University of Rajasthan

Jaipur

SYLLABUS

(Three/ Four Year Under Graduate Programme in Science)

(Economics)

I, II, III & IV Semester

2024-25

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As per NEP-2020

University of Rajasthan
Department of Economics

Programme Name: UG802/803 -Three/Four Year B.Sc.

The Programme is divided into four parts and each part will consist of two semesters.

Part	Year	Odd Semester	Even Semester
Part-I	First Year	Semester-I	Semester-Il
Part-Il	Second Year	Semester-Ill	Semester-IV
Part-Ill	Third Year	Semester-V	Semester-VI
Part-IV	Fourth Year	Semester-Vll	Semester-VIII

Name of University: University of Rajasthan, Jaipur
Name of Faculty: UG0802/803 - B.Sc.
Name of Discipline: Economics
Programme Prerequisites: Passed 12th Class

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Programme Outcomes (POs):

1. Students will be introduced to contemporary economic issues and challenges at both national and global levels, promoting a practical understanding of the discipline's relevance. Graduates will understand the basic economic issues and problems of the real world, enabling them to analyze and address these challenges effectively.

2. Graduates will be able to take informed actions by identifying the assumptions that frame our thinking and actions. They will assess the accuracy and validity of these assumptions and view ideas and decisions from intellectual, organizational, and personal perspectives.

3. The programme provides a firm basis for advanced thinking in the economics discipline. Graduates will comprehend the behavior and interactions of households, firms, and government institutions.

4. Students will learn the mathematical and statistical techniques essential for understanding economics. They will be trained to collect primary data and understand appropriate policy responses to economic problems.

5. Students will gain insights into the dynamics of economic development, including the roles of financial inclusion, sustainable development initiatives, and government policies.

6. The programme equips students with the flexibility to prepare for careers in academia, law, management, journalism, government, and many other fields, providing a broad range of opportunities.

Scheme of Examination for the Session 2024-2025

Scheme of the Examination for Practical subjects:

1 Credit = 25 marks for examination/evaluation

Continuous assessment, in which sessional work and the terminal examination will contribute to the final grade. Each course in Semester Grade Point Average (SGPA) has two components- Continuous assessment (20% Weightage) and (End of Semester Examination) EoSE (80% weightage)

1. Sessional work will consist of class tests, mid-semester examination(s), homework assignments, etc., as determined by the faculty in charge of the courses of study.

2. Each Paper of EoSE shall carry 80% of the total marks of the course/subject. The EoSE will be of 3 hours duration.

Part-A of the paper shall have multiple questions of equal marks. This first question shall be based on knowledge, understanding and applications of the topics/texts covered in the syllabus.

Part-B of the paper shall consist of 4 questions with an internal choice of each. The four questions will be set with one from each of the units with internal choice. Third to fourth questions shall be based on applications of the topics/texts covered in the syllabus (60% Weightage) and shall involve solving Problems (40% Weightage) if applicable.

3. 75% Attendance is mandatory for appearing in EoSE.

4. To appear in the EoSE examination of a course/subject student must appear in the midsemester examination and obtain at least a "C" grade in the course/subject.

5. Credit points in a Course/Subject will be assigned only if, the student obtains at least a C grade in midterm and EoSE examination of a Course/Subject.

Scheme of the Examination for Non-Practical subjects:

1 Credit = 25 marks for examination/evaluation

Continuous assessment, in which sessional work and the terminal examination will contribute to the final grade. Each course in Semester Grade Point Average (SGPA) has two components-

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Continuous assessment (20% Weightage) and (End of Semester Examination) EoSE (80% weightage)

6. Sessional work will consist of class tests, mid-semester examination(s), homework assignments, etc., as determined by the faculty in charge of the courses of study.

7. Each Paper of EoSE shall carry 80% of the total marks of the course/subject. The EoSE will be of 3 hours duration.

Part-A of the paper shall have multiple questions of equal marks. This first question shall be based on knowledge, understanding and applications of the topics/texts covered in the syllabus.

Part-B of the paper shall consist of 2 questions with an internal choice of each. The questions will be set with one from each of the units with internal choice. Third to fourth questions shall be based on applications of the topics/texts covered in the syllabus (60% Weightage) and shall involve solving Problems (40% Weightage) if applicable.

