

# Faculty of Management Studies

## End Semester Examination May 2025

### MS3EG15 Data Analysis Using "R"

<b>Programme</b>	:	BBA	<b>Branch/Specialisation</b>	:	-
<b>Duration</b>	:	3 hours	<b>Maximum Marks</b>	:	60

**Note:** All questions are compulsory. Internal choices, if any, are indicated. Assume suitable data if necessary. Notations and symbols have their usual meaning.

Section 1 (Answer all question(s))				Marks	CO	BL
<b>Q1.</b> What is the default data structure created when using the c() function?				1	1	1
<input checked="" type="radio"/> Vector			<input type="radio"/> Matrix			
<input type="radio"/> List			<input type="radio"/> Data frame			
<b>Q2.</b> Which operator is used for assignment in R?				1	1	1
<input type="radio"/> =			<input type="radio"/> :=			
<input checked="" type="radio"/> <-			<input type="radio"/> ==			
<b>Q3.</b> What is the use of filter() in dplyr?				1	2	3
<input checked="" type="radio"/> Subset rows			<input type="radio"/> Summarize data			
<input type="radio"/> Add rows			<input type="radio"/> Pivot table			
<b>Q4.</b> What will distinct() return when used on a data frame?				1	2	3
<input type="radio"/> All rows			<input type="radio"/> Only NA values			
<input type="radio"/> Row count			<input checked="" type="radio"/> Unique rows			
<b>Q5.</b> Which function is used to create a histogram in base R?				1	3	1
<input checked="" type="radio"/> hist()			<input type="radio"/> bar			
<input type="radio"/> pie			<input type="radio"/> plot()			
<b>Q6.</b> Which package in R implements the Grammar of Graphics?				1	2	1
<input type="radio"/> lattice			<input checked="" type="radio"/> ggplot2			
<input type="radio"/> grid			<input type="radio"/> base			
<b>Q7.</b> What is the purpose of t.test() in R?				1	4	1
<input checked="" type="radio"/> Hypothesis test			<input type="radio"/> Regression			
<input type="radio"/> Variance			<input type="radio"/> Correlation			
<b>Q8.</b> Which function is used to test independence in a contingency table?				1	4	2
<input checked="" type="radio"/> chisq.test()			<input type="radio"/> t.test()			
<input type="radio"/> cor.test()			<input type="radio"/> lm()			
<b>Q9.</b> Which package is used for machine learning in R?				1	5	1
<input checked="" type="radio"/> Random forest			<input type="radio"/> Tidyverse			
<input type="radio"/> Readr			<input type="radio"/> Stringr			
<b>Q10.</b> What is R Markdown used for?				1	5	2
<input type="radio"/> Saving datasets			<input checked="" type="radio"/> Reporting			
<input type="radio"/> Analysis			<input type="radio"/> Debugging			

### Section 2 (Answer all question(s))

Marks

CO

BL

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**Q11.** Describe logical vectors with an example.

4 1 3

Rubric	Marks
3 marks for logical vector and 1 mark for example	4

**Q12. (a)** Explain different data structures in R with examples.

6 1 4

Rubric	Marks
1 marks for each point	6

**(OR)**

**(b)** How can you inspect and manage workspace variables in R?

Rubric	Marks
1 marks for each point	6

### Section 3 (Answer all question(s))

Marks CO BL

**Q13.** How do you import data from CSV and Excel files in R?

4 2 3

Rubric	Marks
1 mark for each step	4

**Q14. (a)** Describe steps to handle missing and duplicate values in R.

6 2 3

Rubric	Marks
1 marks for each step	6

**(OR)**

**(b)** How do you clean inconsistent data in a dataset?

Rubric	Marks
1 mark for each point	6

### Section 4 (Answer all question(s))

Marks CO BL

**Q15.** Describe the importance of data visualization in data analysis.

4 3 2

Rubric	Marks
1 mark for each point	4

**Q16. (a)** How do you create a multi-faceted plot in ggplot2?

6 3 3

Rubric	Marks
1 mark for each point	6

**(OR)**

**(b)** Compare boxplot and histogram. When would you use each?

Rubric	Marks
3 mark for comparison and 3 marks for use	6

### Section 5 (Answer all question(s))

Marks CO BL

**Q17.** How is ANOVA different from a t-test?

4 4 4

<b>Rubric</b>	<b>Marks</b>
1 mark for each difference	4

**Q18. (a)** Explain the steps of linear regression with implementation in R.

6 4 3

<b>Rubric</b>	<b>Marks</b>
1 mark for each step	6

**(OR)**

**(b)** How do you evaluate regression models in R?

<b>Rubric</b>	<b>Marks</b>
1 mark for each step	6

### **Section 6 (Answer all question(s))**

**Marks CO BL**

4 5 2

**Q19.** Describe basic concepts of clustering in R.

<b>Rubric</b>	<b>Marks</b>
1 mark for each point	4

**Q20. (a)** How do you work with large datasets in R efficiently?

6 5 4

<b>Rubric</b>	<b>Marks</b>
1 mark for each point	6

**(OR)**

**(b)** How R can be integrated with Python or SQL?

<b>Rubric</b>	<b>Marks</b>
1 mark for each point	6

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