

SHIVAJI UNIVERSITY, KOLHAPUR



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Syllabus For

B.Sc.-M.Sc. Economics Integrated (Five Years)

Faculty of Humanities

(B.Sc.-M.Sc. Fourth Year Semester VII and VIII)

(Subject to the modifications to be made from time to time)

To be implemented from June 2025

A] Ordinance and Regulations: As applicable to B.Sc.-M.Sc. Economics Integrated (Five Years)

B]

Shivaji University, Kolhapur
Syllabus For
B.Sc.-M.Sc. Economics Integrated (Five Years)
Semester with Credits and CIE System of Examination
[Faculty of Humanities]

TITLE: B.Sc.-M.Sc. Economics Integrated (Five Years)
(Under the Faculty of Humanities)

YEAR OF IMPLEMENTATION: 2025

STRUCTURE OF PROGRAMME:

Structure of Programme B.Sc.-M.Sc. Economics Integrated (Five Years) is given below:

Syllabus for B.Sc.-M.Sc. Economics Integrated (Five Years)
Department of Economics-Autonomous, Shivaji University, Kolhapur

B.Sc.-I (Semester-I & II) introduced from June 2023

B.Sc.-II (Semester III and IV) introduced from June 2024

B.Sc.-III (Semester V and VI) introduced from June 2025

Shivaji University, Kolhapur
Department of Economics- Autonomous
B. Sc. - M. Sc. Economics Integrated (Five Years)
(As per National Educational Policy 2020 and Resolution of Government of Maharashtra)
With effect from academic year 2026-27
Structure of Level 6.0 of B.Sc.-M. Sc. Economics Integrated (Five Years)

Semester VII									
Teaching Scheme					Examination Scheme				
Sr. No.	Theory		Credits	Practical	Semester-end Examination (SEE)			Internal Assessment (IA)	
	Course TYPE	No of Lectures			Paper Hours	Max	Min	Max	Min
1	Major	4	4		3	70	28	30	12
2	Major	4	4		3	70	28	30	12
3	Major	4	4		3	50 (Theory)	20	50 (Practical)	20
4	Major	2	2		1.5	35	14	15	6
5	Elective	4	4		3	70	28	30	12
6	Minor	4	4		3	70	28	30	12
Total		22	22			365	146	185	74

Semester VIII									
Teaching Scheme					Examination Scheme				
Sr. No.	Theory		Credits	Practical	Semester-end Examination (SEE)			Internal Assessment (IA)	
	Course TYPE	No of Lectures			Paper Hours	Max	Min	Max	Min
1	Major	4	4		3	70	28	30	12
2	Major	4	4		3	70	28	30	12
3	Major	4	4		3	70	28	30	12
4	Major	2	2		1.5	35	14	15	6
5	Elective	4	4		3	70	28	30	12
6	OJT	4	4		60 Hrs	--	--	100#	40#
Total		19	22			315	126	235	94
Grand Total Semester VII & VIII		38	44			680	272	420	168

Note: # OJT – Project Report -70 Marks and Viva – 30 Marks

Teaching Scheme for B. Sc. – M. Sc. Economics Integrated (Five Years)
6.0 Level (New)

Semester VII						
Sr. No	Course Type	Title of Courses	Theory		Practical	Credits
			No. of Lectures	Hours	Hours	
1.	Major	Advanced Microeconomics	4	4	-	4
2.	Major	Advanced Statistics	4	4	-	4
3.	Major	Introduction to Python	4	4	04*	4
4.	Major	Statistical Analysis using SPSS for Beginners (SWAYAM)	2	2	-	2
5.	Elective	1.Public Economics 2.Monetary Economics	4	4	-	4
6.	Minor	Behavioral Economics	4	4	-	4
Total			22	22	04	22
Semester VIII						
1.	Major	Advanced Macroeconomics	4	4	-	4
2.	Major	Welfare Economics	4	4	-	4
3.	Major	Advanced Econometrics	4	4	-	4
4.	Major	SWAYAM Course	2	2	-	2
5.	Elective	1. Labour Economics 2. Resource Economics	4	4	-	4
6.	OJT	Internship	-	-	-	4
Total			18	18	-	22
Grand Total			38	46	04	44

Abbreviations:

Major	Mandatory
Minor	Minor
Elective	Elective
OE	Open Elective
VSC	Vocational Skill Course
SEC	Skill Enhancement Course
AEC	Ability Enhancement Course
VEC	Vocational Enhancement Course
IKS	Indian Knowledge System
OJT	On Job Training: Internship/ Apprenticeship
FP	Field projects
CEP	Community engagement and service
CC	Co-curricular Courses
RM	Research Methodology

Question Paper Pattern for Semester-End Examination (For 4 credits)

B. Sc.-M. Sc. Economics Integrated (Five Years)		
Paper Title:		
Subject Code:		
Day and Date:		Total Marks: 60
Time: 3 Hours		
	Instructions: 1. All questions are compulsory. 2. Figures to the right indicated Full Marks.	
Q. No.	Type of Question	Marks
1	Objective Type Questions (Each Question carries ONE mark) A) Multiple Choice questions. (Five Questions) B) Answer in one or two sentences (Five Questions)	10 05 05
2	Short Notes (Any Four out of Six)	20
3	Short Questions (Any Four out of Six)	20
4	Answer the Following (Any One out of Two)	10

Note: Question Paper should cover all the units in the syllabus.

Question Paper Pattern for Semester-End Examination (For 2 credits)

B. Sc.-M. Sc. Economics Integrated (Five Years)		
Paper Title:		
Subject Code:		
Day and Date:		Total Marks: 30
Time: 1 Hour 30 Minutes		
	Instructions: 1. All questions are compulsory. 2. Figures to the right indicated Full Marks.	
Q. No.	Type of Question	Marks
1	Multiple Choice questions. (Five Questions)	05
2	Short Notes (Any Two out of Four)	10
3	Short Questions (Any Two out of Four)	10
4	Answer the following (Any one out of Two)	05

Note: Question Paper should cover all the units in the syllabus.

Internal Assessment

Level	Semester	Activity	Marks	
			4 Credit	2 Credit
4.5	I and II	1) Home Assignment	10	5
		2) Class Assignment (Tutorial Type)	10	5
		3) Quiz	10	5
		4) Mid-Term Test	10	5
5.0	III and IV	1) Oral Examination	10	5
		2) Group Discussion	10	5
		3) Seminar	10	5
		4) Mid-Term Test	10	5
5.5	V and VI	1) Case Study	10	5
		2) Field Work	10	5
		3) Book Review/ Poster Presentation	10	5
		4) Mid-Term Test	10	5
6.0	VII and VIII	1) Seminar	10	5
		2) Case Study / Problem Solving	10	5
		3) Book Review/ Poster Presentation	10	5
		4) Mid-Term Test	10	5
6.5	IX and X	1) Group Discussion	10	5
		2) Research Paper Review	10	5
		3) Open Book Examination	10	5
		4) Mid-Term Test	10	5

Note: Book Review (Only from reference book)

Result - The result of each semester shall be declared as Pass or Fail or Allowed to Keep Terms (A.T.K.T. for Semester III & IV as per University Rules) with grade/ grade points and Credits gained.

