Vijayanagara Sri Krishnadevaraya University
Department of Studies in Economics

JnanaSagar Campus, Vinayaknagar, Cantonment, Ballari – 583105

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Department of Studies in Economics

M.A. Economics

Program Structure
&
I - II Semester Syllabus

With effect from Academic year
2024-2025

Table of Contents

Department of Studies in Economics

'Jnana Sagar' Campus, Vinayaknagar, Cantonment, Ballari - 583105

Programme: Master of Arts (M.A) in Economics

Duration: 2 Years (4 semesters)
Programme Overview:

The Master of Arts (M.A) in Economics will enable students to understand the theoretical and application oriented conceptual learning of economics. The Master's programme is under Choice Based Credit System (CBCS) as per UGC with effect from the academic year 2024 - 25. The two year programme aims to provide an in depth understanding of various subjects in the domain of economics. The course structure of the program is designed to provide both theoretical and application oriented training to the students with lab oriented exercises. The practical lab oriented hands on exercises with core focus on quantitative techniques improve the skill and employability of the students. As part of the program the student will learn a statistical software for data analysis, this will equip the student and gives an edge in the job market. The program is inclusive of specialization courses on various domains, providing an advanced learning in area of their interest. In addition, the project work provides an opportunity for a student to carry out a minor empirical work which enhances research ability among the students and will strengthen their cognitive behaviour.

Programme Educational Objectives (PEOs):

After the completion of the programme the graduates will be able to:

PEO1: to develop critical thinking to carry out investigation about various socio-economic issues objectively while bridging the gap between theory and practice.

PEO2: to impart in-depth knowledge of economic theory regarding optimum utilization of resources.

PEO3: to enable to understand sectoral aspects of the economy such as, agricultural, industry, financial market and global & regional aspects with reference to India.

PEO4: To make students familiar with various economic and econometric modelling.

PEO5: to empower students with research capacity by using various latest data software's for economic policy making, analysis and evaluation.

Programme Outcomes (POs):

At the end of the programme the students will be able to:

PO1: will get in depth knowledge about economic theory and empirical analysis.

PO2: to apply quantitate and econometric tools to solve complex socio-economic problems.

PO3: to formulate broad economic policies.

PO4: to operate with software related to economic data analysis.

PO5: to monitoring and evaluating the public programmes.

PO6: to be professional entrepreneur such as economic advisers, economic policy maker, economist etc.

Department of Studies in Economics
Program Structure for M. A. in Economics

FIRST SEMESTER

Paper Type	Paper Code	Title	Credits	Teaching Hrs/Week			IA Marks	SEE Marks	Total Marks	Duration of Exam (Hrs)
				L	T	P				
DSC1	24ECO1C1L	Microeconomics-I	4	4	-	-	30	70	100	3
DSC2	24ECO1C2L	Macroeconomics-I	4	4	-	-	30	70	100	3
DSC3	24ECO1C3L	Statistics for Economics	4	4	-	-	30	70	100	3
DSC4	24ECO1C4L	Indian Economy and Policy – I	4	4	-	-	30	70	100	3
DSC5	24ECO1C5L	Mathematics for Economics	4	4	-	-	30	70	100	3
SEC1	24ECO1S1T	Statistics of Indian Economy – I*	2	0	2	-	20	30	50	1
DSC - Elective (Choose any one)										
DSCP1	24ECO1C1P	Economic Analysis using Computers - I	2	-	-	4	20	30	50	2
DSC3T1	24ECO1C1T	Quantitative Techniques for Economics	2	-	2	-	20	30	50	2
Total: Credits, Lecture, Practical, Tutorials - Hrs, SEE Hrs & Marks			**24**	**20**	**4**	**4**			**600**	
BRIDGE COURSE#										
DSCB	24ECO1B1L	Basics of Economics	2	2			20	30	50	2

IA= Internal Assessment   SEE=Semester End Examination   DSC= Discipline Specific Core paper,   DSE= Discipline Specific Elective

SEC=Skill Enhancement Course   L = Lecture   T = Tutorial   P= Practical

* MCQ based assessment paper

Bridge Course is for students who have not studied Economics as a core/major/optional subject in Under-Graduation (UG) program.

SECOND SEMESTER

Paper Type	Paper Code	Title	Credits	Teaching Hrs/Week			IA Marks	SEE Marks	Total Marks	Duration of Exam (Hrs)
				L	T	P				
DSC6	24ECO2C6L	Microeconomics-II	4	4	-	-	30	70	100	3
DSC7	24ECO2C7L	Macroeconomics-II	4	4	-	-	30	70	100	3
DSC8	24ECO2C8L	History of Economic Thought	4	4	-	-	30	70	100	3
DSC9	24ECO2C9L	Indian Economy and Policy - II	4	4	-	-	30	70	100	3
DSC10	24ECO2C10L	Basic Econometrics	4	4	-	-	30	70	100	3
SEC2	24ECO2S2T	Statistics of Indian Economy – II*	2	-	2	-	20	30	50	2
DSC - Elective (Choose any one)										
DSCP2	24ECO2C2P	Economic Analysis using Computers - II	2	-	-	4	20	30	50	1
DSC10T1	24ECO2C2T	Econometric Techniques	2	-	2	-	20	30	50	1
Total: Credits, Lecture, Practical, Tutorials - Hrs, SEE Hrs & Marks			**24**	**20**	**4**	**4**			**600**	

IA= Internal Assessment   SEE=Semester End Examination   DSC= Discipline Specific Core paper,   DSE= Discipline Specific Elective

SEC=Skill Enhancement Course   L = Lecture   T = Tutorial   P= Practical

* MCQ based assessment paper

THIRD SEMESTER

Paper Type	Paper Code	Title	Credits	Teaching Hrs/Week			IA Marks	SEE Marks	Total Marks	Duration of Exam (Hrs)
				L	T	P				
DSC11	24ECO3C11L	Economics of Growth and Development	4	4	-	-	30	70	100	3
DSC12	24ECO3C12L	Public Economics-I	4	4	-	-	30	70	100	3
DSC13	24ECO3C13L	Research Methodology	4	4	-	-	30	70	100	3
DSE1	24ECO3E1AL	Agriculture Marketing, Trade and Prices			-	-				
	24ECO3E1BL	Monetary Economics	4	4	-	-	30	70	100	3
	24ECO3E1CL	Advanced Econometrics			-	-				
DSE2	24ECO3E2AL	Karnataka Economy			-	-				
	24ECO3E2BL	Industrial Economics	4	4	-	-	30	70	100	3
	24ECO3E2CL	Basics of Resource Economics			-	-				
GEC1	24ECO3G1AL	Indian Economy	2	2	-	-	20	30	50	2
	24ECO3G1BL	Fundamentals of Economics								
DSC - Elective (Choose any one)										
DSCP3	24ECO3C3P	Statistical Software for Economics	2	-	-	4	20	30	50	1
DSC13T2	24ECO3C3T	Research Techniques	2	-	2	-	20	30	50	1
Total: Credits, Lecture, Practical, Tutorials - Hrs, SEE Hrs & Marks			**24**	**20**	**2**	**4**			**600**	

IA= Internal Assessment   SEE=Semester End Examination   DSC= Discipline Specific Core paper,   DSE= Discipline Specific Elective
SEC=Skill Enhancement Course   L = Lecture   T = Tutorial   P= Practical

