

Practical Plan

Name of the College: Government College of Arts, Science and Commerce Sanquelim- Goa.

Name of Faculty: Reshma Muhammadali Badgier

Subject: Economics

Paper code: ECO-141

Program: FYBA SEC

Division: Batch I

Academic year: 2024 - 2025

Semester: I

Total Practicals/ Labs: (60 hours)

Credits: 2

Course Objectives:- To familiarize the students with Basic statistical concepts and their application using open-source software (spreadsheets and GRETL).

- Expected Course Outcome:**
- 1) Understand basic statistical concepts.
 - 2) Classify data as Qualitative and Quantitative with regards to Primary and Secondary data sources.
 - 3) Apply descriptive statistics using measures of Central tendencies, measures of Dispersion.
 - 4) Interpret the data using software such as Gretl and Open source software.

Student Learning Outcome:

- 1) Understand basic statistical concepts.
- 2) Classify data as Qualitative and Quantitative with regards to Primary and Secondary data sources.
- 3) Apply descriptive statistics using measures of Central tendencies, measures of Dispersion.
- 4) Interpret the data using software such as Gretl and Open source software.

Month	Practicals/Labs Scheduled Date	No. of Practical's/Labs planned	List of Experiments	Reference books
July	15/07/2024- 20/07/2024	04	Unit: 1 Introduction to Statistical Concepts: Understanding Probability and Random variables Meaning, basic probability terms (classical approach), random experiments (example: coin toss and dice) o Meaning of random variable (discrete and continuous), generating random variables from random experiments (coin toss or rolling dice etc) o Probability distributions of random variables: meaning, examples (discrete and continuous).	<ul style="list-style-type: none"> ● Gupta S.C. (2016): Fundamentals of Statistics, 7th Edition, Himalaya Publishing House Pvt. Ltd, Mumbai ● Adkins, L. C. (n.d.). Using gretl for Principles of Econometrics, 5th Edition Version 1.0. ● Gerald Keller (2017): Statistics for Management and Economics, 11th Edition, Cengage Learning, USA. ● Black, Ken. (2019). Business Statistics: For Contemporary Decision Making (10th). New York: West Publishing Company. ● David M. Levine, David F. Stephan, Timothy C. Krehbiel.
July	22/07/2024- 27/07/2024	04	Classification of data (variables): Quantitative (Discrete and Continuous) and Qualitative (categorical) Levels & Scales of measurement: Ratio/ interval data, ordinal and nominal data, suitable analysis methods. Primary and Secondary data sources	<ul style="list-style-type: none"> Gupta S.C. (2016): Fundamentals of Statistics, 7th Edition, Himalaya Publishing House Pvt. Ltd, Mumbai ● Adkins, L. C. (n.d.). Using gretl for Principles of Econometrics, 5th Edition Version 1.0. ● Black, Ken. (2019). Business Statistics: For Contemporary Decision Making (10th). New York: West Publishing Company. ● David M. Levine, David F. Stephan, Timothy C. Krehbiel.

July/August	29/07/2024- 03/08/2024	04	Primary and Secondary data sources: Meaning, differences, and examples of sources (Downloading data from RBI, WB etc)	Gupta S.C. (2016): Fundamentals of Statistics, 7 th Edition, Himalaya Publishing House Pvt. Ltd, Mumbai <ul style="list-style-type: none"> ● Adkins, L. C. (n.d.). Using gretl for Principles of Econometrics, 5th Edition Version 1.0. ● Black, Ken. (2019). Business Statistics: For Contemporary Decision Making (10th). New York: West Publishing Company. ● David M. Levine, David F. Stephan, Timothy C. Krehbiel.
August	05/08/2024- 10/08/2024	04	Data representation: Commonly used Tables and Graphs One-way and two-way Frequency tables	Gupta S.C. (2016): Fundamentals of Statistics, 7 th Edition, Himalaya Publishing House Pvt. Ltd, Mumbai <ul style="list-style-type: none"> ● Adkins, L. C. (n.d.). Using gretl for Principles of Econometrics, 5th Edition Version 1.0. ● Black, Ken. (2019). Business Statistics: For Contemporary Decision Making (10th). New York: West Publishing Company. ● David M. Levine, David F. Stephan, Timothy C. Krehbiel.
August	12/08/2024- 17/08/2024	04	Data representation: Commonly used Tables and Graphs Charts: Pie chart, bar chart, trendline, scatter plot, histogram	Gupta S.C. (2016): Fundamentals of Statistics, 7 th Edition, Himalaya Publishing House Pvt. Ltd, Mumbai <ul style="list-style-type: none"> ● Adkins, L. C. (n.d.). Using gretl for Principles of Econometrics, 5th Edition Version 1.0. ● Black, Ken. (2019). Business Statistics: For Contemporary Decision Making (10th). New York: West Publishing Company. ● David M. Levine, David F. Stephan, Timothy C. Krehbiel.
August	19/08/2024- 24/08/2024	04	Unit 2: Descriptive statistics:	Gupta S.C. (2016): Fundamentals of Statistics, 7 th Edition, Himalaya Publishing House Pvt. Ltd, Mumbai

