UNIVERSITY OF NORTH BENGAL

Syllabus for Master of Arts in Economics

with effect from the Academic Session 2021-2023

(CBCS based)

DEPARTMENT OF ECONOMICS
NORTH BENGAL UNIVERSITY
RAJARAMMOHUNPUR, DARJEELING
PIN-734013, WEST BENGAL

**DEPARTMENT OF ECONOMICS
NORTH BENGAL UNIVERSITY
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PIN-734013, WEST BENGAL**

Semester 1	Course Code	Title of the Course	Full Marks (External)	Full Marks (Internal)	Total Full Marks	Credit
Core/ Compulsory	101	Micro Economic Analysis-I	**50**	**10**	**60**	**2.4**
	102	Macro-Economic Analysis - I	**50**	**10**	**60**	**2.4**
	103	Quantitative Methods - I	**50**	**10**	**60**	**2.4**
	104	Basic Econometrics – I	**50**	**10**	**60**	**2.4**
	105	History of Economic Ideas - I	**50**	**10**	**60**	**2.4**
	106	Public Economics – I	**50**	**10**	**60**	**2.4**
	107	Field Work-I& Group Discussion	**40**		**40**	**1.6**
		Total Marks	**340**	**60**	**400**	**16**

Semester 2	Course Code	Title of the Course	Full Marks (External)	Full Marks (Internal)	Total Full Marks	Credit
Core/ Compulsory	201	Micro Economic Analysis-II	**50**	**20**	**70**	**2.8**
	202	Macro-Economic Analysis - II	**50**	**20**	**70**	**2.8**
	203	Quantitative Methods - II	**50**	**15**	**65**	**2.6**
	204	Basic Econometrics – II	**50**	**15**	**65**	**2.6**
	205	History of Economic Ideas - II	**50**	**15**	**65**	**2.6**
	206	Public Economics – II	**50**	**15**	**65**	**2.6**
		Total Marks	**300**	**100**	**400**	**16**

Semester 3	Course Code	Title of the Course	Full Marks (External)	Full Marks (Internal)	Total Full Marks	Credit
Core/ Compulsory	301	Economic Growth and Globalisation	50	10	60	2.4
	302	Economics of Development -I	50	10	60	2.4
	308	Field Work-II &Group Discussion	40		40	1.6
Special/Optional Course (*Each student shall opt for two special courses out of the following four special courses*)	303A	Agricultural Economics – IA	50	10	60	2.4
	303B	Agricultural Economics – IB	50	10	60	2.4
	304A	Advanced International Economics-IA	50	10	60	2.4
	304B	Advanced International Economics-IB	50	10	60	2.4
	305A	Natural Resource and Environmental Economics – IA	50	10	60	2.4
	305B	Natural Resource and Environmental Economics – IB	50	10	60	2.4
	306A	Advanced Econometrics – IA	50	10	60	2.4
	306B	Advanced Econometrics – IB	50	10	60	2.4
	307A	Demography and Population Studies-IA	50	10	60	2.4
	307B	Demography and Population Studies-IB	50	10	60	2.4
		Total Marks	**340**	**60**	**400**	**16**

Semester 4	Course Code	Title of the Course	Full Marks (External)	Full Marks (Internal)	Total Full Marks	Credit
Core/ Compulsory	401	Economic Growth and Globalization	**50**	**10**	**60**	**2.4**
	402	Economics of Development-II	**50**	**10**	**60**	**2.4**
	408	Term Paper& Viva voce	**40**		**40**	**1.6**
Special/Optional Course (*Each student shall opt for two special courses out of the following four special courses*)	403A	Agricultural Economics – IIA	**50**	**10**	**60**	**2.4**
	403B	Agricultural Economics – IIB	**50**	**10**	**60**	**2.4**
	404A	Advanced International Economics-IIA	**50**	**10**	**60**	**2.4**
	404B	Advanced International Economics-IIB	**50**	**10**	**60**	**2.4**
	405A	Natural Resource and Environmental Economics – IIA	**50**	**10**	**60**	**2.4**
	405B	Natural Resource and Environmental Economics – IIB	**50**	**10**	**60**	**2.4**
	406A	Advanced Econometrics – IIA	**50**	**10**	**60**	**2.4**
	406B	Advanced Econometrics– IIB	**50**	**10**	**60**	**2.4**
	407A	Demography and Population Studies-IIA	**50**	**10**	**60**	**2.4**
	407B	Demography and Population Studies-IIB	**50**	**10**	**60**	**2.4**
		Total Marks	**340**	**60**	**400**	**16**

DEPARTMENT OF ECONOMICS

NORTH BENGAL UNIVERSITY

Course Structure - Master of Arts in Economics

Distribution of Marks

Total Marks - 1600 (Total no. of courses 32) – 64 credits
End Semester Examination – 1200 marks

Internal Assessment – 400 marks

1st Semester

(All courses are compulsory)

101.   Micro economic Analysis - I (60 marks): 2.4 credits
102.   Macroeconomic Analysis - I (60 marks) :2.4 credits
103.   Quantitative Methods - I (60 marks):2.4 credits
104.   Basic Econometrics – I (60 marks):2.4 credits
105.   History of Economic Ideas - I (60 marks):2.4 credits
106.   Public Economics – I (60 marks):2.4 credits
107.   Field Work–I & Group Discussion (40 marks):1.6 credits

2nd Semester

(All courses are compulsory)

201.   Micro economic Analysis - II (70 marks): 2.8 credits
202.   Macroeconomic Analysis - II (70 marks) : 2.8 credits
203.   Quantitative Methods -II (65 marks) : 2.6 credits
204.   Basic Econometrics – II (65 marks) : 2.6 credits
205.   History of Economic Ideas -II (65 marks) : 2.6 credits
206.   Public Economics – II (65 marks) : 2.6 credits

3rd Semester

(Compulsory Courses)

301. Economic Growth &Globalisation – I (60 marks): 2.4 credits
302. Economics of Development – I (60 marks): 2.4 credits
308. Field Work –II & Group Discussion (40 marks): 1.6 credits

Special Courses

(Each student shall opt for two special papers out of the following four special courses)
303A. Agricultural Economics - IA (60 marks): 2.4 credits
303B. Agricultural Economics - IB (60 marks): 2.4 credits
304A. Advanced International Economics - IA (60 marks): 2.4 credits
304B. Advanced International Economics - IB (60 marks): 2.4 credits
305A. Natural Resource and Environmental Economics – IA (60 marks):2.4 credits
305B. Natural Resource and Environmental Economics – IB (60 marks):2.4 credits
306A. Advanced Econometrics – IA (60 marks): 2.4 credits
306B. Advanced Econometrics – IB (60 marks): 2.4 credits
307A. Demography and Population Studies-IA (60 marks): 2.4 credits
307B. Demography and Population Studies-IB (60 marks): 2.4 credits

4th Semester

(Compulsory Courses)

401. Economic Growth &Globalisation – II (60 marks): 2.4 credits
402. Economics of Development– II (60 marks): 2.4 credits
408. Term Paper & viva voce - (40 marks): 1.6 credits

Special Courses

(To be continued as in semester III)

403A. Agricultural Economics – IIA (60 marks): 2.4 credits
403B. Agricultural Economics – IIB (60 marks): 2.4 credits
404A. Advanced International Economics – IIA (60 marks): 2.4 credits
404B. Advanced International Economics – IIB (60 marks): 2.4 credits
405A. Natural Resource and Environmental Economics – IIA (60 marks): 2.4 credits
405B. Natural Resource and Environmental Economics – IIB (60 marks): 2.4 credits
406A. Advanced Econometrics– IIA (60 marks): 2.4 credits
406B. Advanced Econometrics– IIB (60 marks): 2.4 credits
407A. Demography and Population Studies-IIA (60 marks): 2.4 credits
407B. Demography and Population Studies-IIB (60 marks): 2.4 credits

Course 101: Course Title: Microeconomics Analysis – I

Module 1: Consumer Choice and Advanced Utility Theory

Preference & Choice: Preference Relations and Utility, Choice Rule and Optimal Choice, Demand Functions and Comparative Statics, Demand, Indirect Utility, and Expenditure Function, Roy's Identity

Demand Function: Compensating & Equivalent Variation, Slutsky equation and Intertemporal Choice, Expenditure function, Comparative Statics of Expenditure Function.

Revealed Preference: Axioms of Revealed Preferences, Substitution Effect

Demand Behaviour: Endowments in the Budget Constraint, Income-Leisure Trade-Off, Homogeneous and Homothetic Utility Function, Aggregating Across Goods, Aggregating Across Consumers.

Module 2 Game Theory and Economic Behaviour

Cooperative us Non-cooperative Games, Extensive Form Representation of a Game, Strategies and the Normal Form Representation of a Game; Simultaneous Move Games – Dominant and Dominated Strategies, Nash Equilibrium Game of Incomplete Information: Bayesian Nash Equilibrium. Dynamic Game – Sequential, Backward Induction and Sub-game Perfection, Beliefs and Sequential Rationality, Reasonable Beliefs and Forward Induction. Application of games in oligopoly market, wage bargaining, community resource management.

Readings:
- A. Mas-Collel, D. Michael, Whinston and Jenry R Green 2007, *Microeconomic Theory*, Oxford University Press, New Delhi
- D. Fudenberg and J. Tirole 1991, *Game theory*, MIT Press, Massachusetts
- G. Jehle and P. Reny 2001, Advanced Microeconomic Theory, Addison Wesley
- H. Gravelle and H. & R. Rees – (3rd ed.) 2004, *Microeconomics,* Longman, London
- Hal R. Varian 2000, *Microeconomics Analysis*, New York, W.W. Norton
- J. Martin and Osborne 2004, *An Introduction to Game Theory*, Oxford University Press, New York.
- R. B. Myerson 1991, *Game theory- An Analysis of Conflict*, Harvard University Press, Cambridge, Massachusetts
- R. Gibbons 1992, *Game Theory for Applied Economists*, Princeton University Press, New Jersey.

Course 102: Macro economic Analysis - I

Module 1 Macro-economy and its Problems (4 Hours)

Major macroeconomic issues--- Major schools of thought in macroeconomics---Macroeconomic stability and policy effects

Module 2 Early Keynesian Models: Closed and Open Economy Frameworks (10 Hours)

Keynes and the birth of macroeconomics-------The hallmarks of the Keynesian framework---Effective demand, liquidity preference, downward wage rigidity----The Keynesian contractual view of the labor market---Sources of wage rigidity---Critique of the wage floor model---Extensions of the original Keynesian framework-----Wage rigidity vs. sticky wages---Fiscal and monetary expansion with sticky wages---Supply shocks and aggregate demand policy---Keynesian Economics and underdeveloped countries------Introduction of the external sector------Mundell-Fleming Model---- Monetary and Fiscal Policy in an open economy----- Fixed vs. flexible exchange rates----Insulation of the economy from foreign shocks under flexible exchange rates.

Module 3 Monetarist Counter-Approach (10 Hours)

The rise and fall of the Keynesian consensus-----Genesis of monetarism**-----** Basic features of monetarism --------Friedman's reformulation of the Quantity theory of money--- ----The weak form vs the strong form------The natural rate theory--- Keynesian vs. monetarist policy prescriptions---- Some evidence on the Monetarist-Keynesian controversy.

Module 4 Disequilibrium Macroeconomics (12 Hours)

Patinkin's neoclassical synthesis---Non-compatibility of orthodox microeconomic theory and Keynesian macroeconomics---Walras' law---Micro foundations of macroeconomics---Notional and effective demand functions ---Dual decision hypothesis of Clower---Traditional preference theory as a special case of the dual decision theory---Concept of constrained demand---A general disequilibrium model involving both excess supply and excess demand situations---Concepts of effective supply and forced saving.

Basic Readings:
- Patinkin,D. (1965), *Money, Interest and Prices*
- Clower, R. W. (ed) (1970), *The Keynesian Counter Revolution : A Theoretical Appraisal*.

