

GOKHALE INSTITUTE OF POLITICS AND ECONOMICS

Deemed to be University u/s 3 of the UGC Act, 1956

PUNE 411004

(Approved by Board of Studies 26/02/2024 & 28/05/2024; Approved by Academic Council 5-6-2024)

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M.Sc. (Economics)

COURSE STRUCTURE & SYLLABUS

Program Outcomes

Disciplinary knowledge: Capable of demonstrating comprehensive knowledge and understanding of one or more disciplines that form a part of an undergraduate /postgraduate program of study.

Communication Skills: Ability to express thoughts and ideas effectively in writing and orally; Communicate with others using appropriate media; confidently share one's views and express herself/himself; demonstrate the ability to listen carefully, read and write analytically, and present complex information in a clear and concise manner to different groups.

Critical thinking, Problem solving and Analytical reasoning: Capability to apply analytic thought to a body of knowledge; analyses and evaluate evidence, arguments, claims, beliefs on the basis of empirical evidence; identify relevant assumptions or implications; formulate coherent arguments; critically evaluate practices, policies and theories, philosophies.

Acquiring research-related skills, scientific reasoning and reflective thinking: A sense of inquiry and capability for asking relevant/appropriate questions; ability to recognize cause-and-effect relationships, define problems, formulate and test hypotheses, analyses, interpret and draw conclusions from data; ability to plan, execute and report the results of an experiment or investigation.

Self-directed lifelong learning: Capability to use ICT in a variety of learning situations; ability to work independently, identify appropriate resources required for a project; ability to acquire knowledge and skills, through self-paced and self-directed learning aimed at personal development.

Employability Options: All the programs prepare the students for job profiles that demand numerical, analytical, and problem-solving skills, such as financial management, market research, business planning, budgeting, resource allocation, etc.

The present curriculum goes with Learning Outcome-based Curriculum Framework (LOCF) for all its programs. The approach is envisioned to provide a focused, outcome-based syllabus with an agenda to structure the teaching-learning experiences in a more student-centric manner. The LOCF approach has been adopted to strengthen students' experiences as they engage themselves in the program of their choice. Each program vividly elaborates its nature and promises the outcomes that are to be accomplished by studying the courses. Our students became eligible for all competitive exams like SSC, Indian Administrators, Insurance sector, Data Analyst, Tourism, Environment Management, Bank PO's, Media, MNC, NGO, and to prepare them for start-ups. In short, each program prepares students for sustainability and life-long learning.

Program Specific Outcomes

- PSO 1: The objective of this program is to develop analytical understanding of the fundamental concepts of economics.
- PSO 2: To engage in scientific inquiry, critical thinking, using quantitative and qualitative methods via training in advanced econometrics and hands on training on various software
- PSO 3: To engage in reflective thinking leading to self- and lifelong learning.
- PSO 4: To apply knowledge of economics for team building and to create entrepreneurial initiatives for livelihood and social development.

Pedagogy of This Course

- Active learning by encouraging discussions in class.
- Inculcating team spirit by providing activities to be done in groups.
- Follow various modes of teaching, to help students adapt to different modes of work they will face post-graduation, to name a few, power point presentations, computer exercises etc.,
- Games and other simulation exercises since working in strategic environment with software packages and languages is inevitable these days.
- Encouraging to do literature review or to write summary of journal articles to keep them afloat with recent developments in the research frontiers.
- Assignments are given to be able to apply theories to real-world examples.
- Quizzes to have clarity of concepts.

Note: Various evaluation methods for students to develop different skills along the way.

I N D E X

Sr. No.	Course Code No.	Name of the Course
COMPULSORY COURSES		
1	C-01	Microeconomics
2	C-02	Macroeconomics
3	C-03	Statistics
4	C-04	Basic Econometrics
5	A-24	Advanced Microeconomics
6	A-04	Monetary Macroeconomics
7	A-21	Advanced Econometrics
8	A-20	Economic Growth and Development
9	A-08	Public Economics
10	A-10	International Economics: Pure Theory
11	A-11	International Economics: Money and Finance
12	A-13	Mathematics for Economic Analysis
13	A-23	Population Studies
14	A-15	Accountancy and Financial Statement Analysis
15	A-16	Financial Economics
16	A-22	Business Analytics
OPTIONAL PAPERS (Any four to be opted)		
1	B-01	Indian Agricultural Economics
2	B-02	Transport Economics
3	B-03	Industry: Organization, Structure and Problems
4	B-05	Economics of Labour
5	B-06	Financial Institutions and Markets
6	B-07	Law and Economics - I
7	B-08	Law and Economics - II
8	B-09	Economic Sociology
9	B-13	Environmental & Natural Resource Economics
10	B-11	Social Exclusion and Inclusive Policy
11	B-12	Political Economy of India's Development
12	B-15	Urban Economics
13	B-14	Behavioural Economics
14	B-16	Linear Economics I
15	B-17	Linear Economics II
16	B-18	Introduction to Game Theory
17	B-19	Insurance Economics
18	B-20	Insurance Economics (Advanced Practices)

Course Code: C-01

Course Name: Microeconomics

Course Outcomes:

To acquaint the students with introductory consumer theory and the limitations with an orientation towards behavioural approach (Module I)

- To understand how the choice will be made under uncertainty and how the attitude towards risk will be determined. (Module II)
- To introduce to the students, the concepts associated with the functioning of a firm. (Module III)
- To study the various types of markets prevalent in an economy and the nature of their decision making (Module IV)
- To study the information economics i.e. role of asymmetric information and its way out, designing of optimum incentive scheme under information asymmetry (Module V)
- To acquaint the students with the basics of game theory (Module VI)

Module 1:

Consumer Theory (8 hrs)

- Preference Relation and Its Properties.
- Consumer Preferences and Representation of Preferences by Utility Functions.
- Budget Constraint, Utility Maximization and Derivation of the Demand Function, The Indirect Utility Function and Its Properties, Roy's Identity
- Revealed Preferences. Endowments in the Budget Constraint, Difference between revealed and normative preference
- Limitations of the Consumer Theory
- Behavioral Approach

Module 2:

Choice Under Uncertainty (12 hrs)

- The Expected Utility Model, Utility on Lotteries, Axioms and Preferences under Uncertainty
- Critiques of the Expected Utility Model, Prospect Theory
- Measures of Risk--Domar-Musgrave Index, Roy's Safety Index, Mean-Variance, Semi Variance Mini-max Regret
- Lotteries, Preference Relation over Lotteries, N-M Expected Utility Theory
- Basic Axiom and Representation Theorem Violations of EU theory.
- Subjective Probabilities
- Risk Aversion – Jensen's Inequality, Acceptance Set and Risk Aversion
- Various Measures of Risk Aversion like Arrow-Pratt Measure of Absolute Risk Aversion, Relative Risk Aversion
- Certainty Equivalent and Risk Premium
- Arrow-Pratt Approximation of Risk Premium
- Pratt's Theorem
- Classes of Utility Functions: Decreasing Absolute Risk Aversion (DARA), Constant Absolute Risk Aversion (CARA), Increasing Absolute Risk Aversion (IARA), Decreasing Relative Risk Aversion (DRRA), Increasing Relative Risk Aversion (IRRA), Constant Relative Risk Aversion (CRRA) etc. and their comparative statics
- Applications to Various Settings and Comparative Static Results.

Module 3:

Theory of Firm (6 hrs)

- Theory of Organization. Measurements of Inputs and Outputs
- Profit Maximization, Comparative Statics, Profit Function. Hotelling's Lemma, Factor Demand Functions, Supply Function.
- Cost Minimization, Cost Functions, Average and Marginal Cost Functions, Short-Run and Long-Run Costs, Marginal Cost Pricing, Aggregation – Industry Supply Function, Shephard's Lemma, Conditional Factor Demand Functions.
- The Duality Between Production and Cost Functions.

Module 4:

Theory of Market (8 hrs)

- Perfect Competition: Short-Run and Long-Run Market Equilibrium.
- Monopoly: Monopoly Power, Equilibrium Output and Prices, Effect on Welfare, Price Discrimination – First, Second, And Third-Degree, Quality Choice Under Monopoly. Market Power, Sources of Market Power, Monopoly & Regulation of Monopoly. HHI or Any Other Index Used to Measure the Concentration of Firms.
- Monopolistic Competition.
- Oligopoly: Cournot Equilibrium, Stability, Comparative Statics, Bertrand Equilibrium. Quantity Leadership, Price Leadership. Conjectural Variations.
- Spatial Competition: Linear City Model, Circular City Model.
- Market failure, public goods and introduction to welfare economics,

Module 5:

Information Economics (10 hrs)

- Introduction: The Elements of the Problem
- Types of Asymmetric Information Problems– Moral Hazard, Adverse Selection, Signalling
- Static Full Information Benchmark
- Hidden Action in a Two Action-Two outcome model as well as in a Simple Continuous Action and Continuous Outcome Case
- Solution through First Order Approach and its Validity
- Value of Information and Characteristics of the Optimal contract
- Adverse Selection and Signalling: Akerlof's Model of Lemons,
- Signalling in the Spence's Model of Education
- The Notions of Pooling and Separating Equilibria.

