

# MURSHIDABAD UNIVERSITY

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Memo No.- MU(R)/1/C/511/24

Date: 28/10/2024

## NOTIFICATION

It is notified for information of all concerned that in terms of the provision of the Murshidabad University Act, 2018, and, in existing of his powers, of the said Act, the Vice-Chancellor has, by and order dated 28.10.2024 approved the syllabi of the subject Economics for semester wise programme of PG Course of study under this university, as laid down in the accompanying pamphlet.

Place: Berhampore

Date: 28.10.2024

*Rajib Mukherjee*  
Registrar  
Murshidabad University

Registrar  
Murshidabad University





**Two-year (Four Semester) M.A/M. Sc. Degree  
Course of Economics under CBCS  
Murshidabad University**

**Semester-I (20 credits, 250 marks)**

Course Code	Course Title	Course Type	Credit	Marks	IA	ESE	Remarks
PG-ECO-CC-1.1	Microeconomics-I	Core Course 1	4	50	10	40	
PG-ECO-CC-1.2	Macroeconomics-I	Core Course 2	4	50	10	40	
PG-ECO-CC-1.3	Mathematical Methods for Economics	Core Course 3	4	50	10	40	
PG-ECO-CC-1.4	Basic Econometrics-I	Core Course 4	4	50	10	40	
PG-ECO-CC-1.5	Advanced Indian Economics	Core Course 5	4	50	10	40	

**Semester-II (20 credits, 250 marks)**

Course Code	Course Title	Course Type	Credit	Marks	IA	ESE	Remarks
PG-ECO-CC-2.1	Microeconomics-II	Core Course 6	4	50	10	40	
PG-ECO-CC-2.2	Macroeconomics-II	Core Course 7	4	50	10	40	
PG-ECO-CC-2.3	Basic Econometrics-II	Core Course 8	4	50	10	40	
PG-ECO-CC-2.4	Development Economics	Core Course 9	4	50	10	40	
PG-ECO-CC-2.5	History of Economic Thought	Core Course 10	4	50	10	40	

**Semester-III (20 Credits, 250 marks)**

<b>Course Code</b>	<b>Course Title</b>	<b>Course Type</b>	<b>Credit</b>	<b>Marks</b>	<b>IA</b>	<b>ESE</b>	<b>Remarks</b>
PG-ECO-GE-3.5	Development Studies	Generic Elective-I	4	50	10	40	
PG-ECO-CC-3.1	Research Methodology	Core Course 11	4	50	10	40	
PG-ECO-DSE-3.1	One paper from Group-A	Disciplinary Specific Elective-I	4	50	10	40	List of Papers under Group-A
PG-ECO-DSE-3.2	One paper from Group-B	Disciplinary Specific Elective-II	4	50	10	40	List of papers under Group-B
PG-ECO-DSE-3.3	One optional paper from Group-C	Disciplinary Specific Elective-III	4	50	10	40	List of papers under Group-C

**Group A Papers under semester III:** Agricultural Economics-I, International Economics-I, Advanced Economic Theory-1, Urban Economics-I. **All papers have 4 credits**

**Group B Papers under semester III:** Advanced Econometrics-I, Industrial Economics-I, Health Economics-I, Economics of money and Finance-I. **All papers have 4 credits.**

**Group C Papers under semester III:** Public Economics-I, Labour Economics-I. **All papers have 4 credits.**

**Semester-IV (20 Credits, 250 marks)**

<b>Course Code</b>	<b>Course Title</b>	<b>Course Type</b>	<b>Credit</b>	<b>Marks</b>	<b>IA</b>	<b>ESE</b>	<b>Remarks</b>
PG-ECO-CC-4.1	<b>Environmental Economics</b>	<b>Core Course 12</b>	<b>4</b>	<b>50</b>	<b>10</b>	<b>40</b>	
PG-ECO-CC-4.2	<b>Project</b>	<b>Core Course 13</b>	<b>4</b>	<b>50</b>	<b>20</b>	<b>30</b>	<b>It will be based on original analysis</b>
PG-ECO-DSE-4.1	<b>One paper from Group-A</b>	<b>Disciplinary Specific Elective-II</b>	<b>4</b>	<b>50</b>	<b>10</b>	<b>40</b>	<b>List of papers under Group-A</b>
PG-ECO-DSE-4.2	<b>One paper from Group-B</b>	<b>Disciplinary Specific Elective-III</b>	<b>4</b>	<b>50</b>	<b>10</b>	<b>40</b>	<b>List of papers under Group-B</b>
PG-ECO-DSE-4.3	<b>One Optional Paper from Group-C</b>	<b>Disciplinary Specific Elective-IV</b>	<b>4</b>	<b>50</b>	<b>10</b>	<b>40</b>	<b>List of papers under Group-C</b>

**Group A Papers under semester IV:** Agricultural Economics-II, International Economics-II, Advanced Economic Theory-II, Urban Economics-II. **All papers have 4 credits.**

**Group B Papers under semester IV:** Advanced Econometrics-II, Industrial Economics-II, Health Economics-II, Economics of money and Finance-II. **All papers have 4 credits.**

**Group C Papers under semester IV:** Public Economics-II, Labour Economics-II. **All papers have 4 credits.**

**So, all total we have 20+20+20+20=80 credits and 1000 marks.**

## Core Courses

### CC 1: Microeconomics I (PG-ECO-CC-1.1)

**Full Marks 50**

- |             |   |             |
|-------------|---|-------------|
| <b>I.</b>   | <b>Consumer Behaviour</b>   | <b>[20]</b> |
|             | Choice of a representative consumer – Duality approach - Indirect Utility Function, Expenditure Function - Consumer surplus, Equivalent and compensating variation - revealed preference – choice under uncertainty - problem of aggregation – social choice  |             |
| <b>II.</b>  | <b>Theory of the Firm and the Competitive Market</b>  | <b>[6]</b>  |
|             | Cost minimization – envelope theorem for constrained optimization – duality; the competitive firm – market equilibrium – Pareto efficiency – taxes and subsidies.   |             |
| <b>III.</b> | <b>General equilibrium</b>  | <b>[18]</b> |
|             | The exchange economy-Equilibrium (Existence, uniqueness, stability) – Pareto Optimality – Concept of core – Core Equivalence theorem, One consumer One product Economy.<br>The Production Model- fixed and flexible coefficients – relation between endowments and product mix – relation between commodity prices and factor prices. |             |
| <b>IV.</b>  | <b>Welfare</b>  | <b>[6]</b>  |
|             | First and Second Fundamental theorems of Welfare Economic – Pareto Optimality and Social Welfare Optima.  |             |

#### Reference

- Varian H. (2009) - Microeconomic Analysis, 3<sup>rd</sup> Edition, Viva Books Pvt. Ltd.
- MasCollé A, Whinston M. D. and Green J. R. (2012) - Microeconomic Theory, Oxford University Press, India
- Jehle G. A. and Reny P. J. (2006) – Advanced Microeconomic Theory, 2<sup>nd</sup> Edition, Pearson Education, India

**CC 2: Macroeconomics I  
(PG-ECO-CC-1.2)**

**Full Marks 50**

1. Background (10)
  - A. The Point of Departure- Circular relation between aggregate income and aggregate expenditure and two alternative approaches to Macroeconomics (Supply side approach and Demand based approach);
  - B. Introduction to Supply based Models: Wage-price flexibility and voluntary unemployment- Comparative Static Exercises- Labor in efficiency units and the Role of Economic Policy;
  - C. Introduction to Demand based Models: Relative Wage Hypothesis and Constant Money Wage- A model of Effective Demand with Money-wage Rigidity and the concept of Involuntary Unemployment- Volatile Expectation and Monetary versus Fiscal Policy in Recession;
  
2. Modern Version of Supply-side Models (40)
  - A. *Rational Expectation*: Adaptive Expectation, Rational Expectation and the Lucas Critique- A Market clearing Model with rational Expectation and the Policy Irrelevance Results- Limitation of Rational Expectation Theory and the passage to Real Business Cycle;
  - B. *Real Business Cycle*: Overlapping Generation Model and the Ricardian Equivalence- Exposition of Real Business cycle in an Overlapping Generation Model- Integration Between Trend and Cycle- Intertemporal Labor-Leisure Substitution and its Critique;
  - C. *Economic Growth*: Harrod-Domar Model (Point of Departure)- Exogenous Technical Progress and the Neo-classical Model of Growth- Endogenous Growth (the Human Capital Model and the R&D Model);