- Barro, R.J. and H.I Grossman (1971), 'A General Disequilibrium Model of Income and Employment', *American Economic Review*, Vol.61
- Dornbusch, R. And S. Fisher, *Macroeconomics* (3/e)
- Froyen, R.T. (1993), *Macroeconomics: Theories and Policies*
- Sikdar, S. (2006), *Principles of Macroeconomics*
- Friedman, M. (1968), 'The Role of Monetary Policy' *in American Economic Review*, Vol.58
- Modigliani, F. (1977), 'The Monetarist Controversy or, Should We Forsake Stabilization Policies' in *American Economic Review*, Vol. 69

Additional Readings:

- Abel, A.B. And B.S. Bernake, *Macroeconomics* (4/e)
- Ghosh, C. and A. Ghosh (2011), *Macroeconomics*
- Snowdon,B. and H.R. Vane (2005), *Modern Macroeconomics*

Course 103: Quantitative Methods – I

Module 1 Introduction to mathematical preliminaries: Real-valued, concave and quasiconcave functions; Matrices: Negative (semi) definiteness and other properties; Continuous functions and compact sets; Convex sets, hyperplanes, and halfspaces: separating and supporting hyperplanes. (14 Hours)

Module 2 Static Optimization: Sign definiteness of quadratic forms, Eigenvalues and Eigenvectors; Existence of Optima− the Weierstrass' theorem and Fixed-point Theorems; Unconstrained Optimization; Optimization with (a) Equality Constraints (b) Inequality Constraints− Lagrange's Method and the Kuhn-Tucker Conditions; (14 Hours)

Module 3 Comparative statics − the value function, Envelope Theorem and Duality− Economic applications. (8 Hours)

Readings:
- Beavis & Dobbs (1990), Optimization and Stability Theory for Economic Analysis, CUP
- Chiang and Wainwright (2005), Fundamental Methods of Mathematical Economics, McGraw-Hill.
- Dixit, A.K (1990), Optimization in Economic Theory, OUP.
- Gravelle, H and R Rees (1992), Microeconomics, Pearson Education
- Hoy, et al. (2001), Mathematics for Economics, Prentice-Hall.
- Intrilligator (1971), Mathematical Optimization and Economic Theory, Prentice Hall
- Mas-Colell, A., M. Whinston and J. Green (1995), Micro-economic Theory−Mathematical Appendices, OUP

- Silberberg, E. and W. Suen (2000), The Structure of Economics: A Mathematical Analysis, McGraw-Hill.
- Simon, C.P. and L. Blume (1994), Mathematics for Economists, Norton
- Sundaram, R.K. (1996), A First Course in Optimization Theory, CUP
- Varian, H. R (1992), Micro-economic Analysis, W.W. Norton & Co. NY

Course 104: Basic Econometrics – I

Module 1. Introduction:

Definition, Scope and Division of Econometrics, Collection of Data: Primary Data, Secondary Data, Various Methods of Collection of Primary Data, Census and Sample of Data, Various Sampling Techniques, Correlation theory

Module 2. Simple Linear Regression Model (The Ordinary Least Squares Method):

Assumptions of the linear stochastic regression Model, the distribution of the variable(s), normal equations of OLS

Module 3. Statistical Tests of Significance of the Estimates:

The tests of the goodness of fit with r^2, test of significance of the parameters of the estimates, confidence intervals of the parameters, test of significance for the sample correlation coefficient,

Module 4. Properties of the Least Square Estimates:

Desirable properties of estimators, Properties of the Least Square estimators

Readings:

- Gujarati, D.N. (2003), Basic Econometrics, 4th Edition, Tata-MaGraw-Hill,
- Koutsoyiannis, A. (2nd Edition) Theory of Econometrics (2nd Edition),Oxford University Press
- Maddala, G.S. (2002), Introduction to Econometrics (3rd Edition), John Wiley & Sons Ltd.
- Wooldridge, J.M. (2008), Introductory Econometrics-A Modern Approach.3rd Edition, India Edition

Course 105: History of Economic Ideas – I

Module 1 History of economic thought: Introduction; Methodological Approach; Aim, Objectives and Importance; Overview of ancient and medieval economic thought: Occidental and Oriental; Mercantilism: Power Versus Plenty in Mercantilism; Mercantilist as Protectionist and Monetary System; Theory of Growth and Employment; Mercantilism and Underdeveloped Nations;

Physiocracy; Social Philosophy; Economic Analysis; Quesnay's Tableau Economique; Economic Growth and Economic Policy; Physiocrats and Underdeveloped Nations. (10 Hours)

Module 2 Classical Economics: Overview of Classical Economics; Classical Theory of Growth and Under developed Countries; Adam Smith: As Father of Economics; The Philosophy of Naturalism and Optimism and its Practical Implications; The Doctrine of Laissez-faire; The Theory of Economic Growth; The Theory of Distribution; T. R Malthus: The Principle of Population; The Principle of Effective Demand; Theory of Growth; David Ricardo: The Economic Method; The Theory of Distribution; Profits and the Fundamental Theorem of Distribution; The Theory of Growth; The Theory of Value- Search for an Invariable Measure; On International Trade- The Theory of Comparative Cost; On Economic Policy; J.S Mill: The Economic Method; Political Philosophy and Economic Policy- Utilitarianism, Economic Role of Government; The Principles of Political Economy-Laws of Production and Distribution; The Theory of Growth-Production of Wealth; Mill and Underdeveloped Countries.(10 Hours)

Module 3 Reaction against Classical Economics: Historical and Social Critics: German Historical School- Critical Ideas of Historical School; Concept of Nationalism and Theory of Economic Development; The Historical view of Economic Theory; The Prophet of Industrialism; Collectivism; Utopian Socialists; Criticism of Competition; The Exchange Bank. (10 Hours)

Module 4 Karl Marx: Marxian Philosophy- Dialectical Materialism; Historical Materialism; Mode of Production; The Labour Theory of Value- Determination of Exchange value; The Theory of Surplus Value-Rate of Surplus Value; The Theory of Prices of the Transformation Problem; The Theory of Development; Immiserization of Proletariat and Wage Theory; The Falling Rate of Profit; The Reproduction Schema. (6 Hours)

Readings:

- Backhaus, J.G (ed.)., Handbook of the History of Economic Thought
- Blaug, Mark., Economic Theory in Retrospect
- Canterberry, E.R., A Brief History of Economics, Artful Approaches to the Dismal Science
- Coats, A.W., The Historicist Reaction in English Political Economy, 1870-1890',
- Cole, G.D.H., A History of Socialist Thought, Vol. I.
- Dobb, M., Theories of Value and Distribution Since Adam Smith
- Ekelund, R.B. and Herbert, R.F., A History of Economic Theory and Method
- Grossman, H., 'The Evolutionist Revolt against Classical Economics'. Journal of Political Economy, October and December 1943.

- Guide, C. and Rist, C., A History of Economic Doctrine
- Heckscher, E.F., Mercantilism
- Heilbroner, R., Worldly Philosophers (1972)
- Heney, L. H., History of Economic Thought
- Jackson, J.H., Marx, Proudhon and European Socialism.
- Jevon, W.S., Theory of Political Economy
- Keynes, J.M., General Theory of Employment, Interest and Money.
- Malthus, T.R., An Essay on the Principle of Population as it Affects the Future Improvement of the Society, with Remarks on the Speculations of Mr. Godwin, Mr. Condercet and Other Writers
- Marshall, A., Principles of Economics
- Marx, K., Capital
- Mill, J.S., Principle of Political Economy
- Medema, S.G. and Samuels, W.J. (ed.)., The History of Economic Thought: A Reader
- Menger, C., Principles of Economics
- NegishiTakasha., History of Economic Theory
- Ricardo, D., The Principles of Political Economy and Taxation
- Roll Eric., A History of Economic Thought
- Roncaglia, Alessandro., The Wealth of Ideas A History of Economic Thought
- Schumpeter, J. A., History of Economic Analysis
- Screpanti, E. and Zamagri, S., An Outline of the History of Economic Thought
- Smith, A. An Inquiry into Nature and Causes of Wealth of Nation
- Spiegel, H. W., The Growth of Economic Thought (1971)
- TsoulfidisLefteris., Competing Schools of Economic Thought

Course 106: Public Economics – I

Module 1 Theory of Government Intervention (9 Hours)

Economic Rationale of the Modern Government; Welfare Economics and Governmental Intervention – View of the State; Changing Perspective – Government in a Mixed Economy; Public, Private and Merit Goods - Theory of Public Goods

Module 2 Externalities and the Role of the Government (8 Hours)

Consumption, Production and Technological Externalities; Direct Negotiation versus Governmental Intervention; Negative externalities and Spillover Effects; Public Pricing and Environmental Policy.

Module 3 Public Expenditure (10 Hours)

Causes of the Growth of Public Expenditure in Modern Times; Macro Models of Public Expenditure

A Microeconomic Model of Public Expenditure; Micro Determinants of Public Expenditure: Population Growth - Service Environment - Quality of Publicly Supplied Goods - The Price of Public Sector Inputs; Tax Equity and Efficiency – Evaluation of Benefit and Ability to Pay Theories of Taxation.

Module 4 Mechanics of Budget (9 Hours)

Budget Terms and Budget Concepts - Importance, Objective and Modern Classification of Budget - Types of Budgets; Different Concepts of Budget Deficit; Budgetary Trend and Policy in India; Analysis of the Latest Central Government Budget in India.

Readings:

- Atkinson, A. and J. Stiglitz (1980): *Lectures on Public Economics*, MIT Press.
- Basu, Kaushik (1991): "Markets, Power and Social Norms" in *Economic Graffitti: Essays for Everyone*, Bombay, Oxford.
- Brown, C. V. and P. M. Jackson (1982): *Public Sector Economics*, Martin Robertson, Oxford. [4/e, Blackwell, 1996]
- Due, John F. and Ann F. Friedlander (PB Indian edition 1997): *Government Finance: Economics of the Public Sector*, AITBS Publishers & Distributors (Regd.), Delhi.
- Feldstein, Martin (2001): *The Transformation of Public Economics Research: 1970-2000*. NBER website.
- Government of India (various years): *Economic Survey*, Ministry of Finance, New Delhi.
- Laffont, Jean-Jacques (1989): *Fundamentals of Public Economics*, Boston, MIT.
- Mithani, D. M. (1993): *Principles of Public Finance and Fiscal Policy*, Himalaya Publishing House, Bombay.
- Mundle, S. (1999): *Public Finance Policy: Issues for India*, Oxford University Press, Delhi.
- Rosen, Harvey S. and Ted Gayer (2007): *Public Finance*, (8/e), McGraw-Hill Irwin.
- Tanzi, Vito and LudgerSchuknecht (2000): *Public Spending in the 20th Century: A Global Perspective*, Cambridge University Press. Chap I, pp.3-22.

Course 201: Microeconomics Analysis – II

Module 1: Uncertainty and Risk

Choice under Uncertainty: Expected Utility Theory – objects of choice and prospect preference, Axiom of expected utility, Money lotteries and risk aversion, Risk aversion and preference, relation – Arrow-Pratt comparative risk aversion, Rothschild – Stiglitz comparative risk aversion.

Risk aversion – risk premium, indices of risk aversion, absolute risk aversion, global risk aversion, relative risk aversion, demand for insurance, decision making under uncertainty, investment under uncertainty, and comparative statics under uncertainty.

Module 2: Decision-making under Information Economics

Adverse selection and moral hazard, basic principal-agent problem, complete information optimal contract, implementation of the first best, information rent, optimal contract under asymmetric information, introduction to auction theory, incomplete contracts, Akerlof Model of used cars, Spence Mode – Job Market Signalling and Government intervention under incomplete information.

Readings:

- Christopher Snyder, Walter Nicholson & Robert Stewart, 2015 *Microeconomic Theory,* Cengage Learning
- G. Jehle and J. Reny – (3rd ed.) 2011, *Advanced Microeconomic Theory*, Pearson Education
- Gravelle, H. & R. Rees (3rd ed.), 2004 *Microeconomics,* Longman, London
- H. Gravelle and R. Rees – (3rd ed.) 2004, *Microeconomics,* Longman, London
- Jean – Jacques Laffont and David Martimort, 2002, *The Theory of Incentives: The Principal-Agent Model*, Princeton University Press, New Jersy
- Martin J. Osborne and Ariel Rubinstein 2020, *Models in Microeconomic Theory,* Open Book Publishers
- Mas-Collel, Andreu, Michael D. Whinston and Jenry R Green 2007, *Microeconomic Theory*, Oxford University Press, New Delhi
- Mas-Collel, Andreu, Michael D. Whinston and Jenry R Green, 2007. *Microeconomic Theory*, Oxford University Press, New Delhi
- Susheng Wang 2018, *Microeconomic Theory*, Springer Nature Singapore
- Susheng Wang 2018, *Microeconomic Theory*, Springer Nature Singapore

Course 202: Macroeconomic Analysis - II

Module 1 New Classical Economics and the Rational Expectations Hypothesis (8 Hours)

The role of expectations in macroeconomics---Keynes' treatment of expectations ---Adaptive Expectations Hypothesis---The Rational Expectations concept and its implications---the New Classical policy ineffectiveness postulate---A simple formal model of Rational Expectations---The Keynesian counter-critique.

Module 2 Second Generation New Classical Directions (4 Hours)

Real Business Cycle models---Central features ---A simple real business cycle model---Effects of technology shocks---Fiscal and monetary policy impacts---Questions about Real Business Cycle models.

Module 3 New Keynesian directions---the macroeconomics of wage and price rigidity (8 Hours)

Real wage rigidity---The efficiency wage model---Wage determination in the efficiency wage model---Employment and unemployment in the efficiency wage model---Sources of price stickiness---Sticky price (menu cost) models---Monetary and fiscal policy---Insider-outsider models and hysteresis---Rigidities in interest rates and credit rationing

Module 4 Alternative Approaches to Macroeconomics: A Brief Overview (8 Hours)

The Austrian School of Macroeconomics---History and origin---Analytical framework---Major contributions---Critique---Supply-side Macroeconomics---Historical origins---Reaganomics---Policy prescriptions---Critique.

Module 5 The New Political Macroeconomics (8 hours)

Political distortions and macroeconomic performance---The role of Government---Politicians and stabilization policy---Alternative approaches to the 'Political business Cycle'---Politico-economic models---Policy implications of Politico-economic models.

