VIDYASAGAR UNIVERSITY

Midnapore, West Bengal

PROPOSED CURRICULUM & SYLLABUS (DRAFT) OF

B.Sc. (HONOURS / HONOURS WITH RESEARCH)

MAJOR IN ECONOMICS

4-YEAR UNDERGRADUATE PROGRAMME

(w.e.f. Academic Year 2023-2024)

Based on

Curriculum & Credit Framework for Undergraduate Programmes

(CCFUP), 2023 & NEP, 2020

VIDYASAGAR UNIVERSITY
BACHELOR OF SCIENCE (HONOURS/ HONOURS WITH RESEARCH) MAJOR IN ECONOMICS
(under CCFUP, 2023)

Level	YR.	SEM	Course Type	Course Code	Course Title	Credit	L-T-P	Marks		
								CA	ESE	TOTAL
			SEMESTER-VII							
B.Sc. (Hons./ Hons. with Research)	4th	VII	Major-14	ECOHMJ14	T: Public Economics	4	3-1-0	15	60	75
			Major-15	ECOHMJ15	T: Introductory Econometrics	4	3-1-0	15	60	75
			CRM	ECOHCRM	T: Research Methodology and Publication Ethics	4	3-1-0	15	60	75
			Major Elective-03	ECOHDSE03	T: Economic History of India (1857-1947) Or T: West Bengal Economy	4	3-1-0	15	60	75
			Minor-07 (Disc.-I)	ECOMIN07	T: Economic Development Policy of India *(To be taken by the other Discipline)*	4	3-1-0	15	60	75
					Semester-VII Total	20				375
			SEMESTER-VIII							
		VIII	Major-16	ECOHMJ16	T: Mathematical Methods in Economics-III	4	3-1-0	15	60	75
			Major Elective-04	ECOHDSE04	P: Computer Applications in Economics (Practical)	4	3-1-0	15	60	75
			Major Elective-05	ECOHDSE05	Economics of Health and Education Or Applied Econometrics Or Development Economics: Theory and Experiences FOR HONOURS STUDENTS	4	3-1-0	15	60	75
			Major Elective-06	ECOHDSE06	Contemporary Issues of Indian Economy Or Agricultural Economics Or History of Economic Thoughts FOR HONOURS STUDENTS	4	3-1-0	15	60	75
			Research	ECOHRD	PROJECT / DISSERTATION: *FOR HONOURS WITH RESEARCH STUDENTS*	*8*	*0-0-8*	*-*	*150*	*150*
			Minor-8 (Disc.-II)	ECOMIN08	T: Environmental Economics *(To be taken by the other Discipline)*	4	3-1-0	15	60	75
					Semester-VIII Total	20				375
					YEAR-4	40				750
			To be awarded *Bachelor of Science (Honours / Honours with Research) Major in Economics*			166	Marks (Year: I+II+III+IV)			3075

MJ = Major, MI = Minor Course, DSE = Discipline Specific Elective Course, CRM= Compulsory Research Methodology, CA= Continuous Assessment, ESE= End Semester Examination, T = Theory, P= Practical, L-T-P = Lecture-Tutorial-Practical

SEMESTER-VII

MAJOR (MJ)

MJ-14: Public Economics **Credits 04**

Course Learning Objective

To analyse the role of Government in a capitalist system, understand the government's capabilities through the analysis of theories of public goods and taxation and to apprehend the macro implications of public expenditure.

Course learning Outcome

In this course students will be equipped with analytical tools for understanding the Government's role and limitations in an economy in terms of providing public goods, imposing taxes and managing the Government budget.

MJ-14T: Public Economics **Credits 04**

Course Outline

Unit 1: Nature and Scope of Public Economics

Definition and Scope of Public Economics; Externalities, Market Failure and Government Intervention; Coase Theorem; Public Expenditure to finance Development

Unit 2: Theory of Public Good

Overview of Public Good; Characteristics of Pure Public Good; Distinction between Pure Public Good and Private Good; Market Failure in case of Pure Public Good; Optimal provision of Public Goods; Private Provision and Public Provision of Public Goods; Lindahl Equilibrium, Voting Equilibrium.

Unit 3: Taxation

Classification of Taxes; Canons of Taxation; Benefit Principle; Equal Sacrifice Principle; Ability to Pay Principle; Incidence and Burden of Taxes; Effects of taxation on income distribution, work efforts, and on savings; the Laffer curve; Optimal Taxation

Unit 4: Public Expenditure and Public Debt

Meaning and Classification of Public Expenditure; government budget and its types; government expenditure and tax multipliers, balanced budget multiplier; Fiscal Federalism in India; Meaning of Public Debt; Sources of Public Borrowings: internal and external borrowing; Effects of Public Debt.

References

- B. Atkinson and J. E. Stiglitz, Lectures on Public Economics, McGraw-Hill Inc.,US, 1980.
- V. Brown and P. M. Jackson. Public Sector Economics, Wiley-Blackwell; 4th Edition, 1991.
- J. F. Due and A. F. Friedlander. Government Finance-Economics of Public Sector, AITBS Publishers and Distributors, 1994

- J. Hindriks and G. D. Myles. Intermediate Public Economics, The MIT Press; Annotated Edition, 2006.
- R.A. Musgrave and P.B. Musgrave, Public Finance in Theory & Practice, McGraw Hill Publications, 5th edition, 1989.
- AmareshBagchi (ed), Readings in Public Finance, OUP
- J. E. Stiglitz. Economics of Public Sector,W. W Norton and Company, 3rd Edition, 2000.
- R.J.Chelliah (ed), Towards Sustainable Growth, OUP, 2009
- A Ghosh and C. Ghosh, Public Finance,Prentice Hall India Learning Private Limited; 2nd Revised edition (2014)

MJ-15: Introductory Econometrics **Credits 04**

Course Objectives:

This course aims to provide a comprehensive understanding of advanced statistical methods and their applications in economics. It introduces the fundamentals of probability theory, univariate probability distributions, and sampling techniques, equipping students with the theoretical foundation for statistical analysis. The course also focuses on estimation methods, hypothesis testing, and analysis of variance (ANOVA), emphasizing their practical use in solving economic problems.

Course Outcomes:

Upon completion, students will have a strong grasp of probability concepts, including random variables and their distributions. They will be proficient in applying sampling methods and analyzing sampling distributions. Additionally, students will develop skills in estimating population parameters, conducting hypothesis tests, and interpreting results from parametric and non-parametric tests, enabling them to address real-world economic and statistical challenges effectively.

