Manonmaniam Sundaranar University

Tirunelveli- 627012

M.A. Economics

Learning Outcome Based Curriculum (Under CBCS)

for Affiliated Colleges Manonmaniam Sundaranar University

Common Course Structure for

M.A. Economics 2026-2027

Manonmaniam Sundaranar University

Tirunelveli- 627012

MANONMANIAM SUNDARANAR UNIVERSITY,
TIRUNELVELI PG - COURSE – AFFILIATED COLLEGES

Course Structure for M.A. Economics

Learning Outcome Based Curriculum

(Choice Based Credit System)

(With effect from the academic year 2026- 2027 onwards)

Vision of the University

To provide quality education to reach the un-reached

Mission of the University

- To conduct research, teaching and outreach programmes to improve conditions of human living
- To create an academic environment that honours women and men of all races, caste, creed, cultures and an atmosphere that values intellectual curiosity, pursuit of knowledge, academic freedom and integrity
- To offer a wide variety of off-campus educational and training programs, including the use of information technology, to individuals and groups.
- To develop partnership with industries and government so as to improve the quality of the workplace and to serve as catalyst for economic and cultural development
- To provide quality / inclusive education, especially for the rural and un- reached segments of economically downtrodden students including women, socially oppressed and differently abled

Preamble

Outcome Based Education (OBE) is the order of the day in all Higher Education Institutions to emphasize quality mandate. Curriculum tailored with Choice Based Credit System (CBCS) for ensuring flexibility; Exposure to learning opportunities using the latest technological advancements to the learners for continuous lifelong learning; and Adoption of Revised Bloom's Taxonomy (RBT) in the assessment mechanism are essential to add value to the existing OBE. The current revision is aimed at providing scope for effective implementation of OBE by including Programme Educational Outcomes, Programme Outcomes, and Programme Specific Outcomes in alignment to the vision and mission of the University.

The new curriculum of M.A. Economics offers a rigorous basis for much of the advanced thinking in the Economics discipline. It provides the students with a logical paradigm for conceptualizing and interpreting the behavior and interactions of households, firms and government institutions. The Curriculum allows students to choose elective courses from a set of courses with contemporary relevance thereby offering students the flexibility to prepare for careers in academia, Entrepreneurial Development, Rural Development, Environmental Economics, Industrial Visit, Competitive Examinations, Soft Skill and many other fields. The Programme is consistent with global standards in the Economics discipline.

OUTCOME BASED CURRICULUM FRAMEWORK FOR POSTGRADUATE EDUCATION – CHOICE BASED CREDIT SYSTEM	
Programme	**M.A. ECONOMICS**
Duration	**PG - Two Years**
Programme Outcomes (Pos)	**PO1:** Comprehend the knowledge acquired and share the knowledge with others to convince them in a discussion. **PO2:** Analyze and compare the factual data / situation and formulate the problem in to a conceptual model to critically evaluate for finding solution. **PO3:** Apply the theories and philosophies learned in formulating theoretical research problem with underlying assumptions and solve the problem scientifically. **PO4:** Think reflectively on the earlier attempts for applications of the concepts with a sense of inquiring practices and attempt for self-directed lifelong learning process. **PO5:** Understand the existence of multicultural practices and global viewpoint and utilization of knowledge with the ability to prolong moral/ethical values in personal and professional life. PO6: Explore through multiple sources and get exposed to the digital literacy and information explosion with latest technology. PO7: Act as a responsible member in the varied teams with facilitating capability and formulate teams as a leader for defined purposes.

Programme Specific Outcomes (PSOs)	**PSO1:** To apply economic theories and to expand the problem-solving acumen. **PSO2:** To create effective entrepreneurs by enhancing their critical thinking, problem solving, decision making and leadership skill that will facilitate startups and high potential organizations. **PSO3:** Conscious about the socio-economic environment, both domestic and international and its implications on business. **PSO4:** To contribute to the development of the society by collaborating with stakeholders for mutual benefit. **PSO5:** Open up research opportunities in the national level premier educational institutes. **PSO6:** To produce employable, ethical and innovative professionals to sustain in the dynamic business world. **PSO7:** The students are exposed to national and international problems and hence they will have a thorough understanding of national and international economic events.

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Template for P.G., Programmes

Semester–I	**Credit**	**Hours**	**Semester-II**	**Credit**	**Hours**	**Semester-III**	**Credit**	**Hours**	**Semester–IV**	**Credit**	**Hours**
Core-I	5	7	. Core-IV	5	6	Core-VII	5	6	Core-XI	5	6
Core-II	5	7	Core-V	5	6	Core-VIII	5	6	Core-XII	5	6
Core – III	4	6	Core – VI	4	6	Core – IX	5	6	Project with viva voce	7	10
Elective -I Discipline Centric	3	5	Elective – III Discipline Centric	3	4	Core – X	4	6	Elective - VI (Industry / Entrepreneurship) 20% Theory 80% Practical	3	4
Elective- II Generic:	3	5	Elective - IV Generic:	3	4	Elective - V Discipline Centric	3	3	Skill Enhancement course / Professional Competency Skill	2	4
			Skill Enhancement I	2	4	3.6 Skill Enhancement II	2	3	Extension Activity	1	
						3.7 Internship/ Industrial Activity	2	-			
	20	**30**		**22**	**30**		**26**	**30**		**23**	**30**
Total Credit Points -91											

Choice Based Credit System (CBCS), Learning Outcomes Based Curriculum Framework (LOCF) Guideline Based Credits and Hours Distribution System for all Post – Graduate Courses including Lab Hours

First Year – Semester – I

Part	List of Courses	Credits	No. of Hours
	Core – I	5	7
	Core – II	5	7
	Core – III	4	6
	Elective – I	3	5
	Elective – II	3	5
		20	**30**

Semester-II

Part	List of Courses	Credits	No. of Hours
	Core – IV	5	6
	Core – V	5	6
	Core – VI	4	6
	Elective – III	3	4
	Elective – IV	3	4
	Skill Enhancement Course [SEC] - I	2	4
		22	**30**

Second Year – Semester – III

Part	List of Courses	Credits	No. of Hours
	Core – VII	5	6
	Core – VIII	5	6
	Core – IX	5	6
	Core – X	4	6
	Elective – V	3	3
	Skill Enhancement Course - II	2	3
	Internship / Industrial Activity [Credits]	2	-
		26	**30**

Semester-IV

Part	List of Courses	Credits	No. of Hours
	Core – XI	5	6
	Core – XII	5	6
	Project with VIVA VOCE	7	10
	Elective – VI	3	4
	Skill Enhancement Course – III / Professional Competency Skill	2	4
	Extension Activity	1	-
		23	**30**

Total 91 Credits for PG Courses

METHODS OF EVALUATION		
Internal Evaluation	Continuous Internal Assessment Test	**25 Marks**
	Assignments / Snap Test / Quiz	
	Seminars	
	Attendance and Class Participation	
External Evaluation	End Semester Examination	**75 Marks**
Total		**100 Marks**

METHODS OF ASSESSMENT	
Remembering (K1)	● The lowest level of questions require students to recall information from the course content ● Knowledge questions usually require students to identify information in the textbook.
Understanding (K2)	● Understanding of facts and ideas by comprehending organizing, comparing, translating, interpolating and interpreting in their own words. ● The questions go beyond simple recall and require students to combine data together
Application (K3)	● Students have to solve problems by using / applying a concept learned in the classroom. ● Students must use their knowledge to determine a exact response.
Analyze (K4)	● Analyzing the question is one that asks the students to break down something into its component parts. ● Analyzing requires students to identify reasons causes or motives and reach conclusions or generalizations.
Evaluate (K5)	● Evaluation requires an individual to make judgment on something. ● Questions to be asked to judge the value of an idea, a character, a work of art, or a solution to a problem. ● Students are engaged in decision-making and problem – solving. ● Evaluation questions do not have single right answers.
Create (K6)	● The questions of this category challenge students to get engaged in creative and original thinking. ● Developing original ideas and problem solving skills

PROGRAMME OUTCOMES (PO) - PROGRAMME SPECIFIC OUTCOMES (PSO) MAPPING

PROGRAMME SPECIFIC OUTCOMES (PSO)					
	PO1	**PO2**	**PO3**	**PO4**	**PO5**
PSO1	**3**	**3**	**3**	**3**	**3**
PSO2	**3**	**3**	**3**	**3**	**3**
PSO3	**3**	**3**	**3**	**3**	**3**
PSO4	**3**	**3**	**3**	**3**	**3**
PSO5	**3**	**3**	**3**	**3**	**3**
PSO6	**3**	**3**	**3**	**3**	**3**
PSO7	**3**	**3**	**3**	**3**	**3**

Level of Correlation between PO's and PSO's
(Suggested by UGC as per Six Sigma Tool – Cause and Effect Matrix)

Assign the value
0 – No Correlation
1 – Low
2 – Medium
3 – High

Eligibility for admission:

A Candidate who has passed any graduate with Economics / Econometrics / Mathematics / Statistics / Business Economics / Commerce / Management as one of the papers is eligible for admission in to M.A. Economics

Medium of Instruction: English

Duration of the Programme: 2 years

Internal Assessment:

Internal Assessment is for 25 marks.