FOURTH SEMESTER

Paper Type	Paper Code	Title	Credits	Teaching Hrs/Week			IA Marks	SEE Marks	Total Marks	Duration of Exam (Hrs)
				L	T	P				
DSC14	24ECO4C14L	International Economics	4	4	-	-	30	70	100	3
DSC15	24ECO3C15L	Public Economics -II	4	4	-	-	30	70	100	3
DSE3	24ECO4E3AL	Rural Development and Policy	4	4	-	-	30	70	100	3
	24ECO3E3BL	Banking and Financial Institutions			-	-				
	24ECO3E3CL	Time Series Econometrics			-	-				
DSE4	24ECO4E4AL	Regional Disparities in India	4	4	-	-	30	70	100	3
	24ECO4E4BL	Labour Economics								
	24ECO4E4CL	Resource Economics-II								
GEC2	24ECO4G2AL	Indian Public Finance	2	-	2	-	20	30	50	3
	24ECO4G2BL	Karnataka Economy								
DSC - Internal Elective (Choose any one)										
SEC 3	24ECO4C3P	Economic Analysis using Computers - III	2	-	-	4			50	1
	24ECO4S3T	Working with Indian Public Finance Statistics	2	-	2	-	20	30	50	1
Project	24ECO4RP	Research Project	4	-	-	8	30	70	100	-
Total: Credits, Lecture, Practical, Tutorials - Hrs, SEE Hrs & Marks			**24**	**20**	**4**	**4**			**600**	

IA= Internal Assessment   SEE=Semester End Examination   DSC= Discipline Specific Core paper,   DSE= Discipline Specific Elective
SEC=Skill Enhancement Course   L = Lecture   T = Tutorial   P= Practical

M.A. Economics
Semester-I

MICROECONOMICS-I

Subject Code: 24ECO1C1L	Credits:4
Category: DSC1	L:T:P = 4:0:0

Course Objectives:
1. To familiarize the students with the micro-foundations of the economy;
2. To understand and analyze the behavior of firms and markets.

Course Outcome:
1. Describe economic conditions leading to profit and loss of firms operating under various market structures.
2. Analyse optimal levels of output and pricing under different market structures.

Module-I	**Consumer Theory**	**12 Hrs**
	Consumer Preferences, Indifference curves ; Utility- Cardinal utility; Budget equation; Utility function –utility maximization and consumer choice; Revealed preferences; Demand –properties of demand- critique of demand analysis- Veblen effect, Giffen goods, Bandwagon effect, Snob effect. Slutsky equation –Substitution and income effect.	
Module-II	**Theory of Production and Costs**	**10hrs**
	Supply- determinants of supply; Production Function: Short-run and Long-run; Law of Variable Proportions; Isoquants; Least Cost Combination of Inputs; Returns to Scale; Multi-Product Firm; Technical Progress and Production Function; Cobb-Douglas, CES Production Functions and Their Properties; Traditional and Modern Theories of Costs. Derivation of Cost Functions from Production Functions.	
Module-III	**Perfect Competition**	**11 hrs**
	Marginal Analysis as an Approach to Price and Output Determination; Perfect Competition- Short and Long-run Equilibrium of the Firm and Industry Supply Curve.	
Module-IV	**Monopoly and Monopsony**	**11 hrs**
	Monopoly- Short and Long-run Equilibrium; Price Discrimination; Monopoly Control and Regulation; Monopolistic Competition- Equilibrium of the Firm and the Group with Product Differentiation and Selling Costs; Excess Capacity. Monopsony, social costs of monopsony.	
Module-V	**Oligopoly**	**12 hrs**
	Oligopoly- Non-Collusive (Cournot, Bertrand, Edgeworth, Chamberlin, Kinked Demand Curve and Stackelberg's Solution) and Collusive (Cartels and Mergers, Price Leadership and Basing Point Price System) Models	

References:

1. Varian, Hall. Intermediate Microeconomics: A Modern Approach. WW Norton & Co. 2010 ISBN:978-81-76710657

2. Sen, Anindya (1999): Micro Economic Theory and Applications, Oxford University Press, New Delhi.

3. Pyndick and Rubenfeld (2012): Micro Economics, 8th Edition. Prentice Hall Publishers

4. Mankiw, Gregory. Principles of Microeconomics. Cengage Learnining. 2018. ISBN 13: 978-1-305-97149-3.

MACROECONOMICS-I

Subject Code: 24ECO1C2L	Credits:4
Paper Type: DSC2	L:T:P = 4:0:0

Course Objectives:
1. The course objective is to make students to understand the macroeconomic behavior and working of the economy.
2. The paper mainly focuses on functioning of the economy emphasizing on the theoretical aspects of macro economy.
3. The course develops skills in application of macroeconomic principles to understand the functioning of the economy.

Course Outcome:
1. Students will able to understand the national income accounting concepts with hands on exercises.
2. Students will able to learn theories on employment, consumption and investment.
3. To gain knowledge on integration of markets and behavior of prices.

Module-I	**Macro Economics and National Income accounting**	**11Hrs**

Basic concepts - National Income – indicators - measurement - Accounting Concepts and Identities – Real and Nominal – Deflator - GNP and Quality of Life - Green Accounting - Measuring the Cost of Living – Consumer Price Index. Methods of estimating national Income – Social Accounting – Input-Output Accounting.

Module-II	**Theories of Employment and Output**	**12 Hrs**

Foundations of the Model – Circular Flow of Income - Say's Law of Market – Classical Theory - Determinants of Output – Employment – Savings – Investment – Wages – Prices – Interest rates – Output and Full employment equilibrium – Wage Price Flexibility – Keynes Critique.

Keynesian Economics – Theory of employment – AD and AS - effective demand – under-employment equilibrium - Money-wage rigidity Model – Determination of National Income - Two Sector- Three Sector and Four Sector Models- Critique of Keynesian Model.

Module-III	**Theories of Consumption and Investment**	**11 Hrs**

Keynes Consumption theory – Secular Stagnation, Simon Kuznets, and the Consumption Puzzle. Post Keynesian Consumption Theories - Inter-temporal Choice - The Life-Cycle Hypothesis - Permanent-Income Hypothesis - Robert Hall and the Random-Walk Hypothesis - David Laibson and the Pull of Instant

Gratification.

Investment – Types - Marginal Efficiency of Capital and Investment – Multiplier – Accelerator analysis.

Module-IV	**Neo – Classical and Keynesian Synthesis**	**11 Hrs**

IS-LM Model (Mundell-Fleming Model) – Effectiveness of monetary and fiscal policies – Extension of IS-LM Model with exchange rate regimes. AD Models - IS-LM Model with flexible prices – Aggregate Supply Models –Sticky wage Model – Imperfect Information Model – Sticky Price Model.

Module-V	**Theories of Inflation**	**11 Hrs**

Classical, Keynesian and Monetarist approaches to inflation - Inflation and Interest Rates - Fisher Effects - Philips Curve – Shortrun and Long run. Tobin and Friedmans modified Phillips curve, Augmented Phillips curve- the natural rate of unemployment hypothesis and NAIRU– Policies to control Inflation.

References:

1. Ackley, G. (1978), Macroeconomics: Theory and Policy, Macmillan, New York.

2. Mankiw N. Gregory, (2012) *Macroeconomics,* Worth Publishers, New York.

3. Shapiro Edward, (2004) *Macroeconomic Analysis,* Galgotia Publications Pvt. Ltd, New Delhi.

4. Heijdra, B.J. and V.P. Fredericck (2001), Foundations of Modern Macroeconomics, Oxford University Press, New Delhi.

5. Oliver Blanchard, (2016) *Macroeconomics*, Pearson Prentice Hall, New Jersey, USA.

STATISTICS FOR ECONOMICS

Subject Code: 24ECO1C3L	Credits:4
Paper Type: DSC3	L:T:P = 4:0:0

Course Objectives:
1. To familiarize students with basic Statistical skills.
2. To train students in application of Statistical techniques to economic problems.