Module 6:

Game theory (introduction) (6 hrs)

- Description of a Game, Normal Form Representation of the Game, Extensive Form Representation of The Game
- Solution Concepts—Nash Equilibrium, Mixed Strategies, Repeated Games, Sequential Games.

Suggested Readings:

Books:

- Serrano.R and Feldman. M.A. (2018). A Short Course in Intermediate Microeconomics with Calculus. Cambridge University Press
- Gravelle, H. and Rees R, 2003, Microeconomics, 3rd Edition, *Prentice Hall*
- Kreps, David. (1992). A Course in Microeconomic Theory, Eastern Economy Edition, *Prentice Hall of India*
- Mas-Colell.A, Whinston &Green, Microeconomic Theory. (1995). Oxford *University Press*
- Perloff.J. (2019). Microeconomics, 7th Edition, *Pearson Education*.
- Pindyck, Robert S. and Rubinfeld, Daniel L. (2017), 9th Edition Microeconomics, *Pearson College*

Articles:

- Arrow, K.J. (1965) Aspects of the Theory of Risk Bearing. Yrjo Jahnssonin Saatio, Helsinki.
- Hadar, J. and Russell, W. (1969). Rules for ordering uncertain Prospects. AER.
- Yan Sun & Shu Li, 2010. The effect of risk on intertemporal choice, Journal of Risk Research, Taylor & Francis Journals, vol. 13(6), pages 805-820, September.
- Kahneman, D.and Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk.Econometrica. 47(2),pp263-291

Course Code: C-02

Course Name: Macroeconomics

Course Outcomes:

The course will enable the students:

- To familiarize the students with the contributions of various schools of thought in Macroeconomics. (Module 2 and 3)
- To provide a wider vision of present discourse in Macroeconomics. (Module 6)
- To develop aptitude to relate concepts with research and policy. (Module 5)
- To paraphrase macro-economic policy initiatives both in global and domestic context (Module 2)
- To demonstrate an understanding of the macroeconomic tools to manage business fluctuations. (Module 4)

Module 1:

Macroeconomic Measurement (8 hours)

- An overview of National Accounting.
 - Conventions about National Accounting Sectors.
 - Concept of value added by production.
 - National Product at market price and factor cost.
 - Gross and Net Production.
- Methods of Income estimation.
 - The Product Approach, The Expenditure Approach, The Income Approach.
- Accounting for Environmental and Social Dimensions.
 - Physical quality of life index and Human Development Index.
 - Environmentally Adjusted Net Domestic Product.

Module 2:

Background Concepts. (8 hours)

- History of macroeconomic thought- Classical, Keynesian and schools of thought after Keynes.
- Behavioral foundations of Macroeconomics:
- Consumption Function: Keynes Psychological Law and Kuznet's consumption puzzle, Fisher's intertemporal Choice Model, Permanent Income Hypothesis, Life Cycle Hypothesis and Relative Income Hypothesis.
- Investment Function: Neo-Classical Theory of Investment, Stock Market and Tobin's q-ratio, Accelerator Theory of Investment (simple and flexible acceleration models)
- The Monetarist School: The quantity theory of money approach.

Module 3:

Rational Expectations and new Classical Macroeconomics (4 hours)

- The basic concepts – the Phillips curve and Lucas Supply equation

Module 4:

Real Business Cycle School (6 hours)

- Real Business Cycle School and inter temporal substitution of labor.
- Real Business Cycle theory- technology shocks- neutrality of money and flexibility of wages and prices.
- Real Business cycle view on great depression.

Module 5:**Micro Foundations of real and nominal rigidities: New Keynesian School (8 hours)**

- Imperfect competition and price setting- Real rigidity- Coordination failure models.
- Real Non Walrasian Theories- Small Menu Cost model and Staggering of prices, implicit wage.
- Contract theory- efficiency wage theory- Insider- Outsider model.

Module 6:**Basic Infinite Horizon Models (8 hours)**

- Ramsey Problem: Command Economy, Decentralized economy, dynamic efficiency - Government in the decentralized economy.
- Overlapping Generations Model.
- OLG with production: two period lives, dynamic inefficiency and altruism, Social Security Models under OLG

Suggested Readings:

Books;

- Barro, Robert J. & Sala-i- Martin, Xavier (1995), *Economic Growth*, McGraw Hill.
- Blanchard, Olivier (2000), *Macroeconomics*, Prentice Hall.
- Blanchard, Olivier and Stanley, Fischer (1989), “*Lectures on Macroeconomics*”, The MIT Press
- Dornbusch, Rudiger, Fischer, Stanley & Startz, Richard (2004), *Macroeconomics*, 9th Edition, McGraw Hill.
- Mankiw Gregory (2002), *Macroeconomics*, 5th Edition, Worth Publishers
- Romer, David (2003), *Advanced Macroeconomics*, 3rd Edition, McGraw Hill Publishers.
- Snowdon Brian and Vane Howard R, (2005) *Modern Macroeconomics: Its Origin, Development and Current State*, Edward Elgar Publishing Ltd.

Additional Reading List: Website Link

- <https://www.imf.org/en/Publications/WEO/Issues/2022/07/26/world-economic-outlookupdate-july-2022>
- <https://www.federalreserve.gov/newsevents/pressreleases/monetary20220727a.htm>
- <https://www.ecb.europa.eu/press/pr/date/2022/html/ecb.mp220721~53e5bdd317.en.html>
- <https://www.ecb.europa.eu/press/blog/date/2022/html/ecb.blog220723~c2b1d4b654.en.html>
- https://www.ecb.europa.eu/ecb/educational/explainers/tell-memore/html/interest_rates.en.html
- https://www.rbi.org.in/Scripts/BS_PressReleaseDisplay.aspx?prid=53904
- <https://www.rbi.org.in/Scripts/PublicationsView.aspx?id=21035>
- <https://www.rbi.org.in/Scripts/PublicationsView.aspx?id=21038>
- https://dea.gov.in/sites/default/files/MER%20June%202022_Final.pdf
- <https://www.indiabudget.gov.in/doc/frbm1.pdf> 16. <https://www.rbi.org.in>

Course Code: C-03

Course Name: Statistics

Course outcomes:

The course will enable the students:

- To acquaint the students with hypothesis testing and to familiarize its use in real life. (module 1)
- To familiarize the students with distribution and its various types. (module 2)
- To acquaint the students with estimation, inference and its various methods (module 3)
- To familiarize the students with various qualitative tests. (module 4)
- To identify the various types of nonparametric statistics. (module 5)
- To acquaint the students with operational research and its various solving methods. (module 6)
- To improve the students' analytical and problem-solving skills, familiarize the students with various real life examples of linear programming problems. (module 7)

Module 1:

Testing hypotheses.

- Simple versus composite hypothesis.
- critical region, type I and type II errors, power of a test.
- The Decision Rule, trinity of classical tests (Wald test, Lagrange multiplier, likelihood ratio).
- application of hypothesis testing with known and unknown variances, test for correlation.

Module 2:

Special Distributions.

- Introduction
- Various types of distributions (The Poisson Distribution, The Normal Distribution, The Geometric Distribution, The Negative Binomial Distribution, The Gamma Distribution,
- The Central Limit Theorem.

Module 3:

Estimation and Inference.

- Introduction.
- Estimating Parameters.
- The Method of Maximum Likelihood, the Method of Moments.
- Interval Estimation, Properties of Estimators, Minimum-Variance Estimators.
- The Cramer-Rao Lower Bound, Sufficient Estimators, Consistency, Bayesian Estimation.

Module 4:

Bivariate Distributions.

- Contingency tables, joint and conditional distributions.
 - Odds ratio, test of independence.
 - Analysis of Variance (ANOVA), analysis of covariance.
- Module V: Nonparametric Statistics.

- Introduction.
- Sign Test, Wilcoxon Tests, The Kruskal-Wallis Test, The Friedman Test.
- Testing for Randomness, Comparing Parametric and Nonparametric Procedures.

Module 5:

Introduction to OR.

- Basic algorithms; Linear programming (LP).
- Graphical and Simplex.
- LP Formulation and LP with solver and sensitivity analysis.
- Transportation and transshipment models; Simulation; Decision Analysis.

Module 6:

Advanced algorithms in OR.

- Goal Programming; Queuing Theory, Networking Models.
- Markov chains; Data Envelopment Analysis (DEA); Analytical Hierarchical processing (AHP).