MJ-15T: Introductory Econometrics **Credits 04**

Unit 1: Preliminaries and Classical Linear Regression Model: Two Variable Case

Definition and Scope of Econometrics; Importance of Error Term

The model and the role of disturbance term; Estimation of model by method of ordinary least squares (OLS);Gauss-Markov theorem, Reverse Regression, properties of estimators; goodness of fit; testing of hypotheses and confidence intervals;scaling and units of measurement; prediction and forecasting, Problems in OLS Method

Unit 2: Multiple ClassicalLinearRegressionModel

Motivation for multiple regression, Estimation by OLS method; properties of OLS estimators; testing hypotheses – individual and joint; partial correlation and regression coefficients; goodness of fit –role of $R^2$and adjusted R^2; Use of qualitative (dummy) independent variables

Unit 3: Violationsof Classical Assumptions:Consequences, Detection and Remedies

Problems of Multi-collinearity, Heteroscedasticity**,** and Auto correlation; Consequences of applying OLS under Heteroscedasticity and Autocorrelation and theirdetection– Durbin-Watson Test, Glesjer Test, Goldfeld-Quandt Test.

Unit 4: Specification Problems

Omission of a relevant variable; inclusion of an irrelevant variable; tests of specification errors

1. **Reference Books**
2. D. N. Gujarati and D.C. Porter, Essentials of Econometrics, McGraw Hill, 4th edition, International Edition, 2009.
3. Christopher Dougherty, Introduction to Econometrics, Oxford University Press, 3rd

edition, Indian edition, 2007
4. Jan Kmenta, Elements of Econometrics, Indian Reprint, Khosla Publishing House, 2nd edition, 2008
5. Maddala- Introduction to Econometrics, Wiley

COMPULSORY RESEARCH METHODOLOGY (CRM)

[for both Hons. and Hons. with Research students]

CRM: Research Methodology and Ethics
Credit: 4
Full Marks: 75

Course Objectives:

This course aims to introduce students to the fundamental principles and processes of research methodology. It focuses on understanding the nature of research, formulating research topics, and conducting literature reviews. Students will learn various research approaches, strategies, and ethics. Additionally, the course provides insights into data collection techniques, methods of data analysis, and effective project report writing with proper referencing styles.

Course Outcomes:

By the end of this course, students will be able to conceptualize and design research studies, identify and review relevant literature, and apply ethical considerations in research. They will gain practical skills in selecting samples, collecting primary and secondary data, and analyzing data effectively. Furthermore, students will develop the ability to write comprehensive project reports and use appropriate referencing styles for academic and professional purposes.

Course Content:

Unit 1: Understanding the nature of research; Formulating the research topic; Review of Literature
Unit 2: Approaches to research and research strategy; Research Ethics
Unit 3: Sample Selection-Using Secondary data and Primary data; collecting data through observations/ interviews/ questionnaire
Unit 4: Methods Analyzing Data; Writing Project Report – Referencing Styles

References

1. Ranjit Kumar (2014), Research Methodology: A Step by Step Guide for beginners, 4th Edition, Sage Publications.
2. Uwe Flick (2012), Introducing Research Methodology: A Beginner's Guide to Doing a Research Project, Sage Publications.
3. Bethlehem, J.(2009), Applied Survey Methods: A Statistical Perspective, Wiley.
4. Cochran, William G. (2008), Sampling Techniques, Third Edition, Wiley India, ISBN 978-81-265-1524-0. Reprint: 2008.
5. Groves, R. M., Fowler, F.J., Couper, M.P., Lepkowski, J.M., Singer, E. and Tourangeau, R. (2009). Survey Methodology, Wiley

MAJOR ELECTIVE (DSE)

Major Elective – 03:
Economic History of India (1857-1947) OR West Bengal Economy
[Credit: 4; Full Marks: 75]

MJDSE03T: Economic History of India (1857-1947) **Credits 04**

Course Objectives

Behind the development of any academic discipline the history always matters, it is not an exception to the Indian economy. The present paper covers up the objectives of studying the status of agriculture and industrial sectors' evolutions in India during the colonial phase. It also seeks to highlight the role of major infrastructural projects including railways.

Course Learning Outcomes

By studying the paper the students will be able to capture ideas and gather knowledge on the roles of the agriculture, industry and infrastructural sectors upon the economy of the country. It also helps the students to understand how brain was drained from India to the British kingdom. Based upon this knowledge the students can compare the developmental status of India during the colonial phase and post-independence phase.

Course Content:

Unit 1: Agriculture in colonial period: Pre-colonial land revenue system; Permanent Settlement and its impact; Tenurial structure in India and its types

• Commercialization of agriculture
• Economic Drain

Unit 2: Industry in colonial period: Debate on de-industrialization and drain of wealth; Nature of small industry and artisan-production; Initiation of large scale industry and impact of World War I and II; jute, iron/steel, cotton industry in India

Unit 3: Aspects of Economic Policies in British India

• Land policy
• Policy of Discriminating Protection
• Early Industrial Development and Managing Agency System
• Currency and monetary policy

Unit 4: Development of Infrastructure – Railways: Spread of railways; need for transportation and expansion of market; employment connectivity and revenue issues

Economy and State: Imperial priorities and the role of state; trade policies and colonial economy; financial policies; managing agency; labour policy and its impact.

References

1. Lakshmi Subramanian, ―History of India 1707-1857‖, Orient Blackswan, 2010, Chapter 4.
2. Tirthankar Roy, The Economic History of India 1857-1947, Oxford University Press, 3rd edition,
1. 2011.
2. J. Krishnamurty, Occupational Structure, Dharma Kumar (editor), The Cambridge Economic
3. History of India, Vol. II, (henceforth referred to as CEHI), 2005, Chapter 6.
4. Jean Dreze, Famine Prevention in India in Dreze and Sen (eds.) Political Economy of Hunger,
5. WIDER Studies in Development Economics, 1990, pp.13- 35.
6. A.K. Bagchi, ―Deindustrialization in India in the nineteenth century: Some theoretical implications Journal of Development Studies, 1976.

OR

MJDSE03T: West Bengal Economy **Credits 04**

Course Objectives:

- To provide a comprehensive understanding of the economic structure and growth patterns of West Bengal
- To analyze the impact of historical land reforms, agricultural and industrial policies on the state's economy
- To evaluate the state's performance relative to India and other major states in terms of economic and human development indicators
- To explore the contemporary issues related to poverty alleviation, employment generation, and social security

Course Outcomes:

By the end of this course, students will be able to:

- Understand structural changes and compare West Bengal's economy with other Indian states.
- Assess the impact of land reforms on agriculture and rural development.
- Analyze growth patterns in the industrial and tertiary sectors.
- Evaluate the development of the social sector, focusing on health and education.
- Examine employment trends and assess the effectiveness of social security measures in poverty alleviation.