Basic Readings:

- Froyen, R.T. (1993), *Macroeconomics-Theories and Policies*.
- Begg, D.K.H (1982), *The Rational Expectations Revolution in Macroeconomics Theories and Evidence*
- Mankiw, N.G. (2002), *Macroeconomics.*

- Plosser, C. (1989), Understanding Real Business Cycles in *Journal of Economic Perspectives (Summer)*
- Gordon, R.T. (1990), 'What Is New Keynesian Economics?' in *Journal of Economic Literature*.
- Snowdon,B. and H.R. Vane (2005), *Modern Macroeconomics*
- Select article references to be given during Course

Additional Readings:

- Abel, A.B. And B.S. Bernake, *Macroeconomics* (4/e)
- Ghosh, C. and A. Ghosh (2011), *Macroeconomics*

Course 203: Quantitative Methods – II

Module 1 Differential Equations, Stability Theory, Phase Diagrams. (12 Hours)

Module 2 Elements of Dynamic Optimization: Optimal Control Theory− the Pontriyagin Maximal Principle− Fixed and variable endpoint problems− dealing with Different Types of Transversality Condition− Finite and infinite horizon problem− Autonomous optimal control problems with examples in Economics. (12 Hours)

Module 3 Game Theory− Non cooperative games− Static and dynamic games under complete information− Concepts of Nash equilibrium and subgame perfection− Repeated games − Static and dynamic games of incomplete information−Bayesian Nash equilibrium and perfect Bayesian equilibrium. (12 Hours)

Readings:
- Aliprantis, C.D. and S.K. Chakrabarti (1999): Games and Decision Making, OUP.
- Binmore, K. G (1992): Fun and Games: A Text on Game Theory, D.C. Heath.
- Chiang, A.C (1992): Dynamic Optimization, McGraw-Hill.
- Dowling, E. T (2007): Introduction to Mathematical Economics, Schaum's Outlines, McGraw-Hill.
- Fudenberg, D. and J. Tirole (1991): Game Theory, MIT Press.
- Gibbons, R (1992): Game Theory for Applied Economists, Princeton University Press.
- Gravelle, H and R Rees (2004): Microeconomics, Pearson Education.
- Kamien& Schwartz (1981): Dynamic Optimization, North Holland.
- Mukherjee, Anjan and SubrataGuha (2011): Mathematical Methods and Economic Theory, OUP.
- Osborne, Martin, J. (2004): An Introduction to Game Theory, OUP.
- Oz Shy (1997): Industrial Organization-Theory and Applications, MIT Press.
- Tirole, J (1988): Theory of Industrial Organization, Appendix on Game Theory, MIT Press.

Course 204: Basic Econometrics – II

Module 1. **Multiple Regression and Other Extensions of the Simple Linear Regression Model**

Model with two explanatory Variables, The general regression Model, Partial Correlation Coefficients, Extension of the linear regression model to nonlinear relationships

Module 2. **Problems of Multicollinearity and Heteroscedasticity (10 Hours)**

The nature of Multicollinearity, Estimation in the presence of Perfect Multicollinearity, Practical Consequences of Multicollinearity, Detection of Multicollinearity, Remedial Measures, The Nature of Heteroscedasticity, OLS Estimation in the Presence of Heteroscedasticity, Consequences in the Presence of Heteroscedasticity, Detection of Heteroscedasticity, Remedial Measures

Module 3. Autocorrelation (9 Hours)

The assumptions, sources and plausibility and consequences of the auto correlation, tests for auto correlation, solution and methods for estimating the auto correlation parameters

Module 4. Errors in Variables (10 Hours)

Plausibility of the assumption of no measurement errors, Consequences of the violation of the assumption of no errors of measurement, testing for errors in the repressors, solutions for the case of errors in variables

Readings:
- Gujarati, D.N. (2003), Basic Econometrics, 4th Edition, Tata-MaGraw-Hill,
- Koutsoyiannis, A. (2nd Edition) Theory of Econometrics (2nd Edition),Oxford University Press
- Maddala, G.S. (2002), Introduction to Econometrics (3rd Edition), John Wiley & Sons Ltd.
- Wooldridge, J.M. (2008), Introductory Econometrics-A Modern Approach.3rd Edition, India Edition

Course 205: History of Economic Ideas - II

Module 1 Alfred Marshal: Economic Science and Economic Policy- Substance and Method of Economics; On Value and Distribution- The General Principle of Demand and Supply; Utility and Demand; Cost and Supply; The Theory of Distribution; Importance of Time Element; Tools of Analysis- Consumer's Surplus, Elasticity, Internal and External Economies; Stanley Jevons; The Theory of Value; Utility theory; Theory of Exchange; Theory of Labour; Karl Menger; Economic Good and Valuation Process; The Equi-marginal Principle; Imputation and Factor Values; Price Series and Index Numbers; Leon Walras: Development of General Equilibrium Analysis; Excess Demand Function; Backward Bending Supply; Market Stability; General Equilibrium in Consumption and Walras's Law; Pareto and Walras.(18 Hours)

Module 2 Austrian School of Economics; Friedrich von Wieser; Value Theory; The Antinomy of Value; Weiser's Theory of Imputation; Welfare Theory; Eugen von Bohm- Bawerk: Subjective value and Exchange; Capital Theory; Interest Rate. (6 Hours)

Module 3 John Maynard Keynes: Major Theoretical Ideas of The General Theory- Effective Demand; Consumption Function or the Psychological Law of consumption; The Multiplier; Investment Function; The Theory of Interest; Business Cycle; Keynesian Model; Attack on Classical Economics; Neo-classical counter attack; Keynesian counter-revolution Keynes and the Underdeveloped countries. (8 Hours)

Module 4 Institutionalism: Features of Institutional Economics; Veblen's Positive Analysis; Theory of Leisure Class; Conspicuous Consumption; Economic Change, Capitalism and The Future. (4 Hours)

Readings:
- Backhaus, J.G (ed.)., Handbook of the History of Economic Thought
- Blaug, Mark., Economic Theory in Retrospect
- Canterberry, E.R., A Brief History of Economics, Artful Approaches to the Dismal Science
- Ekelund, R.B. and Herbert, R.F., A History of Economic Theory and Method
- Guide, C. and Rist, C., A History of Economic Doctrine
- Heney, L. H., History of Economic Thought
- Jevon, W.S., Theory of Political Economy
- Keynes, J.M., General Theory of Employment, Interest and Money.
- Medema, S.G. and Samuels, W.J. (ed.)., The History of Economic Thought: A Reader

- Menger, C., Principles of Economics
- NegishiTakasha., History of Economic Theory
- Roll Eric., A History of Economic Thought
- Roncaglia, Alessandro., The Wealth of Ideas A History of Economic Thought
- Schumpeter, J. A., History of Economic Analysis
- Screpanti, E. and Zamagri, S., An Outline of the History of Economic Thought

Course 206: Public Economics - II

Module 1 Public Choice (9 Hours)

Majority Voting: the Median Voter Theory and the Voting Paradox – Vote Trading and the Cyclical Majority Problem.; Arrow's Impossibility Theorem; Rent Seeking and Directly Unproductive Profit Seeking Activities; The Political Business Cycle

Module 2 Fiscal Federalism (9 Hours)

The Division of Responsibilities; Principles of Fiscal Federalism: Club Theory and Local Public Goods; Tiebout Hypothesis; Issues in Indian Fiscal Federalism

Module 3 Cost-Benefit Analysis (9 Hours)

The General Efficiency Framework; The CBA Framework in Detail: Investment Criteria; Which Benefits and Costs are to be Included; The Valuation of Benefits and Costs; The Choice of Discount Rate; Risk and Uncertainty – Other Considerations. Present Value Analysis; Choosing the Appropriate Discount Rate; Measuring Benefits and Costs - Other Consideration

Module 4 Fiscal Policy and Debt Management (9 Hours)

Fiscal Policy and its Link with Monetary Operations; Budget Deficit and its Implications; Fiscal policy for Stabilization - Limits of Fiscal Policy; Management of Public Debt - Ricardian Equivalence

Readings:

- Brown, C. V. and P. M. Jackson (1982): *Public Sector Economics*, Martin Robertson, Oxford. [4/e, Blackwell, 1996]
- Choudhury, Rabindra Kumar (2008, *Public Finance and Fiscal Policy*, Kalyani Publishers, Ludhiana.
- Ghosh, Ambar and Chandana Ghosh (2008),),Public Sector Economics, Prentice Hall of India, Private Limited, New Delhi.

- Mithani, D. M. (1993), *Principles of Public Finance and Fiscal Policy*, Himalaya Publishing House, Bombay.
- Mundle, S. (1999), *Public Finance Policy: Issues for India*, Oxford University Press, Delhi.
- Peacock, A. and G. K. Shaw (1976), *The Economic Theory of Fiscal Policy*, George Allen and Unwin, London.

Course 301: Economic Growth & Globalisation-I

Module 1 Stylized Facts of Economic Growth – The Keynesian Analysis of Economic Growth – The Harrod-Domar Model – Technical Change and the Production Process.

Module 2 The neoclassical growth models and empirics -The Solow−Swan model with technological progress− the transitional dynamics− economic convergence (absolute and conditional); Welfare, the golden rule and dynamic inefficiency; The Mankiw, Romer, and Weil extension of the Solow model. (10 Hours)

Module 3 Extensions of the neoclassical growth model **-** Neoclassical growth with inter-temporal optimisation− The Ramsey model: Command economy, decentralised economy, dynamic efficiency- Government in the decentralised economy; the extension of the Ramsey growth model−the Diamond-Samuelson two-period Overlapping Generations (OLG) model, dynamic inefficiency, the social security system. (8 Hours)

Module 4 Drivers of Globalisation – Trade and Growth – Capital Flow and Immiserisation – Trade and Wage Inequality; Growth, Globalisation, and The Environment; WTO and the Nation State.

Module 5 Theory of Inter -nation Debt and Globalisation - Sovereign Risk and Rationality, Borrower Behaviour, Credit Rationing - Models of Loan Pushing and Crisis - Lender Interdependence and Excess Supply Problem.

Readings:
- Acemoglu, D (2009): Introduction to Modern Economic Growth, Princeton University Press.
- Barro, R.J. (1997): Macroeconomics, Selected Chapters, MIT.
- Barro, R. J and Xavier Sala-i- Martin (2004): Economic Growth, PHI.
- Blanchard, O.J. and Fischer, S (1989): Lectures on Macroeconomics, PHI.
- Carlin Wendy and David Soskice (2005): Macroeconomics: Imperfections, Institutions, and Policies, OUP.
- Gabriela Kutting (2004), Globalization and the Environment - Greening Global Political Economy, State University of New York Press, Albany
- Jones, C.I (2002): Introduction to Economic Growth, W.W. Norton & Company.
- Marjit, S. and Acharyya, R. (2003): International Trade, Wage Inequality and the Developing   Economy: A General Equilibrium Approach, Physica-Verlag.
- Ray, D (1998): Development Economics, OUP.
- Romer, David (2001): Advanced Macroeconomics, McGraw Hill.

- Sachs, J. (2005): The End of Poverty, The Penguin Press
- Sikdar, S. (2003): *Contemporary Issues in Globalization: An Introduction to Theory and Policy in India*, Oxford University Press, New Delhi.
- Solow, R. (2000): Growth Theory: An Exposition, OUP.
- Srinivasan (eds.), *Handbook of Development Economics*, Volume 3B, North-Holland.
- Stiglitz, J. (2002): Globalization and Its Discontents, Penguin Books.

Course 302: Economics of Development -I

Module 1 Evolution of Measures of Development (9 Hours)

Meaning and Evolution of the Concept of Development – Physical Quality of Life Index - Human Development Index-Gender Development Index-Gender Empowerment Measures; Measuring Inequality and Poverty: Income Poverty Index and Human Poverty Index; Alternative Approaches to Standard of Living – Notions of Commodities, Capabilities, Functioning and Entitlements; Concept of Sustainable Development.

Module 2 Financing Development from Domestic and Foreign Resources (9 Hours)

Forms of Savings; Financial Liberalization and its Critique; Financial System and Economic Development – The Informal Financial Sector; Fiscal Policy and Taxation – Tax Structure in LDCs and its Reforms

Module 3 Economics of Education (6 Hours)

Education and Human Development; Components of Human Capital. The Demand for Education: Private vs. Social Demand; The Cost of Education: Private Costs and Social Costs; Education as a Merit-Good: Direct and Indirect Benefits; The State and Social Expenditure on Education; Quality of education – definition, importance, determinants, importance of information technology in imparting quality education. (8 Hours)

Module 4 Health, Health Care and Economic Development (10 hours)

Definition of Health; Significance of Good Health in Economic Development; Morbidity, Burden of Disease, International Classification of Diseases; Different measures of Health; Theory of the Epidemiology of Population Change; Health Care; Community Health – Various Measures and Needs Assessment Process; The State of Health and Health Care from Indian perspective.

Readings:

- Becker, G.S. (1974). *Human Capital*, New York, NBER.
- Bowmen, Mary Jean. (1969). "Economics of Education," Review of Educational Research, 39 (5): 641-670.