Internal Assessment shall be done in the following manner:

i. The average of the best two scores of the students from three tests of an hour duration shall be averaged -- 15 marks

ii. Assignment -- 5 marks

iii. Seminars -- 5 marks

Total: 25 Marks

Internship / Industrial Activities:

Internal Mark – 50

External Mark – 50

Total - 100

Extension Activity:

Internal Mark – 50

External Mark – 50

Total - 100

Project and Viva – Voce

The external examiner and the guide will conduct project report evaluation and Viva-Voce. The break up for the project work is:

Components	**Marks**
Internal	50
External	50

Total = 100

Question Pattern

Section – A

Answer **ALL** the Questions (Multiple choice questions) (15 x 1= 15 Marks)

Section – B

Answer **ALL** the questions choosing either (a) or (b) (5 x 4 = 20 Marks)

Section – C

Answer **ALL** questions choosing either (a) or (b) (5 x 8 = 40 Marks)

Total = 75

M.A. (CBCS) DEGREE EXAMINATION, NOVEMBER 2026

First Semester Economics – Core

ADVANCED MICRO ECONOMICS

(For those who joined in 2026 -2027)

Time : Three hours **Maximum : 75 marks**

PART A — (15 X 1 = 15 marks)

Answer ALL questions.

Choose the correct answer:	**Course Knowledge**	**Outcome Level**
1. The dynamic demand function is based on (a) Linear function (b) Discounting principle (c) Marginality principle (d) Stock adjustment principle	co1	k5
2. Pragmatic approach is developed with the help of (a) Statistical Method (b) Mathematical Methods (c) Econometric Methods	co1	k4
3. Constant Elasticity of Substitution Production function was developed by (a) Arrow (b) Chennary (c) Murray Brown (d) All the above	co4	k4
4. Technological Change means (a) More product for the same resources (b) Innovation (c) Same amount of product with less resources (d) All the above	co4	k3
5. Price discrimination is possible only under (a) Duopoly (b) Monopoly (c) Oligopoly (d) Monopsony	co1	k1

6. Which of the following to the work of E.H. Chamberlin? co1 k2

(a) Monopoly

(b) Kinked demand Curve

(c) Duopoly

(d) Monopolistic Competition

7. Duopoly means co1 k5

(a) Single seller (b) Two seller

(c) Many seller (d) few seller

8. The kinked demand curve is its explain co1 k3

(a) Price-output determination
(b) Price rigidity
(c) Price leadership
(d) Cost

9. Who was the first economist to formulate Limit Price theory? c o 4 k 1

(a) John F. Due (b) Joe S. Bain

(c) Banemol (d) Pigou

10. What is full cost? co 4 k5

(a) Arrange Direct Cost
(b) Average Overhead Cost
(c) Normal Margin for Profit
(d) All above taken together

11. Factor market will be in equilibrium when ____ co1 k5

(a) Demand for factors is less than its supply

(b) Demand for factors is equal to supply of factors

(c) Supply of factors is less than for it

(d) All of the above

12. The producer's demand for a factor of production is governed by the ___ of that factor. co4 k4

(a) Marginal Productivity

(b) Price

(c) Availability

(d) Profitability

13. Sales maximisation is likely to takes place in markets that are? co1 k3

(a) Contestable

(b) Perfectly competitive

(c) Oligopolistic

(d) Export-oriented

14. _____ is a situation where one party has more or better information than another party in the same transaction. co4 k1

(a) Symmetric information

(b) Market Failure

(c) Moral Hazard

(d) Asymmetric information

15. The product Exhaustion theorem was given by co4 k5

(a) Euler

(b) Hicks

(c) Allen

(d) Marshall

PART B — (5 X 4 = 20 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

16. (a) Briefly explain the Consumer Expenditure function. c o 1 k 2

Or

(b) Write a note on St. Petersburg Paradox. c o 1 k 1

17. (a) Explain the concept of Embodied Technical Change. c o 2 k 1

Or

(b) How will you derive cost function from Production function? co2 k2

18. (a) Explain the degree of price discrimination. co3 k2

Or

(b) Write a detailed note on the concept of Excess Capacity. c o 3 k 2

19. (a) Explore the kinky demand curve c o 4 k 2

solution under Independent action.

Or

(b) Explain the Bertrand solution of duopoly Problem. How does it differ from the cournot solution? co4 k1

20. (a) Explain the sources of entry barriers on described by Bain. co5 k2

Or

(b) Write a note on Andrew's version of Full-Cost Pricing. co5 k2

PART C — (5 X 8 = 40 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 600 words.

21. (a) Describe the N-M Utility Index. Co1 k6

Or

(b) Critically examine the product attributes theory of Kelvin Lancaster. co1 k4

22. (a) Compare and contrast the Cobb - Douglas and CES production functions. Which of the two conceptually superior and why? co2 k2

Or

(b) Explain Neutral, Capital – Saving and Labour saving technical progress with suitable diagrams. co 2 k 4

23. (a) Illustrate diagrammatically the short-run and long run equilibrium of the firm and industry under the conditions of perfect competition. co3 k2

Or

(b) Explain the equilibrium of the firm in the short-run and long-run under monopolistic competition. co3 k6

24. (a) What do you understand by price leadership? Explain the process of price leadership by a low-cost firm and by a dominant firm. co4 k4

Or

(b) Discuss the Staeklebery Model of Duopoly. co4 k6

25. (a) Critically examine Limit Price Model. Co4 k4

Or

(b) Write an essay on Full Cost Pricing Model. co4 k4

M.A., ECONOMICS
SYLLABUS
FIRST YEAR - FIRST SEMESTER

Course Components	Name of the Course	Ins. Hrs	Credits	CIA	External	Total
Core Paper-I	Advanced Micro Economics	7	5	25	75	100
Core Paper-II	Indian Economic Development and Policy	7	5	25	75	100
Core Paper-III	Statistics for Economists	6	4	25	75	100
Elective-I	**1.** Modern Economic Thought **(or)** **2.** Rural Economics	5	3	25	75	100
Elective-II	**1.** Tamilnadu Economy **(or)** **2.** Welfare Economics	5	3	25	75	100
	Total	30	20			

FIRST YEAR - SECOND SEMESTER

Course Components	Name of the Course	Ins. Hrs.	Credits	CIA	External	Total
Core Paper-IV	Monetary Economics	6	5	25	75	100
Core Paper-V	Labour Economics	6	5	25	75	100
Core Paper-VI	Mathematical Economics	6	4	25	75	100
Elective-III	1.Health Economics **(or)** 2. Urban Economics	4	3	25	75	100
Elective-IV	1.Gender Economics **(or)** 2.Environmental Economics	4	3	25	75	100
Skill Enhancement Course - I	Computer Applications in Economics- Theory & Practical (T – 3, P – 1)	4	2	25	75	100
	Total	30	22			

SYLLABUS

SECOND YEAR - THIRD SEMESTER

Course Components	Name of the Course	Ins Hrs.	Credits	CIA	External	Total
Core Paper-VII	Advanced Macro Economics	6	5	25	75	100
Core Paper-VIII	Public Economics	6	5	25	75	100
Core Paper-IX	Research Methodology	6	4	25	75	100
Core Paper-X	Econometric Methods	6	5	25	75	100
Elective-V	1.Population Studies **(or)** 2.Entrepreneurial Development	3	3	25	75	100
Skill Enhancement Course - II	1. Personality Development -Facing of Interview in Private and Government Jobs	3	2	25	75	100
Internship / Industrial Activities	-	-	2	-		
	Total	30	26			

SECOND YEAR - FOURTH SEMESTER

Course Components	Name of the Course	Ins. Hrs	Credit	CIA	External	Total
Core Paper-XI	International Economics	7	5	25	75	100
Core Paper-XII	Economics of Growth and Development	7	5	25	75	100
Core Paper-XIII	Project with Viva – Voce	8	7			
Elective-VI	1.Digital Economics (**or)** 2.Human Resource Development	4	3	25	75	100
Skill Enhancement Course – III / Professional Competency Skill	Role of MSME's – Practical of Public & Private companies & Banking Systems / Economics for Competitive Examinations	4	2	25	75	100
Extension Activity	Knowledge Updation / Environmental Awareness / Education Awareness / Village Adoption	-	1			
	Total Credit	**30**	**23**			

SEMESTER – I

SEMESTER – I

CORE – I

ADVANCED MICRO ECONOMICS

L	T	P	C
7	0	0	5

Course Outcomes (Cos):

Upon Completion of this course, the Students will be able

No.	Course Outcomes	K-Levels
CO1	To illustrate and analyse the theories of consumer behavior	K1, K2
CO2	To illustrate and identify the choice under uncertainty.	K3
CO3	To compare how price and output is determined in different market situations and evaluate the market structures	K4
CO4	To identify and examine the alternative theories of firms.	K5, K6

K_1 – Knowledge, K_2 - Understand, K_3 – Apply, K_4 – Analyse, K_5 – Evaluate, K_6 – Create.