Course Content:

Unit 1: Overview of West Bengal's Economy **(10 Lectures)**

- Structural changes of West Bengal Economy: Output based on state domestic product (SDP) and employment data from National Sample Survey and Census of India
- West Bengal in relation to India and major states: Per capita SDP, growth of SDP, human development, monetary and multidimensional poverty

Unit 2: Land Reforms, Agricultural Sector and Non-Farm Sector **(15 Lectures)**

- Land Reforms, and Agricultural Growth: Impact of Operation Barga, productivity, growth of agricultural production, crop diversification, agrarian issues like land fragmentation, profitability, debt-trap, etc.
- Rural Non-Farm Sector: Pattern of growth, determinants, and its role in rural development

Unit 3: Industrial Development and the Tertiary Sector **(15 Lectures)**

- Industrialization: Historical development, pattern of growth, challenges of post-reform industrial growth
- Tertiary Sector Growth: Expansion of the services sector, particularly IT, banking and finance, tourism; role of tertiary sector in economic transformation and employment generation

Unit 4: Social Sector, Employment & Unemployment, and Social Security Measures (20 Lectures)

- Health: Overview of public health infrastructure, status of child and maternal health, key challenges in providing healthcare access.
- Education: Performance in primary, secondary, and higher education levels.
- Employment and Unemployment situation in recent decades, labor migration and their socio-economic impacts.
- Social Security Measures and their Impacts: Key programs of the state government like *Kanyashree, Yuvashree, Rupashree, Swasthya Sathi, Lakshmir Bhandar*; central and state government programs like MGNREGA, MUDRA, PDS, SHGs and ICDS; impact on poverty alleviation, employment generation, and social inclusion.

Recommended Readings:

1) Bagchi A. K. (1998). Studies on the economy of West Bengal since independence. *EPW*, 33(47), 2973–2978.
2) Banerjee, A. V., Gertler, P. J., & Ghatak, M. (2002). Empowerment and efficiency: Tenancy reform in West Bengal. *Journal of Political Economy*, 110 (2), 239-280.
3) Bhattacharyya, B.B. & Sakthivel, S. (2004). "Regional Growth and Disparity in India," *EPW*, March 6.
4) Das, P. (2010). Rural non-farm employment in India: Pattern of growth and determinants. Firma KLM.
5) Das, P., Ghosh, S., & Paria, B. (2022). Multidimensional poverty in India: a study on regional disparities. *GeoJournal*, Springer Nature, 87(5), 3987-4006.
6) Das, P., Paria, B., & Firdaush, S. (2021). Juxtaposing consumption poverty and multidimensional poverty: A study in Indian context. *Social Indicators Research*, Springer Nature, *153*(2), 469-501.
7) Das, R. C., Ghosh, B. & Basu, I. (2019). Inter-district analysis of credit convergence: Outlooks from Neoclassical Growth and Panel Unit Roots models for West Bengal, India, *Global Business Review*, Sage, 22(5), 1244-1257
8) Das, R. C., & Chavan, S. (2020). Long run association between bank credit and output: A study on districts panel of West Bengal, India, *Global Business Review*, Sage, 24(5), 845-859
9) Das, R. C., Ghosh, B. & Das, U. (2022). Income Convergence among the Districts of West Bengal: Evidence from Neoclassical Growth and Panel Unit Root Models. *EPW*, October 29 & November 5, 57 (44 & 45)
10) Dey, S., Sengupta, A., & Sarkar, S. (2014). *The Economy of West Bengal: The Directions for Development.* New Delhi Publishers, New Delhi.
11) Economic and Political Weekly (1998). Articles on West Bengal Economy, *EPW*, 33 (47-48).
12) Khasnabis, R. (2009). The Economy of West Bengal. *EPW*, Vol. 43, No. 52, pp. 103-115.
13) Maharatna, A. (2007). "Population, Economy, and Society in West Bengal since the 1970s." *The Journal of Development Studies*, 43(8), 1381–1422. https://doi.org/10.1080/00220380701611485
14) Maity, K., Mazumdar, D., & Das, P. (2018). Male out-migration and its impact on women empowerment in West Bengal. *Economic Affairs*, 63(2), 459-467.

15) Montek Singh Ahluwalia (2006). “Economic Performance of States in Post-Reform Period,” *EPW* (May 6).
16) Raychaudhuri A., & Basu G. K. (2007). *The decline and recent resurgence of the manufacturing sector of West Bengal: Implication for pro poor growth from an institutional Point of View* (Discussion Paper Series No. 10. https://assets.publishing.service.gov.uk/media/57a08bf9e5274a27b2000ec7/IPPGDP10.pdf
17) Raychaudhuri, A., & Das, T. (2005). *West Bengal Economy: Some Contemporary Issues*, Allied Publishers.
18) West Bengal Human Development Report (2004), Oxford University Press.
19) World Bank (2020). West Bengal - Health and education. https://documents1.worldbank.org/curated/en/138391504251675688/pdf/119338-BRI-P157572-West-Bengal-HealthEducation.pdf

MINOR (MI)

Minor (MI)-07. Economic Development Policy of India **Credits 04**

Course Objectives

This course provides a comprehensive overview of India's economic development policies since independence, focusing on agricultural, industrial, financial, and social sectors. It explores the evolution of planning strategies, sectoral reforms, and social welfare programs aimed at improving economic and social development.

Course Outcomes

Students will gain a clear understanding of India's development policies post-independence, including the shift from planned economies to liberalization. They will assess the impact of agricultural reforms, industrial policies, and infrastructure initiatives on economic growth. Additionally, they will explore financial sector reforms, social protection programs, and education and health reforms, analyzing their role in promoting inclusive development and welfare.