- Dasgupta, P. (1994). *An Enquiry into Well-being and Destitution*, Oxford, OUP.
- Doyle, Corbette. and James Cicarelli. (1980). "The Demand for Higher Education: A Disaggregate Approach," The American Economist, 24 (2): 53-55.
- Fields, G.S. (1980). *Poverty, Inequality and Development*, Cambridge, CUP.
- Frenzel, K. A. and D. J. McCready. (1982). Economics of Education: The Development of a Sub-Discipline," The American Economist, 26 (1): 35-42.
- Fukuda-Parr, S. and A. K. Shiva Kumar (eds.) (2003). *Readings in Human Development*, New Delhi, Oxford University Press.
- Ghosh, Saswata. and Purushottam M. Kulkarni. (2004). "Does the pattern of causes of death vary across socioeconomic classes within a population? An exploratory analysis for India,", Genus, 60 (2): 55-81.
- Harris-White, B.S. Subramanian (eds). *Ill fare in India: Essays on India's Social Sector*, New Delhi, Sage Publication.
- International Institute for Population Sciences (IIPS) and ICF. (2017). National Family Health Survey (NFHS-4), 2015-16: India. Mumbai, IIPS.
- Kadri, A.M. (ed.) (2019). IAPSM's Text Book of Community Medicine, New Delhi, Jaypee Brothers Medical Publishers Pvt. Limited.
- Majumder, Amlan (2014). Capability and Well-Being in the Forest Villages and Tea Gardens in Dooars Region of North Bengal. Cooch Behar, Self-published (Available at: http://hdl.handle.net/10419/110898).
- McMahon, W.W. (1994). *Education and Development: Measuring the Social Benefits*, New York, OUP.
- Meir, Gerald. and James E. Rauch. (2000). *Leading Issues in Development Economics*, New York, Oxford University Press.
- MOHFW, Ministry of Health and Family Welfare (Various Years). Various Reports and Publications. New Delhi: Government of India.
- Ray, Debraj. (1999). *Development Economics*, New Delhi, Oxford India Paperbacks.
- Sen, A. K. (1985). *Commodities and Capabilities*, Amsterdam, North-Holland.
- Sen, A. K. (1999). *Development as Freedom*, New York, Alfred Knopf.
- Sen, A.K. & J. Dréze (eds.) (1995). *India: Economic Development and Social Opportunities,* New Delhi, OUP.
- Sen, A.K. (1999). *Poverty and Famines*, New Delhi, OUP.
- Tilak, J.B.G. (1994). *Education for Development in Asia*, New Delhi, Sage Publication.
- UNDP. (Various Years). Human Development Reports and Various Publications. https://www.undp.org/.
- Vaidyanathan, A. and P.R. Gopinathan (eds.) (2001). *Elementary Education in Rural India: A Grassroots View*, New Delhi, Sage Publication.
- Vaizey, J. (1962): *Economics of Education*, London, Faber.
- Woodhall, M. (1992). *Cost-Benefit Analysis in Educational Planning,* Paris, UNESCO.
- World Bank (Various Years). Various Publications and Reports. https://www.worldbank.org.
- World Health Organisation. (Various Years). Various Publications and Reports. https://www.who.int.

Course 303A: Agricultural Economics – IA

Module 1 Structure and Characteristics of Agriculture in LDCs (6Hours)

Main attributes of traditional agriculture----Access to non-labour resources----The farming environment----Sources of risk and uncertainty in traditional agriculture. (2Hours)

Module 2 Institutional Constraints in Less Developed Agricultureand Remedial Measures

Land market imperfections----Land reform and agrarian reform----Tenancy reform----Co-operative farming----Credit market imperfections----Rural money markets----Rural interest rate determination----Financial policies for agricultural development----Imperfections in the structure of agricultural marketing----Marketing efficiency----Marketing policies----Market functions----Regulated markets. (8 Hours)

Module 3 Economics of Sharecropping

Marshallian critique of sharetenancy----Cheung's analysis of sharetenancy----Co-existence of sharecropping with capitalist farming----Allocation of land among alternative forms of land use----Efficiency of owner versus tenant cultivation----Tenancy and accumulation. (8 Hours)

Module 4 Interlocking of Agrarian Markets

Product-credit interlinkage - Differential interest rates - Labour-credit interlinkage----Lender's risk hypothesis - Employer's risk hypothesis----Consumption efficiency hypothesis and interlinkage - Collateral pricing. (8 Hours)

Module 5 Agricultural Labour and Wage Trends in India

Definition of agricultural labour------ Status of agricultural labourers in India----- Trends in agricultural wages in India----- policy measures and their effects (6 Hours)

 Readings:
* Chavan, P. and R. Badamatta(2006): *Trends in Agricultural Wages in India, 1964-65 to 1999-2000*in EPW, Sept. 23.
* Eswaran, M. et al(2009): *SectoralLabour Flows and Agricultural Wages in India, 1983-2004: Has Growth Trickled Down?* In EPW, Jan.10.
* Gangopadhyay, S.: *Some issues in Interlinked Agrarian Markets*inK.Basu, ed., Agrarian Questions.
* Ghatak, S. and K.Ingersent: *Agriculture and Economic Development.*
* Gupta,M.R.: A Theory of Interlinkage based on the Consumption Efficiency Hypothesis.
* Patnaik, U.: *Tenancy and Accumulation* in K.Basu, ed., Agrarian Questions.

- Rakshit, M.K.: *The Labour Surplus Economy*
- Other selected articles to be referred during the course.

Course 303B: Agricultural Economics – IB

Module 1 Role of Agriculture in Economic Development (9 Hours)

Product Contribution, Market Contribution, Factor Contribution and Foreign Exchange Contribution; Interdependence between Agriculture and Industry; Agricultural Transformation and Rural Development

Module 2 Models of Agricultural Development (8 Hours)

Schultz's Model of Transforming Traditional Agriculture; Mellor's Model of Agricultural Development; Boserup's Model of Agricultural Development

Module 3 Technical Change and Peasant Agriculture (9 Hours)

Peasants and Technical Change; Economic Analysis of Technical Change; Farm Mechanization; Modern Varieties

Module 4 Agricultural Price Policy (10 Hours)

Role of Price Policy; Price Policy in Traditional and Non-traditional Agriculture; Main Elements of Agricultural Price Policy; Agricultural Price Policy in India before 1965 and after 1965; Commission on Agricultural Costs and Prices; Objectives of Price Policy in India; Guidelines for Fixation of Prices of Crops; Critical Evaluation of India's Agricultural Price Policy; Suggestions for a Better Agricultural Price Policy

Readings:

- Boserup, Ester (1965), *The Conditions of Agricultural Growth: The Economics of Agrarian Change Under Population Pressure*, George Allen & Unwin Ltd, London.
- Chauhan, D. S. (1954), *Agricultural Economics*, Educational Publishers, Agra.
- Colman, David & Trevor Young (1989), *Principles of Agricultural Economics-Markets and Prices in Less Developed Countries*, Cambridge University Press.
- Desai, Pranav K. (2010), *Agricultural Economics*, Biotech Books, Delhi.
- Ellis, Frank (1988), Peasant Economics-Farm Households and Agrarian Development, Cambridge University Press.
- Evenson, Robert E. &PrabhuPingali (2010), *Hand Book of Agricultural Economics*, North-Holland.

- Ghatak, Subrata and Ken Ingersent 1984), *Agriculture and Economic Development*, Select Book Service Syndicate, New Delhi by arrangement with Harvester Press Ltd., London.
- Kuznets, S. (1964), 'Economic Growth and the Contribution of Agriculture' in Eicher, C.K. and L. W. Witt (eds), *Agriculture in Economic Development*, McGraw-Hill, New York.
- Martin, Lee R. (ed.) (1992), *A Survey of Agricultural Economics Literature*, Vol.4 (Agriculture in Economic Development), University of Minnesota Press.
- Mellor, John W. (1966): *The Economics of Agricultural Development*, Cornell University Press, Ithaca, N.Y.
- Norton, George W. and Jeffrey Alwang (1993), *Introduction to Economics of Agricultural Development*, McGraw-Hill, Inc.
- Schultz, W. Schultz (1964): *Transforming Traditional Agriculture*, Yale University Press, New Haven, Connecticut.
- Soni, R. N. (1998), *Leading Issues in Agricultural Economics* (3/e), Shoban Lal Nagin Chand & Co, Jalandhar.

Course 304A: Advanced International Economics – IA

Module 1 Foreign Exchange Markets (12 Hours)

Introduction, Exchange Rate Definitions, Characteristics and Participants of the Foreign exchange Market, Arbitrage in the Foreign Exchange Market, the Spot and Forward Exchange Rates, Nominal, Real and Effective Exchange Rates, A Simple Model of the determination of the Spot exchange rates, Alternative Exchange Rate regimes, Currency Swaps, Forward discounts or Premiums, Uncovered Interest Arbitrage, Covered Interest Arbitrage Parity, Covered Interest Arbitrage Margin.

Module 2 Macro Economic Policy in an Open Economy (12 Hours)

Introduction, The Problem of Internal and External Balance, the Mundell-Fleming Model, Limitations of the Mundell-Fleming Model, Key Assumptions, Small Open Economy with Perfect Capital Mobility, The Small Open Economy under Floating and Fixed Exchange Rates.

Module 3 Monetary Approach to the Balance of Payments (12 Hours)

Introduction, A Simple Monetary Model, The Monetarist concept of a Balance of Payments Disequilibrium, Implications of the Monetary Approach, Empirical evidence on the Monetary Approach.

Readings:
- Keith Pilbeam, International Finance, (3rd Edition), 2006, Palgrave Macmillan
- Maurice D. Levi, International Finance, (5th Edition),(2009), Routledge.

- P. Krugman and M. Obstfeld (1997): *International Economics*. Addison-Wesley.
- Salvatore Dominick, International Economics, (8th Edition),2004, John Wiley & Sons

Course 304B: Advanced International Economics – IB

Module 1 Extensions and Tests of Classical Model of Trade. (10 Hours)

The Classical Model in Money Terms; The Dornbusch-Fischer-Samuelson Model; Transportation Cost: Comparative Static Analysis in the Dornbusch-Fischer-Samuelson Model; Evaluation of the Classical Model; Empirical Evidence of the Ricardian Model.

Module 2 Empirical Tests of the Factor Endowments Approach and It's aftermath (16 Hours)

Testing the H-O Model.; Attempted Reconciliation of Leontief's Findings; Alternative Theories of Comparative Advantage: Human Skills Theory, Product Life Cycle Theory, Imitation Lag Hypothesis, Linder Theory, Krugman Model, Imperfect Competition Model, Inter and Intra-Industry Trade, More Recent Tests of Factor Endowments Approach, Factor Endowments Approach and Income Inequality.

Module 3 Instruments and Impact of Trade Policies. (10 Hours)

Tariff Analysis, Costs and Benefits of a Tariff, Other Instruments of Trade Policy, Effects of Trade Policy, Case for and Against Free Trade. Arguments for Protection, Trade Restrictions in a Partial Equilibrium Setting: The Small Country Case. Tariffs and Quotas: Impact in the Presence of Monopoly.

Readings:

- A. Dixit and V. Norman (1980): *Theory of International Trade*. Cambridge, Cambridge University Press.
- A. Helpman and Paul Krugman (1985): *Increasing Returns, Imperfect Competition and International Trade*. Boston, MIT Press.
- B.Balasa*et. al.* (1971): *The Structure of Protection in Developing Countries*, Johns Hopkins. University Press.
- D.R. Appleyard and Alfred J. Field Jr. (1998): *International Economics*. Irwin McGraw Hill.
- G. Haberler (1936): *The Theory of International Trade*. W. Hodge and Co. London.
- H. Helpman and P. Krugman (1989): *Trade Policy and Market Structure*. MIT. Press, Mass, Cambridge
- H.Chenery (1961): "Comparative Advantage and Development Policy", *American Economic. Review*, pp-18-51

- J.N.Bhagwati (1964) : "The Pure Theory of International Trade", *Economic Journal*, March: pp1- 84
- J.N.Bhagwati and T.N.Srinivasan (1983): *Lectures on International Trade*. MIT Press.Cambridge,Mass
- M.Chacoliades (1990): *International Trade: Theory and Policy* .McGrawHill.Kogakusha, Japan.
- R. Dornbusch, S. Fischer and P. Samuelson (1977): "Comparative Advantage, Trade and Payments in a Ricardian Model with a Continuum of Growth", *American Economic Journal,* December, pp 823-840

Course 305A: Natural Resource and Environmental Economics - IA

Module 1 Economics of Resource Allocation

Economics, ethics and environment; Biophysical limits to growth - neo-classical and ecological perspective; Poverty, inequality and environmental degradation; Resource abundance and poverty; Economic theories and environmental justice; Environmental justice and ecological justice; Optimisation and resource allocation problem - Capital theory and optimal control theory

Module 2 Resource Management and Institutions

Intertemporal resource valuation and property rights structure − The dynamics of private and public resource management: the processes of decision-making in private (intra-household) and public (institutional) domains; Economic analytics and management issues in Common Property Resources − Coase bargainng− Institutional Economic Approach to Resource Management; collective action in resource management, Prisoner's Dilemma – single period and multi period.