Rules for Allowing to Keep Term (ATKT):

A) ATKT rules for Undergraduate Programmes:

- i. If a candidate fails in any number of courses (subject heads) of Semester I, shall be allowed to proceed to Semester II.
- ii. A candidate who earns 50% of total credits of Level 4.5 shall be allowed to keep terms in Level 5.0
- iii. If a candidate fails in any number of courses (subject heads) of Semester III, shall be allowed to proceed to Semester IV.
- iv. A candidate who earns 50% of total credits of Level 5.0 shall be allowed to keep terms in Level 5.5.
- v. If a candidate fails in any number of courses (subject heads) of Semester V, shall be allowed to proceed to Semester VI.
- vi. No candidate shall be allowed to proceed to Semester V, unless candidate has passed in all courses of Level 4.5.
- vii. If a candidate opts for four year bachelor degree programme and fails in any number of courses (subject heads) of Semester VII, shall be allowed to proceed to Semester VIII.
- viii. If a candidate opts for four year bachelor degree programme, such candidate shall not be allowed to proceed to Semester VII, unless candidate has passed three year bachelor degree with 7.5 CGPA or 75%.
- ix. In case if the rules of any Apex body differ from these rules, then the rules of that apex body will be applicable.

B) ATKT rules for Postgraduate Programmes:

- i. If a candidate fails in any number of courses (subject heads) of Semester I, shall be allowed to proceed to Semester II.
- ii. A candidate shall be allowed to proceed to Semester III, even if he/she fails in any number of courses at Level 6.0.
- iii. A candidate shall be allowed to proceed to Semester IV even if a candidate fails in any number of courses (subject heads) of any previous Semesters.
- iv. In case if the rules of any Apex body differ from these rules, then the rules of that apex body will be applicable.

SHIVAJI UNIVERSITY, KOLHAPUR
DEPARTMENT OF ECONOMICS-AUTONOMOUS
B.Sc.-M.Sc. Economics Integrated (Five Years)
M. Sc. Economics First Year

Semester-VII		
Sr. No	Course Type	Title of Courses
1.	Major	Advanced Microeconomics
2.	Major	Advanced Statistics
3.	Major	Introduction to Python
4.	Major	Statistical Analysis using SPSS for Beginners (SWAYAM)
5.	Elective	1.Public Economics 2.Monetary Economics
6.	Minor	Behavioral Economics

B. Sc.-M. Sc. Part IV Semester-VII
Major
Advanced Microeconomics
(Total Credits: 4)

Course Outcomes:

1. The student will get an understanding of the revision of demand theory.
2. The student will get equipped with theories of costs and their application in a modern firm.
3. The student will learn and understand the modern models of product pricing.
4. Student will be understanding of modern managerial approaches to the theory of the firm.

Unit-I Theory of Demand (15 Periods)

- 1.1 Hicks' Revision of Demand Theory
- 1.2 Hicksian four Consumer surplus
- 1.3 A new Approach to consumer behavior: Attribute theory of demand
- 1.4 Individual behavior under uncertainty

Unit-II Theory of Costs and Theory of the Firm (15 Periods)

- 2.1 Traditional Theory of Cost- Short-Run Costs, Long-Run Costs: The 'Envelope Curve'
- 2.2 Modern Theory of Costs- Short-Run Costs, Long-Run Costs: The 'L-Shaped' Scale Curve, Engineering Cost Curves
- 2.3 Oligopoly: Non-Collusive Oligopoly- Cournot's, Bertrand's Duopoly Model, Chamberlin's Oligopoly Model, Kinked-Demand Model, Stackelberg's Duopoly Model;
- 2.4 Oligopoly: Collusive Oligopoly- Cartels, Price Leadership, Basing-Point Price System

Unit-III Theory of Pricing (15 Periods)

- 3.1 Average-Cost Pricing- Hall and Hitch Report and the 'Full-Cost' Pricing Principle, 'Mark-Up' Rule
- 3.2 Limit-Pricing-Bain's Limit-Pricing Theory
- 3.3 Recent Developments in the Theory of Limit-Pricing; The Model of Sylos Labini, The Model OF Franco Modigliani
- 3.4 The Model of Bhagawati

Unit-IV Managerial Theories of the Firm (15 Periods)

- 4.1 Baumol's Theory of Sales Revenue Maximisation
- 4.2 Marris's Model of Managerial Enterprise,
- 4.3 Williamson's Model of Managerial Discretion
- 4.4 Theory of games and oligopoly

References/Reading List:

1. H. L. Ahuja, Advanced Economic Theory: Microeconomic Analysis (2020), S. Chand and Company Limited New Delhi
2. A. Koutsoyiannis, Modern Microeconomics Second Edition, (1978) Macmillan Education, the Macmillan Press Ltd.
3. Ferguson, C. E. (1976), Neo-classical Theory of Production and Distribution
4. Jha, R. (1991), Contemporary Macroeconomic Theory and Policy, Wiley Eastern Ltd., New Delhi.
5. Kuhn, Harold W. (Ed.) (1997), Classics in Game Theory, Princeton, University Press, Princeton.
6. Allen, R. G. D. (1974), Mathematical Analysis for Economics, Macmillan Press and ELBS, London.
7. Chung, J. W. (1993), Utility and Production: Theory and Applications, Basil Blackwell, London

B. Sc.-M. Sc. Part IV Semester-VII

Major

Advanced Statistics

(Total Credits: 4)

Course Outcomes:

1. Explain and apply theoretical probability distributions including Binomial, Poisson, Hypergeometric, and Normal distributions.
2. Perform hypothesis testing, estimation, and tests of significance for large samples.
3. Apply t-test, chi-square test, and related small-sample tests in statistical inference.
4. Analyze variance using one-way and two-way ANOVA and interpret results with F-test.