MI-07T. Economic Development Policy of India **Credits 04**

Course Content:

Unit 1: Introduction to Economic Development Policies in India

- Overview of Economic Development Policies Post-Independence
- Planning Strategies: From Five-Year Plans to NITI Aayog
- Evolution of Policy Framework: From Public Sector Dominance to Liberalization

Unit 2: Agricultural and Rural Development Policies

- Land Reforms and the Green Revolution: Impact and Outcomes
- National Food Security: Public Distribution System (PDS) and Food Security Bill
- National Rural Employment Guarantee Act (NREGA) and Rural Employment
- Swarna Jayanti Gram Swarozgar Yojana (SGSY), National Rural Livelihood Mission (NRLM)

Unit 3: Industrial and Infrastructural Development Policies

- Industrial Policy Resolutions and Changes Post-1991 Reforms
- Make in India Initiative
- Infrastructure Development: Bharat Mala, Sagarmala, and Smart Cities Mission
- Role of Micro, Small, and Medium Enterprises (MSMEs) in Economic Growth

Unit 4: Financial Sector Policies and Reforms

- Evolution and Impact of Banking Reforms
- Financial Inclusion: Pradhan Mantri Jan Dhan Yojana, Microfinance
- Goods and Services Tax (GST) and Its Implications
- Fiscal and Monetary Policy Adjustments in Response to Economic Conditions

Unit 5: Social Protection and Welfare Programs

- Social Protection: Concept and Importance
- Health Insurance (Ayushman Bharat) or Swasthya Sathi Prakalpa

- Social Security Measures: National Pension Scheme, Employee State Insurance
- Gender-Specific Programs: Beti Bachao Beti Padhao or Kanyashri Prakalpa, Maternity Benefits, Lakhmir Bhandar or Annopurna Bhandar

Unit 6: Health, Education, and Social Development

- National Health Policy and Rural Health Mission
- Education Reforms: Right to Education (RTE), New Education Policy (NEP)
- Addressing Malnutrition and Hunger: Integrated Child Development Services (ICDS)Mid Day Meal (MDM) Scheme
- Programs for Vulnerable Groups: Old Age Pension, Widow Pension, Disability Pension

References

1. Amartya Sen and Jean Drèze, *An Uncertain Glory: India and its Contradictions*, Princeton University Press, 2013.
2. Barry Naughton, *The Chinese Economy: Transitions and Growth*, MIT Press, 2007.
3. Arvind Panagariya, *India: The Emerging Giant*, Oxford University Press, 2008.
4. Jagdish Bhagwati and Arvind Panagariya, *Why Growth Matters: How Economic Growth in India Reduced Poverty and the Lessons for Other Developing Countries*, PublicAffairs, 2013.
5. Angus Maddison, *The World Economy: Historical Statistics*, OECD, 2003.
6. Guruswamy, M., & Singh, Z. D. (2008). Chasing the dragon: Will India catch up with China?. Pearson Education India.
7. Aha, C, A Xie, S S Roach, M Sheth, and D Yam. 2006. India and China: New Tigers of Asia, Part II. Special Economic Analysis, Morgan Stanley, New York.
8. William, Jack, Principles of Health Economics for Developing Countries, World Bank Institute Development Studies, 1999.
9. World Development Report, Investing in Health, The World Bank, 1993.
10. Hanushek, E. A., &Woessmann, L. (2000). Economics of education. *International Encyclopaedia of the Social &Behavioral Sciences*, 4201-4208
11. Das (2020), Social Protection Programmes in India: Impact on Rural Poverty and Deprivation, Concept Publishing Company Pvt. Ltd.

SEMESTER-VIII

MAJOR (MJ)

MJ-16: Mathematical Methods in Economics-III **Credits 04**

Course Learning Objectives:

The course consists of some branches of mathematics along with different Mathematical models for analysing economic problems to teach the students various mathematical techniques and to deal with economic problems quantitatively.

Course Learning Outcome:

Students will learn various branches of mathematics like Linear Programming, non Linear Programming, Game Theory, Dynamic Optimization among others along with different Mathematical models in Economic Analysis. The course will be supportive to other courses in the programme.

MJ-16T: Mathematical Methods in Economics-III **Credits 04**

Course Content:

Unit 1: Linear Programming

Nature and formulation of Linear Programs, Feasible Solutions and basic solution; geometrical Solution; Solution with Simplex method; Difficulties in solving LP,Duality, Economic Applications

Duality in consumer theory and production theory

Properties of expenditure function, indirect utility function, Shepherd's Lemma; Roy's Identity; Slutsky equation and decomposition of price effect; Properties of cost functions

Unit 2: Nonlinear Programming

Nature of Nonlinear Programming, Inequality constraints and Kuhn-Tucker Conditions; The Constraint Qualification, Sufficiency Theorems; Value function and Envelope theorem; Economic applications.

Unit 3: An Outline of Game Theory

Introduction to Game Theory, Solving Static and Dynamic Games under perfect and imperfect information; Concepts of Game in Oligopoly market: Two person zero sum game under pure strategy; Two person zero sum game under mixed strategy; Saddle point solution under mixed strategies; Game with both pure and mixed strategy solutions; Dominant Strategy Solution vis-à-vis Nash Solution; Prisoners' Dilemma; Simultaneous move and sequential move games; Non Collusive Vs Collusive Games; Repeated Games and Associated Strategy; Strategic Move under Threats, Commitment and Credibility; Backward induction solutions

Unit 4: Dynamic Optimization

An introduction to economic dynamics, Simultaneous systems of differential equations, Stability analysis and linear phase diagrams, Introduction to Optimal Control Theory- the maximum principle, Optimisation problems involving discounting.

References:

1. Chiang, A.C.: Fundamental Methods of Mathematical Economics, Third Edition, 2005.
2. Chiang, A.C. and Wainwright, K.: Fundamental Methods of MathematicalEconomics, Fourth Edition, McGraw-Hill, 2005.
3. Intrilligator: Mathematical Optimization and Economic Theory, Prentice-Hall, 1971.
4. Henderson, J.M. and Quandt, R.E.: Microeconomic Theory: A Mathematical Approach, 3rd Edition, McGraw-Hill Book Company, 1980.
5. Gibbon Robert, Game Theory for Applied Economists, Princeton University Press 1992.
6. Gibbon Robert, A primer in Game theory, Harvester Wheatsheaf London 1992.
7. Aliprantis C. D. and S.K. Chakraborty, Games and Decision Making, Oxford University Press
8. Binmore Ken, Game Theory -A Very Short Introduction, OUP,2007.
9. Luce R D and H Raffia, Games and Decisions, John Wiley and Sons, 1957
10. Myerson R.B., Game Theory – Analysis of Conflict, Harvard Univesity Press, 1991
11. G. Owen, Game Theory, Academic Press 1991.
12. Mas-Colell A., M.D. Whinston and J R Green, Microeconomic Theory, OUP
13. Varian H R, Intermediate Micro Economics, W. W. Norton & Company
14. Eric Rasmusen, Games and Information: an introduction to Game Theory, Blackwell Publishing,2001.
15. Chiang, A.C., Elements of DynamicOptimisation, McGraw-Hill, 1993.
16. Shone Ronald, Economic Dynamics, Cambridge University Press,1997.
17. Hoy, M., Livernois, J., McKenna, C., Rees, R., &Stengos, T. (2011). Mathematics for economics.MIT press

MAJOR ELECTIVE (DSE)

Major Elective – 04:
Computer Applications in Economics Economics of Health and Education OR Applied Econometrics OR
Development Economics: Theory and Experiences
[Credit: 4; Full Marks: 75]

MJDSE-4: Computer Applications in Economics **Credits 04**

Course Objectives

This course aims to teach the students the basic concepts and skills of using MS Word, MS Excel and MS Power Point for various purposes. The students will learn how to create, edit, format, print and share different types of documents, spreadsheets and presentations. The students will also learn how to use MS Excel for basic calculations and analysis, and how to use MS Power Point for effective communication and presentation.