Part-C of the paper shall consist of 4 questions with an internal choice of each. The four questions will be set with one from each of the units with internal choice. Third to fourth questions shall be based on applications of the topics/texts covered in the syllabus (60% Weightage) and shall involve solving Problems (40% Weightage) if applicable.

8. 75% Attendance is mandatory for appearing in EoSE.

9. To appear in the EoSE examination of a course/subject student must appear in the midsemester examination and obtain at least a "C" grade in the course/subject.

10. Credit points in a Course/Subject will be assigned only if, the student obtains at least a C grade in midterm and EoSE examination of a Course/Subject.

Contact Hours 15 Weeks per Semester

L ─ Lecture: (l Credit = I Hour/Week)

T — Tutorial: (l Credit = 1 Hour/Week)

S — Seminar: (l Credit = 2 Hours/Week)

P — Practical/Practicum: (l Credit = 2 Hours/Week)

F — Field Practice/Projects: (l Credit = 2 Hours/Week)

SA — Studio Activities: (l Credit = 2 Hours/Week)

I — Internship: (l Credit = 2 Hours/Week)

C — Community Engagement and Service: (1Credit = 2 Hours/Week)

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Exit and Entrance Policy

1. Students who opt to exit after completion of the first year and have secured 48 credits will be awarded a UG Certificate if, in addition, they complete one internship of 4 credits during the summer vacation of the first year. These students are allowed to re-enter the degree programme within three years and complete the degree programme within the stipulated maximum period of seven years.

2. Students who opt to exit after completion of the second year and have secured 96 credits will be awarded the UG diploma if, in addition, they complete one internship of 4 credits during the summer vacation of the second year. These students are allowed to re-enter within a period of three years and complete the degree programme within the maximum period of seven years.

3. Students who wish to undergo a 3-year UG programme will be awarded UG Degree in the Major discipline after successful completion of three years, securing 150 credits and satisfying the minimum credit requirement.

4. A four-year UG Honours degree in the major discipline will be awarded to those who complete a four-year degree programme with 200 credits and have satisfied the minimum credit requirements.

5. Students who secure 75% marks and above in the first six semesters and wish to undertake research at the undergraduate level can choose a research stream in the fourth year. They should do a research project or dissertation under the guidance of a faculty member of the University/College. The research project/dissertation will be in the major discipline. The students, who secure 200 credits, including 12 credits from a research project/dissertation, are awarded UG Degree (Honours with Research).

Letter Grades and Grade Points

Letter Grade	Grade Point	Marks Range (%)
O (outstanding)	10	91-100
A+ (Excellent)	9	81-90
A (Very good)	8	71-80

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B+ (Good)	7	61-70
B (Above average)	6	51-60
C (Average)	5	40 – 50
P (Pass)	4	
F (Fail)	0	
Ab (Absent)	0	

When students take audit courses, they may be given a pass (P) or fail (F) grade without any credit.

SEMESTER WISE PAPER TITLES WITH DETAILS

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Name of Programme: UG0802/803: B.Sc.								
Subject/ Discipline: Economics								
S No	**Level**	**Semester**	**Type**	**Title**	**CREDITS**			
					L	**T**	**P**	**Total**
1	5	I	MJR/MIN	UG 802/803-ECO-51T-101: Principles of Micro Economics	4	0	0	4
2	5	I	MJR/MIN	UG802/803- ECO-51P-102: Eco-Practical-I	0	0	2	2
3	5	II	MJR/MIN	UG 802/803-ECO-52T-103: Fundamental Methods of Mathematical Economics	4	0	0	4
4	5	II	MJR/MIN	UG 802/803-ECO-52P-104: Eco-Practical-II	0	0	2	2
5	6	III	MJR/MIN	UG 802/803- ECO-63T-201: Principles of Macro Economics	4	0	0	4
6	6	III	MJR/MIN	UG 802/803- ECO-63 P-202: Eco-Practical-III	0	0	2	2
7	6	IV	MJR/MIN	UG802/803-ECO-64T-203: Statistics	4	0	0	4
8	6	IV	MJR/MIN	UG 802/803-ECO-64P-204: Eco-Practical-IV	0	0	2	2
9	7	V	MJR/MIN	UG 802/803-ECO-75T-301 International, Development and Public Economics	4	0	0	4
10	7	V	MJR/MIN	UG 802/803-ECO-75P-302: Eco-Practical-V	0	0	2	2
11	7	VI	MJR/MIN	UG 802/803-ECO-76T-303(A)- Indian Economy	4	0	0	4
				OR				
				UG 802/803-ECO-76T-303(B)- Mathematical Economics	4	0	0	4
12	7	VI	MJR/MIN	UG 802/803-ECO-76P-304: Eco-Practical-VI	0	0	2	2