Reference list:

- Larsen, R. J., and Morris L. M. (2001): *An Introduction to Mathematical Statistics and its Applications*. 3rd ed. Upper Saddle River, NJ: Prentice Hall.
- Lewis M. (2011): *Applied Statistics for Economists*, Routledge.
- Newbold P. (2007): *Statistics for Business and Economics* (6th edition or later), Prentice Hall.
- Sweet, S. and Karen G.- M. (2008): *Data Analysis with SPSS: A First Course in Statistics*, Allyn & Bacon, 3rd Edition.
- Field A. (2013): *Discovering Statistics using IBM SPSS Statistics*. Fourth Edition, SAGE
- Render and Stair. (2012): *Quantitative Analysis for Managerial Decision Making*.
- Hiller and Liberman. (2011): *Operations Research*.
- Hamdy and Taha. (2013): *Operations Research*.

Course Code: C-04

Course Name: Basic Econometrics

Course Outcome:

The course will enable the students:

- To provide an overview of the subject and build understanding about the concepts and techniques used in econometrics. (Module 1, 6, 8 & 9)
- To examine basic econometric techniques that are widely used in empirical work in economics and other related disciplines. (Module 3 and 5)
- To enable conceptual understanding and 'hands on' applications using economic data drawn from real-world examples, rather than on formal theoretical proofs alone. (Module 2, 4 and 7)
- By the end of the course, students should be able to develop simple econometric models and interpret the econometric and statistical results reported in other studies.

Note: Students will be taught software packages for performing econometric applications. Computer exercises will be given.

Module 1:

The nature of Econometrics and Economic Data:

- Introduction, Model Specification and applied research
- The role of data in model specification
- The Structure of Economic Data
- Steps in Empirical Analysis
- Causality and the Notation of Ceteris Paribus in Econometrics, etc.

Module 2:

The Classical Linear Regression Model:

- Estimation and Inference: Ordinary least squares (OLS) estimation, the Classical assumptions, the Gauss-Markov theorem and properties of the OLS estimators
- Interval estimation and hypothesis testing and prediction
- Reporting and interpreting regression results
- Maximum Likelihood techniques
- Restricted Least Square estimation
- Likelihood Ratio (LR)
- Wald and Lagrange Multiplier (LM) Test
- Minimum Variance Bound (Rao-Cramer Inequality Theorem).

Module 3:

Non-linear regression:

- Conversion of non-linear forms into linear forms
- Testing linear versus non-linear functional form
- Appropriateness and relevance of the choice of functional form.

Module 4:

Regression Analysis with Qualitative information: Binary (or Dummy) Variables:

- Exogenous Dummy Variable- Formulating and interpreting coefficients on dummy explanatory variables

- Interactions involving dummy variables and use of dummy variables in seasonal analysis
- Piecewise regression analysis
- The dummy variable alternative to chow test.
- Discrete and Limited Dependent variable - Linear Probability Model, Problems relating to LPM
- Logit and Probit Model
- Multinomial Choice Models: Ordered Response Model; Unordered Response Model, Censored and Truncated Regression Model

Module 5:

Multicollinearity:

- Introduction, perfect versus imperfect Multicollinearity
- Consequences, tests for detection and remedies for Multicollinearity.

Module 6:

Violation of the OLS Assumptions:

- Introduction, Consequences of violation of OLS assumption
- GLS Estimation- Aitken's generalization of Gauss Marks Theorem.
- Heteroscedasticity & Autocorrelation: Causes and consequences, diagnostic tests and remedial procedural

Module 7:

Specifications: Choosing the Independent Variables and Functional Form

- Omitted variables: Too few variables, Irrelevant variables: variable overload, Criterion of choice, superfluous variables etc.
- The use and Interpretation of constant term
- Alternative Functional forms, Problem with incorrect functional form, test for choosing the appropriate functional form.

Module 8:

Lagged Variables and Distributed- Lag Models:

- Introduction, Consequences of applying OLS
- Almon's lag approach
- Koyak Transformation: Partial adjustment hypothesis and adaptive expectations hypothesis, estimation of distributed lag models etc.

Module 9:

Simultaneous Equation Models (SEM):

- Introduction, Structural, reduced form and final form model
- Rational behind the use of SEM - simultaneous bias and inconsistency of the OLS estimator
- Problem of Identification: Rank and Orders conditions
- Methods of estimation: ILS, 2SLS, Instrumental Variable, LIML (LVR), Mixed estimation Method, 3 SLS and FIML methods.

References

Books:

- Green, William H. (2014), *Econometric Analysis*, *Prentice Hall*.
- Griffiths, Hill and Judge (1993), *Learning and Practicing Econometrics*, *Wiley*, New York.
- Gujarati, Damodar, (2003), *Basic Econometrics*, 4th Edition, *Tata McGraw Hill Publishing Company*, New Delhi
- Johnston and Dinardo (1997), *Econometric Methods*, 4th Edition *McGraw-Hill International Edition*.
- Judge, G.G. et al., *Introduction to the theory and Practice of econometrics*, 2nd Edition *John Wiley and Sons*.
- Koutsoyiannis, A (2004), *Theory of Econometrics*, 2nd edition, *Palgrave*, N. Y.
- Madala G.S. (2001), *Introduction to Econometrics*, *John Wiley & Sons*.
- Pindyck & Rubinfeld (1997), *Econometrics Models & Economic Forecast*, 4th edition, *McGraw-Hill/Irwin*.
- Studenmund, A.H., (2005), *Using Econometrics: A Practical Guide*, *Addison Wesley Publishing Company*, Boston.
- Wooldridge J. (2009), *Introductory Econometrics: A Modern Approach*, *South-Western College Pub*.

Articles:

- Amemiya , Takeshi (1980), 'Selection of Regressors', *International Economic Review*, Vol. 21, No. 2, June, pp. 331-354,
- Amin and Islam (2014), 'Are There More Female Managers in the Retail Sector? Evidence from Survey Data in Developing Countries,' Policy Research Working Paper-6843, *World Bank*.
- Angrist and Kruger (2001), 'Instrumental Variables and search for Identification: From Supply and Demand to Natural Experiments,' *Journal of Economic Perspective*, Volume 15, November 4- Fell 2001, P 69-85
- Chen, Dhal, and Khan(2002), 'Nonparametric Identification and Estimation of a Censored Regression Model with an Application to Unemployment Insurance Receipt', *Center For Labor Economics University of California*, Berkeley Working Paper No. 54
- Chintagunta and Honore (1996), 'Investigating the effects of marketing variables and unobserved heterogeneity in a multinomial probit model,' *International Journal of Research in Marketing, Elsevier Science*, 13(1996) 1-15
- Comanor William S. and Wilson Thomas A. (1967), 'Advertising Market Structure and Performance', *The Review of Economics and Statistics*, Vol. 49, No. 4, Nov., pp. 423-440
- Dornbusch, R.and Pechman, Clarice (1985), 'The Bid-Ask Spread in the Black Market for Dollars in Brazil', *Journal of Money, Credit and Banking*, Vol. 17, No. 4, Part 1, November, pp. 517-520.
- Halvorsen, R. and Palmquist, R. (1980), 'The Interpretation of Dummy Variables in Semi logarithmic Equations', *The American Economic Review*, Vol. 70, No. 3, June. pp. 474-475
- Harvey, A. C. (1976), 'Estimating Regression Models with Multiplicative

Course Code: A-24

Course Name: Advanced Microeconomics

Learning Outcome:

- To acquaint the students with General Equilibrium Theory. (Module I)
- To familiarize the students with the concept of incomplete information game and the resulting Bayesian Nash Equilibrium
- To enumerate the concept of intertemporal choice of consumption and savings, arbitrage theory. (Module III)
- To develop an understanding of the basic principles and applications of Microeconomics. Various applications of microeconomics have taken place during the last forty years. This module will be taught based on presentation and discussions basically by students. References are attached separately as articles particularly for this module. It intends to improve students' analytical skills and ability to solve problems, which will be useful in several other areas of economics. (Module IV)

Module 1:

Theory of General Equilibriums

- Consumer Theory: Preference relation; Utility function; Indirect utility function;
- Expenditure function; Consumer welfare, Revealed preferences
- Producer Theory: Production function; Cost function; Profit function
- Introduction–Partial Equilibrium Vis-à-vis General Equilibrium Approach.
- Exposition of Basic Concepts.
- An Elementary General Equilibrium model – the Robinson Crusoe Economy.
 - Pure Exchange Economy – the Edgeworth Boxes, Pareto Optimality, Contract Curve, Core, Walras Law, Walras Equilibrium. First and Second Fundamental Theorem of Welfare Economics
- Second Level: Refreshment of Analytic and Scarcity Properties of Preference Relation. A More Elaborate exposition of the Exchange Economy: Commodities, Agents, Preferences, Utility Functions, Prices, Demand and Excess Demand Functions and their Properties.
- Formal Definition of Allocation, Pareto Optimal Allocation, Individually Rational Pareto Optimal Allocation, Coalition, and Core.
- Walras Equilibrium, its Relation with Core.
- Formal Proof of First Fundamental Theorem.
- Gross Substitutability.
- Price Adjustment Process.
- Brower's Fixed Point Theorem. Existence of Walras Equilibrium and Uzawa Equivalence Theorem.
- Social Welfare Maximization and its relation with Pareto Optimality.
- General Conditions for Uniqueness, and Discussion of Stability – Tatonnement Process.
- General Equilibrium over Time – Arrow Debreu Scarcity (introduction only). Re-switching and Reverse Capital Deepening.