Unit I: Consumer Choices

Cardinal and Ordinal Utility Approaches - Indifference curve approach – Marginal Rate of Substitution - Consumers' Equilibrium (Optimization) - Slutsky's Decomposition of price effect into substitution effect and income effect – Consumer surplus - Marshall's and Hicksian measures – Compensatory Demand Curve- Revealed Preference Theorem.

Unit II: Economics of Information

Informational asymmetry –- Decision-making under uncertainty: Expected utility, risk aversion, and risk sharing - N-M Index – Hidden Information: Market for lemons - Signaling and Screening. Hidden action (Moral Hazard) – Insurance market and adverse selection – Solution to principal agent problem.

Unit III: Market Structure Models

a. Perfect competition – Price and output determination – Optimum firm

b. Monopoly – Short run and long run equilibrium - Price discrimination, monopoly control and regulation – Contestable Market

c. Monopolistic competition–Chamberlin Model: selling costs - Excess capacity – d. Oligopoly – Duopoly price game - dominant strategy - Nash Equilibrium - Non-collusive Models - Cournot- Bertrand – Chamberlin – Edgeworth – Sweezy – Stackelberg - Oligopoly - Collusive Models - Cartels and mergers -Price leadership.

e. Monopsony – Price and output determination – Workable competition.

Unit -IV: Alternative Theories of Firm

Full Cost Pricing Rule- Limits pricing theory- Bains Theory- Sylos-Labini Model - Modigliani's Models- Input-output model - Linear programming applications in Decision-making.

Unit -V: Theories of Distribution

Neo-classical approach – Marginal productivity theory; Product exhaustion theorem; - Modern theory of distribution – Factor Pricing in imperfect product and factor markets- Determination of Wages – Labour supply and wage determination – Role of trade unions and collective bargaining.

Text Books:

1. Jhingan M.L, (2004 Reprint) Advanced EconomicTheory, Vrindha Publications (P) Ltd., New Delhi.
2. Agarwal, H.S. Micro Economic Theory, (Ane's Books Pvt. Ltd.,) New Delhi.
3. Ahuja, H.L. Advanced Micro Economic Theory, (S.Chand & Company Ltd., New Delhi

References:

1. Hal R. Varian (2004), Intermediate Micro Economics (East-West Press: New Delhi).
2. Ruffin Roy. J (1992), Intermediate Micro Economics Harper & Collins Publishers.
3. Koutsyiannis A. (1978), Modern Micro Economics, (Macmillan- London).

CO-PO Mapping (Course Articulation Matrix)

CO /PO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	3	3	3
CO2	3	3	3	3	3
CO3	3	3	3	3	3
CO4	3	3	3	3	3
CO5	3	3	3	3	3
Weightage	15	15	15	15	15
Weighted percentage of Course Contribution to Pos	3.0	3.0	3.0	3.0	3.0

Level of Correlation between PSO's and CO's

(Suggested by UGC as per Six Sigma Tool – Cause and Effect Matrix)

Assign the value

1 – Low

2 – Medium

3 – High

0 – No Correlation

SEMESTER – 1
CORE – II
INDIAN ECONOMIC DEVELOPMENT AND POLICY

L	T	P	C
7	0	0	5

Course Outcomes (Cos):

Upon Completion of this course, the Students will be able to

No.	Course Outcomes	K-Levels
CO1	Understand the Structural change in Indian economy	K1, K2
CO2	Assess the Performance of agricultural and Industrial sector	K3
CO3	Ability to learn the trends in the economy	K4
CO4	Evaluate the Impact of Poverty	K5, K6

K_1 – Knowledge, K_2 - Understand, K_3 – Apply, K_4 – Analyse, K_5 – Evaluate, K_6 – Create.

Unit I: Structure and organization of Indian Economy

Growth and Structural Change of Indian economy at Independence, The policy framework - Statist policy, Transition to market oriented policy, Role of erstwhile Planning Commission and NITI Aayog- Two phases of growth (Pre and Post Liberalisation), Factors underlying turnaround Structural change in Indian Economy.

Unit II: Agricultural and Industrial Sector

Performance of Agricultural sector, Factors determining Agricultural Growth , Factors underlying Food Inflation, Agricultural price policy and Food Security, ICT and Agriculture, Industrial Growth before and after Reforms, Dualism in Indian manufacturing, Issues in performance of Public Sector Enterprises and Privatization, Role of PPP in Industrial Growth.

Unit III: Fiscal Developments

Fiscal Development in India, Finance and External Sector trends, GST: Rationale and Impact, Evolution of the financial sector in post-liberalization period

Unit IV: Poverty and Inequality

Poverty-Measuring poverty – Flaws in Measurements - Poverty in pre and post liberalization periods in India - Impact of growth on poverty- PDS vs Cash transfers, Feasibility of universal basic income in India – Inequality in India in pre and post liberalization periods.

Unit V: Social Sector

Social Issues Gender gap in India: A Social Issue, Trends in Female Labour Force participation rates, Factors determining Female Labour Force participation, Changing nature of Employment in India, Jobless Growth, Labour in Informal Sector, India's Demographic Transition and Employment.

Text Books :

1. Sundaram KP M., (2002), Indian Economy, 42revised edition., S. Chand Publications
2. Misra,S,& Puri, V.,(2020.), Indian Economy, Revised Edition., S. Chand Publications

Reference Books:

1. Kaushik Basu(Ed.) (2012), Oxford Companion to Indian Economy, 3rdEdition, OUP, New Delhi.
2. Uma Kapila (Ed.)(2018), Indian Economy since Independence, Academic Foundation, New Delhi, 29th Edition.
3. Ashima Goyal (Ed.) The Oxford Handbook of the Indian Economy in the 21st Century :Understanding the Inherent Dynamism, Oxford University Press.

Web References:

1. https://www.adb.org/countries/india/economy
2. https://www.oecd.org/economy/india-economic-snapshot/

https://www.indiabudget.gov.in/economicsurvey/

CO-PO Mapping (Course Articulation Matrix)

CO /PO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	3	3	3
CO2	3	3	3	3	3
CO3	3	3	3	3	3
CO4	3	3	3	2	3
CO5	3	3	3	2	3
Weightage	15	15	15	13	15
Weighted percentage of Course Contribution to Pos	3	3	3	3	2.6

Level of Correlation between PSO's and CO's

(Suggested by UGC as per Six Sigma Tool – Cause and Effect Matrix)

Assign the value

1 – Low

2 – Medium

3 – High

0 – No Correlation

SEMESTER – I

CORE – III

STATISTICS FOR ECONOMISTS

L	T	P	C
6	0	0	4

Course Outcomes:

Upon Completion of this course, the Students will be able to

No.	Course Outcomes	K-Levels
CO1	Understand the Correlation and Regression	K1, K2
CO2	Summarize the basic Probability rules and understand theoretical distributions.	K3
CO3	Acquire knowledge on the various sampling methods	K4
CO4	To Evaluate the Use t test and chi square for analysis, Understand the importance of one and two way ANOVA	K5, K6

K1 – Knowledge, K2 - Understand, K3 – Apply, K4 – Analyse, K5 – Evaluate, K6 – Create.

Unit I: Correlation and Regression

Simple Correlation – Types – Karl Pearson's Correlation Co-efficient and Spearman's Rank Correlation Co-efficient and their properties – Simple Regression – Types of regression – Methods of Estimation of Linear Equations Using Ordinary Least Square Method – Partial and Multiple Correlation and Regression.

Unit – II : Probability Theory and Distribution

Probability - Addition and Multiplication Theorems - Conditional Probability - Discrete and Continuous - Random Variables - Mathematical Expectations – Bayes Theorem - Theoretical Distributions - Binomial, Poisson and Normal.

Unit – III: Sampling Theory

Sampling – Basic Concepts and Laws of sampling – (Law of Statistical Regularity and Law of Inertia of Large Numbers) – Sampling Errors – Sampling Distributions – Sampling Distribution of means Sampling Distribution of Proportions – Standard Error and its uses.

Unit – IV: Testing of Hypothesis

Null and Alternative Hypothesis – Simple and Composite Hypothesis – Type I and Type II Errors – Critical Region – Level of Significance – One Sided and Two Sided Tests – Sample Distributions "Z", "t", "F", Chi Square Test, Distributions – Testing of Means and Analysis of Variance (ANOVA) – Goodness of Fit.

Unit – V: Statistical Decision Theory

Definitions – Concepts – Maximin – Minimax - Bayes Criterion – Expected Monetary Value – Decision Tree Analysis: Symbols – Steps – Advantages and Limitations.

Text Books

1. Gupta S.P., Statistical Methods, Sultan Chand and Sons, New Delhi, 2017.
2. Anderson, Sweeney and Williams, "Statistics for Business and Economics",Cengage,2014.