Syllabus

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UG 802/803- -B.Sc.

Semester-I: Economics

Type	Paper Code and Nomenclature	Duration of Examination	Maximum Marks (Midterm+ EoSE)	Minimum Marks (Midterm+ EoSE)
Theory	UG 802/803- ECO-51T-101: Principles of Microeconomics	1 Hrs-MT 3Hrs- EoSE	20 Marks- MT 80 Marks- EoSE	08 Marks-MT 32 Marks-EoSE
Practical	UG 802/803- ECO-51P-102: Eco-Practical-I	1 Hrs-MT 3Hrs- EoSE	10 Marks- MT 40 Marks- EoSE	04 Marks- MT 16 Marks-EoSE
		EoSE Marks Distribution: 1. Practicum Report: 20 marks 2. Written Test : 12 Marks 3. Viva – Voce : 08 Marks		

Semester	**I**
Code of the Course	**UG 802/803- ECO-51T-101**
Title of the Course/Paper	**Principles of Micro Economics**
NHEQF Level	**5**
Credit	**4**
Level of the Course	**Introductory**
Type of the Course	**Major/Minor**
Delivery Type of the Course	**Lectures**
Prerequisites	**Nil**
Objective of the Course	This course provides an introduction to microeconomic principles and their applications. The primary objective is to equip students with an understanding of the fundamental concepts, theories, and methods used in microeconomic analysis.

Course Outcome

CO1: Students will develop a thorough understanding of economics, encompassing the economic issues of scarcity and choice, the concept of opportunity cost, and the essential questions of what, how, and for whom to produce, while differentiating between positive and normative analysis.

CO2: Students will be able to analyze the laws of demand and supply, market equilibrium, and elasticity, as well as concepts such as consumer surplus and producer surplus, to understand market behavior and outcomes.

CO3: Students will gain understanding of budget constraints, utility, and indifference curves, alongside analyzing production processes and cost structures in both the short run and long run.

CO 4: Students will learn about the features of various market structures, including perfect competition, monopoly, monopolistic competition, and oligopoly.

Syllabus

UG 802/803- -ECO-51T-101: Principles of Micro Economics

UNIT-I

Subject Matter of Economics: Why study economics? Scope and method of economics; the economic problem: scarcity and choice; the concept of opportunity cost; three problems of economic system: the question of what to produce, how to produce and how to distribute output; science of economics; positive versus normative analysis.

Demand: Law of demand; determinants of demand; shifts of demand versus movements along a demand curve; market demand.

Supply: Law of supply; determinants of supply; shifts of supply versus movements along a supply curve; market supply; market equilibrium; elasticity and its application; consumer surplus; producer surplus.

(25 Lecture)

UNIT-II

The Households: The consumption decision- budget constraint, concept of utility, diminishing marginal utility, Diamond-water paradox, consumption and income/price changes. Demand for all other goods and price changes: consumer choice: indifference curves, properties of indifference curves derivation of demand curve from indifference curve and budget constraint; consumer equilibrium, income and substitution effects; labour supply and savings decision- choice between leisure and consumption.

(20 Lecture)

UNIT III

Production: Behaviour of profit maximizing firms, production process, production functions, law of variable proportions, isoquant and iso cost lines.

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Costs: concepts of costs, Costs in the short run, costs in the long run, relationship between AC and MC, revenue and profit maximization, minimizing losses, short run industry supply curve, economies and diseconomies of scale.