**Selected Readings:**

1. Hicks, J. 1971. Social Framework: An Introduction to Economics. Oxford University Press.
2. Keynes, J. M. 1936 (reprinted 2007). The General Theory of Employment, Interest and Money. London: Macmillan.
3. Davidson, P. 2011. Post Keynesian Macroeconomic Theory. Edgar Elgar.
4. Romer, D. 2011. Advanced Macroeconomics, McGraw Hill. (Text)
5. Lucas, R.E. and T, J. Sargent, T. J. 2011 (edited). Rational Expectations and Econometric Practice, Volume 1. University of Minnesota.
6. Hartley J, K Hoover and K. D. Salyer (Editor). 1998. Real Business Cycles: A Reader. Routledge.
7. Lucas, R.E. 1983. Studies in Business-Cycle Theory. MIT Press.
8. Miller, P, J. 1994. The Rational Expectations Revolution: Readings from the Front Line. MIT Press.
10. Jones, C.I and D Vollrath. 2013. Introduction to Economic Growth. WW Norton and Company.
11. Barro, R, J and Xavier I. Sala-i-Martin. 1998. Economic Growth. MIT Press.
12. Bhaduri, A.: Macroeconomics - Dynamics of Commodity Production, Palgrave Macmillan

**CC 3: Mathematical Methods in Economics**  
**(PG-ECO-CC-1.3)**

**Full Marks 50**

- I. Static Optimization: Review of Classical Constrained Programming and Nonlinear Programming, Comparative Statics, Envelope Theorem, Saddle Point Theorem, Concave and Convex Programming. [10]
- II. Elements of point-set topology and real analysis: Metric Spaces, Continuity, Convergence, Weirstrass Theorem, Fixed-Point theorems. [10]
- III. Dynamic Optimization: Optimal Control Theory and Hamiltonian, Dynamic Programming. [8]
- IV. Choice under uncertainty: Risk and portfolio analysis. [8]
- V. Linear Models, matrix algebra and vector analysis. [6]
- VI. Differential Equations and Stability Issues: Differential Equations, Stability Theory, Phase Diagrams. [8]

**References:**

1. Dixit (1976): Optimization in Economic Theory, OUP
2. Beavis & Dobbs (1990): Optimization and Stability Theory for Economic Analysis, CUP
3. Intrilligator (1971); Mathematical Optimization and Economic Theory, Prentice Hall
4. Hadley (1960): Linear Algebra, Addison-Wesley, Massachusetts
5. Chiang (1992): Dynamic Optimization, McGraw Hill Inc.
6. Kamien & Schwartz (1981): Dynamic Optimization, North Holland

**CC 4: Basic Econometrics I**  
**(PG-ECO-CC-1.4)**

**Full Marks 50**

- I. Single Equation Methods (with independent and identically distributed errors): [20]
- K-variable Classical Linear Regression Model: specification, Estimation, Hypothesis testing, Prediction;
  - Extension of CLRM: Qualitative Regressor - Dummy variables – Analysis of Stability;
- II. Relaxing Assumptions: [20]
- Generalized Linear Regression Model
  - Heteroskedasticity: Consequence, Detection, Correction
  - Autocorrelation: Consequence, Detection, Correction
  - Multicollinearity: Consequence, Detection, Correction
  - Stochastic Regressor (distributed lags)
- III. Simultaneous Equation System: [10]
- Problem of Identification: Structural Form and Reduced Form, Observational Equivalence, Rank and Order Condition;
  - Limited Information Estimation: Endogeneity problem, Instrumental Variable, Omitted Variable (Indirect Least Square, 2-Stage Least Square)

**References:**

Maddala, G S and Kajari Lahiri (2009), Introduction to Econometrics, John Wiley & Sons, England, 4<sup>th</sup> Edition.

Wooldridge, Jeffrey M (2009), Introductory Econometrics: A Modern Approach, South-Western Cengage Learning, USA, 4<sup>th</sup> Edition.

Johnston, Jack and John Dinardo (1997), Econometric Methods, McGraw Hill, New York, 4<sup>th</sup> Edition.

Gujarati, Damodar N and Dawn C Porter (2009), Basic Econometrics, McGraw Hill, New York, 5<sup>th</sup> Edition.

Kmenta, J (1986): Elements of Econometrics (2<sup>nd</sup> Edition), McMillan-Maxwell, NY;



**CC 5: Advanced Indian Economics  
(PG-ECO-CC-1.5)  
Full Marks 50**

**I. Transformation of the State and Economic Reforms**

**II. Growth and Sectoral Performance**

- Aggregate GDP growth, structural change and productivity
- Agricultural growth and distribution
  
- Manufacturing growth and issues relating to productivity, market structure and economies of scale
  
- Issues relating to services-led growth
- Inclusive growth in 11<sup>th</sup> and 12<sup>th</sup> Plan

**III. Trade and Payments Reforms in India**

- Contours of trade and payments reforms in India including WTO related reforms in market access
  
- Merchandise trade performance and determinants
  
- Balance of Payments and issues related to accumulation of Foreign Exchange Reserves, Capital Account Convertibility

**IV. Fiscal Reforms in India**

- Profile of Fiscal Reforms
- Issues relating to deficit and growth, FRBM Act and fiscal prudence
  
- Reforms with respect to State Finances

**V. Financial Sector Reforms in India**

- Issues relating to reforms in banking, insurance, pensions, exchange rate and capital market

**VI. Employment, Poverty, and Food Insecurity in India**

- Measurement issues
  
- Regional and sectoral dimensions in employment, poverty and inequality
- Recent debates on poverty and employment during reforms
- Issues relating to rural and urban employment, livelihood security, National Urban Livelihood Mission and MGNREGA
  
- Rural and urban food insecurity
- The Public Distribution System

- Rural and urban infrastructures and delivery of services

## **References**

- Acharya, Sankar and Rakesh Mohan (eds.) (2010), India's Economy: Performance and Challenges, OUP, New Delhi.
- Ahluwalia, M S, S S Tarapore and Y V Reddy (eds.) (2004), Macroeconomics and Monetary Policy, OUP, New Delhi.
- Balakrishnan, P (2010), Economic Growth in India, OUP, New Delhi.
- Basu, K (ed.) (2005), India's Emerging Economy, OUP, New Delhi.
- Bhaumik, S K (ed.) (2008), Reforming Indian Agriculture: Towards Employment Generation and Poverty Reduction, Sage Publications, New Delhi.
- Chakravarty, R (2006), The Financial Sector in India, OUP, New Delhi.
- Mahendra Dev, S (2008), Inclusive Growth in India, Oxford University Press, New Delhi.
- India Development Report, Various years, OUP, New Delhi.
- Panagariya, A (2008), India: The Emerging Giant, OUP, New Delhi.
- Rakshit, M (2008a), Macroeconomics of Post-Reforms India, OUP, New Delhi.
- Rakshit, M (2008b), Money and Finance in the Indian Economy, OUP, New Delhi.
- Reddy, Y V (2004), Lectures on Economic and Financial Sector Reforms in India, OUP, New Delhi.

**Selected articles from various journals will be referred in the class.**

**CC 6: Microeconomics II**  
**(PG-ECO-CC-2.1)**

**Full Marks 50**

**I. Static Games of Complete Information** [16]

Concept of a game – normal form representation – Prisoners' Dilemma - iterated elimination of dominated strategies – Nash equilibrium.

**II. Dynamic Games of Complete Information** [16]

Dynamic Games – subgames – backwards induction – subgame perfect Nash equilibrium – Entry Deterrence Game.

Repeated Games – Infinitely repeated games- folk theorem.