Unit-I Theoretical Distributions

(15 Periods)

- 1.1 Introduction, Binomial Distribution
- 1.2 Poisson Distribution
- 1.3 Hypergeometric Distribution
- 1.4 Normal Distribution

Unit-II Statistical Inference–Tests of Hypotheses

(15 Periods)

- 2.1 Introduction, Hypothesis Testing-Procedure, Measuring the Power of a Hypothesis Test, Standard Error and Sampling Distribution, Universe Distribution
- 2.2 Estimation-Point Estimates, Interval Estimates, Tests for Number of Successes, Test for Proportion of Successes, Test for Difference Between Proportions
- 2.3 Difference Between Small and Large Samples, Tests of Significance for Large Samples
- 2.4 Two-Tailed Test for Difference Between the Means of Two Samples, Standard Error of the Difference Between Two Standard Deviations

Unit-III Statistical Inference–Tests of Hypotheses

(15 Periods)

- 3.1 Tests of Significance for Small Samples: Assumption of Normality
- 3.2 Student's T-Distribution and its Applications
- 3.3 Chi-square test-Definition, Degrees of Freedom, Chi-Square Distribution, Constants of Chi-Square Distribution, Chi-Square Test When the Degrees of Freedom Exceed 30, Conditions for Applying Chi-Square Test
- 3.4 Yates' Corrections-Grouping When Individual Frequencies are Small, Uses of Chi-Square Test, Additive Property of Chi-Square, Chi-Square Test for Specified Value of Population Variance

Unit-IV Analysis of Variance

(15 Periods)

- 4.1 Analysis of variance: Introduction, assumptions and techniques
- 4.2 One-way classification
- 4.3 Two-way classification
- 4.4 ANOVA table; F-test

References/Reading List:

1. Allen, R. G. D. (1974), Mathematical Analysis for Economists, Macmillan Press and ELBS, London.
2. Baumol, W. J. (1984), Economic Theory and Operations Analysis, Prentice Hall, Englewood Cliffs, New Jersey.
3. Chiang, A. C. (1986), Fundamental Methods of Mathematical Economics, McGraw Hill, New York.
4. Croxton, Crowden and Klein (1971), Applied General Statistics, Prentice Hall of India, New Delhi.
5. Elhance, D.N., Elhance, Veena and Aggarwal, B. M. (2015) Fundamentals of Statistics, Kitab Mahal, Allahabad.
6. Goon, A. M., M. K. Gupta and B. Dasgupta (1993), Fundamentals of Statistics, Vol. 1, The World Press Ltd., Calcutta.
7. Gupta, S. C. (1993), Fundamentals of Applied Statistics, S. Chand & Sons., New Delhi.
8. Gupta, S.P. (2016) Statistical Methods, Sultan Chand & Sons, New Delhi.
9. Handry, A. T. (1999), Operations Research, Prentice Hall of India, New Delhi.
10. Hogg, R. V. and A. T. Craig (1970), Introduction to Mathematical Statistics (3rd Edition), Macmillan Publishing Co., New York.
11. Millar, J. (1996), Statistics for Advanced Level, Cambridge University Press, Cambridge.
12. Monga, G. S. (1972), Mathematics and Statistics for Economists, Vikas Publishing House, New Delhi.
13. Nagar, A. L. and R. K. Das (1993), Basic Statistics, Oxford University Press, New Delhi.
14. Reddy, C. R. (1990) : Quantitative Methods for Management Decision, Himalay Publishing House, Mumbai.
15. Singhal Mohan (2005:06) : Elements of Statistics, Lakshmi Narain Agrawal, Agra.
16. Speigal, M. R. (1992), Theory and Problems of Statistics, McGraw Hill Book Co., London.
17. Sukhatme, P. V. and B. V. Sukhatme (1970), Sampling Theory of Survey with Applications, Iowa State University Press, Ames.
18. Taha, H. A., (1997), Operations Research: An Introduction (6th Edition), Prentice Hall of India Pvt. Ltd., New Delhi.
19. Yamane, Taro (1975), Mathematics for Economists, Prentice Hall of India, New Delhi.

B. Sc.-M. Sc. Part IV Semester-VII

Major

Introduction to Python

(Total Credits: 4)

Course Outcomes:

1. Understand and apply fundamental Python programming skills to solve economic problems.
2. Use Pandas and NumPy for efficient data cleaning, manipulation, and analysis.
3. Visualize economic data using Python libraries like Matplotlib and Seaborn.
4. Conduct basic statistical and econometric analysis using Python on real-world datasets.

Unit-I Python Programming Basics (15 Periods)

- 1.1 Introduction to Python: Installation, IDEs (Jupyter, Anaconda, VS Code)
- 1.2 Syntax, Data Types: Integers, Strings, Lists, Tuples, Dictionaries Control Flow: If-else, loops (for, while)
- 1.3 Functions, Modules, and Packages
- 1.4 File I/O operations, Writing and running simple Python scripts

Unit-II Data Handling and Processing with Pandas & NumPy (15 Periods)

- 2.1 Introduction to NumPy: Arrays, indexing, broadcasting, operations, Introduction to Pandas: Series and Data Frames
- 2.2 Importing/exporting data (CSV, Excel, JSON), Data cleaning: handling missing data, duplicates, type conversions
- 2.3 Filtering, grouping, merging, reshaping datasets
- 2.4 Working with date/time data

Unit-III Data Visualization and Statistical Analysis (15 Periods)

- 3.1 Introduction to Matplotlib and Seaborn, Line plots, bar charts, histograms, scatter plots
- 3.2 Plotting multi-variable relationships and customization, Descriptive statistics with Pandas
- 3.3 Introduction to inferential statistics: mean, median, mode, variance, correlation
- 3.4 Simple regressions using stats models or scikit-learn

Unit-IV Applications in Economics and Econometrics (15 Hours) (15 Periods)

- 4.1 Working with economic datasets (CPI, GDP, NSSO, World Bank, RBI data) Time series basics in Python
- 4.2 Linear regression and visualization of results, Automating repetitive economic data tasks
- 4.3 Mini project: Analyzing an economic dataset using Python
- 4.4 Introduction to APIs for economic data (e.g., World Bank API)

References/Reading List:

1. McKinney, Wes. *Python for Data Analysis* (O'Reilly)
2. VanderPlas, Jake. *Python Data Science Handbook* (O'Reilly)
3. Downey, Allen. *Think Python* (Green Tea Press)
4. Jose Portilla. *Python for Data Science and Machine Learning Bootcamp* (Udemy – optional)
5. Online Documentation: pandas.pydata.org, numpy.org, seaborn.pydata.org

B. Sc.-M. Sc. Part IV Semester-VII
Major
Statistical Analysis using SPSS for Beginners (SWAYAM)
(Total Credits: 4)

Course Outcomes:

1. Understand the basics of statistics and effectively manage and present data using SPSS.
2. Apply descriptive statistics and normal distribution techniques for data analysis.
3. Perform hypothesis testing using t-test, chi-square, correlation, ANOVA, and regression in SPSS.
4. Evaluate data quality through reliability and validity analysis using SPSS tools.