Course Outcome:
1. Present and draw inferences from data.
2. Calculate and interpret the measures of location.

Module-I	**Introduction** Introduction – nature of statistics, scope and limitations. Definition and Types of Statistics: Descriptive Statistics and Inferential Statistics. Types of Data: Nominal, Ordinal and Ratio-Scale Data - Qualitative and Quantitative Data.	**10 hrs**
Module-II	**Central Tendency and Dispersion** Meaning of Central Tendency; Measurement of Average: Mean ~ Arithmetic Mean - Weighted Arithmetic Mean - Geometric Mean - Harmonic Mean; Median; Quartile; Mode; Dispersion: Range - Standard Deviation - Coefficient Variation; Skewness: Types of Skewness - Measures of Skewness; Kurtosis: Types of Kurtoses - Measures of Kurtosis.	**12 hrs**
Module-III	**Probability Theory and Hypothesis Testing** Concept of Random variable – PDF and CDF. Properties of Different distributions –Binomial, Poisson, Normal, Chi-Square, t distribution and F distribution. Hypothesis Testing: Meaning and Importance; Basic Concepts of Testing of Hypothesis: null hypothesis - alternative hypothesis - one-tail test - two-tails test; Types of Errors in Hypothesis Testing - Traditional Approach – P Value Approach - Confidence Interval Approach.	**8 hrs**
Module-IV	**Correlation and Regression** Correlation: Meaning - Types of Correlation - Partial and Multiple Correlations; Measurement of Correlation ~ Scatter Diagram - Karl Pearson's Coefficient of Correlation - Spearman's Rank Correlation; Regression: Simple Regression Model – Estimation - Least Squares Method - Goodness of Fit	**12 hrs**
Module-V	**Index numbers** Index Numbers - types and their uses and limitations. Calculation	**8 hrs**

of CPI and WPI. Tests of reversal- time, mean and factor reversal.

References

1. Anderson, Sweeney & Williams, (2002): Statistics for Business & Economics, 11th Edn., Thomson South-Western, Cengage Learning, India.
2. Agarwal B.L (2013): Basic Statistics, New Age International Publication, New Delhi.
3. Gupta S. C. (2017): Fundamentals of Statistics, Himalaya Publishing House, Bombay
4. Jain T R, and V K Ohri (2020): Statistics for Economics, V K Global Publiser Pvt. Ltd.
5. Johnson R. and G. Bhattacharya (2000): Statistics: Principles and Methods, John Wiley and Sons.
6. Nagar A.L. and R.K.Das (1997): Basic Statistics, Oxford University Press, New Delhi.
7. Veerachami R. (2019): Quantitative Methods for Economists, New Age International Publication, New Delhi.

INDIAN ECONOMY AND POLICY-I

Subject Code: 24ECO1C4L	Credits:4
Paper Type: DSC4	L:T:P = 4:0:0

Course Objectives:
1. Understand the Historical Evolution of India's Economy
2. Analyze Post-Independence Economic Strategies
3. Evaluate Key Economic Policies and Crises

Course Outcome:
1. Demonstrate an In-Depth Understanding of India's Economic History
2. Critically Evaluate Economic Planning and Policy-Making
3. Analyze the Implications of Economic Crises and Policy Responses

Module-I	**Colonial and Pre-Independence Economic Policies**	**11 Hrs**
	Colonial Economy: economic structure under British rule. Pre-Independence Economic Policies: Land Revenue Systems, Deindustrialization and Economic Exploitation, Railways and Infrastructure Development Government Acts and Economic Commissions: Government of India Acts (1919, 1935) and Royal Commission - Critique of British economic policies and Drain Theory.	
Module-II	**Post-Independence Economic Planning**	**11 Hrs**
	The Planning Commission – Formation - Overview of Five-Year Plans (1951-2017) and Mixed economy Model. Agricultural Policies and Land Reforms: Analysis of land reform measures - Abolition of Zamindari system – Early initiatives of Green Revolution. Industrial Policies: Industrial Policy Resolutions of 1948 and 1956.	
Module-III	**The Era of License Raj and Controlled Economy**	**10Hrs**
	License Raj system - Industrial licensing, imports, and foreign exchange. MRTP Act and FERA, Hindu Growth Rate - Monetary and Fiscal Policies: Control inflation, Balance payments, and Management of Public debt - 1956 Minimum Reserve System.	
Module-IV	**Agricultural Policy and the Green Revolution**	**11 Hrs**
	Pre-Green Revolution Agricultural Scenario - Food security challenges and rural poverty. Agriculture growth and Productivity - low productivity, measures to increase agricultural productivity. Green Revolution: Green Revolution (1960s-70s), policies, technologies (HYV seeds, fertilizers) - Impact on agricultural productivity - Rural income disparities. Drawbacks of Green Revolution.	

Module-V   Economic Crises and Policy Responses (1960-1990)   **10 Hrs**
The 1966 Economic Crisis and Devaluation: Devaluation of the Indian Rupee - Economic Policies: nationalization of Commercial Banks (1969 and 1980), the Garibi Hatao program and 20 Points Programmes Structural Challenges - BOP Crisis - Foreign exchange shortages, Fiscal deficits.

References
1. Bipan Chandra, Rise and Growth of Economic Nationalism in India.

2. R.C. Dutt, (), The Economic History of India under Early British Rule,

3. Dadabhai Naoroji, Poverty and Un-British Rule in India

4. Jagdish Bhagwati and Arvind Panagariya, India's Tryst with Destiny: Debunking Myths that Undermine Progress and Addressing New Challenges

5. Dharma Kumar and Meghnad Desai, The Cambridge Economic History of India, Vol. 2: 1757-1970.

6. R. K. Hazari, The Structure of the Corporate Private Sector: A Study of Concentration, Ownership, and Control.

MATHEMATICS FOR ECONOMICS

Subject Code: 24ECO1C5L	Credits:4
Paper Type: DSC5	L:T:P = 4:0:0

Course Objectives:
1. To familiarize the students with basics of mathematics relevant to economists.
2. To train the students to apply the quantitative techniques to economic problems

Course Outcome:
1. Perform various operations on sets and matrices.
2. Solve simultaneous equations that are commonly encountered in Economics.

Module-I   **Introduction**
Mathematical techniques in economic analysis- uses and limitations. Concept of Sets. Operations on sets- Laws on set operations- Relations and Functions- Meaning and types-Linear and non-linear-exponential, power and logarithm.

Module-II   **Elementary Matrix Algebra**
Matrix additions, subtractions, multiplications. Laws of matrix operations-Transpose.

Module-III   **Matrices and Determinants**
Evaluation of third order determinants, properties of determinants- solutions to simultaneous equations - Cramer's rule- finding matrix inverse.

Module-IV   **Differential Calculus**
Calculus-limits and derivations-rules of differentiation-maxima and minima. Unconstrained and Constrained optimization.

Module-V   **Integral Calculus**
Integral calculus-Indefinite integrals- Definite integrals applications to economic analysis – Consumer Surplus and Producer Surplus.

References

1. Chiang A.C (2005): Fundamental methods of Mathematical Economics. 4thedition. McGrawhill Higher Education.
2. Elhance D.N: Fundamentals of Applied Statistics. Kitab Mahal Publishers.
3. Gupta S.C (1993): Fundamentals of Applied Statistics. S Chand and Sons Publishers.
4. Muler J.D: Mathematical Analysis-Business and Economic Applications.
5. Yamane T (2007): Mathematics for Economists-An Implementer Analysis. Phi Learning Publisher

STATISTICS OF INDIAN ECONOMY - I

Subject Code: 24ECO1S1T	Credits:2
Paper Type: SEC1	L:T:P = 0:2:0

Course Objectives:
1. Understand Core Economic Indicators:
2. Analyze Sector-Specific Statistics:
3. Evaluate Fiscal, Monetary, and External Sector Data:

Course Outcome:
1. Students will be able to demonstrate a clear understanding of the basic concepts and methods used in economic statistics
2. Effectively analyze data from key Indian statistical agencies such as NSSO, CSO, and MOSPI.
3. Students will be able to critically evaluate statistical data related to agricultural, industrial, and service sectors.

Module-I	**Introduction to Economic Statistics**	**10 Hrs**

National Income Accounting - Basic concepts - GDP, GNP, NNP, Per Capita Income Methods and challenges in India.

Data sources: NSSO, CSO, RBI, Ministry of Statistics and Programme Implementation (MOSPI)

Overview of economic surveys and census data analysis: Population distribution, growth, trends, density, sex ratio, literacy rates, demographic transition.

Module-II	**Sectoral Statistics on Indian Economy**	**10 Hrs**

Agricultural sectoral composition, production and productivity statistics, Land use patterns and irrigation statistics, Crop patterns and yield statistics and Rural income and consumption statistics

Industrial growth, trends and sectoral composition, Index of Industrial Production (IIP) and related statistics, MSME sector.

Service sector - growth, sectoral composition and employment statistics.

Module-III	**Statistics on External Sector**	**8 Hrs**

External statistics: Exports, imports, and trade balance, Balance of Payments (BoP) and foreign exchange reserves, Foreign Direct Investment (FDI) and Foreign Institutional Investment (FII) statistics, Exchange rate trends and external debt statistics.

References

1. Agricultural Statistics at a Glance by Ministry of Agriculture and Farmers Welfare

2. Indian Agriculture: Performance, Issues and Policies by S. R. Hegde and S. M. Kiran

3. Services Sector in India: Growth and Prospects by T. C. A. Anant

4. Economic Survey of India by Ministry of Finance

5. Annual Report by Reserve Bank of India (RBI)

6. India's Foreign Trade and Policy by Rajiv Kumar and T. C. A. Anant

ECONOMIC ANALYSIS USING COMPUTERS - I

Subject Code: 24ECO1C1P	Credits:2
Paper Type: DSCP1	L:T:P = 0:0:4

Course Objectives:
1. To understand the practical application of various economic techniques and concepts
2. Introduce Statistical software application to practical problems.
3. To understand the analysis of economics concepts in computers

Course Outcome:
1. Basic introduction and experience in statistical software applications.
2. Enhanced understanding of economic concepts.
3. Application oriented knowledge on economic concepts.

Module-I	**Microeconomics - I**	**9 Hrs**

Visualization of Production function- Cobb Douglas production function-Quadratic production function; Isoquants, Calculation of various costs – Total Cost, Marginal Cost, Average Cost.

Module-II	**Macroeconomics - I**	**10 Hrs**

Macroeconomics Variables Data – Visualization - Measurement of National Income indicators - Cost of Living Index and GDP Deflator – Nominal and Real Prices – Input-output Accounting. Consumption and Investment Analysis - Inflation Measurement – CPI and WPI Index numbers Rebasing. IS-LM model – Phillips Curve analysis.

Module-III	**Quantitative Techniques for Economics**	**10 Hrs**

Central tendency –estimation of Mean, Median, Mode, Standard deviation. Visualization of correlation through various plots- Calculation of correlation coefficients. Estimation of Simple Regression models.

References

1. The Little SAS Book: A Primer, Lora D Delwiche and Susan J Slaughter Sixth Edition. ISBN-10 : 1642952834
2. Regression with SAS, Chen, X., Ender, P., Mitchell, M. and Wells, C. (2003). from https://stats.idre.ucla.edu/stat/sas/webbooks/reg/default.htm .
3. Chatterjee, S., Hadi, A., & Price, B. (2000) Regression analysis by example. New York: Wiley. ISBN 0-471-31946-5

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SEMESTER-I
QUANTITATIVE TECHNIQUES FOR ECONOMICS

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Subject Code: 24ECO1C1T	Credits:2
Paper Type: DSC3T1	L:T:P = 0:2:0

Course Objectives:

1. The aim of the course is to provide basic inputs of applied statistics and application of mathematical tools in economics.

2. This course will help the student in drawing inferences about various statistical hypotheses.

3. The course helps to develop the analytical skills in the student.

Course Outcomes:

By the end of the course the student will be able to:

CO1: analyse economic theories in numerical form,

CO2: understand complex economic theories in easier, shorter and faster way,

CO3: analyse economic problems and application of statistical and mathematical tools in economics.

Module-I	Basics of Statistics	10 hrs
	Calculation of Mean- Median-Mode-Standard Deviation- Coefficient Variation -Skewness; Index numbers Calculation-Tests of reversal- time, mean and factor reversal- Measurement of Correlation - Karl Pearson's and Spearman's Rank Correlation; Regression: Simple Regression Model – Estimation	
Module-II	Set Theory and Matrices	8 hrs
	Sets- Operations on sets- Relations and Functions- Matrix additions, subtractions, multiplications. solutions to simultaneous equations - Cramers rule- finding matrix inverse.	
Module-III	Differential and Integral Calculus	10 hrs
	Calculus-derivations-rules of differentiation-maxima and minima. Unconstrained and Constrained optimization. Integral calculus-Indefinite integrals.	

References

1. Anderson, Sweeney & Williams, (2002): Statistics for Business & Economics, 11th Edn., Thomson South-Western, Cengage Learning, India.
2. Chiang A.C (2005): Fundamental methods of Mathematical Economics. 4thedition.
3. Muler J.D: Mathematical analysis-Business and Economic Applications
4. McGrawhill Higher Education Gupta S. C. (2017): Fundamentals of Statistics, Himalaya Publishing House, Bombay
5. Johnson R. and G. Bhattacharya (2000): Statistics: Principles and Methods, John Wiley and Sons.

6. Nagar A.L. and R.K.Das (1997): Basic Statistics, Oxford University Press, New Delhi.
7. Sachdeva S. (2017): Quantitative Techniques, Lakshmi Narain Agarwal Publications, Agra.
8. Veerachami R. (2019): Quantitative Methods for Economists, New Age International Publication, New Delhi.
9. Yamane T (2007): Mathematics for Economists-An Implementer Analysis. PhiLearning Publishers

BASICS OF ECONOMICS (BRIDGE COURSE)

Subject Code: 24ECO1B1L	**Credits:2**
Paper Type: DSCB	**L:T:P = 2:0:0**

Course Objectives

1. To introduce students to fundamental economic concepts,
2. To enable students to analyze market dynamics through demand, and supply
3. To familiarize students with key macroeconomic indicators like national income, inflation, unemployment, and business cycles, and their role in measuring economic performance.

Course Outcomes

1. Students will be able to understand and apply basic economic concepts
2. Students will analyze market behaviors and predict the effects of demand and supply changes
3. Students will evaluate national economic performance using indicators such as GDP, inflation, and unemployment, etc.

Module 1: **Introduction to Economic Concepts and Principles**   **10 Hrs**

Definition of Economics: Understanding scarcity, choice, and opportunity cost. Microeconomics vs. Macroeconomics: Basic Economic Questions - Types of Economies: Market, Command, Mixed economies. Economic Agents: Consumers, firms, and governments. Factors of Production: Land, labor, capital, and entrepreneurship.

Module 2 **Demand, Supply, and Market Structures**   **10 Hrs**

Demand and Supply: Law of demand, law of supply, determinants, and shifts in curves. Elasticity and types - Market Equilibrium: Determination of equilibrium price and quantity. Market Structures: Perfect competition, monopoly, oligopoly, and monopolistic competition. Government Intervention: Price controls (ceilings, floors), taxation, and subsidies.

Module 3 **National Income and Inflation**   **11 Hrs**

National Income Accounting: GDP, GNP, NNP, and other key indicators. Methods of Measuring National Income: Production, income, and expenditure approaches. Inflation: Types, causes, and measures of inflation (CPI, WPI). Business Cycles: Phases and impact on the economy.

References

1. Mankiw, N. G. (2019). Principles of Economics (8th Edition). Cengage Learning.

2. Krugman, P., & Wells, R. (2020). Economics (5th Edition). Worth Publishers.

3. Samuelson, P. A., & Nordhaus, W. D. (2010). Economics (19th Edition). McGraw-Hill Education.

4. Case, K. E., Fair, R. C., & Oster, S. M. (2016). Principles of Economics (12th Edition). Pearson.

M.A. Economics Semester-II

SEMESTER-II
MICROECONOMICS-II

Subject Code:		Credits:4
Paper Type:		L:T:P = 4:0:0

Course Objectives:
1. To enhance analytical and descriptive abilities related to behavior of economic agents
2. To familiarize the students with the advanced concepts in Microeconomics

Course Outcome:
1. Describe the concepts related to General equilibrium
2. Describe behavior of economic agents and the deviations from theoretical benchmarks

Module-I	**Concepts of Welfare Economics**	**10 hrs**

The Neo-Classical excess demand approach. Value judgments and welfare economics .Compensation criteria- Kaldor and Hicks, Scitovsky double criterion; Pareto optimality- Optimum exchange conditions. Welfare maximization , Concept of Community Indifference Map, Samuelson's Utility Possibility Curve, Bergson's social welfare function.

Module-II	**Exchange**	**10hrs**

The Edgeworth box-Trade, Pareto efficient allocations, Concept of contract curve; Walrasian Excess Demand. Partial and General Equilibrium; Existence, Stability and Uniqueness of General Equilibrium; First Fundamental Theorem and Second Fundamental Theorem of Welfare Economics. Arrow's impossibility theorem.

Module-III	**Economics of information**	**10 hrs**

Markets with Asymmetric Information; Quality uncertainty and market for Lemons; Moral Hazard. Signaling. Principal Agent Problem. Efficient Market hypothesis.

Module-IV	**Economics of Uncertainty**	**12 hrs**

Individual Behaviors Towards Risk; Expected Utility and Uncertainty; Equivalence Approaches; Risk and Risk Aversion; Gambling and Insurance; Economics of Insurance; Risk Pooling and Risk Spreading; Mean Variance Analysis and Portfolio Selection.

Module-V	**Behavioural Economics**	**12 hrs**

Framing Effects in Consumer Choice; Anchoring Effects; Bracketing; Too Much Choice; Constructed Preferences; Uncertainty; Law of Small Numbers; Asset Integration and Loss Aversion; Time Discounting; Self-control; Ultimatum Game; Fairness; Assessment of Behavioural Economics.

References

1. Microeconomics. Robert Pyndick, Daniel Rubenfeld. Pearson Education Publishers. 9th Edition 2018., ISBN 978-0-13-418424-1

2. Hal Varian – Intermediate Micro Economics A modern Approach. WW Norton Company. ISBN: 978-1-324-03436-0.

3. Economic Theory and the Welfare state, Edward ElgarPublishing Ltd., U. K 5. Pigou, A. C. (1962),

4. The Economics of Welfare (4th Edition) Macmillan.

5. R.S.Pindyck and D.Rubenfeld (2018): Behavioural Economics. Chapter 19. Micro Economics Prentice Hall of India, New Delhi. ISBN:978-1-292-21331-6. 7.

6. Sampat Mukherjee : Analytical Micro Economics (Exchange Production and Welfare).

7. Thaler, Richard. (2015) Misbehaving: The making of behavioural Economics. WW Norton Company. Penguin Books. New Delhi. ISBN:978-0-241-95122-4.

MACROECONOMICS-II

Subject Code:	Credits:4
Paper Type:	L:T:P = 4:0:0

Course Objectives:

1. The course objective is to make students understand the advanced concepts of macroeconomics.
2. The course emphasizes on the theoretical aspects of Investment, Money and open macro economy.
3. To develop skills in understanding of economic fluctuations, economic policies and open economy.

Course Outcome:

1. Students will able to understand the theories of investment, money and Business cycles.
2. Students will able to learn theories of business cycles and stabilization policies.
3. To gain knowledge on the working of open economy and behavior of macroeconomic variables.

Module-I	**Theories of Investment**	**10 Hrs**

The Flexible Accelerator Theory of Investment; Lags in Investment - Koyek's Approach - Financial theories of Investment - Duesenberry's Financial theory of Investment - Johnenson's Neo-Classical theory of Investment.

Module-II	**Theories of Money**	**11 Hrs**

Keynes's Monetary Theory - Post-Keynesian Demand for Money Theories – Inventory Theory of Baumol – Portfolio Balance Theory of Tobin – Friedman's Restatement of the Quantity Theory for Money – Supply of Money Theories – Money Multiplier Model – Behavioral Model of Money Supply – Endogenous Money Supply Theory.

Module-III	**Business Cycles and Economic Stabilization**	**10 Hrs**

Business cycles theories – Hawtrey - Frisch Theory of Cycles - Samuelson - Hicks - Kaldor -Schumpeter – Goodwin's Model - Cobweb Theorem - Real Business Cycles Theory – Overlapping generations model.
Macroeconomic policy and Stabilization: Effectiveness of Monetary and Fiscal Policies for economic stabilization.

Module-IV	**Modern Macroeconomics**	**11 Hrs**

The New Classical Macroeconomics - Adaptive expectations- Rational expectations hypothesis - Policy ineffectiveness theorem - policy implications - Sellers' Misperception and Non-Neutrality of Money.

New Keynesian Macroeconomics - Core propositions – Sticky Nominal prices – Mankiw's New Keynesian Model - Supply Side economics - Policy implications of new Keynesian macroeconomics.

Module-V   Open Economy Macroeconomics   10 Hrs
The International flows of capital and goods; Savings and Investment in a small open economy - Exchange rates: Fixed vs flexible exchange rates; equilibrium in an open economy – policy effects on exchange rates; The Mundell-Fleming (IS-LM-BP) model - Interest rate differentials.

References
1. Mankiw, N. G. and D. Romer (1991), *New Keynesian Economics*, (2 vols), MIT Press, Cambridge.
2. Frederic S. Mishkin (2016), Macroeconomics: Policy & Practice. Pearson, New Delhi.
3. Kamran Dadkhah (2009), The Evolution of Macroeconomic Theory and Policy, Springer Publications.
4. Heijdra, B.J. and V.P. Fredericck (2001), Foundations of Modern Macroeconomics, Oxford University Press, New Delhi.
5. Oliver Blanchard, (2016) *Macroeconomics*, Pearson Prentice Hall, New Jersey, USA.

HISTORY OF ECONOMIC THOUGHT

Subject Code: 24ECO2C8L		Credits:4
Paper Type: DSC8		L:T:P = 4:0:0

Course Objectives:
1. To explore the evolution of economic ideas from ancient to modern times, understanding the context and influence of key thinkers like Plato, Adam Smith, and Keynes.
2. To analyze the principles of various economic schools of thought—Classical, Neo-Classical, Keynesian, and Modern—and their relevance to contemporary economic issues.
3. To examine the contributions of Indian economists and their role in shaping India's economic policies and development strategies.

Course Outcome:
1. Students will be able to critically assess the foundational economic theories and the contributions of major economists
2. Students will develop the ability to compare and contrast different economic schools of thought
3. Students will gain a deep understanding of Indian economic thinkers and their influence on national and global economic policies.

Module-I	**Early Economic Thought** Economic thought of Plato'and Aristotle — Doctrines of Just cost and' Just price — Mercantilism: main characteristics; Thomas Mun — Physiocracy: natural order, primacy of agriculture, social classes, Tableau Economique, Anne Robert Jacques Turgot — Economic ideas of William Petty, John Locke and David Hume.	**12 Hrs**
Module-II	**Classical school** Principles of Classical School -Economics thoughts of Adam Smith, David Ricardo, Thomas Robert Malthus, John Stuart Mill, Jean-Baptiste Say and Eugen Böhm von Bawerk and Karl Marx	**10 Hrs**
Module-III	**Neo Classical school** Principles of Neo Classical school - Alfred Marshall, William Stanley Jevons, Leon Walras, Vilfredo Pareto, Carl Menger, Francis Ysidro Edgeworth, Arthur Cecil Pigou John Bates Clark.	**12 Hrs**
Module-IV	**Keynesian and Modern Thought** John Maynard Keynes, Michal Kalecki, Roy Harrod, Joan Robinson, Nicholas Kaldor. Supply-Side Economics; principles of Supply-Side Economics, Arthur Laffer, Robert Mundell, Jude Wanniski.	**10 Hrs**

Module-V   Indian Economic Thought   10 Hrs

Economic Thoughts of Chanukya's Arthasasthra – Basavanna - Dr. B. R. Ambedkar, Gopal Krishna Gokale, Dadabhai Naoroji; Drain Theory, Mahadev Govind Ranade, M.K. Gandhi, A. K. Sen, Abhijit banerjee, Jagdish Bhagwati, P. R. Brahmananda, CN Vakil, D R Gadgil, P.C Mahalanobis and Rao and Manmohan Module.

References

1. Lowry, S. T. (1987). The Archaeology of Economic Ideas: The Classical Greek Tradition. Duke University Press.

2. Smith, A. (1776). The Wealth of Nations. Modern Library.

3. Winch, D. (1978). Adam Smith's Politics: An Essay in Historiographic Revision. Cambridge University Press.

4. Ricardo, D. (1817). On the Principles of Political Economy and Taxation. Batoche Books.

5. Marx, K. (1867). Capital: A Critique of Political Economy. Penguin Books.

6. Marshall, A. (1890). Principles of Economics. Macmillan.

7. Pigou, A. C. (1920). The Economics of Welfare. Palgrave Macmillan.

8. Skidelsky, R. (1992). John Maynard Keynes: Hopes Betrayed, 1883-1920. Penguin.

9. Kalecki, M. (1943). Political Aspects of Full Employment. The Political Quarterly.

10. Harrod, R. (1939). An Essay in Dynamic Theory. The Economic Journal.

11. Robinson, J. (1962). Economic Philosophy. Penguin.

12. Kaldor, N. (1966). Causes of the Slow Rate of Economic Growth in the United Kingdom. Cambridge University Press.

13. Laffer, A. B. (2004). The Laffer Curve: Past, Present, and Future. The Heritage Foundation.

14. Sen, A. (1999). Development as Freedom. Oxford University Press.

15. Dreze, J., & Sen, A. (2002). India: Development and Participation. Oxford University Press.

INDIAN ECONOMY AND POLICY-II

Subject Code: 24ECO2C9L	Credits:4
Paper Type: DSC9	L:T:P = 4:0:0

Course Objectives:
1. Comprehensive Understanding of Economic Reforms
2. Insight into Social and Economic Challenges
3. Critical Analysis of Development Strategies

Course Outcome:
1. In-depth Knowledge of Economic Reforms
2. Analytical Skills in Policy Evaluation
3. Practical Understanding of Social Welfare and Financial Reforms

Module-I **Economic Reforms of 1991**   **10 Hrs**

Introduction – BOP Crisis, Economic stagnation, and the triggers for reform. Liberalization, Privatization, and Globalization (LPG) Reforms: trade liberalization, deregulation, and privatization of public sector enterprises. Fiscal and Monetary Reforms: Introduction of new fiscal policies, tax reforms, GST, Role of Reserve Bank of India - Critiques of the 1991 Reforms.

Module-II **Evolution of Planning and Development Strategies**   **11 Hrs**

Planning Commission to NITI Aayog: Centralized planning to a flexible, bottom-up approach. NITI Aayog's Role in Policy Formulation.

Cooperative federalism, competitive federalism, and decentralized planning and Inclusive Growth. Five-Year Plans vs. Strategy Documents (Strategy for New India @75). Viksit Bharath: opportunities and challenges.

Module-III **Unemployment and Poverty in India**   **10 Hrs**

Unemployment: Concepts and definitions, Types, measurements, causes and effects and employment Policies.

Poverty: Concepts and definitions, Types, Measurements, MPI, AAY, APL and BPL and Poverty eradication Policies. Regional and sectoral employment, poverty and inequality trends.

Recent discourse on issues of employment and poverty.

Module-IV **Financial Sector Reforms and Recent Developments**   **11 Hrs**

Banking Sector Reforms: Post-1991, Introduction of Basel norms, and Narasimhan Committee I and II.

Capital Market Reforms and Financial Inclusion: Development of SEBI, Stock market growth, mutual funds, and financial inclusion and Pradhan Mantri Jan Dhan Yojana.

Recent Developments in the Financial Sector: Insolvency and Bankruptcy Code (IBC), Goods and Services Tax (GST), Role of Fintech and digital banking.

Module-V   Sustainable Development and Social Welfare   10 Hrs
Sustainable Development Goals (SDGs) and India: India's progress in achieving SDGs, government policies aligned with sustainability, and challenges in implementation.
Social Welfare Programs Post-1991: MGNREGA, DBT, Jal Jeevan Mission, Swachh Bharath mission, and the National Food Security Act. Ayushman Bharat, PM-KISAN, and other recent welfare schemes.

References
1. Panagariya, A. (2008). India: The Emerging Giant. Oxford University Press.
2. Ahluwalia, M. S. (2002). Economic Reforms in India Since 1991: Has Gradualism Worked? Journal of Economic Perspectives, 16(3), 67-88.
3. NITI Aayog (2018). *Strategy for New India @ 75.*
4. Chakraborty, P. (2017). *Cooperative Federalism and the Role of the NITI Aayog.* Indian Journal of Public Administration, 63(2), 194-207.
5. Datt, R., & Sundharam, K. P. M. (2016). *Indian Economy.* S. Chand Publishing.
6. Drèze, J., & Sen, A. (2013). *An Uncertain Glory: India and its Contradictions.* Princeton University Press.
7. Narasimham, M. (1998). *Report of the Committee on Banking Sector Reforms (Narasimham Committee II).* Government of India.
8. Acharya, V. V. (2017). *Indian Financial Sector: Structure, Trends, and Reforms.* RBI Bulletin.
9. Ministry of Rural Development, Government of India (2018). *MGNREGA Sameeksha II: An Anthology of Research Studies on the Mahatma Gandhi National Rural Employment Guarantee Act, 2012-2018.*
10. Banerjee, A., & Duflo, E. (2011). *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty.* PublicAffairs

BASIC ECONOMETRICS

Subject Code: 24ECO2C10L	Credits:4
Paper Type: DSC10	L:T:P = 4:0:0

Course Objectives:

1. The core objective of the paper is to make students understand basic econometrics concepts and the theoretical foundations of econometrics.
2. The course emphasizes on the theoretical aspects of regression equation and estimation and its properties.
3. To develop skills in understanding of economic data, estimation and hypothesis testing.