References:

1. Aggarwal. Y.P (2002), "Statistics Methods – Concepts Application and Computation", Sterling Publishers Private Ltd., New Delhi.
2. Vittal P.R., Mathematical Statistics, Margham Publications
3. Pillai R.S.N. and Bagavathi V (2010), Statistics, Sultan & amp; Chand Sons, New Delhi.

Web Resources

1. https://www.statista.com.
2. https://techjury.net
3. https://dss.princeton.edu/online_help/analysis/interpreting_regression.htm

CO-PO Mapping (Course Articulation Matrix)

CO /PO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	2	3	2	2
CO2	3	2	3	3	3
CO3	3	3	3	3	3
CO4	3	3	3	3	3
CO5	2	3	3	2	3
Weightage	14	13	15	13	14
Weighted percentage of Course Contribution to Pos	2.8	2.6	3	2.6	2.8

Level of Correlation between PSO's and CO's

(Suggested by UGC as per Six Sigma Tool – Cause and Effect Matrix)

Assign the value

1 – Low, 2 – Medium, 3 – High, 0 – No Correlation

SEMESTER- I

ELECTIVE – I (1)

MODERN ECONOMIC THOUGHT

L	T	P	C
5	0	0	3

Course Outcomes (COs):

Upon completion of this Course, the students will be able to

S. No	Course Outcomes	K-Levels
CO1	Understand modern economic concept of role of Entrepreneur Innovation, Business Cycles and Capitalism and Socialism.	K1, K2
CO2	Ability to understand about Capital Formation, Disguised Unemployment Imperfect Competition and Mathematical Economic Analysis	K3
CO3	Understand the ideas of Permanent Income Hypothesis, Revealed Preference Theory, Social Welfare Function and Samuelson's Utility Possibility Approach	K4
CO4	To create Gain knowledge about the ideas of Modern Indian Economists-Regional Economics, Ecological Theory of Population - Economics of Growth and Development-Economics of Fast	K5, K6

K_1 – Knowledge, K_2 - Understand, K_3 – Apply, K_4 – Analyse, K_5 – Evaluate, K_6 – Create.

Unit I: Classical Economic Thought

Economic ideas of Irving Fisher –The Quantity theory of Money- Theory of Interest. Joseph Alois Schumpeter - Method of Study –Deductive Method –Inductive Method-Theory of Economic Development- Role of Entrepreneur – Innovation-Business Cycles – Capitalism and Socialism. J.K. Galbraith – The objective of Economic Progress- Concept of Countervailing Power.

Unit II: Neo Classical Economic Thought

Ragnar Nurske – Foreign Resources – Capital Formation –Disguised Unemployment **,**Mrs- Joan Robinson –Imperfect Competition – F.Y .Edgeworth –Mathematical Economic Analysis –Three Dimensional Utility

Unit III: Keynesian Economic Thought

Lord Lionel Robbins – Definition of Economics-Causes of Depression -Milton Friedman – Quantity Theory of Money –Permanent Income Hypothesis, Friedman and Savage Hypothesis , Paul A.Samuelson –Impact of Keynesian Economics –Revealed Preference Theory –Business Cycles –Social Welfare Function-Samuelson's Utility Possibility Approach

Unit IV: Post Keynesian Economic Thoughts

Ideas of Modern Indian Economists-R.K.Mukerjee- Institutional theory of Economics-Regional Economics - Ecological Theory of Population -Planning in India, J.K.Mehta – Static and Dynamic Economics -Economics of Welfare -Economics of Growth and Development-Economics of Fast

Unit V:Indian Economists

C.N.Vakil -Planning- Wage -Goods Model-Role of Technological Progress-Poverty - Deficit Financing and Public Expenditure, V.K.R.V.Rao -Economic Activities -Institutional Development-Deficit Financing-Fiscal Policy-Human Factor in Economic Growth-Amartya Kumar Sen – Poverty and Famine ,Poverty and Inequality-Concept of Capability-Entitlement - Choice of Techniques.

Text Books:

1. Dr.U.C. Kulshrestha (1994) ,History of Economic Thought ,Lakshmi Narain Agarwal
2. Dr.S. Sankaran (2006) ,A History of Economic Thought ,Margham Publications

Reference Books:

1. Eric Roll (1956) A History of Economic Thought, Prentice Hall, Inc, U.S.A,
2. Dr. Pankaj Srivastava (2018) Economic Thinkers , DND Publications ,Jaipur
3. M.L. Jhingan, M. Girija and L. Sasikala (2011),History of Economic Thought, Vrindha Publications

Web Resources:

1. https://ebrary.net/112930/history/a_brief_history_of_economic_thought
2. https://www.exploring-economics.org
3. https://www.econlib.org

CO-PO Mapping (Course Articulation Matrix)

CO /PO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	3	3	3
CO2	3	3	3	3	3
CO3	3	3	3	3	3
CO4	3	3	3	3	3
CO5	3	3	3	3	3
Weightage	15	15	15	15	15
Weighted percentage of Course Contribution to Pos	3	3	3	3	3

Level of Correlation between PSO's and CO's

(Suggested by UGC as per Six Sigma Tool – Cause and Effect Matrix)

Assign the value

1 – Low

2 – Medium

3 – High

0 – No Correlation

SEMESTER- I

ELECTIVE – I (2)
RURAL ECONOMICS

L	T	P	C
5	0	0	3

Course Outcomes (Cos):

Upon Completion of this course, the Students will be able

No.	Course Outcomes	K-Levels
CO1	To label and interpret the nature and scope of rural economics.	K1, K2
CO2	To define and demonstrate the theories of rural development and rural resources.	K3
CO3	To recall, outline and determine rural demography and occupation structure.	K4
CO4	To evaluate, examine and organise rural poverty and unemployment.	K5, K6

K_1 – Knowledge, K_2 - Understand, K_3 – Apply, K_4 – Analyse, K_5 – Evaluate, K_6 – Create.

Unit I: Introduction to Rural Economics

Nature and Scope of Rural Economics - Inter-disciplinary approach of Rural Economics –Components - Structure and Characteristics -Pre and Post-independence - Rural Development: Meaning, Nature and Scope - Factors Affecting Rural Growth

Unit II: Rural Resources and Rural development theories

Rural Resources: Nature, Types and Magnitude - Rural Resources Management and Development - Application of Technology in Rural Development – Problems and prospects - W.W. Rostow's - Lewis-Fei-Ranis and Gandhian Approach to Rural Development.

Unit III: Rural Demography and Occupational Structure

Demography: Population Size, Sex and Age Composition - Density of Population- Population Problems and Challenges – Family Welfare Measures in Rural India - Occupational Structure: Nature of Rural Occupations - Occupational Distribution in Rural India – The Concept of Work Participation Rates.

Unit IV: Rural Poverty and Unemployment

Rural Poverty: Meaning, Estimates, Causes and Consequences – Unemployment: Meaning, Types and Magnitude of Rural Unemployment - Causes and Consequences - National Programmes for Rural Development - Community Development Programmes and Employment Guarantee Schemes.

Unit V: Rural Empowerment Programmes

Bharat Nirman, Provisions of Urban Amenities in Rural Area (PU RA), Mahatma Gandhi National Rural Employment Guarantee Act - Agencies for Rural Development: Government, Semi-Government Organisations, Co-Operative Institutions, Non-Government Organisations and Voluntary Agencies for Rural Development.

Text Books:

1. Vasant Desai: Rural Development in India, Himalaya Publishing House, Mumbai, 2012.
2. Dutt and Sundaram- Indian Economy, S.Chand Publications, New Delhi, 2013-07-02.

References Books:

1. Singh, K., & Shishodia, A. (2016). Rural development: Principles, policies, and management. SAGE Publishing India.
2. Hoff, K., Braverman, A., &Stiglitz, J. E. (1993). The economics of rural organization. Oxford: Oxford University Press.
3. Hill, B., & Ray, D. (1987). Economics for agriculture: food, farming and the rural economy. Basingstoke, UK: Macmillan Education.

Web Resources:

1. https://www.kobo.com/us/en/ebooks/public-finance
2. https://www.amazon.in/PUBLIC-FINANCE-AMBAR-GHOSH-ebook/dp/B07W5F2P1Q
3. https://www.niti.gov.in/sites/default/files/2021-08/11_Rural_Economy_Discussion_Paper_0.pdf

CO-PO Mapping (Course Articulation Matrix)

CO /PO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	3	3	3
CO2	3	3	3	3	3
CO3	3	3	3	3	3
CO4	3	3	3	3	3
CO5					
Weightage	15	15	15	15	15
Weighted percentage of Course Contribution to Pos	3.0	3.0	3.0	3.0	3.0

Level of Correlation between PSO's and CO's

(Suggested by UGC as per Six Sigma Tool – Cause and Effect Matrix)

Assign the value

1 – Low, 2 – Medium, 3 – High, 0 – No Correlation

SEMESTER- I

ELECTIVE – II (1)

TAMIL NADU ECONOMY

L	T	P	C
5	0	0	3

Course Outcomes (Cos):

Upon Completion of this course, the students will be able to

No.	Course Outcomes	K-Levels
CO1	understand the Nature and scope of regional economics and its need	K1, K2
CO2	Discuss the Development experience of Tamil Nadu	K3
CO3	Analyse the Development in agriculture	K4
CO4	Evaluate the Industrial Development	K5, K6

K1 – Knowledge, K2 - Understand, K3 – Apply, K4 – Analyse, K5 – Evaluate, K6 – Create.