**III. Market Failure** [18]

Imperfect markets – Monopoly – Price discrimination – Durable goods monopoly; Oligopoly – Cournot, Bertrand and Stackelberg

Externalities and inefficiency – Pigouvian taxes

Incomplete markets – Property rights – Coase Theorem

Public goods – free rider problem – Efficient provision of a public good – voting

Incomplete information – Moral hazard and Adverse Selection

**Reference**

•Gibbons, R. - Game Theory for Applied Economists, Pearson Higher Education & Professional Group, 2010

•MasCollé A., Whinston M. D. and Green J. R. (2012) - Microeconomic Theory, Oxford University Press, India

•Jehle G. A. and Reny P. J. (2006) – Advanced Microeconomic Theory, 2<sup>nd</sup> Edition, Pearson Education, India

**CC 7: Macroeconomics II  
(PG-ECO-CC-2.2)**

**Full Marks 50**

I. Accounting (10)

Household accounting- Corporate Accounting- Government accounting- Rest of the world accounting- Bank Accounting (Central Bank and commercial Banks);

II. Open economy Macroeconomics (15)

Mundell-Fleming Model- Monetary and Fiscal Policy- Process of Adjustment and Exchange Rate Overshooting- An Alternative Formulation of the Process of Adjustment and Divergent Paths- Treatment of Financial Crisis in Mundell-Fleming Model;

III. Introduction to New-Keynesian Macroeconomics (15)

Keynes & New-Keynesian, Staggered Wage, rational Expectation and the Breakdown of the Policy irrelevance result- Menu Cost and the Fluctuation of Output- Model of Disciplinary Unemployment;

IV. Consumption and Investment (10)

Consumption Theory and Hall's Random Walk- Neo-classical Investment Theories and Tobin's q Theory;

**Selected Readings:**

1. Bhaduri, A.: Macroeconomics - Dynamics of Commodity Production, Palgrave Macmillan.
2. D'Souza, E.: Macroeconomics, Pearson Education.
3. Carlin W. and Soskice, D.: Macroeconomics – Imperfections, Institutions & Policies, Indian Reprint. Oxford University Press.
4. Heijdra, B.J.: Foundations of Modern Macroeconomics, Oxford University Press.
5. Romer, D.: Advanced Macroeconomics, McGraw Hill.
6. Sargent, T. J.: Macroeconomic Theory. Academic Press.
7. Vegh, C.A.: Open Economy Macroeconomics in Developing Countries, MIT Press.

**CC 8: Basic Econometrics II  
(PG-ECO-CC-2.3)**

**(50 Marks with 25 practical)**

I. Stochastic Trends: Time Series Data [12 + 8 (Lab)]

- Trend Stationary Process & Difference Stationary Process
- Random Walk and Unit root (detection, correction)
- Cointegration and Error Correction
- Test for Causality;

II. Limited Dependent Variables: Cross Section Data [10 + 8 (Lab)]

- Problem of Partial Observability- Truncation & Censoring of error distribution
- Switch from Least Square Technique to Maximum Likelihood Estimation: LPM, LOGIT, PROBIT, TOBIT;

III. Introduction to Panel Data [8 + 4 (Lab)]

- Longitudinal Data: Usefulness
- Panel data models: Least Square Dummy Variable, Fixed Effect, Random Effect;

**References:**

- Maddala, G S and Kajal Lahiri (2009), *Introduction to Econometrics*, John Wiley & Sons, England, 4<sup>th</sup> Edition.
- Wooldridge, Jeffrey M (2009), *Introductory Econometrics: A Modern Approach*, South-Western Cengage Learning, USA, 4<sup>th</sup> Edition.
- Johnston, Jack and John Dinardo (1997), *Econometric Methods*, McGraw Hill, New York, 4<sup>th</sup> Edition.
- Baltagi, Badi H (2008), *Econometrics*, Springer-Verlag, Berlin, 4<sup>th</sup> Edition.
- Chatterjee Smprit & A S Hadi (2012): *Regression Analysis by Examples* (5<sup>th</sup> Edition); John-Wiley, NY;

## **CC 9: Development Economics**

**(PG-ECO-CC-2.4)**

**Full Marks 50**

### **I. Development Discourse: The Present Setting**

Growth-Inequality-Poverty debate: Economic Efficiency  
Versus Social Justice

**[6]**

Inclusive Growth: Top Down versus Bottom-Up approach;

### **II. Economic Liberalization and Developing Economies** Concepts and

Back ground of initiation of economic reforms

**[4]**

### **III. Economic Growth and Income Distribution**

**[20]**

(a) Capital Market: FDI- Modes, types, determinants, technology access & consequences  
- Imperfections in Capital Market: organized and unorganized capital market

(b) Labour Market: Informal Sector- Importance, Nature of employment, Linkages with  
Formal Sector;

(c) Land Market & Land Acquisition: Industry versus Agriculture Debate, the SEZ  
controversy. Problems of acquisition of agricultural land, country experiences;

(d) Market Inter-linkage: Effects on Growth and Income Distribution;

### **IV. Institutions and Governance**

**[8]**

(a) Institutions and economic development.

(b) Provision of Public Good: Education- Health- Infrastructure

(c) Social Security & Inclusion: Employment Generation- Credit Expansion- Other  
Security Measures- An Introduction to Impact Evaluation;

### **V. Measurement Issues**

(a) Income based Measures: Poverty, Inequality

**[12]**

(b) Human Development Approach: Multidimensional Indices (achievement, deprivation,  
discrimination)

### **References:**

1. Rodrik, D. (1995a): "Trade and Industrial Policy Reform," in J.R. Behrman and T.N. Srinivasan (eds.), Handbook of Development Economics, vol. III, B Amsterdam, North-Holland, 1995.

2. Rodrik D. (1995b): "The Political Economy of Trade Policy," in G. Grossman and K. Rogoff (eds.), Handbook of International Economics, vol. 3, Amsterdam, North-Holland, 1995.

3. Basu Kaushik (1997): "Analytical Development Economics: The Less Developed Economy Revisited".

4. Debraj Ray (1999): 'Development Economics'. OUP

5. Ravallion & Chen (2001): 'Measuring Pro-poor Growth'. World Bank

6. Aseem Srivastava & Ashish Kothari (2012): 'Churning the Earth: The Making of Global India'.

7. Shivkumar & Parr (1997): 'Reading in Human Development' OUP;

Several other articles are to be referred to the students during the course.

**CC 10: History of Economic Thought  
(PG-ECO-CC-2.5)**

**Full Marks 50**

- I. Classical theories of value and distribution: Physiocrats, Mercantilism, Theories of Adam Smith, Ricardo, Marx and others. [20]
- II. Evolution of neoclassical paradigm: General Equilibrium Theory, Keynesian economics, etc. [10]
- III. Evolution of critical economic theories: Theories of Kalecki, Sraffa, Post-Keynesian and Marxian theories; [10]
- IV. Approach of Economic Methodology: Positivism vs. Normativism, Causality Questions, Modernism vs. Postmodernism [5]
- V. Recent developments in Economic Theory and Methodolog [5]

**References:**

1. Schumpeter (1954): History of Economic Analysis, Harvard University Press
2. Screpanti & Zamagni (2005): An Outline of the History of Economic Thought, OUP
3. Blaug (1983): Economic Theory in Retrospect (3/e), Vikas Publishing, New Delhi
4. Meek (1962): Economics of Physiocracy, George Allen & Urwin



**CC 11: Research Methodology  
(PG-ECO-CC-3.1)**

**Full Marks 50**

**Research Methodology (Methods and Techniques)**

**I. Introduction of Research Methodology.**

- Meaning and Objectives of Research
- Research Motivation
- Types of Research
- Approaches to Research
- Significance of Research
- Research methods Vs Methodology
- Research Process
- Criteria of good Research
- Problems faced by Researchers in India

**II. Defining the Research problem**

- Research Problems
- Selecting the problems
- Necessity of defining the problem and technique used in defining a problem
- Illustration and Conclusion

**III. Research Design**

- Meaning and need for Research Design
- Feature of a good Design
- Different important concepts encircling Research Design
- Different Types of Research Design
- Basic principles of experimental Designs