Unit-I Introduction to SPSS (15 Periods)

- 1.1 Introduction to Statistics and SPSS
- 1.2 Data Management and Data Presentation
- 1.3 Descriptive Statistics
- 1.4 Normal Distribution

Unit-II Hypothesis Testing using SPSS (15 Periods)

- 2.1 Hypothesis, Hypothesis Testing & Choosing a Statistical Test
- 2.2 T-test Procedure and Chi-square
- 2.3 Correlation, ANOVA and Regression
- 2.4 Reliability & Validity Analysis

Course Link: https://onlinecourses.swayam2.ac.in/imb25_mg179/preview

References/Reading List:

1. Anderson, Sweeny & Williams (2018) Statistics for Business & Economics, 13th edition, Cengage Learning
2. Bell, E., Bryman, A., & Harley, B. (2018). Business research methods. Oxford university press.
3. Field, Andy (2011) Discovering Statistics using IBM SPSS
4. George; D., & Mallery, P. (2020). IBM SPSS Statistics 25 Step by Step: A Simple Guide and Reference. Routledge.
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6. Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2019), Multivariate Data Analysis, 8th ed., Cengage
7. Hess, T. J., McNab, A. L., & Basoglu, K. A. (2014). Reliability generalization of perceived ease of use, perceived usefulness, and behavioral intentions. MIS Quarterly, 38(1), 1–28
8. Ken, Black, Business Statistics for Contemporary Decision making, 9th edition, Wiley
9. Naval Bajpai, Business Research Methods, Pearson Education (2017)
10. Malhotra, N., & Dash, S. (2019). Marketing Research (7th ed.). Pearson Education India.
11. Sankaran, R., & Chakraborty, S. (2022). Factors impacting mobile banking in India: empirical approach extending UTAUT2 with perceived value and trust. IIM Kozhikode Society & Management Review, 11(1), 7–24. <https://doi.org/10.1177/2277975220975219>
12. Sankaran, R., & Chakraborty, S. (2023). Measuring consumer perception of overall brand equity drivers for m-payments. International Journal of Bank Marketing, 41(1), 130-157. <https://doi.org/10.1108/IJBM-03-2022-0113>
13. Sankaran, R. (2021). Data cleaning after survey collection. <https://www.linkedin.com/pulse/data-cleaning-after-survey-collection-raja-sankaran/>
14. Sankaran, R. (2022). Reliability measures (Cronbach Alpha) for scale items using SPSS. https://www.linkedin.com/posts/raja-sankaran-1650a22a_activity-6999898747316965376-Hb8I
15. Zikmund, W. G., Babin, B. J., Carr, J. C., Adhikari, A., & Griffin, M. (2016). Business Research Methods (8th ed.). Cengage Learning.

B. Sc.-M. Sc. Part IV Semester-VII

Elective

Public Economics

(Total Credits: 4)

Course Outcomes:

1. Understand the role of government in economic planning and development.
2. Examine the theory of public choice and public policy.
3. Equip with theory of public expenditure and project evaluation.
4. Analyse the theories of taxation and public budget.

Unit-I Role of Government in Development

(15 Periods)

- 1.1 Role of Government in a mixed economy: Government as an agent for economic planning and development
- 1.2 Human Wants and Goods: Private, Public, and Merit
- 1.3 Causes of Market failure: Imperfections, Decreasing costs,
- 1.4 Externalities - Economies and Diseconomies

Unit-II Theory of Public Choice and Public Policy

(15 Periods)

- 2.1 Private and Public Mechanism for Allocating of Resources
- 2.2 Problems of Revelation and Aggregation of Preferences: Absolute and Relative Unanimity Principle – Political Interactions Costs Theory - Arrow's Impossibility theorem- An Economic Theory of Democracy - Politico-eco-bureaucracy Theory
- 2.3 Provision of Public Goods: Voluntary exchange model of Wicksell and Lindahl- Impossibility of decentralized provision of public goods (Contributions of Samuelson and Musgrave)
- 2.4 Demand Revealing Schemes for Public goods - Tiebout model- Theory of Club goods.

Unit-III Theory of Public Expenditure and Project Evaluation

(15 Periods)

- 3.1 Theories of Public Expenditure: Samuelsson's Pure theory of Public Expenditure- Wagner's law of increasing state activities- Wiseman Peacock hypothesis - Colin Clark Hypothesis
- 3.2 Criteria of Public investment- Project evaluation;
- 3.3 Social Cost-Benefit Analysis
- 3.4 Public Budget: Classification of Public Budget- Performance and Programme budgeting- Zero base budgeting.

Unit-IV UNIT IV: THEORY OF TAXATION AND PUBLIC DEBT

(15 Periods)

- 4.1 Tax Incidence: Meaning- Alternative Concepts – Measurement- Theories
- 4.2 Theories of Taxation: Benefit and Ability to pay approaches- Theory of optimal taxation- Excess burden of taxes
- 4.3 The problem of double taxation- Laffer Curve Theory – Goods and Services Tax (GST)
- 4.4 Public Debt: Sources- Classification- Importance- Burden - Methods of Redemption- Principles of Debt Management

References/Reading List:

1. Atkinson, A. B. and J. E. Stiglitz (1980), Lectures on Public Economics, Tata McGraw Hill, New York.
2. Auerbach, A. J. and M. Feldstern (Eds.) (1985), Handbook of Public Economics, Vol. I, North Holland, Amsterdam.
3. Buchanan, J. M. (1970), The Public Finances, Richard D. Irwin, Homewood.
4. Goode, R. (1986), Government Finance in Developing Countries, Tata McGraw Hill, New Delhi.
5. Houghton, J. M. (1970), The Public Finance: Selected Readings, Penguin, Harmondsworth.
6. Jha, R. (1998), Modern Public Economics, Routledge, London.
7. Menutt, P. (1996), The Economics of Public Choice, Edward Elgar, U. K.
8. Musgrave, R. A. (1959), The Theory of Public Finance, McGraw Hill, Kogakusha, Tokyo.
9. Musgrave, R. A. and P. B. Musgrave (1976), Public Finance in Theory and Practice, McGraw Hill, Kogakusha, Tokyo.
10. Shoup, C. S. (1970), Public Finance, Aldine, Chicago.
11. Shome, P. (Ed.) (1970), Tax Policy: Handbook, Tax Division, Fiscal Affairs Department, International Monetary Fund, Washington D. C.
12. Cornes, R. and T. Sandler (1986), The Theory of Externalities, Public Goods and Club Goods, Cambridge University Press, Cambridge.
13. Duff, L. (1997), Government and Market, Orient Longman, New Delhi.
14. Herber, B. P. (1967), Modern Public Finance, Richard D. Irwin, Homewood.
15. Spulber, N. (1998), Redefining the State, Cambridge University Press, Cambridge.
16. Buchanan, J. M. (1968), The Demand and Supply of Public Goods, Rand McNally, Chicago.
17. Mueller, D. C. (1979), Public Choice, Cambridge.
18. Spulber, N. (1998), Redefining the State, Cambridge University Press, Cambridge.
19. Stiglitz, J. E. (1986), Economics of Public Sector, Norton, New York.
20. Dorfman, R. (Ed.) (1970), Measuring the Benefits of Government Investment, Brookings Institution, Washington.
21. Friedman, A. (1986), Welfare Economics and Social Choice Theory, Martins Nijhoff, Boston.
22. Glennester, H. and J. Hills (1998), The State of Welfare: The economic and Social Spending Oxford University Press, London.
23. Mishan, E. J. (1982), Cost-Benefit Analysis: An Informal Introduction, George Allen and Unwin, London.
24. Peacock, A. and D. J. Robertson (Eds.) (1963), Public Expenditure: Appraisal and Control, Oliver and Boyd, Edinburgh.
25. Phyr, P. (1970), Zero Base Budgeting: A Practical Management Tool for Evaluating Expenses, John Wiley, New York.
26. Premchand, A. (1966), Control of Public Expenditure in India, Allied Publishers, New Delhi.
27. Sahni, B. S. (Ed.) (1972), Public Expenditure Analysis : Selected Readings, Rotherdam University Press.
28. Cutt, J. (1969), Taxation and Economic Development in India, Frederick A Praegar Publishers, New York.
29. Kaldor, N. (1955), An Expenditure Tax, George Allen and Unwin, London.
30. Musgrave, R. A. and C. Shoup (Eds.) (1970), Readings in the Economics of Taxation, George Allen and Unwin, London.
31. Barman, K. (1986), Public Debt Management in India, Uppal Publishing House, New Delhi.
32. Buchanan, J. M. (1958), Principles of Public Debt, A Defence and Restatement, Richard D. Irwin, Homewood.