Course Learning Outcomes

After completing this course, the students will be able to use the file system on a computer, use MS Word for word processing, use MS Excel for spreadsheet solutions, use MS PowerPoint for presentations and communicate and present their ideas well. The students will gain the basic computer skills that are important for their studies and careers.

MJDSE-4P: Computer Applications in Economics (Practical) **Credits 04**

Unit 1: Use of Computers through programmes: Computer Languages: FORTRAN, C etc.: Some simple programming problems (Sorting, Calculation of A.M., S.D., simple regression etc.).

Unit 2: Data Analysis with MS-Excel: Summary Statistics, Hypothesis Testing, ANOVA, Correlation and Regression; Data Analysis with EViews/ STATA: Summary Statistics, Hypothesis Testing, ANOVA, Correlation and Regression

Unit 3: Factor Analysis, PCA, Logit and Probit Analysis with SPSS/ STATA

Unit 4: Basic Econometric Applications in Time series Analysis with EViews / STATA.; Econometric Application in Panel data Analysis with STATA/EViews.

References

a) McCormick, K, et al (2017), SPSS Statistics for Data Analysis and Visualzation, John Willy and Sons
b) M. Pal, Fortran 77, Asian Books Pvt. Ltd, 2003
c) Balagurusami E, Programming in ANSI C, Tata McGraw Hill, 2002.
d) Sankar Kumar Bhaumik(2015). “Principles of Econometrics: A Modern Approach Using EViews”, OUP, India.
e) Ash Narayan Sah: Data Analysis Using Microsoft Excel (Excel Books India)

f) Gray Koop: Analysis of Economic Data (John Wiley & Sons Ltd)
g) Richard L.Kerns: Essentials of Microsoft Windows, Word & Excel (Prentice Hall India)
h) V. RajaRaman: Fundamentals of Computers (PHI, New Delhi)
i) Stephan Levine &Krehbiel Berenson: Statistics for Managers Using Microsoft Excel (PHI Learning)

MAJOR ELECTIVE- 05

[to be studied by Honours students only]

Major Elective – 05:

Economics of Health and Education OR Applied Econometrics OR Development Economics: Theory and Experiences

[Credit: 4; Full Marks: 75]

MJDSE-05T: Economics of Health and Education **Credits 04**

Course Learning Objective:

- To understand the fundamental principles of health economics, including demand and supply, market failure and externalities.
- To analyse the economic determinants of health outcomes, including income, education and life style choices.
- To understand the intersections and synergies between health and education economics.
- To analyse the economic determinants of health and education outcomes in developing and developed countries.
- To evaluate the economic impact of policy interventions aimed at improving health and education outcomes
- To develop critical thinking and problem-solving skills in applying economic principles to health and education.

Course Learning Outcome:

After the completion of the course, the student will be equipped to:

- Analyse and evaluate the economic aspects of health and education policies.
- Apply econometric techniques to healthcare and education data.
- Thinking critically about the economic impact of interventions and policy changes.
- Communicate effectively with policymakers, practitioners, and other stakeholders.
- Address complex health and education challenges in a variety of contexts.

Course Content:

Unit 1: Role of Health and Education in Human Development

Importance in poverty alleviation; Health and Education for Human Capital, Health and Education outcomes and their relationship with macroeconomic performance: Health and Economic Growth.

Unit 2: Microeconomic foundations of Health Economics Demand for Health

Demand for Healthcare Services, Supply of Healthcare Services, Measurement of Health Benefits, Uncertainty and Health Insurance Market; Alternative Insurance Mechanisms; Market Failure and Role of Government; Equity and Inequality: Public Health Services.

Unit 3: Evaluation of Health Programs

Costing, Cost effectiveness and cost-benefit analysis; Burden of disease; Economic impact of AI in healthcare.

Health Outcomes; Health Systems; Health Financing, Status of Health and Medical Care in India, Health Policy in India

Unit 4: Education: Investment in Human Capital

Conceptual Issues in economics of Education, Cost of Education, Cost-Benefit Analysis in Education, Human Resource Development, Education and Economic Development, Measuring the Contribution of Education to Economic Growth, Impacts of gender inequality in education on economic growth, Application of AI in STEM

Education Sector in India:Literacy rates, school participation, school quality measures

References

1. William, Jack, Principles of Health Economics for Developing Countries, World Bank Institute Development Studies, 1999.
2. World Development Report, Investing in Health, The World Bank, 1993.
3. Ronald G., Ehrenberg and Robert S., Smith, Modern Labor Economics: Theory and Public Policy, Addison Wesley, 2005.
4. Wykstra R. A. (ed) (1971) Education and the Economics of Human Capital New York: The Free press.
5. Cohn, Elchanan. The economics of education. No. Ed. Revised. 1980.
6. Hanushek, E. A., &Woessmann, L. (2000). Economics of education. *International Encyclopedia of the Social &Behavioral Sciences*, 4201-4208.

OR

MJDSE-05T: Applied Econometrics **Credits 04**

Course Learning Objective:

- To apply econometric methods to real-world economic data, using software pacakages such as EVIEWS, STATA, R etc.
- To Identify and address common econometric problems, including omitted variable bias, endogeneity and heteroscedasticity.
- To evaluate critically and interpret empirical research in economics and related fields.
- To design and implement econometric studies to answer research questions, including data collection, sampling and experimental design.
- To communicate complex econometric concepts and results effectively.
- Applying econometric techniques to policy analysis and decision-making in fields such as finance, healthcare and environmental economics.