Module 2:

Games of Incomplete Information

Static and dynamic games of incomplete information; mechanism design; screening and signalling

- Introduction to Sub-Game Perfection
- Static Bayesian Games and Bayesian Equilibrium–Theory and Examples.

Module 3:

Consumption and Saving

- Revision of Uncertainty and expected utility theory
- Time Separability
- Exponential Discounting
- The Demand for Saving, Precautionary Saving with an Endogenous Risk
- Arbitrage Theory, Definition of Arbitrage, Asset Pricing through Replicating Portfolio
- Asset Pricing
- Fundamental Theorem of Asset Pricing
- Introduction to Interest Rate Risk
- Introduction to Credit Risk.

Module 4:

Applications of Microeconomic Principles

The principal-agent model and incentive contracting

- Economics of Innovation
- Bargaining, Measurement of Productivity and Efficiency
- Search Theory
- Health Economics
- Hedonics and Non-market evaluation
- Brief Exposure to Mechanism Design and Revelation Principle

Suggested Readings:

Books:

- Broadway, R.W. and Bruce, N. (1984), *Welfare Economics*, Basil Blackwell, London.
- Debreu, G. (1977), *Theory of Value, An Axiomatic Analysis of Economic Equilibrium*, Yale University Press.
- Ellickson, Bryan (1993) *Competitive Equilibrium; Theory and Applications*, Cambridge University Press.
- Kreps, D, “A Course in Microeconomic Theory”, Princeton University Press, 1990
- Kreps, David (1988), *Notes on theory of choice*, West view Press.
- Mas-Colell, Andrew Michael., Whinston, D. And Green, Jerry R. (1995), *Microeconomic Theory*, Oxford University Press.
- Osborne, MartinJ and Rubinstein, Ariel (1994), *A course in Game Theory*, MIT Press.
- Perloff.J. 2019, *Microeconomics*, 7th Edition, Pearsom Education.
- Varian, Hal R. (1992), *Microeconomic Analysis*, 3rd.Edition, International Student Edition, W. W.Norton and Company.

Articles

- Antonelli, C. (2009). The economics of innovation: from the classical legacies to the economics of complexity. *Economics of Innovation and New Technology*, Vol 18(7), pp. 611–646.
- Heshmati, A. (2003). Productivity Growth, Efficiency, and Outsourcing in Manufacturing and Service Industries. *Journal of Economic Surveys*, Vol 17(1), pp. 79–112.
- Latruffe, L. (2010). Competitiveness, Productivity, and Efficiency in the Agricultural and Agri-Food Sectors. *OECD Food, Agriculture and Fisheries Papers*.
- Lowe, J. G. (1987). The measurement of productivity in the construction industry. *Construction Management and Economics*, Vol 5(2), pp. 101–113.
- Part 1: Lippman, S. A., & McCall, J. J. (1976). The Economics of Job Search: A Survey. *Economic Inquiry*, Vol 14(2), pp. 155–189.
- Part 2: Lippman, S. A., & McCall, J. J. (1976). The Economics of Job Search: A Survey. *Economic Inquiry*, Vol 14(3), pp. 347-388.

Course Code: A-04

Course Name: Monetary Macroeconomics

Course Outcomes:

- To cover post-Keynesian developments in monetary theory with special reference to the existence of general equilibrium in a monetary economy. (Module 1, 2 & 3)
- The implications of introducing money in Walrasian and non-Walrasian economies and theories of disequilibrium dynamics will be enunciated. (Module 4, 5)
- Analysis of the questions of monetary and credit policies and the workings of monetary policies with special reference to Indian economy. (Module 6)
- To enumerate the concepts of monetary institutions and monetary policy. (Module 7)

Module 1:

Definition of Money

Nature, functions, types and evaluation of money The debate relating to the definition of money Liquidity theory

Gurley and Shaw Hypothesis

Alternative money stock measures

The quantity and components of money stock in India and broad trend in them

Module 2:

Supply of Money and Money Transmission Mechanics Base money, money multipliers, and role of financial intermediaries Factors affecting money supply Balance sheet of Reserve Bank of India

Module 3:

Demand for Money Quantity theory of money Demand for money

Keynesian theory of demand for money

Baumol-Tobin theory

Issues regarding endogenous and exogenous supply of money.

Module 4:

Money in Walrasian and non-Walrasian Economics and Theories of Disequilibrium Dynamics

Money in neoclassical models

Money in non-neo-classical models

Walrasian interpretation of Keynesian unemployment (Patinkin, Clower and

Leijonhufvud) Post-Keynesian interpretation (Sidney Weintraub, Paul Davidson, Kelecki and Minsky)

Module 5:

Theories of the Interest Rate

Real and monetary theories of the interest rate

Keynesian theory, Wicksellian theory, Fisher's theory, Hicksian theory

Credit market imperfections

Adverse selection and moral hazard

Module 7:

Monetary Institutions & Monetary Policy

Monetary transmission mechanism and targeting Inflation Money growth and interest rates
Interest rate rules, Taylor rule, Rules versus discretion
Central Bank autonomy
Dynamic inconsistency of monetary policy credibility and reputation
Co-ordination of fiscal and monetary policy

Basic Readings

- Mishkin Frederic (2007), *The Economics of Money Banking and Financial Markets*, 8th ed Addison Wesley Longman Publishers.
- Bain, Keith & Howells, Peter (2009), *Monetary Economics: Policy and Its Theoretical Basis*, Palgrave.
- Friedman, Ben & Hahn F.H. (Eds.), (1990), *Handbook of Monetary Economics*, Vols. 1, 2, & 3, North Holland Publishers.
- Blinder Alan (1998), *Central Banking in Theory and Practice*, The MIT Press
- Langdana Farrokh (2009), *Macroeconomic Policy: Demystifying Monetary and Fiscal Policy*, 2nd Edition, Springer.

Course Code: A-21:

Course Name: Advanced Econometrics

Course Outcomes:

- The course starts with advanced topics of econometrics, namely, the seemingly unrelated regressions. (Module 1)
- Various aspects of time series data are covered in time series econometrics. In particular, stationarity, trend and simultaneity of variables are discussed. (Module 2)
- Detailed account of panel data and its issues are covered in Module 3.
- Overall, the course allows students to form a foundation of advanced econometrics.

Module 1:

Seemingly Unrelated Regression (SURE): Estimation by OLS, GLS and FGLS, testing for structural change and aggregation bias, case of autoregressive errors

Module 2:

Time Series:

- **2.1. Introduction to Time Series Analysis:** The nature of time Series data; Examples of time Series Regression Models: Static Models: Finite Distributed Lag Models. Trends and Seasonality: Characterizing Trending Time Series, Using Trending Variables in Regression Analysis. A Detrending Interpretation of Regressions with a Time Trend, Computing R-Squared when the Dependent Variable Is Trending Seasonality
- **2.2 Stationary Time-Series Models:** Stochastic Difference Equation Models, ARMA Models, Stationarity, Stationarity Restrictions for an ARMA(p, q) Model, The Autocorrelation Function, The Partial Autocorrelation Function, Sample Autocorrelations of Stationary Series, Box–Jenkins Model Selection, Properties of Forecasts, A Model of the Interest Rate Spread, Seasonality, Parameter Instability and Structural Change.
- **2.3 Models with Trend:** Deterministic and Stochastic Trends, Removing the Trend, Unit Roots and Regression Residuals, The Monte Carlo Method, Dickey–Fuller Tests, Examples of the ADF Test, Extensions of the Dickey– Fuller Test, Structural Change, Power and the Deterministic Regressors, Panel Unit Root Tests, Trends and Univariate Decompositions
- **2.4 Multiequation Time-Series Models:** Intervention Analysis, Transfer Function Models, Estimating a Transfer Function, Limits to Structural Multivariate Estimation, Introduction to VAR Analysis, Estimation and Identification, The Impulse Response Function, Testing Hypothesis, Structural VARs. , The Blanchard and Quah Decomposition.
- **2.5 Cointegration and Error-correction Models:** Linear Combinations of Integrated Variables, Cointegration and Common Trends, Cointegration and Error Correction, Testing for Cointegration -The Engle–Granger Methodology, Illustrating the Engle-Granger Methodology, Cointegration and Purchasing-Power Parity, Characteristic Roots, Rank, and Cointegration, Hypothesis Testing, Illustrating the

Johansen Methodology, Error-Correction and ADL Tests, Comparing the Three Methods

- **2.6 Modeling Volatility:** Economic Time Series- The Stylized Facts, ARCH Processes, ARCH and GARCH Estimates of Inflation, A GARCH Model of Risk, the ARCH-M Model, Additional Properties of GARCH Processes, and Maximum Likelihood Estimation of GARCH Models.