B. Sc.-M. Sc. Part IV Semester-VII

Elective

Monetary Economics

(Total Credits: 4)

Course Outcomes:

1. Explain the evolution of money and to get acquainted with the concept of money and its functions.
2. Knowing about the supply of money and high powered money.
3. Evaluating the working and effects of monetary and fiscal policy.

Unit-I Monetary Economics

(15 Periods)

- 1.1 Keynesian Vs Monetarists
- 1.2 Monetary Economics as an Applied Branch of Macro Economics
- 1.3 Exchange Rates Vs Interest Rates
- 1.4 Financial Assets and Institutions- Central Banking- International Financial Institutions-IBRD, IMF and ADB

Unit-II Money, Evolution and Money Multiplier

(15 Periods)

- 2.1 Evolution of Money-Money and Near Money - Stock & Flow concept of money
Functions of Money– Circular Flow of Money
- 2.2 Money Supply- Determinants of Money Supply – Money, Interest and Inflation-
Approaches to Money Supply – Money Supply & Liquidity
- 2.3 H Theory of Money Supply – Factors affecting H –Adjusted H - Is H an
autonomous policy variable?
- 2.4 Money Multiplier: Determinants – Derivation of Money Multiplier, Deposit
Multiplier

Unit-III Demand for Money and Interest Rate:

(15 Periods)

- 3.1 Classical & Neo-classical views on Holding Money – Keynesian theory of
Demand for Money
- 3.2 Post Keynesian (Baumol-Tobin and Friedman's approach).
- 3.3 Money & Prices: Fisher's Cash Transaction Vs Cambridge Cash Balance Approach
- 3.4 Theories of Interest Rates: Classical Theory – Loanable Fund Theory

Unit-IV Monetary, Fiscal and Policies:

(15 Periods)

- 4.1 Factors Determining the Term structure of Interest Rates- Theories of Term
Structure of Interest Rates (Expectation Theory, Segmented Market Theory, Risk
Premium Theory and Preferred Habitat Theory).
- 4.2 Real balance Effect – Patinkin's General Equilibrium Model,
- 4.3 Transmission Mechanism in Monetary Theory, Actions and Reactions of Monetary
and Fiscal Policies
- 4.4 Monetary and Fiscal Policies and Employment, Inflation and Growth. Recent
trends of Growth, Employment and Monetary Policy.

References/Reading List:

1. Bain, Keith & Howells, Peter (2009), Monetary Economics: Policy and Its Theoretical Basis, Palgrave.
2. Friedman, Ben & Hahn F.H. (Eds.), (1990), Handbook of Monetary Economics, Vols. 1, 2, & 3, North Holland Publishers.
3. Gupta, S.B. (1983), Monetary Economics, S. Chand & Company, New Delhi.
4. Mankiw N. Gregory(2012), Macroeconomics, Worth Publisher, New York
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6. Niehans, J. (1984), International Monetary Economics, John Hopkins University Press, New York.
7. Sheth. M. L (2016), Monetary Economics, Lakshi Narain Agarwal, Agra.
8. Keynes, J. M., General Theory of Employment, Interest and Money. A. E. A., Readings in Monetary Theory
9. Halm, G. N., Monetary Economics
10. Einzing, P., Monetary Policy: Ends & Means
11. Newlyn, W. E., theory of Money
12. Chandler, L. V., Economics of Money and Banking.
13. Scammel, W. M., International Monetary Policy
14. Sen, S. N., central Banking in Underdeveloped Money Markets
15. H. Johnson, Essays in Monetary Theory
16. Don Patinkin, Money, Interest and Prices
17. Shaw, E. S., Money, Income and Monetary Policy A. C. L. Day, An Outline of Monetary Economics
18. M. Friedman, Essay on Money
19. Ghosh, B. N. & Ghosh Rama, Monetary Economics
20. Claassen Emil-Maria, (1996) Global Monetary Economics, Oxford University Press
21. Harris, L., Monetary Theory
22. J. D. Von Pischke, Finance at the Frontier: Debt, Capacity and Role of Credit in Private Economy
23. RBI Reports
24. World Bank Reports
25. IMF Reports
26. Friedman M, Essays on Money
27. Bhole, L. M., Financial Institutions and Markets: Structure, Growth and Innovation

B. Sc.-M. Sc. Part IV Semester-VII

Minor

Behavioral Economics

(Total Credits: 4)

Course Outcomes:

1. Explain the origin, concepts, and major decision-making theories in behavioral economics.
2. Analyze heuristics, biases, and fallacies in decision-making under risk and uncertainty.
3. Evaluate inter-temporal choices, discounting models, and the role of fairness, trust, and social norms.
4. Apply behavioral economics insights to labour, finance, taxation, nudging, and public policy issues.