**IV. Sampling Design**

- Census Vs Sample Survey
- Steps involved in developing Sample Designs
- How to select Sampling procedure.
- Different Samples Designs
- Random Sampling

**V. Measurement and Scaling Techniques**

- Measurement Scales and Errors
- Different Test in measurement validation
- Techniques in developing measurement tools
- Scaling

**VI. Data Collection Methods**

- Primary data Vs Secondary Data
- Selection of appropriate methods of Data collections
- Collection of Primary Data
- Collection of Secondary Data

**VII. Processing and analysis of Data**

- Processing Methods
- Problems in processing of Data
- Descriptive Statistics in Research

**VIII. Sampling Fundamentals**

- Why do we need Samplings?
- Different types of Samplings Distributions
- Central Limit Theorem
- Sampling Theory, 'A'- Test and Sampling Errors
- Estimation
- Determination of Sample Size

**IX. Testing of Hypothesis -I (Parametric)****X. Chi- Squares Test (Nonparametric)****XI. Analysis of Variance and Covariance**

- Definition of ANOVA and ANOVA principles
- ANOVA Techniques
- Analysis of Covariance (ANOCOVA)

**XII. Testing of Hypothesis –II (Distribution free Tests)**

- Different types of Tests
- Features of Distribution free Tests

**XIII. Multivariate Analysis Techniques**

- Classifications, variables and important techniques
- Factor Analysis

**XIV. Interpretations and Reports Writings**

- Meaning and need for interpretations
- Interpretation techniques
- Report writings
- Lay out of the Research Report
- Different Types of Reports
- How to write a Report and precautions taken

**Research Methods in Economics****I. Research Methodology**

- Research Methodology: Issues and Perspectives
- Research Methodology: Conceptual Foundations
- Approaches to Scientific Knowledge: Positivism and Post Positivism
- Models of Scientific Explanation
- Debates on Models of Explanation in Economics
- Foundations of Quantitative Research: Interpretivism and Critical Theory Paradigm

## **II. Research Design and Measurement**

- Research Design and Mixed Methods Research
- Data Collection and Sampling Design
- Measurement and Scaling Techniques

## **III: Quantitative Methods-I**

- Two Variable Regression Models
- Multiple Regression Models
- Measures of Inequality
- Construction of Composite Index Number in Social Sciences

## **IV: Quantitative Methods-II**

- Multivariate Analysis: Factor Analysis
- Canonical Correlation Analysis
- Cluster Analysis
- Structural Equation Modelling (SEM)

## **V: Qualitative Methods**

- Participatory Methods
- Content Analysis
- Action Research

## **VI: Data Base of Indian Economy**

- Macro-variable data: National Income, Saving
- Agricultural and Industrial Data
- Trade and Finance
- Social Sector

## **References**

- 1.Kothari C R and Garg Gaurav (2019): Research Methodology: Methods and Techniques (4<sup>th</sup> Edition): New Age International Publishers
- 2.Chiranjeev Avinash, Jacob Rosely and Natarajan Samitha (2013): Research Methodology in Economics, Jnanda Prakashan
- 3.Agarwal Chotan and Sharma Vijay (2017): Research Methodology in Economics, Arjun Publishing House

**CC 12: Environmental Economics  
(PG-ECO-CC-4.1)**

**Full Marks 50**

**I: Conceptual Framework**

- Economics, Ethics and the Environment;
- Ecological Economics and the Material Balance Approach;
- Environmental Economics and the Economics of Environment;

**II: Economics of Exhaustible Resources**

- A simple 2-period framework and the concept of Backstop;
- Extension to Dynamic Model of Mining with modified Hotelling's Rule;
- Depletion & Discovery under alternative market structures;

**III: Economics of Renewable Resources**

- Forestry: Single versus Multiple use Forest- Optimal Rotation and Faustman's Rule;
- Fishery: The concept of Maximum Sustainable Yield (MSY), Optimization under alternative fishery management regimes-open access solutions, Fishery and fish biodiversity, Mangrove-fishery linkages, Basic ideas of the theory of aquaculture shrimp farming;

**IV: Environmental Regulation**

- Environmental Pollution as a Public Bad;
- Externality (Pigou), Property Rights (Coase), Optimal Pollution;
- Pollution Control: Alternative Market Based Instruments – pure policies (Emission Fees, Standard setting, and Tradable Pollution Permits), Hybrid instruments (two-part tariff), Double Dividend Hypothesis, and Illicit Dumping;
- Case Studies;

**References:**

- Costanza, et.al. (1998): An Introduction to Ecological Economics.
- Bhattacharyya, R.N. (2001): Environmental Economics: Indian Perspective, OUP.
- Fisher, A (1981): Resource & Environmental Economics, CUP.
- Conard & Clark (1987): Natural Resource Economics: Notes & Problems, CUP.
- Broomley (1995): Handbook of Environmental Economics, Blackwell.
- Hanley, Shogren & White (1997): Environmental Economics, McMillan.
- Pearce, D.W. and Turner. R.K. (1991) : Economics of Natural Resource and Environment, Harvester-Wheatsheaf.
- Kolstad (2000): Environmental Economics, OUP.
- James, Mishra & Murty (1999) Economics of Water Pollution: The Indian Experience. OUP.
- Baumol & Oates (1988): Theory of Environmental Policy (2/e), CUP.

**CC 13: Project  
(PG-ECO-CC-4.2)**

**Full Marks 50**

## **Discipline Specific Elective Courses**

**Group A**  
**(PG-ECO-DSE-3.1/4.1)**

**Full Marks 50**  
**Optional Papers**

**DSE A1/A2: Agricultural Economics**

**DSE A1: Agricultural Economics- I**

**Group A: Theories of Peasant Economy (20 Marks, 16 hours)**

- Features of Peasant Societies
- Elements of Peasant Political Economy
- The Theories of Optimizing Peasant (profit-maximizing peasant, risk averse peasant, drudgery averse peasant, and sharecropping peasant)
- Women in Peasant Household.

### **References**

Shanin, T (ed.) (1987), Peasants and Peasant Societies, 2<sup>nd</sup> Edition, Blackwell.  
Ellis, Frank, Peasant Economics, Chs. 1, 3, and 4 to 9, CUP, 2<sup>nd</sup> Edition, 1993.  
Akram-Lodhi, A. Haroon, and Cristobal Kay (eds.) (2009), Peasants and Globalization: Political Economy, Rural Transformation and the Agrarian Question, Routledge.  
Scott, James C (2008), The Moral Economy of the Peasant: Rebellion and Subsistence in Southeast Asia, Yale University Press.

**Group B: Institutions and Markets in Backward Agrarian Economies (30 Marks, 24 hours)**

- Land Institutions and Land Markets: Efficiency and Equity Issues
- Labour Contracts and Organisations
- Credit Contracts and Markets
- Agricultural Output Markets

### **References**

B L Gardner and G C Rausser (eds.), Handbook of Agricultural Economics, Vol. 1A, Ch. 6, Elsevier, Amsterdam, 2001.  
R Evenson and Prabhu Pingali (eds.), Handbook of Agricultural Economics, Vol. 3, Chs. 51, 52, 55, 56, Elsevier, Amsterdam, 2007.  
Debraj Ray, Development Economics, Chs. 11 to 14, OUP, 1998.  
Pranab Bardhan, The Economic Theory of Agrarian Institutions, OUP, 1989.

Pranab Bardhan and Christopher Udry (eds.), *Development Microeconomics*, OUP, 1999.

## **DSE A2: Agricultural Economics -II**

**Group – A: Some Theoretical Debates on the Agrarian Economy with Special Reference to India (Any three of the following topics may be discussed in a semester)**

### **1. Economic Transformation and the Rural Non-farm Sector: Theoretical Perspectives**

#### References

Nurul Islam (1997), *The Nonfarm Sector and Rural Development, Food, Agriculture and the Environment Discussion Paper # 22*, IFPRI, Washington, D.C.

Frank Ellis (2000), *Rural Livelihoods and Diversity in Developing Countries*, CUP, Cambridge.

S Haggblade, P Hazell and T Reardon (eds.) (2007), *Transforming the Rural Nonfarm Economy:*

*Opportunities and Threats in the Developing World*, OUP, New Delhi.