Module 3:

Panel Data

- **3.1 Introduction Panel Data:** Some Examples, Benefits and Limitations
- **3.2 The One-way Error Component Regression Model:** Introduction, The Fixed Effects Model, The Random Effects Model, Fixed vs Random, Maximum Likelihood Estimation, Prediction
- **3.3. The Two-way Error Component Regression Model:** Introduction, The Fixed Effects Model, Testing for Fixed Effects, The Random Effects Model, Maximum Likelihood Estimation, Prediction
- **3.4 Test of Hypotheses with Panel Data:** Tests for Poolability of the Data, Tests for Individual and Time Effects: The Breusch–Pagan Test, King and Wu, Honda and the Standardized Lagrange Multiplier Tests, Gourieroux, Holly and Monfort Test, Conditional LM Tests, ANOVA F and the Likelihood Ratio Tests; Hausman’s Specification Test
- **3.5 Introduction to Dynamic Panel Data Models**

Note: The students will be taught software packages for performing econometric applications. Computer exercises will be given to students.

Basic Reading List

- Baltagi, B.H. (2008), **Econometric Analysis of Panel Data**, 4th Edition, Wiley
- Wooldridge, J. (2002), **Econometric analysis of Cross Section and Panel Data**
- Wooldridge, J. (2009), **Introductory Econometrics**, 4th Edition, South-Western College Pub.
- Hsiao, C. (2003), **Analysis of Panel Data**, Cambridge University Press, Cambridge.
- Walter Enders (2008), **Applied Econometrics Time series**, Wiley India
- Hamilton, JD (1994) **Time Series Analysis**. Princeton University Press, New Jersey.
- Judge, G.G., Griffiths, W.E., Hill, R.C., Lutkepohl, H. and Lee, T.C. (1985), **The Theory and Practice of Econometrics**, 2nd edition John Wiley and Sons, New York.
- Johnston, J. and Dinardo, D., **Econometric Methods**, McGraw Hill, New York.
- Lutkepohl, Helmut (2007) **New Introduction to Multiple Time Series Analysis**, Springer, New York
- Rao, P., Miller, R. L. (1971), **Applied Econometrics**, Wadsworth Publishing Company.

Course Code: A-20:

Course Name - Economic Growth and Development

Learning Outcomes

- To familiarize students with the multidimensionality of the concept of ‘development’ (Module I)
- To discuss the major theoretical developments in areas of growth economics and policy discourse (Module II)
- To elaborate the development theories pertaining to underdevelopment problems of the least-developed or developing countries (Module III, V)
- To provide detailed accounts of secular problems faced by developing countries such as slow growth, high poverty rates, high income inequality etc. (Module IV, VI)

Module 1:

Introduction

- Economic growth, Economic development, Human Development
- Approaches to evaluate growth : trickle down effect, basic needs approach
- Approaches to evaluate development: Rights-based approach, Capability approach ; Development as Freedom
- Growth and development indicators such as GDP, GNP, Per Capita Income, Human Development Index and its extensions, Gender related Development Index (GDI), Gender Empowerment Measure (GEM), Methodology of computation and measurement issues

Module 2:

Growth Theories:

- Harrod-Domar Model
- Solow growth model and its application to convergence of country growth rates
- New growth theories: Human capital, Externalities and ideas; endogenous technological progress and development

Module 3:

Development theories:

- Vicious Circle of Poverty
- Low-level Equilibrium Trap
- Rostow’s Stages of Growth
- Big Push, Balanced and Unbalanced growth
- Dual-economy models by Lewis, Ranis-Fei,
- Rural-urban migration and urban unemployment (Harriss-Todaro model and extensions),
- Rural-urban wage-gap (Labour turnover model and wage- efficiency model – their extensions and limitations)
- Myrdal’s model of Geographical Dualism

Module 4:

Institutions & economic development

- Institutions, role of institutions in long-run growth and development
- Which institutions matter?
- Why Poor nations remain poor?
- Institutions for well-functioning market economies, Market failures
- Government failures
- Community and Economic Development, Management of common property resource
- Community Failures

Module 5:

Poverty and Inequality:

- Measures of poverty- absolute versus relative poverty, poverty gap ratio, poverty lines, Multidimensional Poverty Index (MPI), debates about poverty lines, Inclusive Growth
- Measures of Inequality - Kuznets ratio, Lorenz curve, GINI Coefficient
- Linkages with development - capital versus labour market, Kuznet's Inverted U shaped hypothesis, Income and Wealth Inequalities, Social Inequality,
- Basic equality and social security and Health care
- India's performance in case of poverty and inequality reduction, lessons learned from RCTs

Module 6:

Development Experiences and Policy Lessons

- International comparison of India with other countries on growth and development indicators
- Inter-state or inter-district comparison on various development indicators and development policies
- Overview of SDGs - targets and achievements

References:

Basic Reading List

- Bardhan, P. and C. Udry (1999), *Development Microeconomics*, Oxford University Press.
- Basu, K. (2003), *Analytical Development Economics: The Less Developed Economy Revisited*, The MIT Press.
- Meier, G. and J. Rauch (2004), *Leading Issues in Economic Development*, 7th edition, Oxford University Press.
- Ray, D. (1998), *Development Economics*, Princeton University Press.
- Thirlwall, A.P. (2006), *Growth and Development*, 8 th edition, Palgrave Macmillan.

Additional Reading List

Module I:

- Alkire, S. (2002), *Valuing Freedom: Sen's Capability Approach*, New Delhi: OUP.
- Bagchi, A. (1982), *The political economy of underdevelopment*, Cambridge University Press.
- Bardhan, P. and C. Udry (eds) (2000), 1st edition, *Readings in Development Economics*, The MIT Press.
- Meier, G. and J. Rauch (2005), 8 edition, *Leading Issues in Economic Development*,. Oxford University Press, USA.
- Meier, G. (2001), 'The Old Generation of Development Economics and the New', In: G. Meier and J. Stiglitz (eds), *Frontiers of Development Economics*, World Bank.
- Mozaffar, Q. (1996), 'Capabilities, Well-being and Human Development: A survey', *Journal of Development Studies*, 33:143-162.
- Mynt, Hla (1987), 'The neo-classical resurgence in development economics: its strength and limitations', in G.M. Meier (ed) (1987), *Pioneers in Development*, Second Series, World Bank.
- Nussbaum, M. (1995), 'Human Capabilities, Female Human Beings', In: Nussbaum, M. and J. Glover (eds): *Women, Culture and Development: A study of human capabilities*, Delhi: OUP.
- Rao, V.K.R.V. (1963), 'Investment, Income and Multiplier in an underdeveloped economy', In: Agarwala, A.N. and S. Singh (eds): *Economics of Underdevelopment*, Delhi: OUP.

Ray, D. (1998), *Development Economics*, Princeton University Press. Sen, Amartya (1983), 'Development: Which way now?', *Economic Journal*, reprinted in: Sen: *Values, Resources and Development*. Vol. 93(372), pages 742-62, Sen, Amartya (August 15, 2000), *Development as Freedom*. Anchor.

Sen, Amartya (1988), 'The concept of development', In: H. Chenery and T.N. Srinivasan (eds): *Handbook of Development Economics Vol 1: North-Holland*.

World Development Reports, World Bank 1993, World Bank 1998

China Human Development Report 1999: Transition and the State

Human Development Reports (most recent)

Module II:

Aghion, P. and Howitt, P. *Endogenous Growth Theory*. The MIT Press, 1997.

Barro, Robert J. & Sala-i-Martin, Xavier (1995), *Economic Growth*, MacGraw Hill

Bardhan, P. (1995), 'The Contributions to Endogenous Growth Theory to the Analysis of Development Problems' In: Behrman, J. and T.N. Srinivasan (ed): *Handbook of Development Economics Vol. IIIB* pp. 2983–2998 (New York: Elsevier).

Ray, D. (2009), *Development Economics*, Princeton University Press.