Unit-I Introduction to Behavioral Economics (15 Periods)

- 1.1 Origin and Introduction to Behavioral Economics
- 1.2 Major decision-making theories- Neo-classical economics –assumption of rationality, optimization
- 1.3 Bounded Rationality, Rationality in Psychology and Economics by H. Simon
- 1.4 Prospect theory

Unit-II Risk, Uncertainty and Decision Making: (15 Periods)

- 2.1 Heuristics and Biases programme- Representativeness, Availability,
- 2.2 Heuristics and Biases programme- Anchoring and adjustment, mental accounting
- 2.3 Biases: Overconfidence, Confirmation bias, Framing, Status Quo Bias, Endowment Bias, Self-Control Bias
- 2.4 Fallacies: conjunction and disjunction fallacies, Gambler's Fallacies

Unit-III Inter-Temporal Choices: (15 Periods)

- 3.1 The discounted utility model, exponential discounting
- 3.2 Hyperbolic discounting
- 3.3 Strategic interactions: Fairness, trust, cooperation,
- 3.4 reciprocity, altruism Norms and Culture

Unit-IV Applications of Behavioural Economics: (15 Periods)

- 4.1 Introduction to Behavioural Labour Economics, Behavioural Finance
- 4.2 Contribution of Behavioural Economics to Taxation
- 4.3 Nudging and Choice architecture
- 4.4 Public Policies: Poverty and Psychological and social perspectives on policy, Health, and Climate

References/Reading List:

Books:

1. Nick Wilkinson; Matthias Klaes(2012), An Introduction to Behavioral Economics, 2nd Edition, Palgrave Macmillan.
2. Colin F. Camerer, George Loewenstein, Matthew Rabin (ed.)(2004), Advances in Behavioral Economics, Princeton University Press.
3. Dan Ariely, Harper Perennial Predictably Irrational: The Hidden Forces That Shape Our Decisions, 2010, ISBN 0061353248, ISBN13 978- 0061353246.
4. M. Altman, Handbook of Contemporary Behavioral Economics: Foundation and Developments (2007), Prentice Hall India
5. E. Cartwright, Behavioral Economics (2011), Routledge D. Kahneman, Thinking Fast and Slow (2011), Allen Lane, Penguin Books
6. G. Loewenstein, Exotic Preferences: Behavioral Economics and Human Motivation (2007), Oxford University Press
7. Erik Angner, “A Course in Behavioral Economics”, Palgrave Macmillan Sanjit Dhami, “The Foundations of Behavioral Economic Analysis”, Oxford University Press (2016)

Reports:

World Development Report 2015: Mind, Society, and Behavior

Articles:

1. Gianna Lotito (2006): Dynamic inconsistency and different models of dynamic choice – a review, working paper 83, UNIVERSITA’ DEL PIEMONTE ORIENTALE “Amedeo Avogadro” ALESSANDRIA
<http://polis.unipmn.it/pubbl/RePEc/uca/ucapdv/lotito83.pdf>
2. F. Shane, G. Loewenstein and T. O’Donoghue; “Time Discounting and Time Preference: A Critical Review”; Journal of Economic Literature; Jun.(2002), Vol. 40, No. 2. pp. 351-401
3. Experiments and Behavioral Economics by Robert J. Oxoby in M. Altman, Handbook of Contemporary Behavioral Economics: Foundation and Developments (2007), Prentice Hall India
4. Richard H. Thaler: Misbehaving

SHIVAJI UNIVERSITY, KOLHAPUR
DEPARTMENT OF ECONOMICS-AUTONOMOUS
B.Sc.-M.Sc. Economics Integrated (Five Years)
M. Sc. Economics First Year

Semester-VIII		
Sr. No	Course Type	Title of Courses
1.	Major	Advanced Macroeconomics
2.	Major	Welfare Economics
3.	Major	Advanced Econometrics
4.	Major	Academic Writing with Latex
5.	Elective	1. Labour Economics 2. Resource Economics
6.	OJT	Internship

B. Sc.-M. Sc. Part IV Semester-VIII
Major
Advanced Macroeconomics
(Total Credits: 4)

Course Outcomes:

1. Analyze IS–LM framework, Mundell–Fleming model, and the role of capital mobility in an open economy.
2. Examine the relationship between inflation, unemployment, fiscal expansion, and exchange rates in the open economy.
3. Evaluate theories of consumption and investment under certainty and uncertainty, including LCH, PIH, Tobin’s q, and Ramsey models.
4. Assess exchange rate dynamics, expectations, and policy interdependence in the global economy.

Unit-I The Open Economy (15 Periods)

- 1.1 IS-LM Analysis in an Open Economy, LM Curve and the Balance of Trade: Zero Capital Mobility
- 1.2 Mundell–Fleming Model, Mundell–Fleming Model with changing price level
- 1.3 Marshall-Lerner Condition, Interest-Rate Differentials
- 1.4 Implication of Capital Mobility for Macro Policy

Unit-II Inflation and Unemployment in the Open Economy (15 Periods)

- 2.1 Inflation and Unemployment in the Open Economy
- 2.2 Equilibrium Rates of Unemployment and Sustainable Unemployment
- 2.3 Fiscal Expansion, Exchange Rate and inflation
- 2.4 Supply Side and Demand side in the Open Economy

Unit-III Consumption, Investment, and Markets (15 Periods)

- 3.1 Consumption under Certainty: The Life-Cycle Hypothesis (LCH) and Permanent Income Hypothesis (PIH); The Random Walk Hypothesis (RWH)
- 3.2 Interest Rate and Saving; Consumption and risky assets; Alternative views of consumption;
- 3.3 Tobin’s q; Uncertainty and investments;
- 3.4 Financial market imperfections; Basic Infinite Horizon Models of Consumption and Investment: The Ramsey problem; The Overlapping Generations Model.

Unit-IV Further Open Economy Topics (15 Periods)

- 4.1 Floating Exchange Rates with Zero Capital Mobility
- 4.2 Floating Exchange Rates and Perfect Capital Mobility: Exchange Rate Expectations
- 4.3 Rational Exchange Rate Expectations; Dornbusch’s Overshooting Model
- 4.4 Policy Interdependence and The World Equilibrium Rate of Unemployment

References/Reading List:

1. Blanchard, O., & Johnson, D. R. (2017). *Macroeconomics* (7th ed.). Pearson.
2. Dornbusch, R., Fischer, S., & Startz, R. (2014). *Macroeconomics* (12th ed.). McGraw-Hill Education.
3. Froyen, R. T. (2013). *Macroeconomics: Theories and Policies* (10th ed.). Pearson.
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12. Friedman, M. (1968). The role of monetary policy. *American Economic Review*, 58(1), 1–17.
13. Mundell, R. A. (1963). Capital mobility and stabilization policy under fixed and flexible exchange rates. *Canadian Journal of Economics and Political Science*, 29(4), 475–485. <https://doi.org/10.2307/139336>
14. Fleming, J. M. (1962). Domestic financial policies under fixed and floating exchange rates. *IMF Staff Papers*, 9(3), 369–380. <https://doi.org/10.2307/3866091>

B. Sc.-M. Sc. Part IV Semester-VIII

Major

Welfare Economics

(Total Credits: 4)

Course Outcomes:

1. To understand the fundamental principles and concepts of welfare economics.
2. To analyze the theories and contributions to welfare economics prior to Pareto's contributions.
3. To master the concepts and applications of Paretian welfare economics.
4. To explore contemporary developments and recent thoughts in welfare economics.