### **2. Farm-Nonfarm Linkages**

Steven Haggblade et al. (1989), “Farm-Nonfarm Linkages in Rural Sub-Saharan Africa”, *World Development*, Vol. 17, No. 8.

Haggblade, Steven, Jeffrey Hammer and Peter Hazell (1991), “Modeling Agricultural Growth Multipliers”, *American Journal of Agricultural Economics*, Vol. 73, No. 2, May.

Benjamin Devis et al. (2002), *Promoting Farm/Non-farm Linkages for Rural Development*, Food & Agriculture Organisation, Rome, Chapters 1 and 2.

### **3. Agricultural Diversification**

#### References

P K Joshi et al. (2004), “Agriculture Diversification in South Asia: Patterns, Determinants and Policy Implication”, *Economic & Political Weekly*, June 12.

V S Vyas (1996), “Diversification of Agriculture: Concept, Rationale and Approaches”, *Indian Journal of Agricultural Economics*, Vol. 51, No. 4.

### **4 . Economics of Farm Size.**

#### References

Keijiro Otsuka (2007), “Efficiency and Equity Effects of Land Markets” in E Evenson and P Pingali (eds.), *Handbook of Agricultural Economics*, Vol. III, Ch. 9.

Robert Eastwood, Michael Lipton and Andrew Newell (2010), “Farm Size”, in E Evenson and P Pingali (eds.), *Handbook of Agricultural Economics*, Volume IV, Ch. 65.

### **5. Future of Small Farms.**

#### Reference

Articles published in *World Development*, Volume 38, Issue 10, October 2010

### **6. Market-Assisted Land Reforms.**

#### References

Klaus Deininger & Hans Binswanger (2002), “The Evolution of the World Bank’s Land Policy: Principles, Experience and Future Challenges”, *The World Bank Research Observer*, Vol. 14, No.2.

Klaus Deininger (2003), *Land Policies for Growth and Poverty Reduction*, The World

Bank, Washington D.C. [Available at [www.worldbank.org](http://www.worldbank.org)].

## **7. Redistributive Land Reforms: Review of Recent Debates**

### References

- Keith Griffin et al. (2002), "Poverty and Distribution of Land", *Journal of Agrarian Change*, Vol. 2, No.3.  
 Articles published in *Journal of Agrarian Change*, Vol. 4, Nos. 1-2, 2004.  
 Keith Griffin et al. (2004), "In Defence of Neo-Classical Neo-Populism", *Journal of Agrarian Change*, Vol. 4, No.3.

**Group – B: Current Debates on Indian Agriculture** (25 marks, 20 hours)

### **1. Globalisation of Indian Agriculture: Emerging Issues**

[The issues that may be specifically discussed are effect of India's signing of Agreement on Agriculture (AoA), WTO negotiations, trade liberalization, trade in agricultural commodities, agricultural subsidy, and so on]

#### References

- Ashok Gulati and Tim Kelly (1999), *Trade Liberalisation and Indian Agriculture*, Oxford University Press, New Delhi, Ch. 5.  
 Ashok Gulati and Sudha Narayan (2003), *The Subsidy Syndrome in Indian Agriculture*, Oxford - University Press, New Delhi.  
 Anwarul Hoda and Ashok Gulati (2008), *WTO Negotiations on Agriculture and Developing Countries*, Oxford University Press, New Delhi.  
 Debashis Chakraborty and Amir Ullah Khan (2008), *The WTO Deadlocked: Understanding the Dynamics of International Trade*, Sage Publications, New Delhi, Chs. 1, 2 and 11.

### **2. Performance of Indian Agriculture in the Era of Globalisation**

[The issues that may be specifically discussed are growth and regional disparity, capital formation, subsidy, technology adoption, returns from agriculture, indebtedness, agrarian crisis, and so on]

#### References

- Bhalla, G S and Gurmail Singh (2012), *Economic Liberalisation and Indian Agriculture: A District Level Study*, Sage Publications, New Delhi.  
 Bhaumik, S. K. (ed.) (2008), *Reforming Indian Agriculture: Towards Employment Generation and Poverty Reduction*, Sage Publications, New Delhi, Introduction and Chapters 1-3.  
 Mahendra Dev, S (2008), *Inclusive Growth in India*, Oxford University Press, New Delhi, Chs. 2 & 3.  
 Reddy, D Narasimha and Srijit Mishra (eds.) (2009), *Agrarian Crisis in India*, Oxford University Press, New Delhi, Chapters 1 and 5

**Articles published in various journals will be referred in the class.**

## **DSE A3/A4: International Economics**

### **DSE A3: Trade Theory & Policy under Perfect Competition (50 marks)**

#### **A. Arbitrage, gains from trade and the concept of comparative advantage.**

#### **B. Fixed endowments: the exchange model**

- The offer curve and the exchange equilibrium
- The terms of trade and real income,
- Stability of the exchange equilibrium.
- Comparative statics: (a) inter-country transfer (b) import substitution (c) export led growth and the possibility of immiserization.

#### **C. Labor productivity and comparative advantage: the Ricardian model**

- Absolute and comparative advantage, pattern of trade and specialization.
- Double factorial terms of trade.
- Specialization and country size.
- Specialization with a continuum of commodities.
- International labor mobility in the Ricardian model
- Ricardo and the “Missing Link”

#### **D. Immobile factor and International trade: the short-run specific-factor model**

- Immobile factors and income distribution,
- The pattern of trade,
- International factor mobility and the equalization of factor prices

#### **E. Structure of endowments and the pattern of comparative advantage: the long run Heckscher-Ohlin-Samuelson model.**

- Two sector general equilibrium model, the Rybczynski theorem, endowment and the pattern of trade: the Heckscher-Ohlin theorem
- Commodity prices and factor prices, factor price equalization and the Stolper-Samuelson theorem.
- The Leontief-paradox
- Inter-sectoral factor mobility and the relationship between the short-run and long run transformation schedule

#### **F. The theory of tariff**

- Tariff in a partial equilibrium framework: tariff and protection; revenue effect of tariff; deadweight loss from tariff
- Terms of trade, country-size and welfare



- Tariff in a general equilibrium framework: tariff and welfare, optimal tariff, maximum-revenue tariff, Metzler's paradox, equivalence between export and import tax.
- Tariff and income distribution: short run and long run effects of a tariff, the political economy of protection.
- Retaliation and tariff battle: high-tariff Nash equilibrium.
- Tariff and traded inputs: the effective rate of protection (ERP), calculation of the ERP, the content protection scheme

### **G. Trade policy with domestic distortions**

- Non-optimality of free trade, optimal trade policy and the theory of the second best
- The infant industry argument

### **H. International Political Economy: WTO and the non-tariff barriers.**

- Trade and environment
- Trade, labor standards and human rights

### **I. Basic Accounting:**

- Balance of Payments Accounts
- National Income Accounting in Open Economy
- Money Accounting

### **J. Internal and External Balance:**

- Role of Devaluation & Commercial Policies in a Simple Keynesian Model
- Extension to intermediate Goods & Non-traded Goods
- The Dependent Economy Model

### **K. Capital Mobility**

- Stabilization policies under Fixed Exchange Rate
- Stabilization Policies under Flexible Exchange Rates
- Expectations & Exchange Rate Dynamics
- 

## **DSE A4: Trade, Imperfect Competition and Development (50 marks)**

### **A. Introduction: Rethinking International Trade**

### **B. International Trade with Increasing Returns to Scale**

- IRS and Perfect Competition- Snowball Effect
- IRS and Monopolistic Competition- Intra-industry Trade
- Horizontal Product Differentiation
- Vertical Product Differentiation
- Differentiated Producers goods

- IIT in identical products

### **C. Oligopolistic competition and Strategic Trade Theory**

- The Game Theoretic Structure of Strategic Trade Policy
- Profit-shifting Export Subsidy in a Third Market Model
- Strategic Trade Policy in a Reciprocal Market Model

### **D. Trade and Development - Background**

- The Mercantilist obsession with trade surpluses.
- Brief views of Smith, Ricardo, Mill, Marx – Rosenstein-Rodan, Nurkse, Hirschmann, Myrdal.
- Trade as a vent for Surplus.
- The core periphery interpretation of trade and development and the drain theory.
- The infant industry argument.
- The Prebisch Singer argument.
- Unequal exchange theories.