Module III:

Baran, P. (1957), *The political economy of growth*, Monthly Review Press. Pp. 308.

Bardhan, P. (1988), 'Alternative approaches to development economics' Oxford University Press, New Delhi,

Chenery and Srinivasan (eds) 1995. Handbook of Development Economics, Vol. 1, Elsevier

Bardhan, P. and C. Udry (1999), Development Microeconomics, oxford University press.

Basu, K. (2003), Analytical Development Economics: The Less Developed Economy Revisited, The MIT Press.

Booth, D. (1995), 'Marxism and Development Sociology: Interpreting the Impasse', In: Corbridge, Development Studies, London: Edward Arnold.

Frank, G. (1984), 'The development of underdevelopment' in The Political Economy of Development and Underdevelopment, ed. Charles K. Wilber. New York: Random House. 1984. Pp. 100

Hayami, Y. (1997), Development Economics: From the Poverty to the Wealth of Nations, Oxford: Clarendon Press.

Jorgenson, D. (1978), 'Surplus Agricultural Labour and the Development of a Dual Economy', In: Singh, S.P (ed), Underdevelopment to Developing Economies, oxford University press Delhi.

Kay, Geoffrey (1975), Development and underdevelopment: a Marxist analysis. London: The Macmillan Press Ltd.

Krugman, P. (1993), 'Toward a counter-counterrevolution in Development Theory', Proceedings of the World Bank Annual Conference on Development Economics 1992, Washington DC: World Bank.

Little, IMD (1982) Economic Development: Theory, Policy and International Relations, New York: Basic Books; New York: McGraw- Hill.

Palma, G. (1978), 'Dependency: a formal theory of underdevelopment or a methodology for the analysis of concrete situations of underdevelopment', World Development, Vol. 6, pp. 881-924, Pergamon Press Ltd.,

Ranis, G. and J.C.H. Fei (1961), 'A theory of economic development', American economic review, LI- 4 September, pp 533-565

Ray, D. (2009), Development Economics, Princeton University Press.

Thirlwall, AP (2006), 8th Edition, Growth and Development, Palgrave Macmillan.

Module IV:

Bardhan, P. (1989), 'The New Institutional Economics and Development Theory', World Development, Vol.17 (9), pp.1389-1395.

Bardhan, P. (2001), 'The nature of institutional impediments to economic development' In: Kahkonen, S. and M. Olson (eds): A New Institutional Approach to Economic Development, New Delhi: Vistaar Publications.

Bardhan, P. (2000), 'Understanding underdevelopment: Challenges for Institutional Economics from the point of view of poor countries', Journal of Institutional and Theoretical Economics, Vol.135, pp. 216-235.

Bowles. S. Microeconomics: Behavior, Institutions and Evolution, Princeton University Press, 2006.

Dasgupta. P. An Inquiry into Well Being and Destitution, Clarendon Press 1993.

Dasgupta, P. Human wellbeing and Natural Environment, Oxford University Press, 2002.

Stiglitz, J. (1989), 'Markets, Market Failures, and Development', American Economic Review, Vol.79, pp.197-203.

Hayami, Y. (1997), Development Economics: From the Poverty to the Wealth of Nations, Oxford:

Clarendon Press.

Module V

Asian Development Bank, (2011) "Understanding Poverty in India"

Fields, Gary S. (1981) Poverty, Inequality, and Development: A Distributional Approach, Journal of

Policy Modeling, 3(3), 295-315

Fields, Gary S., 1981. "Poverty, Inequality, and Development," Cambridge Books, Cambridge University Press.

Gary S. Fields (2001) "Distribution and Development A New Look at the Developing World", The MIT Press, DOI: <https://doi.org/10.7551/mitpress/2465.001.0001>, ISBN (electronic): 9780262272605

Pomeranz K, The Great Divergence: China, Europe and the Making of the Modern World, Princeton UP 2000

Piketty. T. Capital in the Twenty-First Century, Editions du Seuil,, Belknap Press, 2014

Grusky, David B., Kanbur Ravi, Sen Amartya (2006) "Poverty and Inequality", Stanford University

Press

Reports by various committees on poverty line

Reports of Planning Commission / NITI Aayog, India

Reports of World Bank

Reports of UNDP

HDR reports

Oxfam reports

Module VI

World Bank reports

Maddison Historical Statistics: Maddison Project Database 2020

NITI Aayog - SDG India Index and Dashboard

NITI Aayog - Reports on SDGs

Course Code: A-08:

Course Name: Public Economics

Course Outcomes:

- To understand market failures, the necessity of government intervention and the role of the State in the economy (Module 1)
- To comprehend the collective choice problem, the mechanism of preference revelation
 - through voting in democratic systems and the public goods allocation mechanism (Module 2 and 3)
- To study the theory of taxation and analyze tax policy issues in India. (Module 4 and 5)
- To learn how and what governments spend on, evaluate their fiscal performance and analyze public finances. (Module 6 and 9)
- To discern the relationship between different levels of government and how they work
 - together. (Modules 7 and 8).

Module 1:

Economic Rationale of the Modern State and Macro Economic Perspective of Public Finance

- Issues related to market failure and the government intervention
- The role of State in Allocation, Distribution, Regulation and Stabilization.
- The changing role of the State: Issues in a globalizing world with special emphasis on global public goods.
- Macroeconomics of Public Finance: The interaction between fiscal and monetary policy and fiscal stabilization.

Module 2:

Economic Analysis of Public Goods

- Public goods: pure and impure public goods.
- Optimal provision of public goods – voting and public choice – preference revelation mechanisms – Lindahl and successors, free riding, mobility.
- The theory of clubs and local public goods.
- Public goods and the private cost of public goods- Pseudo- market mechanism for Preference Revelation.

Module 3:

Economic decision making in government

- Normative social choice theory – Arrow's theorem – majority voting – The median voter model – representative democracy.
- Positive social choice theory: The Leviathan hypothesis – rent – seeking – lobbying and interest groups.

Module 4:

Theory of Taxation

- The conflict between efficiency and equity - horizontal and vertical equity-welfare analysis with uncertainty.

- Shifting and Incidence of Tax: The Partial and General Equilibrium Analysis- the Harberger model
- Canons of taxation
- Theory of Optimal Taxation.
- Taxation and economic efficiency.
- Issues related to tax policy in developing countries.

Module 5:

Tax Policy Issues in India

- Indian Tax System: An assessment
- Practical Issues of Tax reforms in India
- An introduction to Value Added Tax
- Value Added Tax: Design, Issues and Options.
- An introduction to MODVAT, CENVAT and Goods and Services Tax (GST)
- Issues in the taxation of Services in India.

Module 6:

Public Expenditure Theory

- Pure theory of public expenditure- Empirical evidence on public expenditure theories.
- Public Sector Pricing- Pricing of Public Utilities.
- Public expenditure management and control
- Concept, measurement and magnitude of subsidies.
- Social infrastructure and financing of human development.
- Growth, nature and composition of public expenditure in India
- Sustainability issues of Centre and State expenditure in India
- Issues related to subsidies in India
- Social Security and State level pension reforms in India.

Module 7:

Fiscal Federalism

- Theory of Fiscal Federalism: The decentralization theorem.
- Economic efficiency issues in multilevel government.
- Assignment issues in multilevel government.
- Theory of intergovernmental transfers.

Module 8:

Fiscal Federalism in India

- Centre-State Financial relations in India - Constitutional provisions and various committee recommendations on sharing of revenue.
- Fiscal Decentralization in India in the context of 73rd and 74th Constitutional Amendments.
- Implication of recommendations of Finance Commission.
- Centrally Sponsored Schemes and its implications for federalism.

- Sub national fiscal reforms in India.

Module 9:

Fiscal Imbalance and Management of Public Debt

- Measurement and macro-economic impact of deficits- alternative paradigms.
- The concept of budget.
- Fiscal deficit and interest rates: Analytical and empirical issues.
- Public debt burden and intergenerational equity.
- Issues related to public debt sustainability.
- Trends and developments in Indian Fiscal Policy.
- Recent experience with stabilization functions of India government.
- Fiscal Responsibility and Budget Management Act: An Evaluation.
- Trends in and Financing pattern of deficits in India and its macro-economic implications.

Basic Readings

Books

- Alan Peacock (1979), *The Economic Analysis of Governments*, St. Martin Press, New York.
- Stiglitz, J.E. (1989) *Economics of the Public Sector*, W.W. Norton & Company, London.
- Thompson, F. And Green, M. T. (1998), *Handbook of Public Finance*, Marcel Dekker, New York.
- World Bank (1996), *From Plan to Market*, World Development Report, The World Bank, Washington DC.

