results.

(03 Marks)

d) State the null and alternative hypotheses of the t-test for equality of means.

(02 Marks)

e) What statistical decision can be made at 5% level of significance?

(02 Marks)

f) State your conclusion.

(02 Marks)

g) What is the non-parametric version of the above test?

(01 Marks)
(Total Marks 18)

Question 02

A researcher conducted a multiple regression analysis with SPSS to test the impact of Social Media Engagement, Product Quality Perception, and Customer Trust on Purchase Intention among Generation Z consumers in Sri Lanka. The SPSS output tables with some blanks are given below.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.780[a]	0.608	.600	.49764

a. Predictors: (Constant), Social Media Engagement, Product Quality Perception, and Customer Trust

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	56.192	3	(…C…)	75.634	0.000
	Residual	36.157	(…B…)	.248		
	Total	(…A…)	149			

a. Dependent Variable: Purchase Intention

b. Predictors: (Constant), Social Media Engagement, Product Quality Perception, and Customer Trust

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.077	.197		5.465	.000		
	Social Media Engagement	.398	.082	.426	(…D…)	.000	.349	2.864
	Product Quality Perception	.189	.058	.231	3.228	.002	.521	1.918
	Customer Trust	.173	.080	.210	2.173	.031	.288	3.475

a. Dependent Variable: Purchase Intention

a) Fill in the blanks (A, B, C, and D) in the above tables

(02 Marks)

b) Interpret the multicollinearity results

(03 Marks)

c) Determine the significance of the overall regression model at $\alpha = 0.05$ and interpret the R^2.

(02 Marks)

d) Determine the significance of the partial regression coefficients at $\alpha = 0.05$.

(03 Marks)

e) Interpret the partial regression coefficients.

(03 Marks)

f) State the estimated regression equation.

(03 Marks)

(Total Marks 16)

Question 03

a) Mention the steps in the data preparation process and briefly explain any four steps.

(08 Marks)

b) Briefly explain the statistics associated with measures of location

(04 Marks)

(Total Marks 12)

Question 04

a) A mobile phone manufacturer is considering launching a new smartphone model targeted at heavy users only if its average battery life under a standardized mixed-use test exceeds 20 hours. To evaluate this, the company tested a random sample of 100 potential users. The observed average battery life was 21.3 hours, with a standard deviation of 5.1 hours. The firm wants to use these results to decide whether the new model meets the required battery-life threshold. Based on the given information.

i. Formulate the null and alternative hypotheses

(02 Marks)

ii. If the calculated test statistic is 2.5 and the probability associated with the test statistic is 0.0062, test the hypothesis at the significance level of 0.05.

(02 Marks)

iii. Draw the marketing research conclusion.

(02 Marks)

b) Briefly explain the four possibilities that can result in the introduction of a third variable in cross-tabulation with appropriate examples.

(06 Marks)

(Total Marks 12)

Question 05

a) Explain the difference between the independent sample t-test and the paired sample t-test with examples.

(04 Marks)

b) Distinguish between parametric and nonparametric tests

(04 Marks)

c) Briefly explain the Partial Correlation and Part Correlation Coefficient.

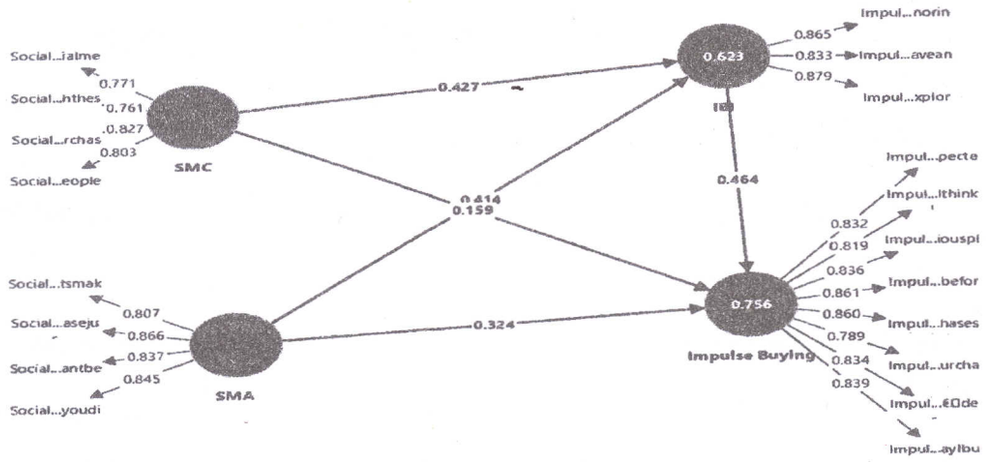
(04 Marks)

(Total Marks 12)

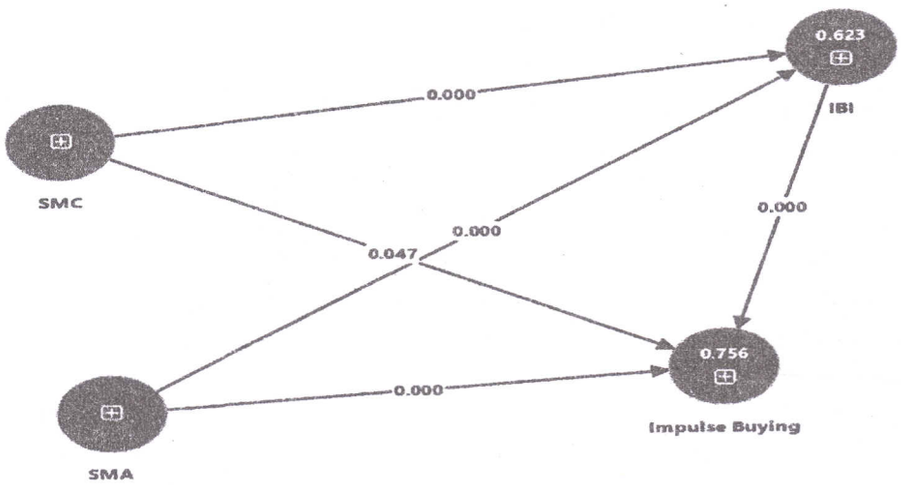
Question 06

The following are the findings of a research project analyzed by using Structural Equation Modeling in Smart PLS.

Model 01: .....



Model 02: .....



(a) Name the above two models.

(02 marks)

(b) Briefly discuss two statistics that are used to evaluate the quality of the criterion in the first model.

(05 marks)

(c) Explain in short two statistical tools that are used to test the relationship between the constructs in the second model?

(05 marks)
(Total Marks 12)

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