			<p>Measures of Central Tendency:</p> <p>Mean, Median, and Mode; Meaning, Merits & Demerits, Manual calculations (Discrete and Continuous)</p>	<ul style="list-style-type: none"> ● Adkins, L. C. (n.d.). Using gretl for Principles of Econometrics, 5th Edition Version 1.0. ● Black, Ken. (2019). Business Statistics: For Contemporary Decision Making (10th). New York: West Publishing Company. ● David M. Levine, David F. Stephan, Timothy C. Krehbiel.
August	26/08/2024- 31/08/2024	04	<p>Mean, Median, and Mode; Meaning, Merits & Demerits, Manual calculations (Discrete and Continuous)</p>	<ul style="list-style-type: none"> ● Gupta S.C. (2016): Fundamentals of Statistics, 7th Edition, Himalaya Publishing House Pvt. Ltd, Mumbai ● Adkins, L. C. (n.d.). Using gretl for Principles of Econometrics, 5th Edition Version 1.0. ● Black, Ken. (2019). Business Statistics: For Contemporary Decision Making (10th). New York: West Publishing Company. ● David M. Levine, David F. Stephan, Timothy C. Krehbiel.
September	02/09/2024- 06/09/2024	04	<p>Measures of Dispersion: Range, Inter Quartile Range, Semi Quartile Range, Mean Deviation, Variance, and Standard Deviation.</p>	<ul style="list-style-type: none"> ● Gupta S.C. (2016): Fundamentals of Statistics, 7th Edition, Himalaya Publishing House Pvt. Ltd, Mumbai ● Adkins, L. C. (n.d.). Using gretl for Principles of Econometrics, 5th Edition Version 1.0. ● Black, Ken. (2019). Business Statistics: For Contemporary Decision Making (10th). New York: West Publishing Company. ● David M. Levine, David F. Stephan, Timothy C. Krehbiel.
September	13/09/2024- 14/09/2024	04	<p>Meaning, Merits & Demerits, Manual calculations (Discrete and Continuous))</p>	<ul style="list-style-type: none"> ● Gupta S.C. (2016): Fundamentals of Statistics, 7th Edition, Himalaya Publishing House Pvt. Ltd, Mumbai ● Adkins, L. C. (n.d.). Using gretl for Principles of Econometrics, 5th Edition Version 1.0. ● Black, Ken. (2019). Business Statistics: For Contemporary Decision Making (10th). New York: West Publishing Company. ● David M. Levine, David F. Stephan, Timothy C. Krehbiel.
September	16/09/2024- 21/09/2024	04	<p>Measures of Symmetry: Skewness and Kurtosis. Meaning, types, and Interpretations.</p>	<p>David M. Levine, David F. Stephan, Timothy C. Krehbiel, and Mark L. Berenson, Statistics for Managers : Using Microsoft Excel.</p>

			Unit 3: Analysis using Spreadsheets and Gretl: Data Processing in spreadsheets.	
September	23/09/2024- 28/09/2024	04	Data Processing in spreadsheets: Primary data (cross-sectional): Cleaning, editing (re/naming variables, scale), and coding (categorical: nominal and ordinal variables, generating dummy variables). Data representation: Commonly used Tables and Graphs (with interpretation).	● Adkins, L. C. (n.d.). Using gretl for Principles of Econometrics, 5th Edition Version 1.0.
September	30/09/2024- 05/10/2024	04	Commonly used Tables and Graphs (with interpretation). Descriptive statistics in spreadsheets with interpretation	Adkins, L. C. (n.d.). Using Gretl for Principles of Econometrics; or/and Gretl user guide.
OCTOBER	07/10/2024- 12/10/2024	04	Descriptive statistics in spreadsheets with interpretation. Gretl interface: Installing Gretl, Introduction to Gretl, Gretl basics, loading sample data, generating new variables.	Adkins, L. C. (n.d.). Using Gretl for Principles of Econometrics; or/and Gretl user guide.

OCTOBER	14/10/2024- 19/10/2024	04	Importing data to Gretl, Exploring inbuilt datasets for descriptive statistics and their interpretation.	Adkins, L. C. (n.d.). Using Gretl for Principles of Econometrics; or/and Gretl user guide.
OCTOBER	21/10/2024- 22/10/2024	04	Exploring inbuilt datasets for descriptive statistics and their interpretation. Revision and clarification of doubts.	Adkins, L. C. (n.d.). Using Gretl for Principles of Econometrics; or/and Gretl user guide.

***Assessment Rubrics**

Component	Max Marks
ISA 1	05
ISA 2	05
ISA 3	05
ISA 4	05
ISA 5	05
Semester End Exam Theory	20
Semester End Exam Practical	40