### **E. The open dual economy**

- Extensions of the Lewis model to trade situations.

### **F. Terms of trade and development**

- The relationship between terms of trade and gains from trade in the static model.
- Growth maximization and internal and external terms of trade.

### **G. Immiserizing growth**

- Bhagwati – Johnson – Brecher and Alejandro.

### **H. Trade on growth, growth on trade**

- Effect of international trade on the Solow growth model
- Trade in the endogenous growth model.
- Pro trade growth vs anti trade growth in the neoclassical model.
- Effect of economic growth on intra-industry trade.

### **I. Technology and trade**

- External economies, trade and growth
- Invention, innovation and temporary monopoly
- The Vernonian product cycle
- The contagion approach
- Technology gap models

### **J. In search of empirical support for trade and development**

- An introduction to empirical trade theory
- Estimating the Heckscher-Ohlin model
- Wage inequality and trade
- Trade and economic development in the Newly Industrialized Countries.

## K. GATT, WTO and the less developed countries

- Background of GATT
- From GATT to WTO
- The negotiation process in the WTO
- Non-tariff barriers
- Less developed countries and the WTO.

## References:

- Rogoff & Obstfeld (1998): Foundations of International Macroeconomics, MIT Press
- Dornbusch (1980): Open Economy Macroeconomics, Norton
- Benassy (1984): Macroeconomics, Academic Press
- R. Jones, R. Caves and J. Frenkel (CJF), World Trade and Payments, 4<sup>th</sup> edition,
- R. Jones, International Trade: Essays in Theory, North Holland, 1979.
- Ronald Findlay, International Trade and Development Theory, Columbia University Press, 1973.
- Paul Krugman, Rethinking International Trade, 1994, MIT press.
- Jagdish N. Bhagwati, T. N. Srinivasan and Arvind Panagariya, Lectures on International Trade, MIT Press, 1998.
- Helpman & Krugman (1989): Trade Policy & Market Structure, MIT Press
- Kierzkowski (ed.): Monopolistic Competition and International Trade, 1984, OUP

## DSE A5/A6: Advanced Economic Theory

### DSE A5: Advanced Economic Theory I (50 marks)

- Concept of macroeconomic equilibrium.
- Overlapping generation models.
- Business cycles.
- Growth and inequality.
- Disequilibrium macroeconomics.

### DSE A6: Advanced Economic Theory II (50 marks)

- Optimal growth models
- Recursive macroeconomic models
- Characterisation of chaotic dynamics
- Macroeconomics of developing countries

## References:

1. Blanchard O.J. and Fisher, S.: Lectures on Macroeconomics, Indian Reprint, PHI Learning Pvt. Limited.
2. Brock, W.A. and Malliaris, A.G.: Differential Equations, Stability and Chaos in Dynamic Economics, North-Holland.
3. Dasgupta, D.: Modern Growth Theory, Oxford University Press.
4. Ljungvist, L. and Sargeant, T.: Recursive Macroeconomic Theory, MIT Press.
5. Medio, C.: Chaotic Dynamics, Oxford University Press.
6. Rakshit, M.: Macroeconomics of Post-Reform India, Oxford University Press.

### **DSE A7/A8: Urban Economics**

#### **DSE A7: Urban Economics I (50 marks)**

1. Introduction to Urban Economics: The Space-Economy Interaction;
2. The Emergence and Development of Urban Areas – An Economic Perspective;
3. Urbanization in a Global Perspective – The Developed-developing Country Interaction;
4. Urbanization in India with special reference to West Bengal – Trends and Patterns, Structure of Urban Economy, Rural-urban relationship;
5. Basics of Urban Economics
  - (i) Urban system – hierarchy and city size distribution; Central Place Theory
  - (ii) Location Theory, Intra and Inter-urban Location of Economic Activities, The distance-decay relationship – concept of gradients.
  - (iii) Urban Base Theory – Theory of Optimal City Size
6. Urban Sustainability – Environment and Pollution – The Economics of Pollution Control

## References:

- Balchin et. al (2000): Urban Economics: A Global Perspective, Palgrave;
- O' Sullivam, (2007): Urban Economics (7<sup>th</sup> edition), IRWIN, London;
- Evans, A.W, Urban Economics: An Introduction, Basil Blackwell
- Kundu, Singh and Sivaramakrishnan (2002): A Handbook of Urbanisation in India (2<sup>nd</sup> Edition)
- Giri, Pabitra (1997): “Urbanisation in West Bengal”, Economic and Political Weekly 47 (40)
- Chatterjee, Mahalaya (2013): “Urbanisation in West Bengal; Trends and Future Perspective”, Local Government Quarterly (June-September);
- Gottdiener, M and Budd, L.( 2005), Key Concepts in Urban Studies, Sage Publications, London.
- Sassen Saskia, ,The Impact of the new Technologies and Globalization on Cities in Richard T. LeGates and Frederic Stout (ed) , The City Readers , Third Edition 2003, Routledge, London and New York
- Brooks. et. al (edited) (2012), The Oxford Handbook of Urban Economics and Planning,

- OUP London
- Web Resource:
  - Behavioural Approach to Location, <https://people.hofstra.edu/.../behavioural..> Source : adopted from A. Pred (1967) Behavior and Location: Foundations for a Geographic and Dynamic Location Theory. Part I, Lund 1967; Part II, Lund 1969. [The Royal University of Lund, Department of Geography Studies in Geography Ser.B (Human Geography) Nos. 27 & 28C.W.K.Gleerup, Lund]

### **DSE A8: Urban Economics II (50 marks)**

#### Urban Economics II

1. Urban in the Region – Theories of Urban and Regional Growth- New Economic Geography
2. Sectoral Issues:
  - (i) Urban Land Market and Land Use
  - (ii) Urban Labour Market and Migration
  - (iii) Rural-urban Relationship – Linkages and Flows – Changing Perspective
  - (iv) Urban Transport – Issues related to special facilities (port etc.)
3. Urban poverty - slum and informal sector – Urban Poverty in India
4. Urban Infrastructure – Issues related to Facilities and Service Delivery
5. Urban Local Government - Constitutional Amendment and after – issues related to Governance and Finance

#### References:

- Harvey, David, (1989), The Urban Experience, The John Hopkins University Press, Baltimore
- Harvey, Jack, (2000), Urban Land Economics, New York, Palgrave
- Hoover. Edger. M and Giarratani.Frank, (1999) , An Introduction to Regional Economics, The Web Book of Regional Science
- Beal Jo and Sean Fox (2009), Cities and Development, Routledge
- Kundu A (ed) (2010), India Urban Poverty Report, Oxford
- India Infrastructure Report (2006) Urban Infrastructure, 3i Network

**Discipline Specific Elective Courses**

**Group B**

**(PG-ECO-DSE- 3.2/4.2)**

**Full Marks-50**

**Optional Papers**

**DSE B1/B2: Advanced Econometrics**

**DSE B1: Advanced Econometrics I**

**Full Marks: 50**

Group A: Time Series Econometrics (25 hours)

- Non-stationarity and Unit-root tests
- Cointegration and Error-correction models
- Vector Auto-regression models and causality tests
- ARIMA models and Box-Jenkins methodology
- ARCH-GARCH for modeling the variance

Group B: Multivariate Techniques in Social Science Research (25 hours)

- Simultaneous Multi-equation Models
- Estimation and Bias in the Simultaneous Equation Models
- Multivariate Analysis and Indexing: Factor Analysis, Principal Component Analysis;
- Grouping Observations: Discriminant Analysis, Cluster Analysis,
- Partial Correlation and Path Analysis, Analysis of Canonical Correlation;

**References:**

- Enders, W (2004): Applied Econometric Time Series, John-Wiley & Sons (2/e);
- Green (2003): Econometric Analysis, Pearson Education (5/e);
- Maddala & In-Moo Kim (1998): Unit Roots, Cointegration and Structural Change, CUP;
- Bannerjee, et al (1993): Cointegration, Error Correction and the Econometric Analysis of Non-stationary Data, OUP;
- Rencher (2002), Methods of Multivariate Analysis (2/e), John-Wiley & Sons;
- Tacq (1997): *Multivariate Analysis Techniques in Social Science Research*, Sage International.