UNIT-1: Relevance of Regional Economics

The place of Tamil Nadu in the National Economic scenario and contribution to National Economy- - Resources Endowment- Natural and Human Resources-Changing Pattern, Demographic structure and dividends.

UNIT-2: Development experience of Tamil Nadu

Trends in SDP - Per capita SDP - Composition of SDP - Sectoral Contribution and Transition – Inter- District and Inter-State Comparison, Trade and Exports, quality of life and Human development indicators. Social sector developments in Tami Nadu, Developments of Education, Health, Housing, Welfare Measures and Public sector schemes of TN Govt. – Assessing Effectiveness of schemes and impacts.

UNIT-3: Development in agriculture

Changes in land use pattern, cropping pattern, and crop intensity. Index of Agricultural production- Agricultural Prospects in Delta Region - Green Revolution - Productivity and yield - Agricultural Marketing - Animal husbandry - Fishery.

UNIT-4: Industrial Development:

Major Industries - Cotton, Textiles, Sugar, Cement, IT - Automobiles - Leather Processing - Small Scale Industries - Cottage Industries - Light Engineering Goods. Index of Industrial Production - Change in the industrial structure - Investment - Export value added - Employment - Number of registered factories - State aid to industrial development - State sponsored Corporations, Infrastructure developments.

UNIT-5: Public Finance and Development:

Trends of revenue and expenditures, Quality of Spending, Pattern of deficit and debts, fiscal management, reforms- issues and challenges

Reading List:

1. Department of Evaluation and Applied Research of Tamil Nadu,
2. Tamil Nadu - : An Economic Appraisal Annual Issues
3. Finance Department of T.N. Govt: Public Enterprises in Tamil Nadu
4. Government of India: India - A Reference Manual
5. Govt. of T.N.: Tamil Nadu Budget Documents
6. Govt. of T.N.: Hand Book of Statistics Tamil Nadu
7. Govt. of T.N.: State Five Year Documents
8. Govt. of T.N.: The Perspective Plan for Tamil Nadu

CO-PO Mapping (Course Articulation Matrix)

CO /PO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	2	3	3	3	2	3
CO2	3	2	2	3	2	3
CO3	3	2	3	2	2	2
CO4	3	3	3	2	3	3
CO5	3	2	2	2	3	2
Weightage	14	12	14	14	12	13
Weighted percentage of Course Contribution to Pos	2.8	2.4	2.8	2.8	2.4	2.6

Level of Correlation between PSO's and CO's

(Suggested by UGC as per Six Sigma Tool – Cause and Effect Matrix)

Assign the value

1 – Low

2 – Medium

3 – High

0 – No Correlation

SEMESTER- I
ELECTIVE – II (2)
WELFARE ECONOMICS

L	T	P	C
5	0	0	3

Course Outcomes (Cos):

Upon Completion of this course, the students will be able to

No.	Course Outcomes	K-Levels
CO1	Understand the Contribution to Welfare Economics	K1, K2
CO2	Apply the different approaches to Welfare Economics	K3
CO3	Analyse the development of Pareto Optimality Conditions	K4
CO4	Evaluate the compensation Criteria of Economics	K5, K6

K1 – Knowledge, K2 - Understand, K3 – Apply, K4 – Analyse, K5 – Evaluate, K6 – Create.

Unit 1: Introduction to Welfare Economics

Welfare Economics: Meaning- Concepts: Individual and Social Welfare- Value Judgments- Preferences and Utility - Utility function: Properties - Interpersonal comparisons of utility: degrees of interpersonal comparability. –Social Welfare Function: –Bentham's Utilitarianism- Pigouvian Welfare Economics.

Unit II: Approaches to Welfare

Cardinal and Ordinal Approaches- Hicks's Four Measures of Consumers' Surplus- Partial and General Equilibrium- Edgeworth Box Diagram- General Equilibrium of Production and Exchange.

Unit III: Pareto Optimality Conditions

Pareto-Optimality Criterion -Definition-Marginal Conditions of Pareto Optimum – Perfect Competition and Pareto Optimality- Exceptions –Externalities – Public Goods and Market Failure – Theory of Second Best.

Unit IV: New Welfare Economics

New Welfare Economics – Kaldor- Hicks Compensation Criterion – Utility Possibility Curve -Shortcomings – Scitovsky Paradox – Scitovsky's Double Criterion of Welfare– Little's Criterion.

Unit V: Theories of Social Choice

Utility Possibility Curve and Frontier Grand Utility Possibility Curve- Iso Welfare Curves- Arrow's Impossibility Theorem –Amartya Sen and Capability Theorem – Rawls

Theory of Social Justice.Text Books

1. Verma K.N (2012) Microeconomic Theory ,Vishal Publishing House
2. Per –Olov Johannson(2009) An introduction to Modern Welfare Economics, Cambridge University Press

References

1. Arrow, Kenneth J (1963) Social Choice and Individual Values, Cowles Foundation Monograph 12, 2nd ed. Yale University

2. Bossert, Walter and Kotaro Suzumura (2010) Consistency, Choice and Rationality, Harvard University Press: Cambridge MA

3. Broadway, R.W. and N. Bruce (1984), Welfare Economics, Basil Blackwell, Oxford.

Web Resources

1. https://conceptually.org/concepts/pareto-principle

2. https://web.stanford.edu/~jdlevin/Econ 202/General Equilibrium.pdf

3. https://policonomics.com/lp-welfare-economics1-general-equilib…

CO-PO Mapping (Course Articulation Matrix)

CO /PO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	2	3	3
CO2	2	3	2	3	2
CO3	3	3	2	3	2
CO4	2	3	2	3	2
CO5	2	3	2	3	3
Weightage	12	15			
Weighted percentage of Course Contribution to Pos	2.4	3	2	3	2.4

Level of Correlation between PSO's and CO's

(Suggested by UGC as per Six Sigma Tool – Cause and Effect Matrix)

Assign the value

1 – Low, 2 – Medium, 3 – High, 0 – No Correlation

SEMESTER – II

SEMESTER – II

CORE – IV

MONETARY ECONOMICS

L	T	P	C
6	0	0	5

Course Outcomes (Cos):

Upon Completion of this course, the students will be able to

No.	Course Outcomes	K-Levels
CO1	To list out and outline the theories of money.	K1, K2
CO2	To apply construct and distinguish various determinate of money supply and multiplier.	K3
CO3	To label, explain and analyse the capital market.	K4
CO4	To Evaluate, illustrate and importance of banking sector.	K5, K6

K_1 – Knowledge, K_2 - Understand, K_3 – Apply, K_4 – Analyse, K_5 – Evaluate, K_6 – Create

Unit I: Monetary Theories

Demand for Money Quantity theories of money – Fisher and Cambridge- Keynesian monetary theory- James Tobin's portfolio analysis of money demand- Don Patinkin`s Integration– Real Balance Effect- Milton Friedman's reformulated quantity theory.

Unit II: Supply of Money

Supply of Money Types and determinants of money supply – money multiplier- Theories of interest rate – classical – Keynes – Hicks – Hansen.

Unit III: Money and Capital Market

Money and Capital Market Significance and functions of Money market and capital market- Role of financial intermediaries – Effects of financial intermediation- Non-banking financial institutions – Gurley and Shaw theory.

Unit IV: Banking and its functions

Banking Functions of Commercial banks - Credit creation – process and limitations Role of Commercial banks after nationalization – after reforms- Role of RBI – Regulation of money supply and credit- Narasimhan Committee Reports– 1991 and 1998- Raguram Rajan Committee Report -2007.

Unit V: Monetary Policies

Monetary Policy Objectives and Instruments of Monetary policy– Limitations of monetary policy- Monetarism and Keynesianism – Comparison - Supply side policies.

Text Books:

1. Bain, Keith and Howells, Peter: Monetary Economics: Policy and its theoretical Basis, Palgrave Macmillian, 2nd Edition, 2009
2. Mishkin .S. Frederic-The Economics of Money ,Banking and Financial Markets,

Pearson Publication, 11th Edition, 2015.

References:

1. Jhingan, M.L. (2005), Monetary Economics [Konark Publication, New Delhi].
2. Sundaram, K.P.M. (2003), Money, Banking and International Trade [Vikas, New Delhi].
3. Vaish, M.C. (2004), Money, Banking and International Trade [New Age International, New Delhi].