Course Learning Outcome:

After completion the course, the students will be equipped with

- Various techniques to handle econometric data and will also have total grapes over applied econometrics.
- Ability to identify and address common econometric problems, such as, endogeneity, omitted variables, etc.
- Knowledge regarding the econometric applications to households such as demand analysis, estimation of the consumption function, family budget study etc.
- Knowledge of econometric applications to firms, money market, labour economics, investment function etc.
- Construction of HDI, evaluating structural breaks, trends in macro-econometric model construction and RBI- MSE macro model for the Indian economy.
- Ability to apply econometric techniques to policy analysis and decision-making.
- Effective communication of complex econometric concepts and results.

Course Content:

Unit 1: Regression Diagnostic and Specification Tests

Specification Analysis and Model Building, Recursive Residuals, Specification Tests, Nonlinear Least Squares and the Gauss-Newton Regression, Testing Linear versus Log-Linear Functional Form

Unit 2: Time Series Analysis

Basic Concepts of Time Series and Univariate Time Series Modelling;Tests for Stationarity;Spurious Regression Problem; Cointegration and Error Correction Mechanism: Engle-Granger Cointegration test; Error-Correction Mechanism

Unit 3: Advanced Topics in Regression Analysis

Distributed Lags and Dynamic Models: Infinite Distributed Lag, Estimation and Testing of Dynamic Models with Serial Correlation, Autoregressive Distributed Lag; Exogeneity and causality; Simultaneous Equation Model

Limited Dependent Variable and Duration Models: Truncation, Censored Data, The Sample Selection Model, Models for Duration Data.

Unit 4: Panel Data Models and Econometric Software
Panel Data Models: Methods of estimation; fixed effects model; random effects model.
Introductions to Econometric Software Packages: SPSS; E-VIEWS; STATA (any one)

References

1. Econometrics Badi H. Baltagi, 3rd Edition, Second Indian Reprint, 2005
2. Jeffrey M. Wooldridge, Econometrics, CENGAGE learning, India Edition, 2009.
3. Dimitrios Asteriou and Stephen Hall, Applied Econometrics: A Modern Approach, Palgrave Macmillan, 2007.
4. Damodar Gujarati, Econometrics by Example, Palgrave Macmillan, 2011.

OR

MJDSE-05T: Development Economics: Theory and Experience Credits 04

Course Objectives:
This course aims to provide students with a theoretical understanding of development economics, focusing on dual economies, labor markets, and the interaction between agriculture and industry. It explores the impact of globalization, trade, and economic integration on developing countries, highlighting key issues like employment, poverty, and inequality.

Course Outcomes:
Students will be able to analyze the structure of dual economies, labor market models, and the role of surplus labor. They will understand the interactions between agriculture and industry, explore the informal sector and social protection, and assess the effects of globalization on developing economies. Additionally, they will evaluate the impact of trade on employment, poverty, and income inequality and the role of regional and global economic integration through entities like WTO.

Course Content:

Unit 1: Dual Economy: Structure; Rural-Urban Wage Gap and Labour Turnover Model; Surplus labour and Wage Productivity Model; Sen's Measure of Disguised Unemployment

Unit 2: Agricultural and Industry interaction – Harris- Todaro Model & Kaushik Basu's Formalization

Unit 3: Informal Sector and Social Protection

Unit 4: Growth and Crisis of Developing Countries under Globalization

Unit 5: Impact of Trade on Employment, Poverty and Income Inequality: The Wage-Gap Debate

Unit 6: Economic Integration: Regional Blocs, Multilateralism and WTO

References

1. Debraj Ray, Development Economics, Princeton University Press (1998).
2. Kaushik Basu, Analytical development Economics: The Less Developed Economy Revisited, The MIT Press, Cambridge (203)
3. Kanan, K.P., Sribastava, Sengupta (2006), 'Social Security for unorganised sector: A major national initiative', EPW, August 12. d) NCEUS (2007), 'Social security for Unorganised Workers', New Delhi, May.
4. Acharyya, R. And Kar, S.: International Trade and Economic Development, Oxford
5. Caves, R. E., Frankel, J.A. and Jones, R.W: World Trade and Payments- An Introduction, 9 th Edition, Pearson.

6. Marjit, S.:International Trade and Economic Development- Essays in Theory and Policy, Oxford. d) Krugman, P., Currency and Crises, MIT Press.
7. Krugman, P.R. and Obstfeld, M.: International Economics: Theory and Policy, 8 Edition, Pearson.
8. Marjit, S. and Acharyya, R.: International Trade, Wage Inequality and the Developing Economy: A General Equilibrium Approach, Springer.
9. Sikdar, S., Contemporary Issues in Globalization: An Introduction to Theory and Policy in India, Oxford.
10. Stiglitz, J.E and Charlton, A.: Fair Trade For All: How Trade Can Promote Development, Oxford

MAJOR ELECTIVE- 06

[to be studied by Honours students only]

Major Elective – 06:
Contemporary Issues of Indian Economy OR Agricultural Economics OR History of Economic Thoughts
[Credit: 4; Full Marks: 75]

MJDSE-06T: Contemporary Issues of Indian Economy **Credits 04**

Course Objectives:

This course aims to provide students with a deep understanding of the contemporary issues shaping the Indian economy. It covers topics such as economic growth, structural changes, financial sector developments, employment trends, poverty dynamics, and India's performance on Sustainable Development Goals (SDGs). The course also explores emerging challenges and future directions, including the impact of digital transformation and artificial intelligence.

Course Outcomes:

Students will be able to critically analyze post-liberalization economic policies, structural changes, and demographic trends. They will assess financial sector reforms, employment patterns, and the informalization of the economy. Additionally, they will evaluate poverty reduction strategies, food security policies, and India’s progress toward achieving the SDGs. The course will also enable students to explore the future of the Indian economy, including the role of digital transformation, AI, and the impact of COVID-19 on growth and recovery strategies.