**DSE B2: Advanced Econometrics II**  
**Full Marks: 50 (Theory 25 + Practical 25)**

Theory/ Group- A: Advanced Econometric Methods (10 hours)

- Specification Error;
- Measurement Error;
- Maximum Likelihood Estimation & Generalized Method of Moments;
- Models with Expectation & Distributed Lag;

Group- B: Analysis of Cross-section Data (10 hours)

- Limited Dependent Variable Models (LOGIT, PROBIT);
- Censoring, Truncation & Selection Bias (TOBIT, Heckman Correction);
- Impact evaluation & p-score Matching;

Group- C: Analysis of Panel Data (10

hours)

- Models with Static Panel data;
- Models with Dynamic Panel data;

Practical/ Computer Applications (20 hours)

- Analysis of Cross-section, Time-series & Panel Data using suitable Statistical packages;
- Analysis of Multivariate Techniques using suitable Statistical Packages;

**References:**

- Maddala & Lahiri (2009): Introduction to Econometrics (4/e), John-Wiley;
- Baltagi (2005): Econometric Analysis of Panel Data, 3rd ed., John Wiley, New York.
- C. Hsiao (2003): Analysis of Panel Data, 2nd ed., Cambridge University Press.
- Wooldridge (2002): Econometric Analysis of Cross Section and Panel Data, The MIT Press.
- Greene (2009): Econometric Analysis, 6th ed., Prentice Hall,
- Arellano (2003): Panel Data Econometrics, Oxford University Press.
- Cameron and Trivedi (2009): Microeconometrics Using Stata, Stata Press.
- Tacq (1997): Multivariate Analysis Techniques in Social Science Research, SageInternational.

## **DSE B3/B4. Industrial economics**

### **DSE B3: Industrial Economics-I**

#### **Markets and Strategies - A revision**

Market definition, market power, concentration

#### **Static Imperfect Competition**

Price and Quantity Competition – Price vs. Quantity Competition- Differentiated Products: Cournot vs. Bertrand – Strategic substitutes and complements.

#### **Dynamic Aspects of Imperfect Competition**

Sequential choice: Stackelberg (one leader and endogenous no. of followers)- Commitment – Free entry – Monopolistic Competition – Industry Concentration – Sunk Costs.

#### **Product Differentiation**

Horizontal differentiation: Location models – Vertical differentiation: Quality choice – Empirical analysis of product differentiation.

#### **Industrialization**

The Industrial Revolution in Britain – Evolution of Indian industry – Small scale industries - Industrial policy post Independence – Policy shift: Globalization and reforms – Privatization and PSUs in India – Case study of some important industries in India: jute, textiles, iron and steel, pharmaceuticals, engineering goods and the IT sector

#### **Competition Policy**

Historical perspective – Competition laws: Study of USA, EU and India – Cartels and tacit collusion – Horizontal mergers: profitability, efficiency, welfare effects – Mergers and entry – Vertical mergers- Empirical merger analysis.

### **DSE B4: Industrial Economics-II**

#### **Advertising**

Price advertising decisions: Dorfman - Steiner model – Informative advertising - Persuasive advertising - Welfare effects

#### **Pricing Strategies and Market Segmentation**

Group pricing and personalized pricing – menu pricing – monopoly menu pricing – quality and quantity based menu pricing - bundling

#### **Product quality and information**

Asymmetric information problems – hidden information – hidden action – advertising and price signals – price signaling under imperfect competition

#### **Marketing Tools for experience goods**

Warranties – Branding: Reputation and Competition



## **R&D and Intellectual Property**

Innovation and R&D – Market structure and incentive to innovate – Patents – Optimal patent length and breadth, Licensing; Intellectuals property rights – TRIPS - Patent policy in India

## **Markets with network effect**

Direct and indirect effects – switching costs

## **References**

- P. Bellaflame and M. Peitz: Industrial Organization and Market Structure
- Tirole: The Theory of Industrial Organization
- O. Shy: Industrial Organization
- Cherunilam: Industrial Economics – An Indian Perspective
- Gokarn, Sen and Vaidya: The Structure of Indian Industry

## **DSE B5/B6 Health Economics**

### **DSE B5: Health, Development and Related Issues (50 Marks)**

#### **Economic Development and Health [14]**

- State and Scope of Health Economics
- Normative economics and health
- Difference between health and health care
- Equity and Efficiency

#### **The Macro Scenario [6]**

- Cross Country comparison
- Health Care Cost Growth

#### **Measurements of Health [10]**

- Morbidity and Mortality
- Burden of Diseases
- Concepts of DALY and QALY
- Epidemiology and Morbidity Transition;

#### **The Micro Scenario: Issues related to Health Care Utilization [12]**

- Preventive and Curative Health care
- Public Health and political economy
- Socio-economic determinants of health

#### **Linkages [8]**

- Education
- Nutrition

References:

1. Cuyler A and J Newhouse (ed) (2000), Handbook of Health Economics. Elsevier.
2. Das Gupta Monica, Lincon Chen and T Srinivasan (1996), Health, Poverty and Development in India. OUP
3. Santerre R and S Neun (2007), Health Economics: Theories, Insights and Industry Studies. Thompson.
4. World Health Organisation (2000), Report of Commission on Macroeconomics and Health'
5. World Health Organization (2010), Socioeconomic Determinants of Health.
6. Zweifel P (1997), Health Economics.

### **DSE B6: Health Care Market (50 marks)**

#### **Health Care market and Demand for health care [12]**

- Health care as an input in health
- Notion of need'
- Supplier Induced demand
- Ex-ante and Ex-post Moral Hazard

#### **Providers of health care [20]**

- Hospitals
- Physician
- Insurance Market
- Pharmaceutical Industry
- Alternative Medicine

#### **Quality of Health Care [4]**

- Measurement of quality of care

#### **Issues related to Health Care Reform and Policy [14]**

- Experiences of health care reform
- Changes in Health Care Finance
- Public and private finance and provision; Public Private Partnership
- Impact of reform
- Economics of Mental Health

#### **References:**

7. Cuyler A and J Newhouse (ed) (2000), Handbook of Health Economics. Elsevier.
8. Das Gupta Monica, Lincon Chen and T Srinivasan (1996), Health, Poverty and Development in India. OUP
9. Santerre R and S Neun (2007), Health Economics: Theories, Insights and Industry Studies. Thompson.
10. World Health Organisation (2000), Report of Commission on Macroeconomics and Health'

11. World Health Organization (2010), Socioeconomic Determinants of Health.
12. Zweifel P (1997), Health Economics.

## DSE B7/B8: Economics of Money and Finance (BC)

### DSE B7: Money and Finance I (50 marks)

#### Group A – Monetary Economics (25 marks)

- **Usefulness of money:** Search theoretic models of money – Overlapping generation models of money.
- **Different approaches to modeling money:** Money in the utility function – Cash –in-advance models.
- **Money and public finance:** Budget accounting- Equilibrium seigniorage – Friedman’s rule – optimal taxation and seigniorage - Fiscal theory of price determination.
- **New Keynesian monetary economics:** Taylor rules and other developments.

#### Group B – Financial Economics (25 marks)

- **Introduction** - Corporate Finance, Corporate Firm and its goals: basic concepts and ideas.
- **Corporate Financial Reporting** - Overview of financial statement analysis, Structure of Financial Statements: Balance Sheet, Income Statement, Statement of Cash Flow, Financial Ratios and Financial Statement Analysis.
- **Capital Budgeting Decision of firms** - Introduction to risk, return and opportunity cost of capital: measuring portfolio risk, diversification and risk, limits to diversification, Capital Asset Pricing Model.
- **Theories of Capital Structure** - capital structure and the pie theory, Maximizing firm value versus maximizing stockholders’ interest, Financial Leverage and Firm Value – Modigliani and Miller Propositions.
- **Introduction to Financial Markets-** Introduction to stock market, bond market and money market, their functions.