Web Resources:

1. https://www.amazon.in/Handbook-Monetary-Economics-Benjamin-Friedman-ebook/dp/B00EXOTZ96
2. https://link.springer.com/book/10.1057/9780230280854
3. https://www.rbi.org.in/scripts/AnnualPublications.aspx?head=Handbook%20of%20Statis tics%20on%20Indian%20Economy

CO-PO Mapping (Course Articulation Matrix)

CO /PO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	3	3	3
CO2	3	3	3	3	3
CO3	3	3	3	3	3
CO4	3	3	3	3	3
CO5	3	3	3	3	3
Weightage	15	15	15	15	15
Weighted percentage of Course Contribution to Pos	3.0	3.0	3.0	3.0	3.0

Level of Correlation between PSO's and CO's

(Suggested by UGC as per Six Sigma Tool – Cause and Effect Matrix) Assign the value

1 – Low
2 – Medium
3 – High
0 – No Correlation

SEMESTER – II
CORE – V
LABOUR ECONOMICS

L	T	P	C
6	0	0	5

Course Outcomes (Cos):

Upon Completion of this course, the students will be able to

No.	Course Outcomes	K-Levels
CO1	Understand the recent trends of labour and their productivity	K1, K2
CO2	Assess the determination of employment and wages	K3
CO3	Analyse the trade unions and their impact on labour market	K4
CO4	Evaluate the Industrial relation	K5, K6

K1 – Knowledge, K2 - Understand, K3 – Apply, K4 – Analyse, K5 – Evaluate, K6 – Create.

Unit I: Labour Market and Policies

Labour Market- Nature and Characteristics, Demand for Labour in relation to size and pattern of investment, Supply of Labour in relation to growth of Labour Force, Labour Market Policies, Mobility and Productivity of Labour, Reverse Migration in India, AI and its impact on Labour Market.

Unit II: Employment and Wage Determination

Employment and Development relationship, Employment Policy, Unemployment - Types, and measurement, Wage Determination- Classical, Neo-classical and Bargaining theories, Concepts of Minimum Wage and Efficiency Wage, Non-wage component of Labour Remuneration, Relationship : Inflation – Wage; Productivity – Wage; Labour, Capital - Wage

Unit III: Trade Union Movement

Since Independence and Present Scenario of the Trade Union Movement– AITUC – INTUC – HMS – UTUC, Problems of Trade Unions, Essentials for success of a Trade Union, Four Labour Codes and its impact on working class in India.

Unit IV: Industrial Relation

Need for Industrial Relation Machinery, Preventive and Curative methods - Collective Bargaining, Arbitration and Adjudications, Industrial Democracy, The concept of Workers Participation in Management- Role of State in Industrial Relations.

UnitV: Social Security and Reforms

Social Security- Evolution, Social Assistance and Insurance, Review and Appraisal of State Policies, Labour market Reforms - Exit Policy - Safety requirements, Second National Commission on Labour, Globalisation and labour market, Special Problems - Child labour - bonded labour Gig worker, Female Labour Discrimination and Gender Bias in treatment of Labour, Factors affecting entry of Transgender in Indian Labour market.

Textbooks

1. PantC.(1978),IndianLabourProblems,(Allahabad,ChaitanyaPublishingHouse).
2. SinghS.S.,andMethaS.(1989),Labour Economics,(Ajanta Prakasham New Delhi).

References

1. TyagiP.B.(1995),Labour Economics and Social welfare,(Jaiprakash Nath & Co. Meerut),
2. BaholiwalT.N.(1981),Economics of Labour and Industrial Relations, (Sahity Bhawan, Agra).
3. GiriV.V.(1985),Labour Problems in Indian Industry (Asia Publishing House, Bombay).

Web resources

1. https://fac.ksu.edu.sa›sites›default›files›Moder..
2. http://students.aiu.edu›resources›onlineBook›q...
3. http://assets.vmou.ac.in›PGDLL06

CO-PO Mapping (Course Articulation Matrix)

CO /PO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	2	3	3	3	2	3
CO2	2	3	2	3	2	3
CO3	3	2	3	2	3	3
CO4	2	2	3	2	3	3
CO5	3	2	3	2	3	2
Weightage	12	12	15	14	13	14
Weighted percentage of Course Contribution to Pos	2.4	2.4	3	2.8	2.6	2.8

Level of Correlation between PSO's and CO's

(Suggested by UGC as per Six Sigma Tool – Cause and Effect Matrix)

Assign the value

1 – Low
2 – Medium
3 – High
0 – No Correlation

SEMESTER – II

CORE – VI

MATHEMATICAL ECONOMICS

L	T	P	C
6	0	0	4

Course Outcomes (Cos):

Upon Completion of this course, the students will be able to

No.	Course Outcomes	K-Levels
CO1	Understand the mathematical structure of standard economic theoretical framework	K1, K2
CO2	Equip students with mathematical tools to solve optimization problems appear in economic theory	K3
CO3	Equip students with tools to read the technical writing appear in standard economic journals	K4
CO4	Evaluate the dynamics of macroeconomic policies in an economy	K5, K6

K1 – Knowledge, K2 - Understand, K3 – Apply, K4 – Analyse, K5 – Evaluate, K6 – Create.

Unit I: Introduction to Linear Algebra

Sets-Basic concepts-Ordered sets-Relations-Order relations-Metric Spaces-open and closed sets– Convergence - Linear Algebra , Vectors, matrices, inverse, simultaneous linear equations, Cramer's rule for solving system of linear equations, input-output model, Hawkins - Simon condition, open and closed models , quadratic equation, characteristic (eigen) roots and vectors

Unit II: Differential Calculus

Introduction to Functions, Limits and Continuity, Derivatives –Concept ofmaxima& minima, elasticity and point of inflection. Profit & revenue maximization under perfect competition, under monopoly.Maximizing excise tax revenue in monopolistic competitive market, Minimization of cost etc.

Unit III: Optimization Techniques with Constraints

Functions of several variables, Partial and total, economic applications, implicit function theorem, higher order derivatives and Young's theorem, properties of linear homogenous functions, Euler's theorem, Cobb – Douglas Production Function - Constrained Optimization- Lagrangian Multiplier Technique- Vector and Matrix Differentiation -Jacobian and Hessian Matrices- Applications-Utility maximization, Profit maximization and Cost minimization.

Unit IV: Linear and Non-Linear Programming

Optimization with Inequality Constraints- Linear Programming–Formulation-Primal and Dual- Graphical and Simplex method-Duality Theorem-Non-Linear Programming-Kuhn-Tucker Conditions- Economic Applications.

Unit V: Economic Dynamics

Differential Equations-Basic Ideas-Types-Solution of Differential Equations (Homogenous and Exact)-Linear Differential Equations with Constant Coefficients (First and Second Order)- Applications- Solow's Model-Harrod-Domar Model-Applications to Market models- Difference Equations - Types-Linear Difference Equations with Constant Coefficients (First and Second order) and solutions – Applications-Samuelson's Accelerator-Multiplier model-Cobweb model.

Textbooks:

1. Geoff Renshaw,(2016)Maths for Economics, 4E Oxford University Press.
2. Mabbet A J(1986) Workout Mathematics for Economists, Macmillan Master Series, 4th Edition London**.**

References:

1. Carter, M. (2001). Foundations of Mathematical Economics, MIT Press.
2. Chiang, A. C. and Wainwright, K. (2005). Fundamental Methods of Mathematical Economics, McGraw-Hill Education.
3. Dowling E. T., Mathematics for economists, Schaum Series (latest edition).

Web Resources

1. https://www.udemy.com/course/mathematics-for-economists-functions-and-derivatives/
2. https://www.classcentral.com/course/swayam-mathematical-economics-14187
3. https://www.coursera.org/learn/introduction-to-calculus

CO-PO Mapping (Course Articulation Matrix)

CO /PO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	3	3	3
CO2	3	3	3	3	3
CO3	3	3	3	3	3
CO4	3	3	3	3	3
CO5	3	3	3	3	3
Weightage	15	15	15	15	15
Weighted percentage of Course Contribution to Pos	3	3	3	3	3

Level of Correlation between PSO's and CO's

(Suggested by UGC as per Six Sigma Tool – Cause and Effect Matrix) Assign the value

1 – Low
2 – Medium
3 – High
0 – No Correlation

SEMESTER - II
ELECTIVE – III (1)
HEALTH ECONOMICS

L	T	P	C
4	0	0	3

Course Outcomes (Cos):

Upon Completion of this course, the students will be able to

No.	Course Outcomes	K-Levels
CO1	Understand the basic concepts of Health Economics	K1, K2
CO2	Apply HDI and Poverty	K3
CO3	Get a complete knowledge about Health as Investment	K4
CO4	Evaluate the Health production function	K5, K6

K1 – Knowledge, K2 - Understand, K3 – Apply, K4 – Analyse, K5 – Evaluate, K6 – Create.

Unit -I - Health Economics

Basic Concepts Definition and Dimensions of Health [WHO definition]-Meaning and Importance of Health Economics- Determinants of Health- Input and Output Indicators of Health.

Unit -II -Health and Development

Income and Health Linkages- Concept of Wellbeing – PQLI and HDI- Poverty and Health – Occupational Health Hazards- Fertility, Morbidity, Mortality and Life Expectancy- Nutrition and Health – Mal-nutrition – Under- nutrition.