Unit-I Principles of Welfare Economics (15 Periods)

- 1.1 Welfare concept – national income and welfare – Resources use and welfare optimum Resource Allocation and Welfare Maximization- Problem of income distribution
- 1.2 Cardinality, comparability and equity in welfare
- 1.3 State and welfare- Impact of Government interference on social welfare; welfare economics and policy analysis
- 1.4 Privatization, Globalization, and Welfare

Unit-II Pre-Paretian Welfare Economics (15 Periods)

- 2.1 Benthamite Approach to Aggregate Welfare- Assumption of Uniform Income - Utility, Function of Individuals- Issue of Interpersonal Comparisons of Utility.
- 2.2 Marshallian Welfare Economics: Consumer's Surplus; Measurement, Difficulties and Criticism- Principles of compensating Variation
- 2.3 Hicks Four Concepts of Consumer's Surplus
- 2.4 Consumer's Surplus and Tax-Bounty Analysis

Unit-III Paretian Welfare Economics (15 Periods)

- 3.1 Pareto optimality – Optimum production, consumption and exchange- Concept of contract curve- Top level optimum- Infinite number of non-comparable optima vs. unique social optimum; Compensation criteria
- 3.2 Contributions of Barone, Kaldor and Hicks
- 3.3 The Scitovsky double criterion- Concept of a community indifference map
- 3.4 Samuelson's utility possibility curve- Value judgments and welfare economics- Bergson's social welfare function- Arrow's impossibility theorem.

Unit-IV Recent Welfare Thoughts (15 Periods)

- 4.1 Divergence between private and social cost- Problems of non-market interdependence-Externalities of production and consumption- External economies and Diseconomies- Problem of public goods.
- 4.2 Pigovian welfare economics- Second best optima- Marginal cost pricing
- 4.3 Cost-benefit analysis- Interdependent utilities- Dynamic Welfare analysis
- 4.4 Property rights and development policies- fairness theory and distributive justice. Theory of public choice and policy implication- Amartya Sen's contribution to welfare economics

References/Reading List:

1. Arrow, K. J. (1951), Social choice and Individual Values, Yale University Press, New Haven.
2. Baumol, W. J. (1965), Welfare Economics and the Theory of the State (Second Edition) Longmans, London.
3. Baumol, W. J. (Ed.) (2001), Welfare Economics, Edward Elgar Publishing Ltd UK
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11. Nicholas, B. (Ed.) (2001), Economic Theory and the Welfare state, Edward Elgar Publishing Ltd., U. K.
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14. Samuelson, P. A. (1947), Foundations of Economic Analysis, Harvard University Press, Cambridge, Mass.

B. Sc.-M. Sc. Part IV Semester-VIII
Major
Advanced Econometrics
(Total Credits: 4)

Course Outcomes:		
1. Identify and address violations of classical regression assumptions such as multicollinearity, heteroscedasticity, autocorrelation, and specification errors. 2. Apply qualitative response regression models including LPM, Logit, Probit, Tobit, and Poisson models in empirical research. 3. Analyze dynamic econometric models using distributed lags, autoregressive models, adaptive expectations, partial adjustment, and causality tests. 4. Evaluate simultaneous equation models, identification problems, and estimation methods including ILS, 2SLS, and recursive approaches.		
Unit-I	Violations of Classical Assumptions	(15 Periods)
	1.1 Multicollinearity: Nature, Sources, Consequences Detection and Remedial measures	
	1.2 Heteroscedasticity: Nature, Reasons, Consequences, Detection and Remedial measures	
	1.3 Autocorrelation: Nature, Reasons, Consequences and Remedial measures	
	1.4 Problem of specification errors	
Unit-II	Qualitative Response Regression Models	(15 Periods)
	2.1 Nature of Qualitative Response Models, Linear Probability Model (LPM)- Applications and its Alternatives	
	2.2 Logit Model-Estimation, Grouped and Ungrouped Logit Models,	
	2.3 Probit Model-Estimation, Grouped and Ungrouped Probit Models	
	2.4 Tobit Model, Poisson Regression Model	
Unit-III	Dynamic Econometric Models	(15 Periods)
	3.1 Distributed Lag Models and Autoregressive Models	
	3.2 Lags: Nature and Reasons	
	3.3 Koyck Approach to Distributed- Lag Models and its rationalization, Combination of Adaptive Expectations and Partial Adjustment Models	
	3.4 Estimation of Autoregressive Models, Method of Instrumental Variables (IV), Almon's Approach to Distributed- Lag Models, Causality in Economics: The Granger Causality Test	
Unit-IV	Simultaneous Equation Models	(15 Periods)
	4.1 Simultaneous Equation Bias and Inconsistency of Ordinary Least Squares estimators	
	4.2 Structural and reduced form of simultaneous equation models	
	4.3 Identification problem, order and rank conditions of identification	
	4.4 Methods of estimating simultaneous equation system – recursive method and OLS, Indirect least squares (ILS), 2SLS methods	

References/Reading List:

1. Amemiya, T. (1985), Advanced Econometrics, Harvard University Press, Cambridge, Mass.
2. Baltagi, B. H. (1998), Econometrics, Springer, New York.
3. Chow, G. C. (1983), Econometrics, McGraw Hill, New York.
4. Croxton, F. E., D. J. Cowden and S. Klein (1973), Applied General Statistics, Prentice Hall, New Delhi.
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7. Draper, N. R. and H. Smith (1966), Applied Regression Analysis, John Wiley, New York.
8. Franses, P. H. (1998), Time Series Models for Business and Economic Forecasting, Cambridge University press, New York.
9. Goldberger, A. S. (1998), Introductory Econometrics, Harvard University Press, Cambridge, Mass.
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13. Harvey, A. C. (1981), Econometric Analysis of Time Series, Phillip Allen, London.
14. Intrilligator, M. D. (1978), Econometrics Methods, Techniques and Applications, Prentice Hall, Englewood Cliffs, New Jersey.
15. Johnston (1984) Econometrics Methods, MacGraw Hill, New York
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18. Koutsoyiannis, A. (1977), Theory of Econometrics (2nd ed.), the Macmillan Press Ltd., London.
19. Krishna, K. L. (Ed.) (1997), Econometric Applications in India, Oxford University Press, New Delhi.
20. Maddala, G. S. (2001), Introduction to Econometrics, John Williams and Sons, New York.
21. Pindyck R. S. and Rubinfeld (1998), Econometrics Models and Econometric forecast, Macmillan, New York
22. Theil, H. (1981), Introduction to Econometrics, Prentice Hall of India, New Delhi.

B. Sc.-M. Sc. Part IV Semester-VIII
Major
SWAYAM Course
(Total Credits: 4)

The SWAYAM course will be chose as per availability on SWAYAM platform.