Module 3 Economic development and Equity

Resource consumption and equity-efficiency trade-off; Environment Kuznet Curve; energy-environment interactions, energy supply and economics of depletable resources; energy and climate change; economics of climate change; role of economics in climate change policy; strategies to address climate change; energy efficiency policy; carbon-trade; clean development mechanism; environmental impact analysis; social impact analysis

Readings:

- A R Mareddy2017, *Environmental Impact Assessment Theory and Practice*, B S Publications

- Baland, Jean-Marie &Platteau, Jean-Philippe, 1996. *Halting Degradation of Natural Resources: Is there a Role for Rural Communities?*, Oxford University Press
- D I Stern 2004, 'The Rise and Fall of the Environmental Kuznets Curve', *World Development* 32(8), 1419-1439
- E A Page 2006 *Climate Change, Justice and Future Generations*, Edward Elgar
- Edward B. Barbier 2005, *Natural Resources and Economic Development*, Cambridge University Press
- ElinorOstrom, 1990. *Governing the Commons: The Evolution of Institutions for Collective Actions*, Cambridge University Press
- Eric Neumayer 1998, "Preserving natural capital in a world of uncertainty and scarce financial resources", International Journal of Sustainable Development and World Ecology 5 (1): 27-42
- Feng Liu 2001, *Environmental Justice Analysis: Theories, Methods and Practices*, Lewis Publishers
- Kadekodi, 2004. *Environmental Economics in Practice: Case Studies from India*, Oxford University Press
- Katar Singh 1994, *Managing Common Pool Resources: Principles and Case Studies*, Oxford University Press
- Laura Westra *2008, Environmental Justice & the Rights of Indigenous Peoples*, Earthscan
- M P Vogel 1999, *Environmental Kuznets Curve*, Springer
- Nick Hanley, Jason F. Shogren and Ben White 1997,*Environmental Economics: In Theory and Practice*, Macmillan Press Limited, New Delhi
- P.S. Dasgupta and G.M. Heal 1979, *Economic Theory and Exhaustible Resources*, Cambridge University Press
- R.N. Bhattacharya2001 *Environmental Economics – An Indian Perspective,* Oxford University Press, New Delhi
- Ross J. Salawitch*et al* 2017, *Paris Climate Agreement: Beacon of Hope*, Springer Open
- S C Bhattacharyya 2011, *Energy Economics Concepts, Issues, Markets and Governance*, Springer
- S Dinda 2004 'Environmental Kuznets Curve Hypothesis: A Survey', *Ecological Economics* 49, 431-455
- Thomas O. McShane, *et. al.* 2011, "Hard choices: making trade-offs between biodiversity conservation and human well-being", *Biological Conservation*, 144: 966-972
- U. Sankar (ed.) 2001,*Environmental Economics− Reader*, Oxford University Press, New Delhi
- Y Anjaneyulu and V Manickam 2007, *Environmental Impact Assessment Methodologies*, B S Publications

Course 305B: Natural Resource and Environmental Economics - IB

Module 1 Economics and Environment – The Neoclassical and Ecological Economics Approaches −Laws of Thermodynamics and Biophysical Limits to Growth and Development − Review of Welfare Economics− Pareto Efficiency and Social Welfare Maximisation− Market Failure in

Environmental Problems− Public Goods Characteristics of the Environment, Externalities, Non-Convexities and Asymmetric Information (Moral Hazard and Adverse Selection). (9 Hours)

Module 2 Environmental Pollution as a Negative Externality− Types of Pollutants and Sources of Pollution− Pollution Flows and Pollution Stocks−Point and Non-Point-Source− Local, Regional and Global Pollution− Damage and Abatement Cost Functions and the Efficient Level of Pollution Flows− Efficient level of Pollution Stocks − Non-convexity in Damage and Abatement Cost Functions − Setting Pollution Targets. (9 Hours)

Module 3 Theory of Environmental Policy I− Targeting Externalities −Instruments for Achieving Pollution Abatement Targets − Cost Efficiency and Cost-effective Pollution Abatement Instruments− Market-based Instruments (MBI) − Emissions Tax, Emission Abatement Subsidy, Deposit Refund System and Marketable Permit Instruments− Static and Dynamic Efficiency Property of Emissions Tax− Command and Control Instruments (CAC) − Emission Standards and Admissible Production Technologies − Monitoring and Enforcement− Comparison between MBI and CAC Methods. (9 Hours)

Module4: Environmental Resource Accounting and Sustainable Development− Impact of population growth on environment – environmental Kuznets Curve hypothesis, Downward spiral hypothesis, Induced innovation hypothesis; Safe Minimum Standard; Rawl's sustainability principle of non-declining welfare, Solow-Hartwick sustainability rule of non-declining capital; Indicators of sustainability (weak sustainability and strong sustainability) and sustainability rules; Cost-Benefit analysis and sustainability, Models of sustainable development (9 Hours)

Readings:

- Fisher, A.C. 1981, *Resource and Environmental Economics*, Cambridge University Press.
- Alpha C Chiang, (1992), *Dynamic Optimization*, McGraw-Hill.
- Bardhan&Udry, 1999, *Development Microeconomics*, OUP.
- Bhattacharya, R.N., 2001, *Environmental Economics – An Indian Perspective,* Oxford University Press, New Delhi.
- Clement A. Tisdell, 2005, *Economics of Environmental Conservation (2nd Ed)*, Edward Elgar, Cheltenham.
- D. W. Bromely, 1995, *Handbook of Environmental Economics*, Blackwell, London.
- Dasgupta, 1982, *The Control of Resources*, Harvard University Press.
- G. Cornelis Van Kooten and Erwin H. Bulte, 2000, *The Economics of Nature: Managing Biological Assets*, Blackwell publishers.
- James &Murty, 1999, *Economics of Water Pollution: The Indian Experience*, OUP.
- Jon M. Conrad, 1999, *Resource Economics*, Cambridge University Press.

- Jon M. Conrad and Colin Whitcomb Clark, 1997, *Natural Resource Economics, Notes and Problems*, Cambridge University Press.
- Jonathan Gruber, 2013, *Public Finance and Public Policy*, Worth Publishers, New York.
- Kadekodi, 2004, *Environmental Economics in Practice: Case Studies from India*, OUP.
- Katar Singh and Anil Shishodia, 2007, *Environmental Economics: Theory and Applications*, Sage India.
- Markandya&Murty, 2001, *Cleaning up the Ganges: a Cost-benefit Analysis of the Ganga Action Plan*, OUP.
- Nick Hanley, Jason F. Shogren and Ben White, 1997, *Environmental Economics: In Theory and Practice*, Macmillan Press Limited, New Delhi.
- Robert N. Stavins (ed.), 2005, *Economics of the Environment: Selected Readings*, W.W. Norton, 5th edition.
- Roger Perman, Yue Ma, James McGilvray and Michael Common, 2003, *Natural Resource and Environmental Economics (3rd Ed.)*, Pearson Education Ltd., Harlow.
- S.N.Chary and Vinod Vyasulu (eds.), 2000, *Environmental Management- An Indian Perspective*, New Delhi, Macmillan.
- Steven C. Hackett, 2006, *Environmental and Natural Resource Economics: Theory, Policy and Sustainable Society*, M.E. Sharpe, New York
- Thomas and Callan, 2007, *Environmental Economics*, Thomas South-Western.
- U. Sankar (ed.), 2001, *Environmental Economics− Reader*, Oxford University Press.
- W.J. Baumol and W.E. Oates, 1988, *The Theory of Environmental Policy,* (2/e), Cambridge University Press, Cambridge.

Course 306A: Advanced Econometrics– IA

Module 1 Econometric Modeling (14 Hours)

Model Selection Criteria, Types of Specification Errors, and Consequences of Model Selection Errors, Errors of Measurement, Dynamic Econometric Models, Autoregressive and Distributed Lag Models, Koyck's Transformation, Nerlove's Partial Adjustment Model, Cagan's adaptive expectation model

Module 2 Simultaneous Equation Models (14 Hours)

The nature of Simultaneous Equation Models, Simultaneous equation Bias, Approaches to Estimation, Recursive Models and Ordinary Least Squares, the Method of Indirect Least Squares (ILS), the Method of Two-Stage Least Squares (2SLS)

Module 3 Identification Problems (8 Hours)

Notations and Definitions, Rules for Identification, A Test for Simultaneity, Tests for Exogeneity.

Readings:

- Baltagi, B.H. (2005), Econometric Analysis of Panel Data, John Wiley, Chichester, U.K.
- Enders, W. (2008) Applied Econometric Time Series (2nd Edition), John Wiley & Sons Ltd.
- Gujarati, D.N. (2003) Basic Econometrics, 4th Edition, Tata-MaGraw-Hill,
- Koutsoyiannis, A. (2nd Edition) Theory of Econometrics (2nd Edition),Oxford University Press
- Maddala, G.S.(2002),Introduction to Econometrics,(3rd Edition),John Wiley & Sons Ltd.
- Pindyck, R.S and Rubinfeld, D.L. (1998), Econometric Models and Econometric Forecasts,(4th Edition),McGraw-Hill International Editions
- Ramanathan, R. (2002), Introductory Econometrics with Applications (5th Edition), Cengage Learning India Private Limited
- Wooldridge J.M. (2008) Introductory Econometrics-A Modern Approach.3rd Edition, India Edition

Course 306B: Advanced Econometrics -1B

Module 1 Regression with Qualitative and Limited Dependent Variable (12 Hours)

Qualitative and Limited Dependent Variables Models; Linear probability models; Dichotomous and Polychotomous choice models; Probit and Logit models; Unordered response models; Ordered response models; Sequential response models; Multinomial models; Censored (Tobit) regression models; Truncated regression models; Mixture of truncated and censored regression models; Switching regressions and sample selectivity models; Count data models

Application of the methods using statistical packages and interpretation of the results will be part of the course

Module 2 Analysis of Variance and Generalizations (12 Hours)

Analysis of variance (ANOVA) - fixed and random effect, one way classification, two-way crossed classification without interaction, two-way crossed classification with interaction; ANCOVA (analysis of covariance), MANOVA (Multivariate ANOVA) and MANCOVA (Multivariate ANCOVA); ANOVA a special case of multiple linear regression analysis with dummy independent variables; ANCOVA a special case of partial regression analysis; MANOVA and MANCOVA special cases of canonical correlation analysis.

Application of the method using statistical packages and interpretation of the results will be part of the course**.**

Module 3 Empirical analysis of income inequality (12 Hours)

Analysing inequality and Social Welfare Function; SWF based inequality measure; Generalised inequality measures - Generalised entropy measure, Extended Gini coefficient; Axioms and properties of a desirable measure of economic inequality; Modelling inequality – functional form of distribution, lognormal distribution, Pareto distribution; Income inequality database - Luxembourg Income Study Database (LIS), PovcalNet, World Development Indicators, World Income Inequality Database; Application of statistical packages for analysis of income inequality data.

Readings

- Alvin C. Rencher 2002, *Methods of Multivariate Analysis*, John Wiley & Sons, Inc.
- Andrew Rutherford 2011, ANOVA and ANCOVA: A GLM Approach (2nd ed.), A John Wiley & Sons, Inc., New Jersey
- Atkinson, A.B. (1970). On the measurement of inequality, Journal of Economic Theory, 2(3), 244-263.
- Cowell, Frank. (2011). *Measuring Inequality,* London, Oxford University Press.
- David W. Hosmer, Stanley Lemeshow, Rodney X. Sturdivant 2013, *Applied Logistic Regression*, John Wiley & Sons, Inc., New Jersey
- Hardeo Sahai, Mohammed I. Ageel 2000, *The Analysis of Variance: Fixed, Random and Mixed Models*, Springer Science + Business Media, New York
- Jeffrey M. Wooldridge 2010, *Econometric Analysis of Cross Section and Panel Data (2nd ed.)*, The MIT Press Cambridge, Massachusetts
- Luxembourg Income Study Database – LIS (2021). https://www.lisdatacenter.org/.
- Sen, A. (1973). *On Economic Inequality*, Delhi, Oxford University Press.
- Subramanian, S. (ed.) (1997). *Measurement of Inequality and Poverty*, New Delhi, Oxford University Press.
- UNU-WIDER. (Various Years). *World Income Inequality Database (WIID)* (Various versions), Luxembourg, UNU-WIDER.
- William H. Green 2003, *Econometric Analysis (5th ed.)*, Pearson Education, Inc., New Jersey
- Wolfgang Karl Härdle, Léopold Simar 2019 *Applied Multivariate Statistical Analysis* (5th ed.), Springer Nature Switzerland
- World Bank. (2021). http://iresearch.worldbank.org/PovcalNet/povOnDemand.aspx.
- World Bank. (Various Years). *World Development Indicators*, Washington, D.C., The World Bank
- (Additional references if required will be provided during the course.)

Course 307A: Demography and Population Studies -IA

Module 1. The Meaning and Scope of Demography (12 Hours)

Meaning of Demography – Scope of Demographic Studies —Magnitude of Population and Magnitude of Change in Population — Structure and Distribution of Population Dynamics.

Module 2. Theories of Population (12 Hours)

The 'Natural Law' Theories: Malthusian Population Theory- Sadler's 'Density Principle' in Population Growth- Social and Sociological Theories of Population: Dumont's "Social Capillarity' Theory, Ravenstem's Theory Precursors of the 'Human Capital' Approach: Ricardo and Marx-Population as Labour Accumulation, Logistic Populations — The Theory of Demographic Transition — Views of Medows, Enke and Simon: The Theory of Optimum Population and Optimum Rate of Population Growth. Population as 'Limits to Growth' and as 'Ultimate Source'.

Module 3. The Sources of Demographic Data (12 Hours)

Census Enumerations — Vital Statistics — Census and Sample Registration System (SRS) in India — Features of Indian Census Reports and SRS Bulletins - Other Survey Data – NSSO/NCAER Household Surveys — NFHS Survey.