### DSE B8: Money and Finance II (50 marks)

#### Group A – Monetary Economics (25)

- **Stock Market and Macroeconomics** – analysis of Tobin’s q, investment, effective demand
- **Bank Credit and Macroeconomics** – issue of credit rationing and effective supply failure; credit view, money view and effective demand
- **Financial Crisis** – alternative approaches; capital account liberalization and financial crisis in emerging market economies.
- **Exchange Rate Dynamics, Current Account and the Macroeconomics**

## Group B – International Financial Economics (25)

- **The foreign exchange market** - participants, characteristics and operations.
- **The Spot market**- organization of the interbank spot market, direct, indirect and cross rates, Bid-ask spread, triangular arbitrage.
- **Foreign Exchange Exposure and Risk Management** – concepts only.
- **Introduction to currency derivative** - brief description of forward, futures and options market operations.
- **Multinational corporations** – origin, growth and operations.

### Selected Readings:

#### *Monetary Economics*

1. Walsh, C.A.: Monetary Theory and Policy, Indian Reprint, PHI Learning Pvt. Limited.
2. Woodford, M.: Interest and Prices - Foundation of a Theory of Monetary Policy, Indian Reprint, New Age International Publishers.
3. Blanchard, O.J. and Fisher, S.: *Lectures on Macroeconomics*, Indian Reprint, PHI Learning Pvt. Limited.
4. Wickens, M.: Macroeconomic Theory – A Dynamic General Equilibrium Approach, Princeton University Press.

#### *Financial Economics*

1. Bhole, L.M. and Mahakud, J.: Financial Institutions and Markets: Structure, Growth and Innovations, Tata McGraw Hill Education.
2. Levi, M.D.: International Finance, Routledge.
3. Shapiro, A.C.: Multinational Financial Management, John Wiley and Sons, Inc.
4. Sharpe, W.F., Alexander, G.J. and Bailey, J.F.: Investments, Prentice Hall India Pvt. Ltd.

**Group C**  
**(PG-ECO-DSE-3.3/4.3)**

**Full Marks: 50**

**Optional Papers**

**Discipline Specific Elective Courses DSE C1/C2: Public Economics**

**DSE C1: Public Economics I: Public Expenditure and Taxation**

- Introduction: Equity, efficiency and role of the state
- Public goods
  - o Properties of public goods
  - o Efficient vs. Private provision
  - o Voluntary contributions for public goods
  - o Lindahl taxes
  - o Demand revealing mechanism
  - o Merit goods and club goods
- Taxation
  - o Incidence: Partial and General Equilibrium
  - o Optimal taxation: Commodity and Income taxation
  - o Taxation and savings
- Fiscal federalism
  - o The Economic Theory of Federalism
  - o Intergovernmental Transfers
  - o Local vs. state taxes
- Corruption and related issues
- Empirical Issues in Public Economics

**DSE C2: Public Economics II: Public Choice**

- The reasons for public choice:
  - o allocative efficiency
  - o redistribution
- Fundamental issues in public choice
  - o preference revelation
  - o aggregation of preference - Arrow's Impossibility Theorem
  - o aggregation of information
- Public choice in a direct democracy
  - o Political competition over a single issue: citizen candidate model
  - o Choice of Voting Rules – Unanimity versus majority rule. Alternative voting procedures.
- Public choice in a representative democracy
  - o Party Competition: Uni-dimensional policy spaces with uncertainty
  - o Endogenous party formation
  - o Rent-seeking and lobbying
  - o The role of bureaucracy

**References:**

1. Microeconomics of Market Failure – Bernard Salanie
2. Economics of Taxation - Bernard Salanie
3. Political Competition: Theory and Applications – John E. Roemer
4. Public Choice III – Dennis Mueller

**DSE C3/C4: Labour Economics****DSE C3: Labor Demand and Supply (50 marks)**

- Human Capital, Individual Wage Determination, Schooling, Experience, and Earnings
- Unions and Collective Bargaining
- Labor Migration
- Economics of the Informal Sector
- Globalization and Labour
- Economics of Child Labour

**DSE C4: Labour in India (50 marks)**

- Characteristics of the Indian labour force,
- Wages and employment in agriculture,
- Industry and services,
- Importance of the informal sector,
- Employment and labour welfare policy.
- Trade unions,
- Women in the labour force.
- Rural urban migration.
- Investment in human capital.
- Globalisation and labour market reforms.
- Wage inequality,
- Child labour.

**References:**

- Cahuc, Pierre, and Andre Zylberberg. Labor Economics. Cambridge, Mass. and London: MIT Press, 2004.
- Ashenfelter, Orley, and Richard Layard. The Handbook of Labor Economics. Vol. 1 and 2. New York: North-Holland, 1986; Vol. 3A, 3B, and 3C, 1999.
- Chaudhuri, Sarbajit and Mukhopadhyay, Ujjaini (2009): Revisiting the Informal Sector: A General Equilibrium Approach, Springer, New York, USA.
- Basu, Kausik (1997): Analytical Development Economics, Oxford University Press, Delhi.
- Marjit, S. and Acharyya, R. (2003): International Trade, Wage Inequality and the Developing Economy: A General Equilibrium Approach, Physica-Verlag.
- R. Solow (1990): The Labour Market as an Institution, Blackwell Publisher.
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## General Elective Course

### GE 1: Development Studies

(PG-ECO-GE-3.5)

Full Marks: 50

### Syllabus

#### Topics:

1. Evolution of development experience and development thinking; [4]
2. The rise and fall of developmentalist models; from classical roots to neo-classical and institutional economic thinking. [6]
3. Goals of development; consequentialist and deontological thinking; alternative approaches to well-being – from wealth/income or opulence to capability/functioning; development as freedom [8]
4. Efficiency and distributive justice – utilitarianism to Rawls, Roemer, Sen; income poverty and capability deprivation [10]
5. Market failure; economic role of the state; government failure. [4]
6. State, Market and Economic Development: Country experiences [4]
7. Inequality and Economic Development – post-war evolution of global inequality [10]
8. Market and alternative institutions; market and efficiency; market and freedom; [4]

#### Essential Readings:

- Ha-Joon Chang , 2003, Kicking Away the Ladder, London: Anthem Press [Chapter 1].
- Munshi, Kaivan, 2006. “Nonmarket Institutions”, In: Abhijit V Banerjee, Roland Benabou and Dilip Mookherjee (eds) Understanding Poverty, Oxford: Oxford University Press[Chapter : 23]
- Picketty, Thomas, 2014. Capital in the Twenty First Century, Harvard University Press
- John Rawls, 1971. A Theory of Justice, Harvard: Harvard University Press. [Chapters 1&2].
- John Roemer, 2000. ‘Equality of Opportunity’, In: Kenneth Arrow, Samuel Bowles and Steven Durlauf (eds) Meritocracy and Economic Inequality, Oxford: Oxford University Press.
- Amartya, Sen 2000. Development as Freedom, Oxford: Oxford University Press, [Chapters 1-3 and 5].
- Amartya ,Sen and Bernard Williams 1982 Utilitarianism and Beyond, CUP.[ Introduction ]
- Thorbecke, Erik , 2007, “The Evolution of the Development Doctrine, 1900-2005”, In: G. Mavrotos and A. Shorrocks (editors) Advancing Development, Palgrave MacMillan.



**Abbreviations used:****IA: Internal Assessment****ESE: End Semester Examination****Course Code Components:****PG: Post Graduate****Course Code (Subject Abbreviation)****Course Type: CC/DSE/GE/SEC/AEC****CC: Core Course****DSE: Discipline Specific Elective Course****GE: Generic Elective Course****SEC: Skill Enhancement Course****AEC: Ability Enhancement Compulsory Course**

N.B: For each paper, in each semester there will be internal assessment. For all Theory papers the final grade will be 20% internal assessment and 80% end-semester evaluation. For each Practical paper and the Project the final grade will be 40% internal assessment and 60% end-semester evaluation.