Course Content:

Unit 1: Economic Growth and Structural Changes in India

- Analysis of economic policies since liberalization
- Trends in economic growth and structural shifts in the post-liberalization period
- Demographic dividends

Unit 2: Industrial Sector of the Indian Economy

- Growth, diversification, and challenges post-2007 financial recovery
- Major database understanding (IIP, NAS, ASI, CMIE)
- Impact of globalization on Small Scale Industries (SSI)
- Energy efficiency trends in industries

Unit 3: Financial Sector Developments

- Reforms and their impact on the financial landscape
- Performance analysis of banks, non-banking financial institutions, and capital markets
- Major policy initiatives and the future outlook of India’s financial sector

Unit 4: Employment and Unemployment in India

- Trends and patterns of employment, unemployment and female labour force participations
- Interrelationships between economic growth and skilled labour employment
- Unorganized Sector and Informalization of the Indian Economy

Unit 5: Poverty Dynamics and Nutritional Security in India

- Methods of poverty measurement: Monetary and Multidimensional approaches
- Regional, state-wise, and caste-based trends in poverty
- Policies and programs targeting poverty reduction

Unit 6: Food and Nutritional Insecurity:

- Status of food security and nutritional challenges; Government strategies and their effectiveness in addressing hunger and malnutrition

Unit 7: India and the Sustainable Development Goals (SDGs)

- Evaluation of India's performance on the SDGs
- Policy alignments and challenges in achieving the SDGs

Unit 8: Emerging Issues and Future Directions in the Indian Economy

- Social Protection Programs and Economic Security in India
- Impact of COVID-19 on India's GDP and recovery strategies
- Vision Vikshit Bharat @ 2047 and its economic implications
- Role of digital transformation in the Indian economy
- Artificial Intelligence and its economic implications for India

References

1. Dutta and Ruddar (2003), Economic Reforms, labour and employment, Deep and Deep Publication.
2. Sandesera, J.C. (1992) Industrial Policy and Planning: 1947-1951, Sage Publication. Kapila, Uma (ed) Indian Economy since Independence, Academic Foundation
3. Sen, Rajkumar (ed), 2005, Social Sector Development in India, Deep and Deep
4. Joshi, V, and Little, I.M.D. India's Economic Reforms: 1991-2001,OUP
5. Govt. of India Economic Survey 2004-05.
6. Bhagwati, J. 2004; In Defense of Globalization, OUP.
7. Tisdell, Clem and Sen, Rajkumar (ed): economic Globalization, 2004.
8. Bala, Subrahmanya, M. H. (2004), 'Small Industry and Globalisation Implications, Performance and Prospects', Economic and Political Weekly, vol. 39, NO: 18
9. Goldar, B N (2010), Energy Intensity of Indian Manufacturing Firms: Effect of Energy Prices, Technology and Firm Characteristics, Delhi: Institute of Economic Growth, http://www.mse.ac.in/Frontier/m13%20Goldar%20A.pdf
10. Nayyar, Deepak (1994) Industrial Growth and Stagnation: The Debate in India, editor, Bombay; Oxford University Press.
11. Das, P., Paria, B. &Firdaush, S. Juxtaposing Consumption Poverty and Multidimensional Poverty: A Study in Indian Context. Soc Indic Res 153, 469–501 (2021).
12. Uma, K. (ed.) Indian Economy since Independence, Academic Foundation.

13. India Development Reports, 2017, IGIDR, Oxford University Press.
14. Das, Pinaki (2012), 'Growth Trajectory and Its Implications for Employment in India', *Indian Journalof Economics*, Special Issue, 2012.
15. Das, Pinaki (2012), 'Trends of Employment in India: Reflections from Recent NSS Data', *Vidyasagar University Journal of Economics*, Vol. XVI.
16. Himangshu (2007), 'Recent Trends in Poverty and Inequality: Some Preliminary Results', EPW, 10 February.
17. Das, Pinaki &Sk Md Abul Basar (2021), Are the Non-poor Households Nutritionally Secure? An Assessment from NSSO Unit Level Data in India Between 2004–2005 and 2011–2012, IJHD, 14(2)
18. SDG India Index & Dashboard 2020-21: Partnerships In The Decade Of Action

OR

MJDSE-06T: Agricultural Economics **Credits 04**

Course Learning Objective:

- To understand the fundamental principles of microeconomics and macroeconomics as applied to agriculture.
- To analyse the agricultural production process, including resource allocation, technology adoption and risk management.
- To examine the role of agriculture in economic development, including poverty reduction, food security and environmental sustainability.
- To develop critical thinking and problem-solving skills in applying economic principles to agricultural issues.

Course Learning Outcome:

After completion of the course, students will specifically be able to:

- Analyse agricultural production and marketing decisions.
- Evaluate economic impact of government policies on agricultural in economic development.
- Develop effective solutions to agricultural economic problems.
- Communicate complex economic concepts and research findings effectively.

Course Content:

Unit 1: Agricultural production functions and demand analysis

Mode of Production in Agricultural Sectors and Transition to Capitalist Farming and Commercialisation of Agriculture, Agricultural supply response behaviour, Theories of marketable surplus; Demand for agricultural products, Elasticities of demand for agricultural products.

Unit 2: Pricing of agricultural products and Agricultural Marketing

Inter-temporal behavior of prices, pricing efficiency, Instability in agricultural prices, Futures market, Marketing Efficiency, Marketing channels, Market infrastructure

Unit 3: Recent Issues of Agricultural Development

Crop Insurance, Contract Farming, FDI in Retail Trade, Agriculture under WTO Agreements with Particular Reference to India, Aspects of New Agricultural Policy in India-Minimum support price, contract farming and insurance

Private and Public Capital Formation in Agriculture sector: Theory and empirical findings from major developing countries including India

Unit 4: Environmental Sustainability of Agricultural Growth and Technological Development

Aspects of Agriculture to Green Growth, Food Wastage, Methane emission

Technology and Agriculture: Applications of operation research techniques in farm management, Farm size, Farm Efficiency Measures**,** Productivity and Efficiency in Indian agriculture.

References

1. Gulati, A., Mauruce R. Landes, Ganguly, K.: Indian Agriculture: Managing Growth with Equity, A publication of the Agricultural & Applied Economics Association, 2009.
2. Dandekar, M.L.: GrowthandEquityin Agriculture, International Journalof Agricultural Economics, 1987.
3. Krishna, K. L.(1997). *Econometric applications in India*. Oxford University Press
4. Singh, A., Sadhu, A. N., & Singh, J. (2017). *Fundamentals of Agricultural Economics*. Himalaya Publishing House.
5. Schmidt, P. (1985). Frontier production functions. *Econometric reviews*, *4*(2), 289-328.
6. S.Ghatak and K.Insergent, Agriculture and Economic Developmentby, Select Book Service Syndicate, 1984.
7. World Bank 1996. Managing Price risks in India's liberalized agriculture: can futures markets help? Report No.15453-IN. Washington, DC., World Bank.
8. B.S.Tyagi, (1979). Farm price and class bias in India, *EPW*, September
9. P. Das (2011). Rural Non-Farm Employment in India
10. Hans P. Binswanger-Mkhize(2012).Structural Change, the Rural Nonfarm Sector, and the Prospects for Agriculture, Department of Agricultural and Resource EconomicsUniversity of California Working Paper, Berkeley, May

OR

MJDSE-06T: History of Economic Thoughts **Credits 04**

Course Objectives

The paper aims to deliver the chronological developments of the economic thoughts from history to till date. It also deals with the evolutions of the thoughts for India mainly from the colonial era to the globalized era of the country.