(Combined reading list appears below).

Course 307B: Demography and Population Studies -IB

Module 1. Demographic Methods (12 Hours)

Demographic Rates and Ratios — Crude and Standardised Rates and Ratios — The Choice of Radix, Measures of Population Composition, Distribution and Growth of Population. Population Growth Proportionate and Instantaneous Measures — Exponential Growth Rates and Population — Doubling Time — Population Curve- Fitting: Demographic Measurement of Mortality, Morbidity, Fertility and Reproduction, Nuptiality and Migration- Period and Cohort Measures — Lexis Diagram — Life Table Techniques — Graduation of Mortality Rates Population Gender — Ratios General FMR, Grouped FMR: Age-specific FMR Population Estimates and Projections Algebraic Versus Component Methods.

Module 2. Models of Population Structure and Model Life Tables (12 Hours)

The Age and Sex Structure of Populations in DCs and LDCS: Determinants of Age and Sex Structure, Aging of Populations: Individual Aging and Population Aging. The Demographic Determinants of the Shape of the Population Pyramid: Stable, Stationary and Quasi-Stationary Populations-Fertility, Mortality and the Age Structure m Stable Populations. Intrinsic Rate of Growth-intrinsic Birth and Death Rates - Intrinsic Age Distribution: Momentum of Population Growth: Model Life Tables: Un Model Life Tables: Coale-Demoney Model Life Tables.

Module 3. Population Policies and Programmes in India (12 Hours)

Evolution of Population Policy in India — The Shift in Policy from Population Control to Family Welfare to Women Empowerment. Family Planning Strategies and their Outcomes, Unmet Family Planning Needs, Reproductive Health: Maternal Nutrition and Child health policies: Population and Strategies for Human Development of Different Social Groups, Social Impact of New Reproductive Technologies and their Regulation: The New Population Policy: Tasks before the National Population Commission.

Readings (for 307A & 307B)

- Agarwala, S.N. (1972): *India's Population Problem*, Tata-McGraw Hill, Bombay
- Bogue, DJ. (1971): *Principles of Demography*, John Wiley, New York.
- Bongaarts, J. (1978): "A Framework for Analysing the Proximate Determinants of fertility", in *Population and Development Review*.
- Bongaarts, J. and Potter, G. R. (1983): Fertility Biology and Behaviour an Analysis of The Proximate Determinants. Academic Press, New York.
- Bhende, Asha A., and Tara Kanitkar. (1997): Principles of Population Studies, Himalaya Publishing House, Mumbai.
- Bose, Ashis (ed.) (1978): *India's Urbanization 1901-2001*, (2/e), Tata-McGraw Hill, Delhi
- Bose, A (1996): *India Basic Demographic Statistics*, B R Publishing Corporation, New Delhi
- Boserup, E. (1970): *Women's Role in Economic Development*, Earth Scan, London
- Choubey, P.K. *Population Policy in India*, Kanishka Publications, New Delhi.
- Chiappero-Martinetti, Enrica. and Siddiqur Osmani. and Mozaffar Qizilbash. (eds.) (2020). Handbook of the Capability Approach, Cambridge University Press, Cambridge.
- CMIE: *Basic Statistics Relating to the Indian Economy*, (Various issues) Mumbai.
- Coale, A.J. and E.M. Hoover (1958): *Population Growth and Economic Development in Low Income Countries: A Case Study of India's Prospects*, Princeton University Press, Princeton.

- Coale, A.J. (1972): *The Growth and Structure of Human Populations*, Princeton University Press, NJ.
- Davis, Kingsley (1951): *Population of India and Pakistan*, Princeton University Press, NJ.
- Jhabwala, R. and R.K.Subramanya (eds.) (2000): *The Unorganized Sector: Work Security and Social Protection*, Sage, New Delhi.
- Keyfitz, N. (1985): *Applied Mathematical Demography*, Wiley, New York.
- Krishnaji, M., R.M.Sudarshan and A. Shariff (1999): *Gender Population and Development*, Oxford University Press, New Delhi.
- Lowry, J.H.: *World Population and Food Supply*, Edward Arnold, London.
- Pathak, K. B. and F. Ram. (1992): *Techniques of Demographic Analysis*, Himalaya Publishing House, Mumbai.
- Ramkumar, T. (1986): *Technical Demography*, Wiley Eastern, Delhi.
- Shariff, A. India Human Development Report, NCAER-OUP Delhi.
- Shryock, H.S. and J.S.Siegel (1975): *The Methods and Materials of Demography*, Vols. I & II. Academic Press, New York
- Spiegelnian, M. (1980): *Introduction to Demography*, Harvard University Press, Cambridge, Mass.
- Srinivasan, L and A Shanff, (1998): *India Towards Population and Demographic Goals* Oxford University Press, New Delhi.
- Srinivasan, K. (1998): *Basic Demographic Techniques and Applications*, Sage, New Delhi
- Thiriwall, A.P. (2000): *Growth and Development*, Macmillan, London:
- Thompson, W.S. and D.T. Lewis (1965): *Population Problems* Tata-McGraw Hill, New Delhi.
- UNDP, *Human Development Report* (various years), OUP, Delhi

Course 401: Economic Growth and Globalisation– II

Module 1. Total Factor Productivity and Growth Accounting–Abramovitz -Solow growth Accounting Framework – Measuring Total Factor Productivity (TFP) Growth - Issues and Debates related to TFP (8 Hours)

Module 2. Endogenous Growth Theory (EGT) – The Basic AK Model – Human Capital and R&D based Models – Lucas and RomerModels-Schumpeterian Growth Models− Aghion and Howitt model. (8 Hours)

Module 3. Post-reform growth records of Indian economy:Emerging growth trajectory; Services-led growth; saving and investment− trend and pattern; Growth and distribution− Trends and policies in poverty, inequality and unemployment; Issues in Inclusive Growth. (8 Hours)

Module 4. Globalisation: A Cross-Country Analysis - Global Distribution of Income - Globalization and Poverty, Global Inequality - Income Inequality, Poverty and Globalization Relationship - Globalisation and Regional Poverty - Determinants of Global Poverty - Income Variations and Poverty Inequality Elasticity - Globalisation of Rural Poverty - Globalisation, Inequality and Poverty: What Needs to be Done. (8 Hours)

Reading List:

- Acemoglu, D (2009): *Introduction to Modern Economic Growth*, Princeton University Press.
- Aghion, Philippe, and Peter Howitt (1998): *Endogenous Growth Theory*, MIT.
- Alan Freeman, Boris Kagarlitsky (eds)(2004), The Politics of Empire - Globalisation in Crisis, Pluto Press, London
- Ann Harrison (ed)(2007), Globalization and Poverty, NBER Conference Report, University of Chicago Press
- Balakrishnan, P (2010): Economic Growth in India: History and Prospect, OUP.
- Barro, R. J and Xavier Sala-i- Martin (2004): *Economic Growth*, PHI.
- Blanchard, O.J. and Fischer, S (1989): *Lectures on Macroeconomics*, PHI.
- Carlin Wendy and David Soskice (2005): *Macroeconomics: Imperfections, Institutions, and Policies*, OUP.
- Dev. Mahendra. S (2010): Inclusive growth in India-collected essays, OUP.
- Guillermo de la Dehesa (2007), What do We Know about Globalization - Issues of Poverty and Income Distribution, Blackwell Publishing
- MachikoNissanke, Erik Thorbecke (eds)(2007), The Impact of Globalization on the World's Poor - Transmission Mechanisms

- Michael Chossudovsky (2003), The Globalization of Poverty - The New World Order, Global Research, Pincourt, (Quebec)
- Michael Perelman (1999), The Natural Instability of Markets - Expectations, Increasing Returns and the Collapse of Capitalism, Princeton University Press
- Rakesh Mohan (2008): "Growth Record of Indian Economy: 1950-2008. A Story of Sustained Savings and Investment", Economic and Political Weekly, May.
- Romer, David (2001): *Advanced Macroeconomics*, McGraw Hill.
- (Fresh updated reading list to be circulated in each session)

Course 402: Economics of Development– II

Module 1 Development Strategies (9 Hours)

Different Concepts of Planning - The Rationale for Development Planning – The Planning Process: Some Basic Models – the Crisis in Planning – Government Failure and the Resurgent Preference for Markets over Planning; Development Political Economy: Theories of Policy Formulation and Reform; Trends in Governance Reform: Tackling the Problem of Corruption – Decentralisation - Development Participation; Stabilization, Adjustment, Reform and Privatization

Module 2 Rural and Urban Labour Markets, Unemployment and Informal Sector (9 Hours)

Rural-urban Migration - The Harris-Todaro Equilibrium; Concept of Informal Sector - Evidence from Developing Countries - Determinants of the Size of Informal Sector and its Linkage Structure with the Rest of The Economy: Theories and Evidences; Possible Dynamics of the Informal Sector in the Process of Economic Development – Some Theories and Evidence

Module 3 Economics of Health and Health Care (9 Hours)

The State and Scope of Health Economics; An Overview of the Normative Economics of the Health Sector; Economics and Ethics in Health Care; Contribution of Health Services to an Economy; Demand and supply sides Economics of Health Care; Utilisation of Health Care; Cost of Health Care; Health Insurance.

Module 4 Economic Inequality and its measurement (9 Hours)

The notion of inequality; The Intrinsic Bane and the Instrumental Harms of Inequality; Distributive Justice and Welfare Economics; Measurement of economic inequality – measures under the Lorenz curve framework – area-based and length-based measures, right-wing, centrist, and left-

wing measures; Angle-based inequality measures for segment-wise analysis of inequality; Properties of measures of inequality.

Readings:

- Anand, S. (1983). Inequality and Poverty in Malaysia: Measurement and Decomposition. New York, Oxford University Press.
- Arnold, B.C. (2012). On the Amato inequality index, Statistics and Probability Letters, 82 (8), 1504-1506.
- Banerjee, Abhijit and Andrew Newman (1998). "Information, the Dual Economy and Development", *Review of Economic Studies*, 65 (4).
- Basu, Kausik (1997). *Analytical Development Economics*, Oxford University Press, Chapter 10.
- Chapman, David. and Don, Adams. (2002). *Education in Developing Asia*
- *Volume 5 (The Quality of Education: Dimensions and Strategies)*, Hong Kong, The University of Hong Kong.
- Cooper, M. H. and A. J. Culyer (ed.) (1971). Health Economics. Middlesex, Penguin Books.
- Cuyler, Anthony J. (2001). "Economics and Ethics in Health Care," Journal of Medical Ethics, 27 (4): 217-222.
- Cuyler, Anthony J. and Joseph P. Newhouse (ed.) (2000). Handbook of Health Economics (Volume 1 & 2), North-Holland, Elsevier Science.
- Folland, Sherman, Allen Goodman, and Miron Stano. (2001). The Economics of Health and Health Care. New York, Macmillan.
- Gaulhaber, G.L. (1975). "Cross-Subsidization: Pricing in Public Enterprises", *AmericanEconomic Review*, 65(5); 966-977.
- Goyal, S.K. (1985). *Public Enterprises,* IIPA, New Delhi.
- Hart, Keith (1973). "Informal Income Opportunities and Urban Employment in Ghana", *Journal of Modern African Studies*, Vol. 11, No.1.
- ILO, *Decent Work and the Informal Economy*, International Labour Conference, June 2002, Chaps 1-2 (pp.1-38).
- Kakwani, N. (1980). Income Inequality and Poverty: Methods of Estimation and Policy Applications. New York, Oxford University Press.
- Kernick, David. (ed.) (2002). Getting Health Economics into Practice. Oxon, Radcliffe Medical Press Ltd.
- Majumder, A. (2015). An alternative measure of economic inequality under the Lorenz curve framework in analogue to the index of refraction of geometrical optics, Economics Bulletin, 35 (2), 1076-1086.
- Majumder, A. (2019). An Appraisal of the Pro Transfer-sensitive Measures of Economic Inequality with Left-leaning Considerations, Artha Vijnana (Journal of Gokhale Institute of Politics and Economics), 61 (2), 119-142.
- Majumder, Amlan (2014). Economics of Health Care Utilisation: a Study of Self-reported Morbidity and Health Seeking Patterns in the districts of Cooch Behar and Jalpaiguri, West Bengal, India, Cooch Behar, Self-published (This Version is available at: http://hdl.handle.net/10419/110899).

- Marjit, S. and Acharyya, R. (2003). International Trade, Wage Inequality and the Developing Economy: A General Equilibrium Approach, Physica-Verlag.
- Meier, Gerald, M. and Joseph E. Stiglitz (eds.) (2001). *Frontiers in Development Economics*, OUP, New York.
- Meir, Gerald and James E. Rauch (2000). *Leading Issues in Development Economics*, Oxford University Press.
- Nafziger, E. Wayne (2006). *Economic Development,* New York, Cambridge University Press.
- Rosenzweig, Mark (1988). "Labour Markets in Low-Income countries", Chap 15, in Chenery, Hollis and T. N. Srinivasan (eds): *Handbook of Development Economics, Vol. I*, North-Holland.
- Sachs, J. (2005). The End of Poverty, The Penguin Press
- Subramanian, S. (2015). More tricks with the Lorenz curve, Economics Bulletin, 35 (1), 580-589.
- Subramanian, S. (2019). *Inequality and Poverty: A Short Critical Introduction*, Singapore, Springer.
- Rasheed, Sadig. (2000). Defining Quality in Education, Working Paper of the United Nations Children's Fund, New York, UNICEF.