Course Outcome:

1. Students will able to understand the methodology of econometrics and its properties.
2. Students will able to learn theoretical background on regression, diagnostics and estimation of parameters.
3. Students will gain knowledge in building econometric model, estimation methodologies and hypothesis testing and other concepts of econometrics.

Module-I **Introduction**   **11 Hrs**

Definition, Scope and Division of Econometrics - Methodology of econometrics and other interrelated disciplines. The Nature of Regression Analysis- Definition- Statistical versus deterministic relationship-Regression versus Causation – Regression versus Correlation – Terminology and Notation. Nature and Sources of Data.

Module-II **Simple Linear Regression Model**   **11 Hrs**

Basic Ideas – Population Regression Function (PRF) – Linearity – Stochastic Specification of PRF – Sample Regression function – OLS Method – CLRM – Assumptions – Properties of OLS – Goodness of Fit – R^2 - CNLRM – Normality Assumption of error term – Properties of Normality Assumption. Interval Estimation – Hypothesis Testing - ANOVA approach to Regression: ANOVA Table.

Module-III **Multiple Regression Model**   **11 Hrs**

Three Variable Model – Partial Regression Co-efficients – Estimation - - Properties of OLS Estimators - Multiple Coefficient of Determination R^2 - R^2 and Adjusted R^2 - the Normality assumption – Hypothesis Testing - Testing the overall significance – Dummy Variable Regression Model.

Module-IV **Linear Regression Model - Problems**   **10 Hrs**

Multicollinearity – Nature – Causes -Consequences – Detection - Remedial measures.

Heteroskedasticity - Nature – Causes -Consequences – Detection - Remedial measures.

Auto-correlation: Nature – Causes -Consequences – Detection - Remedial measures.

Module-V   Linear Regression Model: Model Specification   11 Hrs
Econometric Modeling, Model selection criteria, Types of specification errors, Consequences of Model Specification Errors, Tests of specification errors.

References
1. Gujarati.N.Damodar and Sangeetha (2007), Basic Econometrics, Tata MacGraw-Hill Publishing, New Delhi.
2. Wooldridge. J (2012), Introductory Econometrics: A Modern Approach, South-Western College Publishing.
3. Koutsoyiannis. A (2001), Theory of Econometrics, Palgrave Macmillan.

STATISTICS OF INDIAN ECONOMY - II

Subject Code: 24ECO2S2T	**Credits:2**
Paper Type: SEC2	**L:T:P = 0:2:0**

Course Objectives:
1. The course seeks to familiarize students with basic concepts related to the Economic Survey and Union Budget.
2. It aims to equip students with sufficient knowledge and skills to analyze these documents.

Course Outcome:
1. Students will have the capability to understand government policies and will be informed participants in economic decision-making.

Module-I   **Fiscal statistics**   **11 Hrs**

Fiscal statistics: Government revenue, expenditure, and deficit statistics, public debt and fiscal responsibility metrics

Fiscal Policy: Overview and significance.

Deficits and Fiscal Responsibility: Understanding deficits and the FRBM Act, impact on the economy.

Module-II   **Monetary Statistics**   **8 Hrs**

Monetary statistics: Money supply, credit growth, and interest rates, RBI reports and monetary policy indicators.

Monetary Policy Committee, Demonetization, Rupee Devaluation

Module-III   **Budget Statistics**   **10 Hrs**

Budget Necessity: Understanding its role and process in India.

History of budget in India: Pre and Post-Independence

Various types of budgets

Trends on Revenue and Capital expenditure

Analysis of recent budget in India

References
1. Centre for Budget and Governance Accountability. (Recent reports).
2. Chakraborty, P. (2015). *Intergovernmental Fiscal Transfers in India: Emerging Trends and Realities*. In P. Patnaik (Ed.), *Macroeconomics*. Oxford University Press.
3. Ministry of Finance. *Economic and Social Classification of the Budget*.
4. Ministry of Finance. *Economic Survey* (Latest edition).
5. Ministry of Finance. *Finance Commission Report* (Latest edition).

ECONOMICS ANALYSIS USING COMPUTERS-II

Subject Code: 24ECO2C2P	Credits:2
Paper Type: DSCP2	L:T:P = 0:0:4

Course Objectives:
1. To understand the application of microeconomic analysis
2. The course objective is to make students understand the applications and analysis of advanced macroeconomic concepts.
3. The course will enable the student to perform lab exercises on econometrics concepts and tests.

Course Outcome:
1. Students will able to learn the practical applications and analysis on advanced macroeconomic concepts.
2. Students will gain knowledge in understanding and analyzing data by using econometric model and conducting diagnostics tests.
3. Students will able to learn microeconomics practical applications

Module-I	**Economic Concepts**	**10 Hrs**
	Microeconomics-II: Visualization of Individual Behaviors Towards Risk; Markets with asymmetric information, Market for lemons. Macroeconomics-II: Investment Analysis – Money Demand and Money Supply – Business Cycles – Rational Expectations.	

Module-II	**Model Estimation**	**9 Hrs**
	Understanding Data – Estimation of Regression – Interpretation and Analysis – Hypothesis Testing.	

Module-III	**Model Diagnostics**	**11 Hrs**
	Regression Diagnostics - Multicollinearity – Heteroskedasticity - Auto-correlation tests – Model Selection Criteria.	

References
1. Florian Heiss (2020) Using R for Introductory Econometrics, CreateSpace Independent Publishing Platform.

ECONOMETRIC TECHNIQUES

Subject Code: 24ECO2C2T	Credits:2
Paper Type: DSC10T1	L:T:P = 0:0:4

Course Objectives:
1. To provide tutoring support for students taking Econometrics
2. To enhance the understanding of basic econometric techniques.

Course Outcome:

CO1: Understand the idea of the Linear Models.

CO2: Independently analyse data and synthesize results.

CO3: Apply regression models to economic problems.

Module I	**Linear Regression - Estimation**	**8 Hrs**
	OLS - Properties of the Least Squares estimates: Classical Normal Linear Regression Model (CNLRM)- Gauss Markov Theorem- Derivation of OLS Estimators – Consistency, Linearity and Unbiasedness of Least Squares estimates- Interval Estimation – Hypothesis Testing - ANOVA approach to Regression: ANOVA Table-Maximum Likelihood estimation	

Module II	**Problems Of Linear Regression Model**	**10 Hrs**
	Multicollinearity –Nature – Causes -Consequences – Detection - Remedial measures. Heteroskedasticity- Nature – Causes - Consequences – Detection - Remedial measures. Auto-correlation - Nature – Causes -Consequences – Detection - Remedial measures	

Module III	**Linear Regression Model: Model Specification**	**8 Hrs**
	Econometric Modeling, Model selection criteria, Types of specification errors, Consequences of Model Specification Errors, Tests of specification errors.	