B. Sc.-M. Sc. Part IV Semester-VIII

Elective

Labour Economics

(Total Credits: 4)

Course Outcomes:

1. To understand the range of issues related to the economic theory, new developments and a host of issues studied by generations of labour market experts.
2. To identify the interplay of various factors in the labour market by describing demand – supply aspects, Micro and Macro Approaches in Labour Markets, Discrimination and unemployment, labour Contracts.
3. To gain the knowledge of Regulation and International labour standards, workers' participation and impact of new labour policies in the labour market of India and the World.

Unit-I Labour market and Macro-economics (15 Periods)

- 1.1 Labour market: Concept- Characteristics- Types
- 1.2 The theory of Human Capital: Investment in Human Capital- Costs and lifetime benefits of education.
- 1.3 Classical Analysis – Neo classical Analysis – Keynesian Analysis- Dual and segmented labour Market Theory – Marxian Alternative
- 1.4 Flexibility and Institutions in labour Market.

Unit-II Micro and Macro Approaches in Labour Markets (15 Periods)

- 2.1 The theory of labour demand- time period and types of markets- industry demand for labour- Determinants of labour demand
- 2.2 The theory of supply- Work-leisure choice in indifference curves- Budget constraints- Utility maximization- Backward-bending labour supply curve and its applications.
- 2.3 The inflation unemployment trade-off - Nominal Rigidities.
- 2.4 Regulation of Labour – Experience of India vis-a-vis Other Countries – International Trade and Labour Markets

Unit-III Discrimination, Unemployment and Labour Contracts (15 Periods)

- 3.1 Economic Effects of Prejudice: Theoretical Analysis – Wage Differentials by Race and Sex.
- 3.2 Concept and Measurement of unemployment– Job Search –Unemployment insurance.
- 3.3 Employment Determination – Allocation of Risk- Compensation – Bonding
- 3.4 Incentive Pay- Multitasking – Team Production – Relational Contracts – Career Concerns – Wages and Promotions

Unit-IV State and Labour (15 Periods)

- 4.1 State and social security of labour: Concept of social security- social assistance and social insurance- Review of state policies with respect to social security and labour welfare in India.
- 4.2 Problems of labour; recent labour legislations and labour market reforms in India- Labour retrenchments.

- 4.3 Receding state and its effect on working of labour markets- International labour standards.
- 4.4 Exit policy- need for safety nets- measures imparting flexibility in labour market- Second National Commission on Labour

References/Reading List:

1. Bronars, Stephen, Donald Deere and Joseph Tracy. (1994). "Unionization and Profitability: Evidence of Spillover Effects", *Journal of Political Economy*, 102(6): 1281-1288.
2. Calmfors, Lars and John Driffill. (1988). "Macroeconomic Effects of Centralized Wage Setting", *Economic Policy*, 6:13-61.
3. Chaudhuri, K. and Pal, R. (2005) An Empirical Analysis of Industrial Disputes: Evidence from Indian States (Co-author K. Chaudhuri), *Journal of Quantitative Economics*, New Series Vol 3, No.1
4. Cramton P.M. Gunderson and J. Tracy (1999), "The Effect of Collective Bargaining Legislation on Strikes and Wages", *Review of Economics and Statistics*, 81(3), 471-487.
5. D.C. – Standing G. and V. Tokman (Eds.) (1991), *Towards Social Adjustment*, ILO, Geneva.
6. Datt R. (2000), "Regional Patterns of Industrial Relations in India: Changing Scenario after Liberalization", *Indian Journal of Labour Economics*, 43(4), 1061-1098.
7. Deshpande, S.G. Standing, and L.K. Deshpande, (1998), *Labour Flexibility in a Third World Metropolis*, Commonwealth Publishers', New Delhi. –
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13. 17. Majumdar, S. and Saha, B.(1998). Job security, wage bargaining and duopoly outcomes. *Journal of international Trade and Economic Development*, 7(4): 389-403.
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16. Schmidt, C.M., A. Stilz and K.F.Zimmermann (1994): "Mass Migration, Unions, and Government Interventions", *Journal of Public Economics*, 55, 185-210.

B. Sc.-M. Sc. Part IV Semester-VIII

Elective

Resource Economics

(Total Credits: 4)

Course Outcomes:

1. To understand the nature, classification, and significance of natural resources in economic theory.
2. To study the economic models for optimal and sustainable use of renewable and non-renewable resources.
3. To introduce resource valuation techniques and cost-benefit analysis in resource allocation decisions.
4. To analyze policies, institutions, and global efforts in the governance and sustainable management of resources.

Unit-I Introduction to Resource Economics (15 Periods)

- 1.1 Nature, scope, and significance of resource economics, Classification of resources: Renewable and Non-renewable
- 1.2 Resource scarcity and economic problem, Resource allocation and economic efficiency
- 1.3 Intertemporal allocation and sustainability
- 1.4 The concept of resource rent and user cost

Unit-II Economics of Renewable and Non-renewable Resources (15 Periods)

- 2.1 Renewable resources: Characteristics and biological growth models
Optimal exploitation of renewable resources (e.g., forestry, fisheries, water)
- 2.2 Common property resources and the tragedy of the commons, Non-renewable resources: Exhaustibility and economic models (Hotelling Rule)
- 2.3 Resource depletion, substitution, and technological progress
- 2.4 Intergenerational equity and discounting

Unit-III Resource Valuation and Cost-Benefit Analysis (15 Periods)

- 3.1 Total Economic Value (TEV): Use value, option value, and existence value
- 3.2 Valuation methods: Market-based approaches, Revealed preference methods (Travel cost, Hedonic pricing), Stated preference methods (Contingent valuation)
- 3.3 Cost-benefit analysis: Basic concepts, discounting, NPV, IRR
- 3.4 Application of CBA to resource conservation and development projects

Unit-IV Policy, Institutions and Sustainable Resource Use (15 Periods)

- 4.1 Institutions, property rights, and resource use, Market failures and externalities in resource use
- 4.2 Policy instruments: Taxes, subsidies, tradable permits, quotas, Role of public policy in sustainable resource management
- 4.3 Global resource governance: UNEP, FAO, SDGs
- 4.4 Community-based resource management and decentralization

References/Reading List:

1. Tietenberg, T. & Lewis, L. – *Environmental and Natural Resource Economics*, Pearson
2. Barry C. Field & Martha K. Field – *Natural Resource Economics: An Introduction*, McGraw Hill
3. Conrad, J. M. – *Resource Economics*, Cambridge University Press
4. Pearce, D. W. & Turner, R. K. – *Economics of Natural Resources and the Environment*, Harvester Wheatsheaf
5. Dasgupta, P. & Heal, G. – *Economic Theory and Exhaustible Resources*, Cambridge
6. Journals: *Ecological Economics*, *Environment and Development Economics*

B. Sc.-M. Sc. Part IV Semester-VIII
OJT
Internship
(Total Credits: 4)