Articles

- Agno Sandmo (1976): *Optimal Taxation: An Introduction to Literature*, *Journal of Public Economics*, 6, pp 37-54.
- Berry, Steven T. and Joel Waldfogel (1999): "Public Radio in the U.S.: Does it Correct Market Failure of Cannibalize Commercial Stations?" *Journal of Public Economics* 71, 189-211.
- Charles Tiebout (1956): "A Pure Theory of Local Expenditures, *Journal of Public Economics*, 64, 416-424.
- Blejer, M. and Adrienne, C. (1993): 'How to Measure the Fiscal Deficit', *International Monetary Fund*, Washington DC.

Course Cod: A-10

Course Name: International Economics – Pure Theory

Course Outcomes:

- To provide a deep understanding about the broad principles and theories, which tend to govern the flow of trade in goods, services and capital at the global level. (Module 1-3)
- The contents of the paper, spread over different modules, lay stress on the theory and nature of the subject which, in turn, will greatly help them to examine the impact of the trade policies both at the national and international levels. (Module 4 and 5)
- To appreciate the welfare implications at macro level and the distribution of gains from trade to North and South with particular reference to India. (Module 6 and 7)
- To study under the present era of globalization will train the students about the likely consequences on income, employment and social standards and possible policy solutions. (Module 8 and 9)
- The course allows students to know the theory of international economics.

Module 1:

Inter-regional versus international trade - Mercantilist doctrine of balance of trade - Adam Smith and absolute advantage theory of trade - Ricardo and comparative advantage, its limitations - production possibility curve - Community indifference curve - Gain from trade - Offer curve - Determination of international equilibrium price - Different concepts of terms of trade - Factors affecting terms of trade.

Module 2:

Comparative advantage in Heckscher Ohlin Model - definitions of factor abundance - relationship between factor prices and commodity prices - Factor price equalisation theorem - Factor intensity reversal - the empirical evidence on Heckscher Ohlin theory - the Leontief Paradox.

Module 3:

Recent explanations of the basis of trade in terms of technological lead, domestic market size and product cycle approach – Linder’s hypothesis – Intra-industry trade.

Module 4:

The rationale of tariffs, quotas and subsidies – infant industry argument – tariffs and factor income distribution – Stolper-Samuelson Theorem – Rybczynski Theorem – tariffs, terms of trade and domestic prices – the optimum tariff rate – tariffs, subsidies and distortions in commodity and factor markets – effective rate of protection. Welfare implications of tariffs – Non-tariff barriers.

Module 5:

Effects of quotas and other quantitative restrictions – tariffs versus quotas.

Module 6:

Theory of customs union – trade creation versus trade diversion – partial and general equilibrium approaches to the theory of customs union – static and dynamic effects.

Module 7:

Trade and growth – export led or outward looking industrialization – case of East Asian economies – import substituting or inward looking industrialization – Case of South Asian economies with special reference to India – Growth and terms of trade – immiserising growth – Foreign exchange constraint on growth – Savings gap versus foreign exchange gap controversy.

Module 8:

Formation of regional trade blocs – European Economic Community, NAFTA, PAFTA, ASEAN, SAARC – Regional trade blocs and barriers to free flows of trade.

Module 9:

GATT and its objectives – issues at successive rounds of discussion – new issues at Uruguay Round – Trade in services – UNCTAD and evolution of world trading arrangements – World Trade Organization and fair trade.

Basic Reading List

- Bhagwati & Srinivasan (1983), Lectures on international trade, The MIT Press.
- Bhagwati, Jagdish (1964), “The Pure Theory of International Trade”, *Economic Journal*, Vol. 74, pp. 1-78.
- Borkakoti, J. (1998), *International trade: Causes & Consequences*, MacMillan, London.
- Caves, R. E., Frankel, J. A., Jones, R. W. (1993), *World Trade and Payments*, 6th edition, Harper Collins, New York
- Chacholiades, M. (1981), *Principles of International economics*, McGraw-Hill, New York.
- Chipman, John S. (1965), “A survey of the theory International trade: Part 1, The Classical Theory,” *Econometrica*, Vol. 33, No. 3, July, pp. 477{519}.
- Chipman, J. S. (1965), “A Survey of the Theory of International Trade: Part 2, The Neo-Classical Theory,” *Econometrica*, October, Vol. 33, No. 4, pp. 685{760}.
- Chipman, J. S. (1966), “A Survey of the Theory of International Trade: Part 3, The Modern Theory,” *Econometrica*, Vol. 34, No. 1, January, pp. 18{76}.
- Ethier, W. J. (1995), *Modern International economics*, 3rd edition, W.W. Norton & Co.
- Heffernan & Sinclair, (1991), *Modern International economics*, Illustrated edition, Wiley-Blackwell
- Heller, H. R. (1973), *International trade: Theory and empirical evidence*, 2nd Edition, Prentice-Hall, Englewood Cliff, New Jersey.
- Krugman, P. R. & Obstfeld, Maurice, (2008), *International economics: Theory & policy*, Addison-Wesley, May.
- Makusen, J. R. & Melvin etc. (1994), *International trade: Theory and evidence*, International, Ed edition, 1 Dec, McGraw - Hill Inc, US

Course Code: A-11:

Course Name: International Economics – Money and Finance

Course Outcomes

- To understand the fundamental principles and basic concepts of International Money and Finance. (Module 1 to 7)
- To know about the balance of payments is important. (Module 1)
- To assess the role of multipliers in foreign markets. (Module 2)
- To study the impact of multipliers on national income. (Module 3)
- To synthesize the role of stabilizers in adjusting BOP. (module 4)
- To evaluate the exchange rate theories and their working in real life. (Module 5)
- To analyze the role of international institutions and instruments in the international market. (Module 6)
- To discuss the capital and debt market structure of the international market. (Module 7)

Module 1:

Nature and concept of Balance of Payment (BOP)

Equilibrium and disequilibrium in BOP – role of international reserves – preliminary concepts about payments adjustments – domestic monetary and fiscal policies and BOP.

Module 2:

The market for foreign exchange

The demand for and supply of foreign exchange – fixed and flexible exchange rates – spot and forward markets for foreign exchange – speculation and arbitrage – role of expectations.

Module 3:

Foreign trade and national income

Foreign trade multiplier, national income and BOP – multiplier in the presence of foreign repercussions – international transmission of business cycles.

Module 4:

International economic policy and BOP adjustment mechanism

Automatic adjustment under gold standard – expenditure reducing and expenditure switching policies – Depreciation and elasticity approach – absorption approach – Multiple exchange rates – Exchange and trade controls.

Module 5:

Recent theories of exchange rate determination

Monetary model of BOP under fixed and floating exchange rate – Portfolio balance model – controversy regarding order in opening up of current and capital accounts – Effectiveness of domestic monetary and fiscal policies.

Module 6:

Essentials of International Monetary Order under Bretton Woods – problem of international liquidity and role of SDR – regional monetary co-operation – ECU – Flexible exchange rates as an International Monetary Order – Changing role of IMF – IMF conditionalities – World Bank and Structural Adjustment Loan facility.

Module 7:

Long term and short term international capital movements – Causes and consequences – The Transfer Problem – External debt – measuring the debt burden – Debt servicing – Third World debt problem with special reference to India – External debt versus foreign direct investment – Using international statistics in analysis of external debt.

Basic Reading

- Thirlwal, A.P (1999)., Balance of Payments Theory, 6th edition, Oxford University Press, New York
- Stern, R.M.(1973), The Balance of Payments, Aldine Publishing Company, New York
- Ramsaran Ramesh, (1998), An Introduction to International Money & Finance Palgrave 1st edition, Macmillan
- Heller, H.R (1974), International Monetary Economics, Prentice- Hall, Englewood Cliffs, N.J.
- Pilbearn, Keith (2006), International Finance, Palgrave Macmillan
- Pilbeam, K., (1998) Purchasing Power Parity & Floating Exchange Rate Experience *International Finance, Macmillan.*

Additional Reading List:

- Caves & Johnsan, (1968), Readings in International Trade, Homewood, IL-Irwin
- Clement, M. O (1967)., Theoretical Issues in International Economics, Houghton Mifflin Boston
- Ingram, J.C. (1993), International Economics, 2nd ed. HarperCollins, New York
- Batiz & Batiz (1994), International Finance & Open Economy Macroeconomics , Second Edition, Prentice Hall Publishers
- Zhang Peter G. (1998), IMF & Asian Financial Crisis, World Scientific , Singapore
- Claassen Emil-Maria, (1996) Global Monetary Economics, Oxford University Press

Course Code: A-13

Course Name: Mathematics for Economic Analysis

Course Outcomes:

The course will enable the students:

- The course aims at providing students an understanding of mathematical concepts along with economic applications, and introduces them to mathematical thinking and vocabulary. The concepts and techniques discussed in this course will find applications in the various branches of Economics. (Module 1,3,4)
- To Emphasize use of Real analysis in core economics to mathematically model and analyze economic concepts and behaviors of economic functions, in order to make predictions and informed decisions. (Module 2)