Unit -III - Health as Investment

Economics of Public Health- Education and Health – Concept of Health Education- Capital Formation in Health Care.

Unit-IV - Micro-Economics of Health Services

Demand for health services - Preference for health care and health cure - Income and Price effects- Physician as a price-discriminating monopolist- Health Production Function with Illustration.

Unit -V - Health in Developing Countries

Significance of Health in LDCs- Measuring the Burden of Disease - The Concepts DALY and QALYs- Challenges for the Future.

Text Books

1. Alistair McGuire, John Henderson and Gavin Mooney (1988), The Economics of Health Care: An Introductory Text. [Routledge and Kegan Paul London and New York. PP.9-30].
2. Asha A. Bhende and Tara Kanitkar (2001), Principlesof Population Studies [Himalaya Publishing House, NewDelhi].
3. Park, K. (2000), Park's Text Book of Preventive and Social Medicine. 16th edition. [M/s Banarsidas Bhanot Publishers, Jalalpur].
4. William Jack (1999), Principles of Health Economics for Developing Countries, WBI Development studies [TheWorld Bank, Washington. D.C.].
5. Government of India (1983),National Health Policy, New Delhi.
6. Indian Council of Social Science. Research and Indian Council of Medical Research (1981),HealthforAll2002A.D.[ICSSR, Delhi].
7. Jean Dreze and Amartya Sen (1998), Indian Economic Development and Social Opportunity [Oxford University Press].
8. Michall H. Cooper and Antony J. Culyer (1973), Health Economics [Balsimore. Penguin BooksInc].

References

1. Berman, P. (Ed.) (1995), Health Sector Reform in Developing Countries : Making Health Development Sustainable, Boston: Harvard Series on Population and International Health.
2. Baru, R.V. (1998), Private Health Care in India: Social Characteristics and Trends, Sage Publications, New Delhi.
3.Berman, P. and M.E. Khan (1993), Paying for India's Health Care, Sage Publications, New Delhi.
4. Becker G.S: Human Capital (National Bureau of Economic Research, New York, 1974)
5.Berman P (Ed): Human Health Sector Reform in Developing Countries - Making Health Development Sustainable (Harvard Series on Population and International Health, Bosto 1995)
6.Grossman, M. 1972, ―On the concept of health capital and the demand for health, Journal of Political Economy 82: 233-255.
7. Klarman, H.E. (1965), The Economics of Health, Columbia University Press, New York.
8. Panchamukhi, P.R. (1980), Economics of Health: A Trend Report in ICSSR, A Survey of Research in Economics, Vol. VI, Infrastructure, Allied, Delhi.
9.Pauly, Mark, ―Adverse selection and moral hazard: implications for health insurance markets‖ in Sloan & Kasper, Ch. 5.
10. World Bank (1993), The World Development Report, (1993): Investing in Health, Oxford University Press, New York.

CO-PO Mapping (Course Articulation Matrix)

CO /PO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	3	3	3
CO2	3	3	3	3	3
CO3	3	3	3	3	3
CO4	3	3	3	3	3
CO5	3	3	3	3	3

Weightage	15	15	15	15	15
Weighted percentage of Course Contribution to Pos	3	3	3	3	3

Level of Correlation between PSO's and CO's

(Suggested by UGC as per Six Sigma Tool – Cause and Effect Matrix) Assign the value

1 – Low

2 – Medium

3 – High

0 – No Correlation

SEMESTER- II

ELECTIVE – III (2)

URBAN ECONOMICS

L	T	P	C
4	**0**	**0**	**3**

Course Outcomes (Cos):

Upon Completion of this course, the students will be able to

No.	Course Outcomes	K-Levels
CO1	Understand scope of urban economics and urban economic growth	K1, K2
CO2	Apply the process of urbanization and classification or urban areas	K3
CO3	Apply the various theories of urban growth and spatial structure	K4
CO4	Evaluate the urban Labour Market, Labour Force Participation and Distribution of Workers	K5, K6

K1 – Knowledge, K2 - Understand, K3 – Apply, K4 – Analyse, K5 – Evaluate, K6 – Create.

Unit I: Introduction

Definition and Scope of Urban Economics - Sources of Urban Growth – International migration, Trends in growth of urban population in the world - Urban reclassification and physical expansion of urban boundaries –Urbanization and agglomeration economies – industrialization and services sector growth – Urbanization and urban economic growth – Urbanization and globalization.

Unit II: Economics of Urbanization

The Process of urbanization: Nature and dimensions, factors initiating and perpetuating urbanization process - Characteristics of an economy passing through different stages of urbanization - Classification of urban areas by demographic, geographical and economic criteria- Process of sub-urbanization

Unit III: Theories of Urban Growth and spatial structure

Christaller's Central Place Theory - The Human Ecological Approach to Urban Growth - Urban Size: Ratchet-Rank Size Rule - Migration and urban economic growth: Harris-Todaro Model – Concepts of City Structure - The Minimization of Costs of Friction Hypothesis - Location Equilibrium of an Urban Firm - The Concentric Zone Hypothesis - Urban Residential Land Use Models: Alonso, Muth, Siegel, Park Burgess.

Unit IV: Urbanization and Labour Market

Urbanisation and Labour Market - Pull and Push Factors for Urbanisation in India - High Wages and Improved Infrastructure - Employment Opportunities and Educational facilities - Growth of formal and Informal economic activities - Labour Force Participation and Distribution of Workers

Unit V: Urban Problems and Urban Planning

Over Population and congestion - Urban housing problem - Urban environment: Air, Water and Noise Pollution - Urban poverty and inequality - Urban Infrastructure: transport Water Supply, Sanitation and Solid waste management - Need for Urban Planning: Objectives and Techniques - Emerging Planning Process - Comprehensive Development Plan – Master Plan – Jawaharlal Nehru National Urban Renewal Mission - Smart Cities

Text books

1. Shukla, V. (1996) Urbanization and Economic Growth, Himalaya Publishers Pvt. Ltd (New Delhi).
2. Robert L Bish and Hugh O Nourse (1975), Urban Economics and Policy Analysis, McGraw Hill Kogakusha Ltd (Tokyo).

References

1. O' Sullivan (2012), Urban Economics, McGraw Hill Higher Education (Boston).
2. Edwin S. Mills. (1987). Handbook on Regional and Urban Economics, Volume 2: Urban Economics. North-Holland (Amsterdam).
3. Duranton, G., & Strange, W. C. (1986). *Handbook of regional and urban economics: applied urban economics* (Vol. 3). Elsevier.

Web resources

1. https://link.springer.com › bfm:978-1-349-15661-0 › 1.pdf
2. https://www.academia.edu › Urban_economics_Arthur_O..
3. https://www.ysk-books.com › show › book › regional-a..

CO-PO Mapping (Course Articulation Matrix)

CO /PO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	2	3	3	3	2	3
CO2	3	3	3	3	2	3
CO3	3	2	3	2	2	3
CO4	3	2	2	2	3	3
CO5	3	2	2	2	3	3
Weightage	14	12	13	14	12	15
Weighted percentage of Course Contribution to Pos	2.8	2.4	2.6	2.8	2.4	3

Level of Correlation between PSO's and CO's

(Suggested by UGC as per Six Sigma Tool – Cause and Effect Matrix)

Assign the value

1 – Low

2 – Medium

3 – High

0 – No Correlation

SEMESTER - II

ELECTIVE – IV (1)

GENDER ECONOMICS

L	T	P	C
4	**0**	**0**	**3**

Course Outcomes (Cos):

Upon Completion of this course, the students will be able to

No.	Course Outcomes	K-Levels
CO1	Understand the Gendered jobs and Social Inequality	K1, K2
CO2	Apply the Issues of wage discrimination and exploitation in unogranised sector	K3
CO3	Analyse the Gender issues in Health, Environment, Family welfare Measures	K4
CO4	Evaluate the Impact of Globalization on working women and National Policy for the empowerment of women 2001	K5, K6

K1 – Knowledge, K2 - Understand, K3 – Apply, K4 – Analyse, K5 – Evaluate, K6 – Create.

Unit I: Introduction

Definition- Objectives of Gender Studies - Importance of gender Studies -Women and work:

unpaid, underpaid and casual work - Women in primary, secondary and tertiary sectors - Classification of work in Indian census and NSSO – Main workers, marginal workers, non-workers - Invisibility of women's work, problems in measurement - Non-recognition of women's work in national income accounting

Unit II: Gender Inequality in Labor Market

Segmented Labor Market and Occupational Segregation - Gendered jobs and Social Inequality - Sex Segregation at Work Place - Globalisation and its impact on gender - Issues of wage discrimination and exploitation in unogranised sector - Women's participation in organised sector - Gender Discrimination - Gender issues at the work place

Unit II: Social Empowerment

Women in Higher Education - Gender issues in Health, Environment, Family welfare Measures - Indecent representation of Women in media - Women in Difficult circumstances; Constitutional.