(25 Lecture)

UNIT IV

Perfect Competition: Assumptions, features, supply curve of a competitive firm, short run and long run equilibrium of a firm/industry. Monopoly: Meaning, source, types, assumptions, features, price and output determination in the short run and long run.

Monopolistic Competition: Features/ characteristics, short run and long run equilibrium of a firm, role of advertising. Oligopoly: Assumptions, features and characteristics. (**20 Lecture)**

Suggested Books:

1. Ahuja H.L (2017). Advanced Economic Theory, S. Chand and Company, New Delhi.
2. Bernheim, B., Whinston, M. (2009). Microeconomics. TataMcGraw-Hill.
3. Dominick Salvatore (2002) Theory and Problems of Microeconomic Theory, Schaum's Outline Series, McGraw-Hill Book Company, Singapore.
4. H.R (2010). Intermediate Microeconomics: A Modern Approach, W.W.North and Company, 8th edition.
5. Koutsoyiannis A, (2008). Modern Microeconomics, Macmillan. London.
6. Mankiw, N. (2007). Economics: Principles and applications, 4th ed. Cengage Learning, 2007.
7. Pindyck Robert S., and Daniel L. Rubinfeld, (2012) Microeconomics. Pearson Prentice Hall, New Jersey.

Semester	**I**
Code of the Course	**UG 802/803- - ECO-51P-102**
Title of the Course/Paper	**Eco-Practical-I**
NHEQF Level	**5**
Credit	**2**
Level of the Course	**Introductory**
Type of the Course	**Major/Minor**
Delivery Type of the Course	**Practicum**
Objective of the Course	The course aims to equip students with the necessary skills to develop and carry out surveys along with analytical skills through the case study discussions, project report and data interpretation techniques.

Course outcomes

1. C01: Students will be able to understand the consumer preferences and their decision-making process through surveys.
2. C02: Enable the student to design and conduct market surveys to gather data on consumer preferences, behaviors, and purchasing patterns.
3. CO3: Students will be able to use their knowledge to solve practical economic problems, make informed decisions, and understand the impact of economic policies and market changes.

Syllabus

UG 802/803- - ECO-51P-102: Eco-Practical-I

Case Studies

Consumer Behavior Analysis: Market surveys or experiments to study consumer preferences, decision-making processes, and the impact of advertising or branding on consumer choices.

Industry Structure: Investigating the market structure of a specific industry (e.g., automobile, telecommunications) and analyzing its implications for competition and market outcomes.

(20 Lecture)

Graphical Presentation

Construction of Demand and Supply curves. Measurement of Price Elasticity. Estimation of, Revenue, Cost, and Product Curves. **(20 Lecture)**

Project Report

Market Survey and Consumer Behavior, Startup India and its impact, Environment and Economic Growth **(20 Lecture)**

Syllabus

UG 802/803- -B.Sc.

Semester-II: Economics

Type	Paper Code and Nomenclature	Duration of Examination	Maximum Marks (Midterm+ EoSE)	Minimum Marks (Midterm+ EoSE)
Theory	UG 802/803- - ECO-52T-103: Fundamental Methods of Mathematical Economics	1 Hrs-MT 3Hrs- EoSE	20 Marks- MT 80 Marks- EoSE	08 Marks-MT 32 Marks-EoSE

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Practical	UG 802/803- - ECO-52P-104: Eco-Practical-II	1 Hrs-MT 3Hrs- EoSE	10 Marks- MT 40 Marks- EoSE	04 Marks- MT 16 Marks-EoSE
		EoSE Marks Distribution: 1. Practicum Report: 20 marks 2. Written Test : 12 Marks 3. Viva – Voce : 08 Marks		

Semester	**II**
Code of the Course	**UG0802/803- ECO-52T-103**
Title of the Course/Paper	**Fundamental Methods of Mathematical Economics**
NHEQF Level	**5**
Credit	**4**
Level of the Course	**Introductory**
Type of the Course	**Major/Minor**
Delivery Type of the Course	**Lectures**
Objective of the Course	Equip students with essential mathematical tools and techniques to analyze and solve economic problems, train them to perform quantitative analysis of economic data and interpret results accurately, and illustrate the application of mathematics in both microeconomics and macroeconomics, thereby enhancing their understanding of these fields. It aims to equip students with optimization techniques and their applications in economic theory.