Suggested Readings:

1. Greene, Wiiliam (2018): Econometric Analysis. Eighth ed. Pearson Education ISBN:9353061075.
2. Gujarathi, Damodar (2007): Basic Econometrics McGraw Hill, International Student edition.
3. Gujarathi, Damodar (2022): Econometrics by Example. Bloomsbury India, 2022. ISBN: 9354356117
4. Johnston, Jack and John Dinardo (1997): Econometric Methods. McGraw Hill / Asia; 4th edition, ISBN-10: 0071259643.
5. Kennedy, Peter (2002): A Guide to Econometrics. Wiley-Blackwell; 6th Ed. ISBN: 1405182571
6. Woolridge, Jeoffrey (2019): Introductory Econometrics: A Modern Approach. South-Western College Publishing; 7th edition, ISBN: 1337558869

Guidelines for Assessment of Practical Course

The two-credit practical course is an integral part of the academic curriculum of M.A. Economics. The course is designed to provide an application-based training to the students with lab-oriented exercises. The lab-oriented course ensures the student to learn and understand economics both theory and practical's in parallel. The course may enhance the capabilities and analytical skills of students which help them to be employable. The course is offered in every semester as an elective course, and to be offered by the department a minimum of ten students shall register for the elective course.

Objective of the Course:

1. To understand the practical application of various economic concepts and techniques.
2. To introduce statistical software application to practical economic and business problems.
3. To understand the analysis of economics concepts in computers.
4. The course will enable the student to perform lab exercises of econometrics concepts and tests.

Evaluation of the Course:

1. The number of teaching hours of the course is of four hours.
2. The performance of the student is continuously assessed with both internal component and semester end practical/lab examination.
3. The student performance is assessed for maximum of 50 marks, consisting of 20 marks for internal assessment and 30 marks for semester end practical examination. The internal continuous assessment test comprising C1 and C2 carries 10 marks each, the question paper pattern is provided below.
4. There shall be the panel of two examiners (one - internal and second - external subject expert) appointed by Chairperson, BoE chosen from the panel of examiners approved by the concerned BoS for semester end practical/lab examinations.
5. The internal faculty and external subject expert shall conduct and evaluate the practical/lab examinations for a maximum of 30 marks, based on the parameters specified by the BoS in Economics.
6. The average of internal faculty and external subject expert shall be arrived to award final marks for a maximum of **THIRTY** (30) marks.
7. It is the duty of the Chairman, BoE to consolidate internal assessment 20 marks and practical/lab examinations 30 marks awarded by the internal faculty guide, internal

subject expert and external subject expert and send averaged final marks to the office of the Registrar (Evaluation) including all attachments such as original copy of the marks awarded by internal faculty, internal subject expert and external subject experts through Chairman, Dept. of Economics. The semester end practical/lab examination criteria is provided below.

Suggested Pattern for Continuous Internal Assessment Test (C1 and C2) for Practical/Lab examinations:
Question paper pattern:
Internal Test C1/C2

Paper Code: **Paper Title:**
Time: 45 minutes   **Max Marks: 10**

Instructions: Answer both the sections

Answer any **TWO** of the following questions, each question carries **FIVE** marks (1x5=5)
  1.
  2.
  3.
  4.

Suggested Pattern for Semester End Practical/Lab examinations:

Paper Code: **Paper Title:**
Time: 2 Hrs   **Max Marks: 30**

Sl.No	Criteria	Marks
1	Practical Record Maintenance	05
2	Viva-Voce	05
3	Practical Examination	20
	Total	**30**

Assessment Criteria for SEC and Tutorial Papers
Skill Enhancement Courses (SECs)

Paper Code: **Paper Title:**
Time: 1 Hours   **Max. Marks: 30**

There shall be Theory examinations of Multiple Choice Based Questions [MCQs] with Question Paper set of A, B, C and D Series at the end of each semester for SECs for the duration of One hour (First Fifteen Minutes for the Preparation of OMR and remaining Forty-Five Minutes for Answering thirty Questions). The Answer Paper is of OMR (Optical Mark Reader) Sheet.

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Question Paper Pattern for courses with Tutorial

For the subjects with Tutorial component, there is Internal Semester End Examination (ISEE) to the component C3 at department level. The liberty of assessment of C3 is with the concerned faculty of tutorial course. The faculty may present innovative method of evaluation of component C3 before the respective BoS for approval before the commencement of the course during the semester.

However, the BoS approves Internal Semester-End Examination of Multiple Choice Based Questions [MCQs] method for the duration of One hour (First Fifteen Minutes for the Preparation of OMR and remaining Forty-Five Minutes for Answering thirty Questions), in respective semester with 30 questions carrying one mark each in respective tutorial course. The Answer Paper is of OMR (Optical Mark Reader) Sheet.

Note: the internal semester end examination of tutorial course agenda approved as per the oral direction of the university authorities.

The outline for continuous assessment activities for Component-I (C1) and Component-II (C2) of a course shall be as under;

A.   For a theory course with 04 Credits:

Sl.No.	Activities	C1 Marks	C2 Marks	Total IA Marks
01	Session Test	10	10	20
02	Seminars/Presentations/Activity	05	-	05
03	Case study /Assignment / Field work /Project work etc.	-	05	05
	Total	**15**	**15**	**30**

Suggested Continuous Assessment Session Test (For Sl.No.01 in the above table) (10 marks) (C1 & C2) question paper pattern:

Internal Test C1/C2

Paper Code: **Paper Title:**
Time: 45 minutes   **Max Marks:** 10

Instructions: Answer both the sections

SECTION – A

Answer any **ONE** of the following questions, each question carries **FIVE** marks   (1x5=5)
1.
2.

SECTION – B

Answer any **TWO** of the following questions, each question carries **2.5** marks

(2x2.5=5)

3.

    a. -- (2.5)
    b. - (2.5)
    c. -- (2.5)
    d. -- (2.5)

* * * * *

B.   For SEC/Tutorial of 02 Credits:

Sl.No.	Activities	C1 Marks	C2 Marks	Total IA Marks
01	Session Test	05	05	10
02	Seminars/Presentations/Activity	05	-	05
03	Case study /Assignment / Field work /Project work etc.	-	05	05
	Total	**10**	**10**	**20**

Suggested Continuous Assessment Session Test (For Sl.No.01 in the above table) (05 marks) (C1 & C2) question paper pattern

Internal Test C1/C2

Paper Code: **Paper Title:**
Time: 30 minutes   **Max Marks:** 5

Answer any **ONE** of the following questions, each question carries **FIVE** marks (each sub-question i.e., 'a' & 'b' carries 2.5 marks each)

(1x5=5)

1.

    a. -- (2.5)
    b. -- (2.5)

2.

    a. -- (2.5)
    b. -- (2.5)

* * * * *

M.A. Semester Degree Examinations
Economics
Question Paper Format

Paper Title: Paper Code:
Time: 3 Hours   Max. Marks: 70

Instruction: Answer all Sections

SECTION-A

Answer **FIVE** of the following   (5X2=10)
1. a.
   b.
   c.
   d.
   e.
   f.
   g.

SECTION-B

Answer any **SIX** of the following   (6X5=30)
Q2.
Q3.
Q4
Q5.
Q6.
Q7.
Q8.
Q9.

SECTION-C

Answer any **THREE** of the following   (3X10=30)
Q10.
Q11.
Q12.
Q13.

M.A. Semester Degree Examinations
Economics
Question Paper Format for Generic Elective course (GEC)

Paper Title: Paper Code:

Time: 1 Hours   Max. Marks: 30

Instruction: Answer all the Sections

SECTION-A

1. Answer all the following questions, each question carries **ONE** mark   (5x1=5)
   a.
   b.
   c.
   d.
   e.

SECTION-B

Answer FIVE of the following questions, each question carries **TWO** marks.   (5x2=10)
2.
3.
4.
5.
6.
7.
8.

SECTION – C

Answer any **THREE** of the following questions, each question carries FIVE marks. (3x5=15)
9.
10.
11.
12.
13.