Course Learning Objectives

The readers, through their wandering of the selected topics, will be able to grasp the knowledge on how macroeconomic theories have evolved over the time with the hands of different theoreticians, from mercantitism to new and neo Keynesianism. The students will also be able to have their knowledge on the evolutions of Indian economic thoughts including Dadabhai Naoroji, Jawaharlal Nehru, Amartya Sen etc.

Course Content:

Unit 1: Mercantilism and Physiocracy

Mercantilism: Objectives, Main Characteristics, Bullionism, Contribution of Thomas Mun of the development of mercantilism

Physiocracy: The role of nature and the agricultural sector upon economy's progress, Main Ideas and Theoretical Concepts of Physiocrats, Predominance of Agriculture, The Circulation of Wealth and Social Classes: Tableau Economique of Quesney, Role of taxation

Unit 2: Classical School

Adam Smith-Wealth of Nation
T.R. Malthus-Population dynamics
David Ricardo-Role of land
J.S. Mill-Theory on Utilitarianism
J.B. Say-Supply becomes the decider
Alfred Marshall-Role of microeconomic units upon money balance
J.A. Schumpeter-Monetary factors have real impacts
Pigou-Real balance affects consumption and savings

Unit 3: Socialism

Meaning, Scope and Role
Karl Marx
Theory of Economic Development

Unit 4: Keynesian Model-Role of demand in economics
Monetarists' Model-Role of monetary policy in economy
New Classical Model-Rational Expectation Hypothesis-Rational behaviour and policy irrelevance
Real Business Cycle Model-Roles of shocks upon economy

New Keynesian Economics-Roles of imperfect market upon economy's fluctuations

Unit 5: Indian Economic Thought

Dadabhai Naoroji- Drain Theory

Economic Policies of Jawaharlal Nehru-Five Year Plans and Heavy industrializations

Gandhian Economics and rural development

AmartyaSen's Approach to Development Economics-*The Capability Approach*

References

1. Eric Roll: History of Economic Thought; Faber & Faber; Revised, 1938
2. Mark Blaug: Economic theory in retrospect; Cambridge University Press, 5th Edition, 1997
3. Lewis Henry Haney: History of Economic Thought: A Critical Account of the Origin and Development of the Economic Theories of the Leading Thinkers in the Leading Nations, Macmillan, 4th Edition
4. Richard Froyen: Macroeconomics, 10th Edition, Pearson
5. V. Lokanathan: A History of Economic Thought, 10th Edition, S Chand & Company, 2018
6. Lionnel Robbin: A History of Economic Thought: The LSE Lectures, 2000, Princeton University Press

PROJECT / DISSERTATION (RD)

[to be undertaken by students opting for and eligible for Hons. with Research]

DISSERTATION: Based on Field Survey
Credit: 8;
Full Marks: 150

Course Objectives

This paper is an innovative one in the new system where students those who opt for Economics Major with Research will have to go for a research project in an unexplored area with a desirable structure of a dissertation. This course is field based studies which aims to explore the applicabilities of the mainstream economic theories using data from the fields such as households, firms, organizations, institutes, etc.

Course Outcomes

The students through the paper will have the knowledge on doing research in a suitable area of the subject using field based primary data with a standard dissertation having the scope of publications in reputed journals of acclaimed publishers from the national and international arenas. The students will create capabilities among them to go for direct PhD level research.

Template of the Dissertation/Project

Title of the Dissertation
Student's Name
Affiliation

Abstract
Keywords/Terms
1. Introduction
2. Motivations
3. Review of Literature
4. Research Gaps
5. Objectives of the Study
6. Research Questions
7. Research Hypotheses
8. Data Sources and Methodology
9. Results and Discussion
10. Conclusion, Policy Formulations, Limitations and Future Research Agenda

References
Example: APA Style
End Notes

Marks distribution-

Sl. No	Particulars	Marks
1	Research Project / Dissertation Report ▪ Proposal and Abstract (along with some keywords) ▪ Literature Review &Theoretical Framework ▪ Methodology and Research design ▪ Thematic Analysis (Chapter-wise) ▪ Report Quality	70 10 10 10 20 20
2	Seminar Presentation	30
3	Viva-Voce	50
Total		**150**

MINOR (MI)

Minor (MI)-08. Environmental Economics **Credits 04**

Course Objective:

This course aims to provide students with a comprehensive understanding of the economic principles underlying environmental issues and policies. It focuses on the analysis of externalities, property rights, and the design of market-based environmental policies for sustainable development.

Course Learning Outcome:

By the end of this course, students will be able to critically analyze the economic impact of environmental problems and propose effective policy solutions. They will also gain insights into global environmental challenges and sustainable development practices.

Minor (MI)-08. Environmental Economics **Credits 04**

Course Content:

Unit 1: Introduction

- Key environmental issues and problems
- Link between economy and environment: basic ideas

The Theory of Externalities

- Types of Externalities
- Market failure in the presence of externalities

Unit 2: Issues of property rights

- Concept of property rights, Distinction among public, private, open access and common property resources
- Coase theorem.

Unit 3: The Design and Implementation of Environmental Policy

- Overview of environmental policy tools
- Market based instruments: Pigouvian taxes, tradable permits
- Choice between pollution taxes and standards

Unit 4: International Environmental Problems

- Trans-boundary environmental problems
- Economics of climate change
- Global environmental negotiations: Kyoto Protocol (1997), Paris Agreement (2015)

Sustainable Development

- Components of sustainable development
- Measurement of sustainable development

Suggested Readings:

1. Charles, Kolstad, Intermediate Environmental Economics, Oxford University Press, 2nd Edition, 2010.
2. Robert N. Stavins (ed.), Economics of the Environment: Selected Readings, W.W.Norton, 5th edition, 2005.
3. Roger Perman, Yue Ma, James McGilvray and Michael Common, Natural Resource and Environmental Economics, Pearson Education/Addison Wesley, 3rd edition, 2003.
4. Pearce and Turner: Economics of natural resource and environment, Prentice Hall
5. Rabindra Nath Bhattacharyya: Environmental Economics, Oxford.
6. Peter Berck and Gloria Helfand: The Economics of the Environment, Pearson.