Unit III: Economic Empowerment

Introduction - organized sector, unorganized sector - Role of Women in Economic Development – Female Poverty and Poverty alleviation programmes - Status of Women farmers and land rights - Women Entrepreneurs - Impact of Globalization on working women - National Policy for the empowerment of women 2001.

Unit V: Social issues and Women in Indian Planning

Issues in the Unorganized sector of Employment - Women's work: Status and problems - problems of Dalit women - Invisibility of women in official data system - Absence of gender disaggregated data - Initiatives towards recognition of women as agents of development from sixth five year plan.

Text books

1. Eswaran, M. (2014). *Why gender matters in economics*. Princeton University Press.
2. Becchio, G. (2019). *A History of Feminist and Gender Economics*. Routledge.

References

1. Humphries, J. (1995). *Gender and economics*. Edward Elgar Publishing.
2. Dijkstra, G., &Plantenga, J. (2013). *Gender and economics: a European perspective*. Routledge.
3. Negra, D., & Tasker, Y. (2014). Introduction. Gender and recessionary culture. In *Gendering the Recession* (pp. 1-30). Duke University Press.

Web Resources

1. https://www.academia.edu › 9_Ch_1_Gender_Economi...
2. https://ftp.iza.org › .
3. https://www.oecd.org › derec › worldbankgroup

CO-PO Mapping (Course Articulation Matrix)

CO /PO	PSO1	PSO2	PSO 3	PSO4	PSO5	PSO6
CO1	2	3	3	3	2	3
CO2	2	2	2	3	2	3
CO3	3	2	3	3	2	3
CO4	2	2	2	2	3	3
CO5	3	2	3	2	3	2
Weightage	12	11	14	15	12	14
Weighted percentage of Course Contribution to Pos						

Level of Correlation between PSO's and CO's

(Suggested by UGC as per Six Sigma Tool – Cause and Effect Matrix)

Assign the value

1 – Low

2 – Medium

3 – High

0 – No Correlation

SEMESTER - II
ELECTIVE – IV (2)
ENVIRONMENTAL ECONOMICS

L	T	P	C
4	**0**	**0**	**3**

Course Outcomes (Cos):

Upon Completion of this course, the students will be able to

CO Code	Course Outcomes	K-Levels
CO1	To familiarize with the theories of environmental economics.	K1, K2
CO2	Develop knowledge on renewable and non-renewable resources.	K3
CO3	To Analyse India's environmental policies.	K4
CO4	Evaluate the Sustainable Economic Development Goals.	K5, K6

K_1 – Knowledge, K_2 - Understand, K_3 – Apply, K_4 – Analyse, K_5 – Evaluate, K_6 – Create.

Unit – I : Introduction to Environmental Economics

Introduction to resources and Environment in Economic Theory-Classification of resources - Emergence of Resource and Environment Economic Theory - Material Balance Approach.

Unit – II : Efficiency and Market Failure

Environmental resources - Scarcity and choice - Economic efficiency; Efficient allocation; Efficiency in consumption production and product run efficiency; Social Welfare Function and Optimality; Inter – temporal efficiency; Optimal allocation and a market Economy - Market Failure and Public Policy - Externality and Public Goods - Externality and Economic Efficiency

Unit – III : Harvesting renewable and non-renewable resources

Simple optimum resource depletion model - Resource extraction in perfect competition and monopolistic market - Dynamics of resource harvesting - Socially optimal resource
harvesting -Economics of Forestry – Conservation of resources.

Unit – IV : Valuation of Environmental Goods and Services

Empirical approaches in environmental valuation: Indirect Methods of environmental valuation: Revealed Preference Methods: (a) Hedonic Pricing, (b) Household Production Function approach - defensive cost, health cost and travel cost methods.
The direct method of environmental valuation: Stated preference: Contingent valuation method

Unit –V : Environment and Economic Policy

Coase theorem and its limitations - Economically efficient and cost effective pollution abatement programs - Forms of direct regulation (tax, subsidies, and permits) Economic growth and natural environment Population Growth, Economic; International and Global Environmental Population Problems – Sustainable Economic Development Goals.

Books for reference

1. Nick Hanley, Jason F Shogren, Ben White, 1999; Environment Economics in Theory and Practice – Mac Millan.
2. Charles D Kolstad, 2012, Intermediate Environmental Economics, Indian Edition, Oxford University Press, New Delhi.
3. Ramprasad Sengupta, 2013, Ecological Limits and Economic Development, Oxford University Press, New Delhi.
4. Allan Randal-Property Rights. Efficiency and the distribution of Income – Resource Economics Second Edition - John Wiley and Son.
5. Climate change in Asia and Pacific, Venkatachalam Anbumozhi, Sage Publications Prasad Modak and Asit. K. Biswas, 1999 - Environmental Impact Assessment for Developing Countries - Oxford University Press. Environmental Valuation in South Asia, Haque, Cambridge University Press
6. World Bank — World Development Reports.

CO-PO Mapping (Course Articulation Matrix)

CO /PO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	3	3	3	3	3
CO2	3	3	3	3	3	3
CO3	3	3	3	3	3	3
CO4	3	3	3	3	3	2
CO5	3	3	3	3	3	3
Weightage	15	15	15	15	15	15
Weighted percentage of Course Contribution to Pos	3.0	3.0	3.0	3.0	3.0	3.0

Level of Correlation between PSO's and CO's

(Suggested by UGC as per Six Sigma Tool – Cause and Effect Matrix) Assign the value

1 – Low 2 – Medium 3 – High 0 – No Correlation

SKILL ENHANCEMENT COURSE - I

COMPUTER APPLICATIONS IN ECONOMICS

(Theory – 3 Hrs + Practical – 1 Hr)

L	T	P	C
3	0	1	2

Course Outcomes (Cos):

Upon Completion of this course, the students will be able to

No.	Course Outcomes	K-Levels
CO1	Understand the Text Management with MS-Word	K1, K2
CO2	Apply the MS Excel and PowerPoint	K3
CO3	Analyse the Statistical Software	K4
CO4	Evaluate the Parametric Test and Non Parametric Test	K5, K6

K1 – Knowledge, K2 - Understand, K3 – Apply, K4 – Analyse, K5 – Evaluate, K6 – Create.

UNIT-I: Text Management with MS-Word

Creating new Documents -Document template - Typing Text - Editing Text -Insert Text - Go to, Find, and Replace text or word - Formatting of Text -Format painter - Cut and Paste utility - Copying Document/text in the same or Different file or Document - Drag and drop of typed text- creating tables - using auto correct, dictionary thesaurus.

UNIT II: MS – Excel and Power Point

MS- Excel – Features – Work sheets and work books – Creating charts – Average – Standard Deviation – Slope – Bar – Line Diagram. MS-Power Point – Features – Creation of Slides – Entering and Formatting Text.

UNIT – III: Statistical Software

Creating SPSS data file - Opening existing data file - Importing data from Non-SPSS file Format Data View – Variable view - Merging data from multiple files - Transforming variables - output; Creating tables, charts and graphs, Exporting output, Creating and using syntax file

UNIT – IV: Data Analysis

One sample T- test, Independent Sample T - test, paired sample T test, One-way ANOVA- Correlation: Bivariate, Partial- Regression: Linear, Curve Estimation, Multiple Regression. Non-parametric Test: Chi-square, Bi-nominal- Time Series - Exponential Smoothing, Auto regression, Seasonal Decomposition.

UNIT-V: Artificial Intelligence (AI) tools

Meaning and Definition of Artificial Intelligence (AI) – Evolution and Importance of AI – Basics of Economics and digital economy – Relationship between AI and Economics – Advantages and Limitations of AI in economic activities. Tools: ChatGPT – Google Gemini –Canva – Perplexity.

Textbooks:

1. Rajasekaran S and A.H. Wheelar,(1996) Numerical Methods in Science and Engineering
2. Sinka P.K. (1992) Computers Fundamentals, BPB Publications, New York.
3. Nithin Reddy (2023), Artificial Intelligence and the Economy, Kindle Edition

References:

1. Ram Mansfield, (1993) The Compact to Windows, Word & Excel - BPB Publications
2. Levin R.I AND C.A. Kirk patrick (1975) Quantitative Approaches to Management (3rd Edition), Mc Grew Hill, New York.
3. Sanders D.H. (1988) Computers Today, Mc Grew Hill (3rdEdition)
4. Schildt H (1987) C Made Easy, Mc Grew Hill New York
5. Lip Schultz M M AND S Lipchultz (1982) Theory and problems of Data Processing schemes Out Line Series, Mc Grew Hill New York.

CO-PO Mapping (Course Articulation Matrix)

CO /PO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	3	3	3
CO2	3	3	2	3	3
CO3	3	3	3	3	3

CO4	3	3	3	2	3
CO5	3	3	3	3	3
Weightage	15	15	14	14	15
Weighted percentage of Course Contribution to Pos	3	3	2.8	2.8	3

Level of Correlation between PSO's and CO's

(Suggested by UGC as per Six Sigma Tool – Cause and Effect Matrix)

Assign the value

1 – Low 2 – Medium 3 – High 0 – No Correlation