



UNIVERSITY OF RUHUNA
FACULTY OF MANAGEMENT AND FINANCE

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No. of Questions: 05
Total Marks : 70

BACHELOR OF BUSINESS ADMINISTRATION HONOURS DEGREE

Three Hours

4000 LEVEL FIRST SEMESTER END EXAMINATION - AUG/ SEP 2025

HRM 41403 - Data Analysis for Research

Academic Year 2024/2025

Instructions

- ➔ The question paper contains five (05) questions.
- ➔ Answer all questions.

Question 01

- I. Explain the characteristics of quantitative research. (04 marks)
 - II. Describe the benefits of using SPSS in analyzing data in quantitative research. (04 marks)
 - III. Discuss the systematic nature of research, considering the key stages involved in the research process. (06 marks)
- (Total Marks 14)**

Question 02

- I. Explain the characteristics of nominal and ratio scales of measurement using appropriate examples. (04 marks)
- II. Table 1 and 2 show the reliability statistics of the scale items for measuring employee turnover intention. Interpret the results and suggest a suitable statistical procedure to improve the overall reliability of the scale. (04 marks)

Table 1

Reliability Statistics	
Cronbach's Alpha	No. of Items
.469	4

Table 2

Item-Total Statistics		
	Scale Mean if Item Deleted	Cronbach's Alpha if Item Deleted
TurnoverIn TI1	5.62	.839
TunoverIn TI2	5.81	.443
TurnoverIn TI3	5.75	.629
TurnoverIn TI4	5.81	.414

- III. "Validity in measurement scale requires reliability, but reliability alone does not guarantee validity." Evaluate this statement based on your understanding of validity and reliability. (06 marks)
- (Total Marks 14)**

Question 03

A research team of the Human Resource Department wants to examine the relationship between their employee training and employee performance (average performance scores) of the operational-level employees within a 3-month period. Answer the questions below based on the results of Table 1.

Table 1 – Correlation statistics

		Employee training	Employee performance
Employee training	Pearson Correlation	1	.644*
	Sig. (2-tailed)		.002
	N	130	130
Employee performance	Pearson Correlation	.644*	1
	Sig. (2-tailed)	.002	
	N	130	130

*. Correlation is significant at the 0.05 level (2-tailed).

- I. What is the sample size of this study? (02 marks)
- II. Interpret the relationship between the variables based on Table 1. (06 marks)
- III. The HR team now wants to determine whether three different training programs lead to different average employee performance scores. Table 2 presents the one-way ANOVA results. Identify whether there is a statistical difference in employee performance between the three training program attendees. (06 marks)

Table 2 – One-way ANOVA results

Employee performance					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	12832.297	2	6416.148	10.491	.000
Within Groups	22627.703	37	611.560		
Total	35460.000	39			

(Total Marks 14)

Question 04

Answer the questions based on the outputs of multiple regression analysis related to the adaptive performance of nurses presented in Table 1 and 2.

Table 1 – Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.856	.732	.729	15.41834

Table 2 – Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	44.787	21.386		3.182	.023
Job autonomy	.356	0.124	.333	2.870	.040
Supervisor support	-.421	.139	-.431	-3.028	.617
Co-worker support	.618	.165	.543	3.745	.000
Performance incentives	.444	.102	.441	4.352	.001
a. Dependent Variable: Adaptive performance					
b. Predictors: (Constant), job autonomy, supervisor support, co-worker support, performance incentives					

- I. Propose a suitable topic for this study. (02 marks)
 - II. List four hypotheses for this study. (04 marks)
 - III. Interpret the multiple regression analysis results, relating them to the hypotheses developed in section II. Identify the most influential factor on the adaptive performance of nurses using statistical justification. (06 marks)
 - IV. Formulate the regression equation for this study. (02 marks)
- (Total 14 Marks)**

Question 05

Explain **only four (04)** of the following with suitable examples.

- I. Normal distribution
- II. Qualitative research
- III. Descriptive statistics
- IV. Benefits of using SmartPLS for analyzing research data
- V. Statistical significance in quantitative research
- VI. Advantages of using the Chi-square test in business research.

(Each carries 3.5 marks)

(Total Marks 14)