Module 1:

Linear Algebra

- Review of Matrices
- Eigenvalues and Eigenvectors, Principal Minors and Sign Definiteness
- Introduction to Vector Spaces
- Applications of Linear Algebra in Economics and Econometrics

Module 2:

Real Analysis

- Open and Closed Sets, Compact Sets, Convex Sets
- Rolle's Theorem and Mean Value Theorem
- Taylor Series
- Convex and Concave Functions,
- Brouwer and Kakutani Fixed Point Theorems

Module 3:

Static Optimization and Comparative Statics

- Introduction to Linear Programming and Game Theory
- Unconstraint and Constraint Optimization
- Euler's Theorem
- Kuhn-Tucker Conditions and Non-Linear Programming
- Maximum Value Functions and Envelope Theorem
- Comparative Statics
- Applications in Microeconomics
- An Overview of Matrix Differentiation and Applications to Econometrics

Module 4:

Dynamic Optimization

- First and Second Order Differential Equations and Difference Equations
- Simultaneous Differential and Difference Equations
- Optimal Control Theory
- Applications in Macroeconomics and Growth Theory
- Dynamic Programming
- Applications in Macroeconomics

Suggested Readings:

- Chiang, A.C., Fundamentals Methods of Mathematical Economics, McGraw-Hill, 2005
- Chiang, A.C., Elements of Dynamic Optimization, McGraw-Hill, 1992
- Dorfman, R., P. A. Samuelson and R. M. Solow, Linear Programming and Economic Analysis, Dover Publications, Inc., 1958
- Hoy, M., J. Livernois, C. McKenna, R. Rees, T. Stengos, Mathematics for Economics, PHI Learning Private Ltd., 2011
- Intriligator, Michael D., Mathematical Optimization and Economic Theory, Prentice Hall, 1971
- Shone, R., An Introduction to Economic Dynamics, Cambridge University Press, 2001
- Shone, R., Economic Dynamics: Phase Diagrams and their Economic Applications, Cambridge University Press, 2002
- Simon, Carl P. and Lawrence Blume, Mathematics for Economists, W. W. Norton & Company, Inc., 1994
- Sydsaeter, K and P. J. Hammond, Mathematics for Economic Analysis, 2002

Additional Readings

- Anton H. and Chris Rorres, Elementary Linear Algebra, Wiley India, 2005
- Bartle R. G. and D. R. Sherbert, Introduction to Real Analysis, John Wiley & Sons, 2000
- Binmore, K., Foundations of Analysis, Books 1, Cambridge University Press, 1980
- Binmore, K., Foundations of Analysis, Books 2, Cambridge University Press, 1981
- Dhrymes, P. J., Mathematics for Econometrics, Springer, 2013
- Strang, G., Linear Algebra and Its Applications, Cengage Learning, 2007

Course Code: A-23

Course Name: Population Studies

Course Outcomes: The course will enable the students:

- To understand the basic tenets of demography as well as key demographic issues and illustrations in Indian context (Module 1, 2 & 8)
- To comprehend the developments in demographic concepts like Fertility, Mortality and Migration. (Module 3, 4 & 5)
- To apply quantitative and the qualitative methods to study the characteristics of human population as well as the population processes. (Module 1 & 6)
- To analyse health care markets by studying the role of government and market failures. (Module 7)
- To evaluate the interplay between demographic processes and economic development. (Module 5 & 7)

Module 1:

Introduction and Sources of Data (9 hours)

- Evolution of Demography as a Scientific Discipline
- Nature and Scope of Demography and Changes in it over Time
- Multi-Disciplinary Nature of Demography and its Links with Other Social Science Disciplines
- Basic Demographic Concepts
- Components of Population Change
- Sources of Data – Population Census, Sample Registration System, Vital Registration System, National Sample Survey, Large Sample Demographic and Health Surveys
- Quality of Demographic Data
- Demographic Transition

Module 2:

Population Size, Growth and Characteristics (9 hours)

- Overview of the Size and Growth of World Population by Regions and Size; and Growth of India's Population
- Composition by Age and Sex
- Age Pyramids
- Determinants of Age and Sex Structure and its Economic and Social Implications
- Population Momentum
- Demographic Window of Opportunity
- Population Ageing
- Social and Economic Implications of Population Ageing
- Population Sex Ratios and its Variation; Child Sex Ratio, Sex Ratio at Birth, Sex Ratio of Elderly
- Changing Patterns of Sex Ratio in India, North-South Divide, 'Missing Women'

Module 3:

Fertility and Nuptiality (6 hours)

- Concepts and Measurements of Cohort and Period Fertility
- Fertility Levels and Differentials in Developed and Developing Countries
- Fertility Levels and Differentials in India
- intermediate Variables Affecting Fertility

- intergenerational Flow of Wealth
- Nuptiality – Concept and Analysis of Marital Status, Cingulate Mean Age at Marriage; Trends in Age at Marriage and Its Significance

Module 4:

Mortality (8 Hours)

- Concepts and Measurement of Mortality
- Standardization of Death Rates; Life Tables
- Levels, Trends and Determinants of Mortality in Modern Times
- Causes of Death and Epidemiological Transition
- Differentials in Mortality
- Infant and Child Mortality in India - Levels, Trends, and Determinants
- Maternal Mortality
- Life Tables
- Model Life Tables

Module 5:

Migration (8 hours)

- Concepts and Measurement of Migration
- Theories of Migration Related to internal Migration
- Causes and Consequences of internal Migration
- Differentials in Migration
- Trends and Patterns of internal Migration in India
- Urbanization – Growth and Distribution of Rural-Urban Population in Developed and Developing Countries
- Urbanization in India - Its Determinants and Consequences

Module 6:

Population Projection (5 Hours)

- Importance of Population Projection
- Component Method of Population Projection
- Ratio Method of Population Projection
- Projection of Population at the Sub-National Level

Module 7:

Population and Development (7 Hours)

- How is Population Related to Economic Development – Stimulus, Unrelated, Detrimental?
- Optimists, Pessimists, and Revisionists; Optimum Population
- Theory of Demographic Transition – Notestein, Libenstein, Becker, Easterlin, Caldwell; Cleland and Wilson Models
- Population and Environment
- Population and Health

Module 8:

Population Policy in India (8 Hours)

- Evolution of Population Policy in India –the Shift in Policy From Population Control To Family Welfare, To Women Empowerment
- Coercion Versus Cooperation as Elements in Population Policy
- From Population Control to Reproductive Health; Safe Motherhood

- National Population Policy 2000

References

Books:

- Bende, A., and T. Kanitkar (2000), Principles of Population Studies, Mumbai: Himalayan Publishing House, Bombay.
- Birdsall, N. (1988), Economic Approaches to Population Growth. in H. Chenery, and T. Srinivasan (eds.), Handbook of Development Economics, North Holland.
- Birdsall, N., A.C. Kelley, and S.W. Sinding (2001), Population Matters, Clarendon Press, Oxford.
- Cleland, J. (2001). The Effects of Improved Survival on Fertility: A Reassessment. in R.A. Bulatao and J. Casterline (eds), Global Fertility Transition, Population Council, Supplement to Population and Development Review, Volume 27, 2001.
- Cleland, J., and G. Kaufmann (1998), Education, Fertility, and Child Survival: Unravelling the Links. in A.M. Basu and P. Aaby (eds.), The Methods and Uses of Anthropological Demography, Clarendon Press, Oxford.
- Coontz, S. (1968), Population Theories and the Economic interpretation, Routledge, London.
- Croll, E. (2000), Endangered Daughters: Discrimination and Development in Asia, Routledge, London.

Articles:

- Anderson, S., and D. Ray (2010), Missing women: Age and Disease, Review of Economic Studies 77: 1262–1300.
- Basu, A.M. (1989), Is Discrimination in Food Really Necessary for Explaining Sex Differentials in Childhood Mortality? Population Studies, 43:193-210.
- Bhat, M. (2002), On the Trial of Missing Indian Females, Economic and Political Weekly,
- 37(51)(52): 5105-518, 5244-5263.
- Bhat, M. (2002), Returning a Favour: Reciprocity between Female Education and Fertility, World Development, 39(10).

Course Code: A-15:

Course Name: Accountancy and Financial Statement Analysis

Learning Outcome:

- To provide basic understanding of various essential concepts of Accountancy (Module I)
- To understand Accounting Process and to prepare Accounting Statements (Module II to V)
- Analysis of Company's Annual Report (Module VI)
- Analysis of Financial Performance (Module VII)
- Accounting of Foreign Currency Transactions (Module VIII)

Module 1:

Basic Principles

- