

Syllabus: ECO 354 MJP - Computer Application in Economics - Practical [2P]

Class: TYBA Economics

Semester: VI

Course Type: Credits Related to Major – Major Core

Course Code: ECO 354 MJP

Course Name: Computer Application in Economics - Practical

No. of Credits: 02 Credits [Practical]

No. of Lectures / Practical per week – 4 Hours

No. of Hours: 60 Hours

Total Marks: 50 Marks

Preamble:

This course familiarizes students with digital tools and computational techniques used in economic analysis. It introduces data sources, spreadsheet applications, basic data handling, and emerging AI-based tools for interpreting economic information. The course emphasizes practical skills, ethical use of data, and the integration of technology for evidence-based economic analysis and research.

Course Outcome:

After completing the course in International Economics, students will be able to:

1. Identify and use appropriate digital tools for economic analysis
2. Classify and access different types of economic data
3. Apply spreadsheet techniques for data cleaning and analysis
4. Interpret economic data using basic analytical tools like Generative AI
5. Demonstrate ethical data practices and proper citation

UNITS AND CONTENTS

Unit No	Unit Title and Contents	Practical
1	1. Basics of Computer for Economics	05
	1.1 - Basics of Computer, Operating System	
	1.2 - Role of Computer in Economic Analysis	
	1.3 - Understanding MS-Word: Creating Documents, Tables and other Functions	
	1.4 - Understanding MS-Excel and Its functions	
2	2. Data- Sources and Handling	05
	2.1 - Forms of : Time Series, Cross-Section, Panel, Big Data, Unit Level Data	

	2.3 - Sources: Free Sources - Census, NSSO, RBI, MOSPI, etc., Paid Sources: CMIE, EPWRF, etc.	
	2.4 - Data Handling - Data entry, Sorting, Filtering, Formulas & Functions, Statistical Tools, Graphs and Charts, in MS-Excel	
	2.5 - Data Presentation: PPT, Slides, AI Based Tools	
3	3. Introduction to Statistical Software	05
	3.1 - Software for Economic Analysis: MS-Excel, Python, R, etc.	
	3.2 - Data Analysis in MS-Excel – Growth Rate, Trend Analysis, ANOVA, Descriptive Statistics, Correlation, Regression, etc.	
	3.3 - Basic Statistical Tools in MS-Excel.	
	3.4 - AI-Powered Data and Productivity Tools: Copilot in Excel, AI in Tableau / Power	
	Total Practical	15

***Note: (01 practical = 04 Hours)**

- Note:** 1. We may include Case Studies, Numerical Examples- Problems and Graphical Representations for unit 1 to 3.
2. Students should prepare the Practical Work Book.

Practical Assessment – 50 Marks, 02 Credits

Sr. No.	Assessment Type	Marks
1	Internal Assessment – 20 Marks - Choose any three tools	20
2	External Assessment – 30 Marks - Practical Book/Journal – - Oral - - Practical Exam -	10 05 15
Total Marks		50

References

1. Acemoglu, D., Laibson, D., & List, J. A. (2021). Microeconomics (Data and empirical applications), Pearson Publication.
2. Albright, S. C., & Winston, W. L. (2019). Business Analytics: Data Analysis and Decision Making (7th ed.). Cengage Learning.
3. Winston, W. L. (2019). Microsoft Excel Data Analysis and Business Modeling (6th ed.). Microsoft Press.
4. McKinney, W. (2022). Python for Data Analysis (3rd ed.). O'Reilly Media.

5. Provost, F., & Fawcett, T. (2013). Data Science for Business. O'Reilly Media.
6. Russell, S., & Norvig, P. (2021). Artificial Intelligence: A Modern Approach (4th ed.). Pearson.
7. OECD. (2024). OECD Digital Economy Outlook. OECD Publishing.
8. Reserve Bank of India. Handbook of Statistics on Indian Economy. RBI Publications.
9. Ministry of Statistics and Programme Implementation (MOSPI). National Statistical Publications. Government of India.