Course Outcomes

CO1: Students will gain a comprehensive understanding of matrices and vectors, including matrix operations such as addition and multiplication, and their basic principles like commutative, associative, and distributive laws.

CO1: Students will understand the first and second order conditions for finding maxima, minima, and saddle points in unconstrained optimization problems involving two choice variables, and will learn to assess the concavity and convexity of functions.

CO3: Students will grasp the concept of integration, both indefinite and definite integrals, and will apply these concepts in economic contexts to calculate consumer surplus and producer surplus.

CO4: Students will apply difference equations to economic models such as growth models, the Cobweb model, and the lagged Keynesian macroeconomic model.

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Syllabus

UG0802/803- ECO-52T-103: Fundamental Methods of Mathematical Economics

Unit-I

Matrix and Determinants: Matrices and Vectors, Matrix Operations; Basic principles of Matrix addition and Multiplication, commutative, associative and distributive laws. Type of Matrices and their properties, Determinants- second-order and third order determinant, relation between Minors and Cofactors; Basic properties of Determinants; the Transpose of a Matrix, the Cofactor Matrix, Adjoint of a Matrix, Inverse of a Matrix. Solution of linear simultaneous equations by Matrix Inversion method and Cramer's rule.

(20 Lectures)

Unit-II

Unconstrained Optimization-The case of two choice variables: First order and second order conditions for a maxima, minima and saddle point solutions; conditions for concavity and convexity of a function; relevant applications.

Constrained Optimization (Lagrange Multiplier Method) - case of two choice variables: First order and second order conditions. **(25 Lectures)**

Unit-III

Integral Calculus: Concept of Integration; Indefinite and Definite Integrals and its application in Economics -Consumer surplus and Producer surplus.

(20 Lectures)

Unit-IV

Difference Equations: Solution of First and Second order homogeneous and non- homogeneous difference equations; Applications on Growth Model, A Cobweb Model, the lagged Keynesian macroeconomic model.

(25 Lectures)

Books Recommended:

1. Alpha C. Chiang and Kevin Wainwright, Fundamental Methods of Mathematical Economics, Fourth Edition, Mc Graw Hill International Edition, 2005.
2. Geoff, Renshaw, Mathematics for Economics, Oxford University Press, 2011.
3. Jaques, I, Mathematics for Economics and Business, Prentice Hall, 2010.
4. Knut Sydsaeter and Peter J. Hammond, Mathematics for Economic Analysis, Low Price Edition, Pearson Education, New Delhi, 2007.

5. Mehta B.C. and G.M.K. Madnani, Mathematics for Economics, Sultan chand & Sons, New Delhi, 2008.
6. Teresa Bradley and Paul Patton, Essential Mathematics for Economics and Business, Wiley, 2000.

Semester	**II**
Code of the Course	**UG 802/803- - ECO-52P-104**
Title of the Course/Paper	**Eco-Practical-II**
NHEQF Level	**5**
Credit	**2**
Level of the Course	**Introductory**
Type of the Course	**Major/Minor**
Delivery Type of the Course	**Practicum**
Objective of the Course	The primary objective of this course is to equip students with practical skills and in-depth knowledge about the Indian economy through hands-on activities, fieldwork, and case studies.

Course Outcomes:

CO 1: Students will be able to integrate theoretical concepts with practical situations through case studies and fieldwork. They will develop the ability to critically analyze and discuss case studies related to key economic issues and propose solutions to these problems based on their findings.

CO 2: Students will design and execute socio-economic surveys to collect relevant data and conduct field visits to observe and identify economic issues in communities.

CO 2: The course will enhance their skills in gathering, organizing, and managing data from fieldwork and surveys, and utilize appropriate techniques to interpret and draw conclusions from the data.

CO3: Students will prepare comprehensive reports based on data analysis and field observations, presenting their findings clearly, concisely, and with supporting evidence.

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UG 802/803- -ECO-52P-104: Eco-Practical-II

Case Studies: Discussion on case study related to issues of Indian economy.

(20 Lectures).