Course 403A: Agricultural Economics – IIA

Module 1 Elements of Peasant Economics (8 Hours)

The economic definition of peasants----Peasants and economic efficiency----Analysis of peasant risk behavior----The Chayanov farm household model----New home economics

Module 2 Farm Management Analysis (8 Hours)

Nature and scope of Farm Management Analysis----Relationship between farm management and production economics----Principles of measuring farm income----Alternative measures of farm income----Farm efficiency measures---Measuring farm costs----Alternative farm cost concepts in India

Module 3 Farm Planning and Budgeting (6 Hours)

Farm planning vs. farm budgeting----Partial budgeting----Complete budgeting----Uses of farm budgets----Preparation of farm budgets

Module 4 Agricultural Finance and Marketing in India (8 Hours)

Sources of agricultural finance----Commercial banks and co-operative banks----Credit structure----Evaluation of agricultural credit policies----Role of NABARD----Performance of agricultural credit programmes---- Financial inclusion.

Readings:

- Ellis, F.: *Peasant Economics—Farm Households and Agrarian Development*
- Mohan, R.(2006): *Agricultural Credit in India: Status, Issues and Future Agenda*in EPW, march 18.
- R.L. Soni: Leadin Issues in Agriculture Development, Kalyani Publication, Ludhiana.
- Shetty, S.L.(2009): *Agricultural Credit and indebtedness: Ground Realities and Policy Perspectives* in D.N Reddy and S. Mishra (ed.) Agrarian Crisis in India, OUP.
- Yang: *Techniques of Farm Management Analysis*
- (Other selected articles to be referred during the course.)

Course 403B: Agricultural Economics – IIB

Module 1 Agriculture and International Trade (9 Hours)

Main Features of Trade in Agricultural Goods; Trade Policies in Developed Countries and their Impact on Agricultural Trade; Prebisch's Hypothesis; The Agricultural Self-Sufficiency Argument

Module 2 Farm Size and Factor Productivity (9 Hours)

Peasants and Farm Size; Economic Concepts of Scale and Farm Size; Inverse Relationship of Farm Size and Productivity; Imperfect Factor Markets and Social Efficiency

Module 3 State Interventions and Planning (9 Hours)

Crop Insurance Scheme; Issues in Agricultural Subsidy; Green Revolution, Food Security and Second-Generation Reforms in Indian Agriculture; WTO, FAO and Indian Agriculture

Module 4 Agricultural Marketing (9 Hours)

Need for an Efficient System of Agricultural Marketing; Criteria for Judging Efficiency of Agricultural Marketing, Efficiency of Agricultural Marketing System in India; Measures to Improve the Efficiency of Present State of Agricultural Marketing in India; Regulated Markets; Co-operative Marketing; Government and Agricultural Marketing

Readings:

- Colman, David & Trevor Young (1989): Principles of Agricultural Economics-Markets and Prices in Less Developed Countries, Cambridge University Press.
- Desai, Pranav K. (2010): Agricultural Economics, Biotech Books, Delhi.
- Ellis, Frank (1988): *Peasant Economics - Farm Households and Agrarian Development*, Cambridge University Press.

- Evenson, Robert E. &PrabhuPingali (2010): Hand Book of Agricultural Economics, North-Holland.
- Ghatak, Subrata and Ken Ingersent 1984): *Agriculture and Economic Development*, Select Book Service Syndicate, New Delhi by arrangement with Harvester Press Ltd., London.
- Martin, Lee R. (ed.) (1992): *A Survey of Agricultural Economics Literature*, Vol.4 (Agriculture in Economic Development), University of Minnesota Press.
- Norton, George W. and Jeffrey Alwang (2010, 2/e): *Introduction to Economics of Agricultural Development*, McGraw-Hill, Inc.
- Prasad, Chandra Shekhar (2009): Agriculture and Rural Development in India, New Century Publications, New Delhi.
- Soni, R. N. (3/e) (1998): Leading Issues in Agricultural Economics, Shoban Lal Nagin Chand & Co., Jalandhar.

Course 404A: Advanced International Economics – IIA

Module 1 Purchasing Power Parity and Floating Exchange rate Experience (9 Hours)

Introduction, Purchasing Power parity Theory and the Law of One Price, Absolute and Relative PPP, Measurement Problems in Testing for PPP, Empirical evidence in PPP

Module 2 Economic and Monetary Union in Europe (9 Hours)

Introduction, The Background to the European Monetary System, Euro Currency Market, Economic and Monetary Union, A History of the Road to European Monetary Union, Optimum Currency Areas

Module 3 International Monetary System- Past, Present and Future (9 Hours)

Introduction, The Gold Standard Period (1880-1914), The Interwar experience, the Bretton Woods System, Collapse of the Bretton Woods System, Operation of the Present System, IMF Operation, WTO

Module 4 Financial Crises in Emerging Market Economies (9 Hours)

Mexico (1994-1995), South-East Asia (1997-1999), Brazil (1999), Argentina (2001-2002), Some Other Current International Economic Problems

Readings:

- Salvatore Dominick, International Economics,(8th Edition),2004, John Wiley & Sons
- Keith Pilbeam, International Finance,(3rd Edition), 2006, Palgrave Macmillan
- Maurice D. Levi, International Finance,(5th Edition),(2009), Routledge

Course 404B: Advanced International Economics – IIB

Module 1 Economic Integration (9 Hours)

Customs Union: Trade Creating and Trade Diverting Effects; Theory of Second Best and Other Static Welfare; Effects of Customs Union. History of Attempts at Economic Integration: EU, NAFTA, ASEAN, SAARC. Attempts at Economic Integration among Developing Countries.

Module 2 Trade Policy in Developing Countries. (9 Hours)

Import-Substituting Industrialisation; Problems of the Dual Economy; Export-Oriented Industrialisation: The South-East Asian Miracle.

Module 3 Trade and Growth.(9 Hours)

The Importance of Trade to Development; Trade Effects of Economic Growth; Sources of Growth and the Production Possibility Frontier; Growth, Trade and Welfare: Small and Large Country Cases; Growth and the Terms of Trade: A Developing Country Perspective.

Module 4 Trade and Environment. (9 Hours)

Emerging Situations in Developed and Developing Countries.

Readings:

- H.G.Mannur(1998): *International Economics*. Vikas Publishing House Pvt. Ltd. New Delhi.
- D. Salvatore (1998): *International Economics*. Prentice Hall.
- World Bank (1993): *The East Asian Miracle: Economic Growth And Public Policy*. Oxford University Press, Oxford.
- B. Balasa (1961): *The Theory Of Economic Integration. Vol. I & II*. Irwin, Homewood.
- B. Balasa (1985): "Export Policy Choices And Economic Growth In Developing Countries after the 1973 Oil Shock", *Journal Of Development Economics*, May-June, pp-23-35.
- D.R. Appleyard and Alfred J. Field Jr. (1998). Irwin. McGraw Hill.
- M. Chacoliades (1990): *International Trade: Theory And Policy*. McGraw Hill, Kogakusha , Japan.
- Ulaganathan Sarkar (2004): Environmental Policy in U.Sankar edited book *Environmental Economics*. Oxford University Press.
- D.R. Appleyard and Alfred J. Field Jr (1998): *International Economics*. Irwin McGraw Hill.
- R.G.Lipsey(1961):The Theory of Customs Union:A General Survey.EconomicJournal.September,PP-498-513.
- World Bank (1985): *The East Asian Miracle: Economic Growth and Public Policy* Oxford University Press, Oxford

Course 405A: Natural Resource and Environmental Economics - IIA
Module 1 Economics of Fisheries and Forest Resources

Theory of Optimal Resource Harvests− Static and Intertemporal Analysis− Fishery under Alternative Management Objectives− Open Access, Common Property and Efficiently Managed Fishery− Game Theory Modelling− Instruments of Managing Fisheries. Land rent theory and scientific forestry, Maximum sustainable yield forestry , Commercial forestry and Theory of optimal rotation (Faustmann principle and its extensions), Rotation age and Comparative statics, Joint production (timber & amenity services) and socially optimal forest rotation (Hartman rotation), Competing land use and deforestation; Community rights and forest conservation.

Module 2 Economics of Water Resource

Economics of water resource management; market failure in water resource; groundwater allocation – safe yield use principle for sustainable use of groundwater; surface water allocation – equi-marginal principle for allocation of water; scarcity rent of water for alternative uses, irrigation water markets, marginal user cost and marginal cost pricing of water; average vs. marginal cost of water pricing; price vs. water use restriction; water rights and conservation of water; economic value of water.

Module 3 Development and ecosystem conservation

Ecosystem and human well-being; economic approach to ecosystem conservation; economic development and ecosystem trade-off; ecosystem conservation and sustainable development; Cooperation in conservation of trans-boundary commons; regional and international regulation and policy for conservation.

Readings:
- Amit Ranjan 2020, *Water Issues in Himalayan South Asia,* Palgrave Macmillan, Singapore.
- C.A. Job 2010, *Groundwater Economics*, CRC Press
- David Gibbs 2002, *Local Economic Developments and the Environment,* Routledge, New York
- G. Cornelis Van Kooten and Erwin H. Bulte, 2000, *The Economics of Nature: Managing Biological Assets*, Blackwell Publishers.
- Gregory S. Amacher, Marrku Ollikainen and ErkkiKoskela, 2009, *Economic of Forest Resources*, MIT Press, Cambridge

- H. Scott Gordon, 2000. "The Economic Theory of a Common-Property Resource: The Fishery" in Chennat Gopalakrishnan (ed.) *Classic Papers in Natural Resource Economics*, Macmillan Press Ltd. U.K.
- J. Briscoe 1996, *Water as Economic Good: The Idea and What it Means in Practice*, A paper presented at the World Congress of the International Commission on Irrigation and Drainage, Cairo
- L.W. Canter *et. al.* 1997, *Valuing Groundwater*, National Academy Press, New York
- Millennium Ecosystem Assessment 2005, *Ecosystem and Human Well-Being,* Island Press (selected sections)
- Nick Hanley, Jason F. Shogren and Ben White, 1997, *Environmental Economics: In Theory and Practice*, Macmillan Press Limited, New Delhi
- R.Q. Grafton, W. Adamowicz, D. Dupont, H. Nelson, R.J. Hill and S. Renzetti 2004, *The Economics of the Environment and Natural Resources*, Blackwell Publishing Ltd
- Ramón López and Michael A. Toman 2006, *Economic Development and Environmental Sustainability* Oxford University Press
- Stephen Polasky 2009, 'Conservation economics: economic analysis of biodiversity conservation and ecosystem services', Environmental Economics and Policy Studies, 10: 1-20
- W.M. Hanemann 2006, "The Economic Conception of Water" in Peter P. Rogers, M. Ramon Llamas and Luis Martinez-Cortina (eds) *Water Crisis: Myth or Reality*, Taylor & Francis, London

Course 405B: Natural Resource and Environmental Economics – IIB

Module 1 Theory of Environmental Policy II – Mixed Instruments of Pollution Control −Tax Standards Approach to Pollution Control− Double Dividend of Environmental Taxes− Pigouvian Tax in General Equilibrium− Choice of Pollution Control Instruments in the Presence of Non-Convexities and Uncertainty (the Weitzman Model) − Pollution Policy with Imperfect Information− Taxes vs. Quotas under Imperfect Monitoring.(12 Hours)

Module 2 International Environmental Problems− Trans-boundary Environmental Problems – Acid Rain Pollution and Stratospheric Ozone Depletion− Economics of Greenhouse Gas (GHG) Emissions and Climate Change− Policy Response to Global Climate Change − Carbon Tax, Tradable Emission Quotas, Clean Development Mechanism (CDM) and Renewable Energy − The Benefits and Costs of International Cooperation on Global Climate Change− International Treaties− The Earth Summit and Kyoto Protocol− The Flexibility-Stringency Trade-off− Game Theory Analysis.(12 Hours)

Module 3 Ecosystem Services and Non-Market Valuation: Ecosystem services and human well-being (Millennium Ecosystem Assessment); Ecosystem services and non-market valuation –

importance of non-market valuation, theoretical basis of non-market valuation (willingness to pay and accept compensation); Total economic value – use value and non-use value (bequest value, altruist value and existence value), Estimation of non-market values – direct valuation methods (market price based approach, cost based approach – avoided cost, replacement cost & mitigation or restoration cost, and production function based approaches), indirect market methods (revealed preference method - hedonic price, travel cost, and stated preference approach - contingent valuation method, choice experiment and group valuation).(12 Hours)

Readings:

- Fisher, A.C. 1981, *Resource and Environmental Economics*, Cambridge University Press.
- Alpha C Chiang, (1992), *Dynamic Optimization*, McGraw-Hill.
- Bardhan&Udry, 1999, *Development Microeconomics*, OUP.
- Bhattacharya, R.N., 2001, *Environmental Economics – An Indian Perspective,* Oxford University Press, New Delhi.
- Clement A. Tisdell, 2005, *Economics of Environmental Conservation (2nd Ed)*, Edward Elgar, Cheltenham.
- D. W. Bromely, 1995, *Handbook of Environmental Economics*, Blackwell, London.
- Dasgupta, 1982, *The Control of Resources*, Harvard University Press.
- G. Cornelis Van Kooten and Erwin H. Bulte, 2000, *The Economics of Nature: Managing Biological Assets*, Blackwell publishers.
- James &Murty, 1999, *Economics of Water Pollution: The Indian Experience*, OUP.
- Jon M. Conrad, 1999, *Resource Economics*, Cambridge University Press.
- Jon M. Conrad and Colin Whitcomb Clark, 1997, *Natural Resource Economics, Notes and Problems*, Cambridge University Press.
- Jonathan Gruber, 2013, *Public Finance and Public Policy*, Worth Publishers, New York.
- Kadekodi, 2004, *Environmental Economics in Practice: Case Studies from India*, OUP.
- Katar Singh and Anil Shishodia, 2007, *Environmental Economics: Theory and Applications*, Sage India.
- Markandya&Murty, 2001, *Cleaning up the Ganges: a Cost-benefit Analysis of the Ganga Action Plan*, OUP.
- Nick Hanley, Jason F. Shogren and Ben White, 1997, *Environmental Economics: In Theory and Practice*, Macmillan Press Limited, New Delhi.
- Robert N. Stavins (ed.), 2005, *Economics of the Environment: Selected Readings*, W.W. Norton, 5th edition.
- Roger Perman, Yue Ma, James McGilvray and Michael Common, 2003, *Natural Resource and Environmental Economics (3rd Ed.)*, Pearson Education Ltd., Harlow.
- S.N.Chary and Vinod Vyasulu (eds.), 2000, *Environmental Management- An Indian Perspective*, New Delhi, Macmillan.
- Steven C. Hackett, 2006, *Environmental and Natural Resource Economics: Theory, Policy and Sustainable Society*, M.E. Sharpe, New York
- Thomas and Callan, 2007, *Environmental Economics*, Thomas South-Western.
- U. Sankar (ed.), 2001, *Environmental Economics− Reader*, Oxford University Press.

- W.J. Baumol and W.E. Oates, 1988, *The Theory of Environmental Policy,* (2/e), Cambridge University Press, Cambridge.

Course 406A: Advanced Econometrics– IIA

Module 1 Time Series Econometrics (12 Hours)

Some Key Concepts, Spurious Regressions, Stochastic Processes, Dickey-Fuller Unit root Test, Co-integration, Error Correction Model, Causality in Economics, the Granger Causality Test

Module 2 Forecasting Techniques (12 Hours)

The Box-Jenkins Methodology, Vector Auto Regression Model (VAR), Impulse Responses and Variance Decompositions, Autoregressive Conditional Heteroscedasticity (ARCH) models, Generalised ARCH (GARCH) Models

Module 3 Panel Data Regression Models (12 Hours)

Why we need to address Panel Data separately?; Pooled OLS, Constant Coefficient Model, The Fixed Effects Least Squares Dummy Variable (LSDV) Model, The Fixed Effect within Group Estimator, the Random Effects Model (REM)

Readings:
- Gujarati, D.N.(2003) Basic Econometrics, 4th Edition, Tata-MaGraw-Hill,
- Wooldridge J.M. (2008) Introductory Econometrics-A Modern Approach.3rd Edition, India Edition
- Koutsoyiannis, A. (2nd Edition) Theory of Econometrics (2nd Edition),Oxford University Press
- Ramanathan, R. (2002), Introductory Econometrics with Applications (5th Edition), Cengage Learning India Private Limited
- Maddala, G.S. (2002), Introduction to Econometrics,(3rd Edition),John Wiley & Sons Ltd.
- Enders, W. (2008), Applied Econometric Time Series (2nd Edition), John Wiley & Sons Ltd.
- Pindyck, R.S and Rubinfeld, D.L. (1998), Econometric Models and Econometric Forecasts, (4th Edition), McGraw-Hill International Editions
- Baltagi, B.H. (2005), Econometric Analysis of Panel Data, John Wiley, Chichester, U.K.

Course 406B: Advanced Econometrics - IIB

Module 1 Impact analysis (Experimental and Non-Experimental) (12 Hours)

Factual and Counterfactual; Prospective and Retrospective evaluations; Method of analyzing experimental data; Randomised experiments; Validity of experiments; Average treatment effect; Non- experimental approach; Quasi-experimental and regression-based approach; Difference-in-Differences, Matching techniques and Propensity Score, Quantile Regression; Selection on Unobservables Designs - Linear panel data models, Fixed-effects and random effects models, Difference in Differences models, Instrument Variables methods.

Application of the method using statistical packages and interpretation of the results will be part of the course.

Module 2 Multivariate Analysis (12 Hours)

Interdependence methods - factor analysis, principal component analysis and cluster analysis [correspondence analysis, multidimensional scaling];

Dependence methods - Multiple regression models, canonical correlation, discriminant analysis

Application of the method using statistical packages and interpretation of the results will be part of the course**.**

Module 3 Production Function and Efficiency Measurement (12 Hours)

Cobb-Douglas, CES and VES Production Functions; Fixed coefficient technology, DEA Models of technology; Efficiency and productivity – a distinction; DEA model; CCR (overall technical efficiency) and BCC (pure technical efficiency) models, Stochastic Frontier Approach.

Application of the methods - estimation of Cobb-Douglas type production function for health service sector; Measurement of technical efficiency of health facilities with Deterministic and Stochastic Frontier Approaches; OLS method of regression on demand and supply sides economics of health care; Use of binary and multinomial logit regression models in studies on health and health care; Data source on health and healthcare in India - Indian National Family Health Survey (various rounds), Demographic and Health Surveys, District Level Household and Facility Survey.

Readings

- Abdelmonem Afifi, Susanne May, Robin A. Donatello, Virginia A. Clark 2020. *Practical Multivariate Analysis* (*6th ed.*), CRC Press
- Coelli, T J. 1996. "A Guide to FRONTIER Version 4.1 A Computer Program for Stochastic Frontier Production and Cost Function Estimation," CEPA Working Paper No. 7/96, Armidale, Department of Econometrics, University of New England.
- Cuyler, Anthony J. and Joseph P. Newhouse (ed.). 2000. Handbook of Health Economics (Volume 1 & 2), North-Holland, Elsevier Science.
- David W. Hosmer, Stanley Lemeshow, Rodney X. Sturdivant, 2013 *Applied Logistic Regression (3rd ed.)*, John Wiley & Sons, Inc., New Jersey
- Giovanni Cerulli 2015, *Econometric Evaluation of Socio-Economic Programs: Theory and Applications,* Springer-Verlag Berlin Heidelberg
- International Institute for Population Sciences (IIPS) and ICF. 2017. National Family Health Survey (NFHS-4), 2015-16: India. Mumbai, IIPS.
- International Institute for Population Sciences (IIPS). 2021. District Level Household & Facility Survey. (Various Years) http://rchiips.org/index.html.
- James H. Stock, Mark W. Watson 2015, *Introduction to Econometrics*, Pearson Education Limited, USA
- Retherford, R. D. and M. K. Choe. 1993. Statistical Models for Causal Analysis, New York, John Wiley & Sons. Inc.
- Richard Johnson, Dean Wichern. 2014. *Applied Multivariate Statistical Analysis* (*6th ed.*), Pearson Education Limited, Edinburgh
- Subhash Sharma. 1996. *Applied Multivariate Techniques,* John Wiley & Sons. Inc. USA
- T.W. Anderson. 2003. *An Introduction to Multivariate Statistical Analysis (3rd ed.)*, John Wiley & Sons, Inc. New Jersey
- The DHS Program – Demographic and Health Surveys. (Various Years). https://dhsprogram.com/.
- William H. Green. 2003. *Econometric Analysis (5th ed.)*, Pearson Education, Inc., New Jersey
- Wolfgang Karl Härdle, Léopold Simar. 2019. *Applied Multivariate Statistical Analysis* (5th ed.), Springer Nature Switzerland.
- (Additional references if required will be provided during the course.)

Course 407A: Demography and Population Studies -IIA

Module 1. Demographic Studies in Economics (12 Hours)

Inter-dependence of demographic and Non-demographic Phenomena: Relationships of Population with Economic Development: Population-dependent measures of Economic Development: Economic Determinants of Population Changes: Population, Health, Nutrition and Productivity Nexus: Demographic Transition in India.

Module 2. Fertility Analysis (12 Hours)

Determinants of Natural Fertility: Davis Intermediate Variables Framework: Bongaarts Proximate Determinants Model: Socio-economic Determinants of Proximate Variables. Theories of Fertility: Theory of Diffusion or Cultural Lag: Theory of Change and Response: Leibenstein's Theory: Easterlin's Theory: Becker's Theory: Caldwell's Wealth Flows Theory: U N Threshold Hypothesis.

Module 3. Population Migration (12 Hours)

Economic Theories of Rural-Urban Migration: 'Incentive' Theory of Migration: The Harris-Todaro Model and the Informal Sector: Behavioural Theory of Rural Urban Migration: Destitution Theory of Rural Urban Migration — The 'Dependencia School'. Case-Study of India and one of other Third World Country.

(Combined reading list appears below).

Course 407B: Demography and Population Studies -IIB

Module 1. Urban Populations (12 Hours)

Concepts in Urban Demography: Classification of Towns: Town Categories — Municipal and Non-Municipal Towns: Urban Agglomerations. Theories of Urbanization: Agglomeration Economics and the Diseconomies of Congestion - The 'Inner City' or CBD — Urban Expansion and the Urban 'Periphery' — suburbanisation Processes: Problems of Urbanisation Measurement of Population Load — Slum Formation — Metro politicisation versus Urban Decentralisation: Case-Study of India and one other Third World Country.

Module 2. Population Policy (12 Hours)

Concept of 'Terminal' Populations—The Economic Theory of Fertility and the Economics of Population Control-Economic Versus Contraceptive Measures for Population intervention — Role of Literacy Variables: Income - Generating Activities as Fertility Control.

Module 3. The Human Development Approach (12 Hours)

Human Resources and Human Capital — Indexation of Human Development -Related Population Indices.

Readings (for 407A & 407B):

- Agarwala, S.N. (1972): *India's Population Problem*, Tata-McGraw Hill, Bombay
- Bogue, DJ. (1971): *Principles of Demography*, John Wiley, New York.
- Bongaarts, J. (1978): "A Framework for Analysing the Proximate Determinants of fertility", in *Population and Development Review*.
- Bongaarts, J. and Potter, G. R. (1983): Fertility Biology and Behaviour an Analysis of The Proximate Determinants. Academic Press, New York.
- Bhende, Asha A., and Tara Kanitkar. (1997): Principles of Population Studies, Himalaya Publishing House, Mumbai.
- Bose, Ashis (ed.) (1978): *India's Urbanization 1901-2001*, (2/e), Tata-McGraw Hill, Delhi
- Bose, A (1996): *India Basic Demographic Statistics*, B R Publishing Corporation, New Delhi
- Boserup, E. (1970): *Women's Role in Economic Development*, Earth Scan, London
- Choubey, P.K. *Population Policy in India*, Kanishka Publications, New Delhi.
- Chiappero-Martinetti, Enrica. and Siddiqur Osmani. and Mozaffar Qizilbash. (eds.) (2020). Handbook of the Capability Approach, Cambridge University Press, Cambridge.
- CMIE: *Basic Statistics Relating to the Indian Economy*, (Various issues) Mumbai.
- Coale, A.J. and E.M. Hoover (1958): *Population Growth and Economic Development in Low Income Countries: A Case Study of India's Prospects*, Princeton University Press, Princeton.
- Coale, A.J. (1972): *The Growth and Structure of Human Populations*, Princeton University Press, NJ.
- Davis, Kingsley (1951): *Population of India and Pakistan*, Princeton University Press, NJ.
- Jhabwala, R. and R.K.Subramanya (eds.) (2000): *The Unorganized Sector: Work Security and Social Protection*, Sage, New Delhi.
- Keyfitz, N. (1985): *Applied Mathematical Demography*, Wiley, New York.
- Krishnaji, M., R.M.Sudarshan and A. Shariff (1999): *Gender Population and Development*, Oxford University Press, New Delhi.

- Lowry, J.H.: *World Population and Food Supply*, Edward Arnold, London.
- Pathak, K. B. and F. Ram. (1992): *Techniques of Demographic Analysis*, Himalaya Publishing House, Mumbai.
- Ramkumar, T. (1986): *Technical Demography*, Wiley Eastern, Delhi.
- Shariff, A. India Human Development Report, NCAER-OUP Delhi.
- Shryock, H.S. and J.S.Siegel (1975): *The Methods and Materials of Demography*, Vols. I & II. Academic Press, New York
- Spiegelnian, M. (1980): *Introduction to Demography*, Harvard University Press, Cambridge, Mass.
- Srinivasan, L and A Shanff, (1998): *India Towards Population and Demographic Goals* Oxford University Press, New Delhi.
- Srinivasan, K. (1998): *Basic Demographic Techniques and Applications*, Sage, New Delhi
- Thiriwall, A.P. (2000): *Growth and Development*, Macmillan, London:
- Thompson, W.S. and D.T. Lewis (1965): *Population Problems* Tata-McGraw Hill, New Delhi.
- UNDP, *Human Development Report* (various years), OUP, Delhi.