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Socio-Economic Survey and Field Work: Field visits to identify local/regional economic issues/ problems.

(20 Lectures)

Report Writing: Make observation including data collection, analyze the data and prepare a brief report on chosen topic.

(20 Hour)

Syllabus

UG 802/803- -B.Sc.

Semester-III: Economics

Type	Paper Code and Nomenclature	Duration of Examination	Maximum Marks (Midterm+ EoSE)	Minimum Marks (Midterm+ EoSE)
Theory	UG802/803- - ECO-63T-201: Principles of Macro Economics	1 Hrs-MT 3Hrs- EoSE	20 Marks- MT 80 Marks- EoSE	08 Marks-MT 32 Marks-EoSE
Practical	UG 802/803- - ECO-63P-202: Eco-Practical-II	1 Hrs-MT 3Hrs- EoSE	10 Marks- MT 40 Marks- EoSE	04 Marks- MT 16 Marks-EoSE
		<u>EoSE Marks Distribution:</u> 1. Practicum Report: 20 marks 2. Written Test : 12 Marks 3. Viva – Voce : 08 Marks		

Semester	**III**
Code of the Course	**UG 802/803- - ECO-63T-201**
Title of the Course/Paper	**Principles of Macro Economics**
NHEQF Level	**5**
Credit	**4**
Level of the Course	**Introductory**
Type of the Course	**Major/Minor**
Delivery Type of the Course	**Lectures**
Prerequisites	**Nil**
Objective of the Course	This course aims to equip students with a thorough understanding of the principles, theories, and applications of macroeconomic concepts. The objective of this course is to enhance students' understanding to the methods and

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	challenges of measuring key macroeconomic indicators such as GDP, unemployment rates, inflation rates, and interest rates.

Course Outcome:

CO1: Unit introduces the meaning & methodology of macroeconomics; schools of macroeconomic thought and macroeconomic variables.

CO2: National income is a crucial macroeconomic aggregate that reflects the overall economic performance of a country. Unit plays a pivotal role in helping students grasp the concept of national income.

CO3: Money and price are the instrumental variables in facilitating the transaction and in the allocation of resources in the economy. Current unit presents a detailed account of money, its functions and its relation with general price level.

CO4: Unit portrays the interaction of real sector variables including income, employment, consumption, saving and investment.

CO5: The quantity of money in an economy is critical in determining the other macroeconomic variables like interest rate, general price level and aggregate demand. Thus, the level of quantity of money in circulation is a major policy issue. Therefore, the unit has been designed to enlighten the students about money supply and its determination.

Syllabus

UG 802/803- - ECO-63T-201: Principles of Macro Economics

Unit-I

Macroeconomics: Meaning, Subject matter, Origin, and Importance. Basic tenets of Classical, Keynesian, New-Classical and New-Keynesian economics, Macro Economic Variables: Stock vs flow, Ex-ante vs Ex-post, Endogenous vs Exogenous, Ratio Variables, Autonomous vs Induced, Dependent vs Independent. Interdependence between Micro and Macro Economics. Fallacy of Composition. A brief introduction of Nobel laureate Macro Economists. **(25 Lectures)**

Unit-II

Circular Flow of Income in a Two, Three & Four Sector Economy. Leakages & Injections. National Income: Basic Concepts, Measurement Methods, Nominal & Real income. CPI and GDP Deflator. Concept of Net Economic Welfare (NEW). **(20 Lectures)**

Unit-III

Money Functions. Quantity Theory of Money: Transaction & Cash Balance Approach. Keynesian Theory of Money. Milton Friedman Restatement of QTM. Inflation: Definition, Concept, Types, Causes, Effects & Remedial Measures. The Social Cost of Inflation. Phillips Curve**.** **(20 Lectures)**

Unit-IV

Income & Employment Determination: Simple Classical & Keynesian Model. Consumption Function & its Determinants. The Saving Function & Marginal Efficiency of Capital. Investment Function and its Determinants & Marginal efficiency of Investment. Concept of Multiplier and Accelerator. Business Cycle: Definition & Phases**.** **(25 Lectures)**

Recommended Books:

1. Richard T.Froyen. Macro Economics: Theories and Policies (X Edition), Adapted by Pearson Education.
2. G S Gupta. Macro Economics: Theory & Application, Tata McGraw Hill, New Delhi.
3. Edward Shapiro
4. Dornbusch, Fischer and Startz. Macro Economics, XIIth Edition, Tata McGraw Hill, New Delhi.
5. N. Gregory Mankiw. Macro Economics, Worth Publishers.
6. Schaum's Series: Macro Economics, Tata McGraw Hill, New Delhi.
7. H.L.Ahuja (Hindi & English Edition) Macro Economics: Theory & Policy, S.Chand& Co Ltd., New Delhi

Semester	**III**
Code of the Course	**UG 802/803- -ECO-63P-202**
Title of the Course/Paper	**Eco-Practical-III**
NHEQF Level	**5**
Credit	**2**
Level of the Course	**Introductory**
Type of the Course	**Major/Minor**
Delivery Type of the Course	**Practicum**
Objective of the Course	The course seeks to make students aware of the concepts and trends in national income, inflation, and unemployment in India through case studies and graphical presentation. The course aims to highlight the contribution on women entrepreneurs in India and educate students about sustainable agricultural practices.

Course Outcomes:

CO1: Students will gain knowledge about the policy responses and strategies adopted by businesses and governments to mitigate the global supply chain disruptions.

CO2: Students will get a grasp of recent trends in major macroeconomic indicators of the Indian economy and understand the historical context and objectives of agricultural reforms in India.

CO3: Students will learn about the contribution of women entrepreneurs and their challenges. The students will also get to know of the sustainable agricultural practices that are the need of the hour.

Syllabus

Case Studies

Global Supply Chain Disruptions: Analyze the impact of events like the COVID-19 pandemic on global supply chains and international trade.

Agricultural Reforms in India: Evaluate the impact of agricultural reforms on productivity, income, and rural development in India.

Renewable Energy Adoption: Case study on the transition to renewable energy sources in a country or region and its economic impacts. **(20 Lectures)**

Graphical Presentation

Plotting Functions: Graphing supply and demand curves, cost functions. Recent trends in inflation, GDP growth rate, and unemployment. **(20 Lectures)**

Project Report

Tourism and Local Economy, Women Entrepreneurs in India, Sustainable Agricultural Practices. **(20 Lectures)**

Syllabus

UG 802/803- -B.Sc.
Semester-IV: Economics

Type	Paper Code and Nomenclature	Duration of Examination	Maximum Marks (Midterm+ EoSE)	Minimum Marks (Midterm+ EoSE)
Theory	UG 802/803- -ECO-64T-203 Statistics	1 Hrs-MT 3Hrs- EoSE	20 Marks- MT 80 Marks- EoSE	08 Marks-MT 32 Marks-EoSE

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Practical	UG 802/803- ECO-64P-204: Eco-Practical-IV	1 Hrs-MT 3Hrs- EoSE	10 Marks- MT 40 Marks- EoSE	04 Marks- MT 16 Marks-EoSE
		EoSE Marks Distribution: 1. Practicum Report: 20 marks 2. Written Test : 12 Marks 3. Viva – Voce : 08 Marks		

Semester	**IV**
Code of the Course	**UG 802/803- -ECO-64T-203**
Title of the Course/Paper	**Statistics**
NHEQF Level	**5**
Credit	**4**
Level of the Course	**Introductory**
Type of the Course	**Major/Minor**
Delivery Type of the Course	**Lectures**
Objective of the Course	This course aims to equip students with both theoretical knowledge and practical skills necessary to analyze and interpret data effectively. The objective of this course is to impart basic concepts of statistics essential for studying socio-economic problems with a particular focus on data collection techniques, classification, tabulation and analysis of data.

Course Outcome

CO1: Students will apply foundational statistical methods to analyze economic data, including techniques for data collection, tabulation, and graphical representation, thereby gaining practical skills in handling real-world datasets.

CO2: Students will learn about the relationships between variables using correlation techniques like Pearson's and Spearman's coefficients, and analyze trends in economic data through regression analysis and time series analysis, enhancing their ability to interpret statistical findings.

CO3: To Apply statistical techniques to analyze data from various fields such as business, economic, social sciences, and natural sciences.

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CO4: Students will assess statistical significance through hypothesis testing, understanding concepts such as degrees of freedom, levels of significance, and types of errors, enabling them to make informed decisions based on rigorous statistical inference in economic research.

Syllabus

UG 802/803- -ECO-64T-203: Statistics

Unit-I

Statistics- Nature and Uses. Methods of data collection and tabulation. Diagrammatic and Graphical representation of data. Measures of Central Tendency: Arithmetic Mean, Geometric Mean, Harmonic Mean, Mode, Median and Partition Values. **(25 Lectures)**

Unit -II

Concept and Measures of Dispersion, Skewness. Simple Correlation: Karl Pearson's Coefficient of Correlation and Spearman's Rank Correlation. Regression analysis, fitting of linear regression lines using Least Square Method**.** **(25 Lectures)**

Unit -III

Analysis of Time Series, Components, Determination of trend by straight line trend equation. Index Numbers: Laspayer's, Paasche's, Fisher's Ideal Index Number, Splicing, Deflating. Interpolation (Binomial Expansion and Newton's Method). Association of Attributes.

(20 Lectures)

Unit -IV

Elementary Probability Theory, Testing of Hypothesis: Concepts of Degree of Freedom, Level of Significance, Critical Region, Type I and II error, Standard error, t test. **(20 Lectures)**

Books recommended:

1. S.P. Gupta. Statistical Methods, Sultan Chand Sons, New Delhi.
2. M.R. Spiegel. Theory and Problems of Statistics, McGraw Hill Books, London.
3. S.C. Gupta and V.K. Kapoor. Fundamentals of Applied Statistics, S Chand and sons, New Delhi.
4. Salvator, D. Mathematics and Statistics, Schaum's Series, Tata McGraw Hill.
5. G. S. Monga. Mathematics and statistics for Economics, Vikas Publishing House, New Delhi.
6. K. N. Nagar. Fundamentals of Statistics, Meenakshi Prakashan, Meerut.

Semester	IV
Code of the Course	UG 802/803- -ECO-64P-204
Title of the Course/Paper	Eco-Practical-IV
NHEQF Level	5

Credit	2
Level of the Course	**Introductory**
Type of the Course	**Major/Minor**
Delivery Type of the Course	**Lectures**
Objective of the Course	This course aims to equip students with the knowledge and skills necessary to evaluate the economic effects of farm subsidies, financial inclusion, sustainable development initiatives, the COVID-19 pandemic, and government policies. The course will provide students with practical research skills, enabling them to design and conduct field studies questionnaires, interviews, and focus group discussions. They will gain proficiency in utilizing a variety of data visualization techniques, including histograms, bar charts, pie charts, and box plots, to interpret and communicate data effectively.

Course Outcomes

CO1: Students will be able to evaluate the economic effects of farm subsidies, financial inclusion, sustainable development initiatives, the COVID-19 pandemic, and government policies

CO2: Students will analyze policy responses, economic recovery measures, and the long-term implications of the pandemic on economic resilience and sustainability.

CO3: Students will learn to effectively utilize various data visualization techniques, including histograms, bar charts, pie charts etc. to analyzethe data.

CO4: students will be able to design and conduct field studies using questionnaires, interviews, and focus group discussions to analyze the economic, social, and environmental impacts of eco-tourism, agricultural practices, banking and financial services, and renewable energy projects.

Syllabus

UG 802/803- -ECO-64P-204: Eco-Practical-IV

Case Study: Farm Subsidies in India, Financial Inclusion and Microfinance, Sustainable development The Economic Impact of the COVID-19 Pandemic, Impact of government policies on farmers.

(20 lecture)

Data Collection: Types of data: Primary vs. Secondary, Data visualization (histograms, bar charts, pie charts, Line Graph, Scatter Plot etc.)

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(20 lecture)

Project Report (Based on fieldwork): Eco-tourism, Agricultural Practices and Productivity, Banking and Financial Services, Renewable Energy (Use structured questionnaires, semi-structured interviews, focus group discussions, and observational methods). **(20 lecture)**

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(Academic)
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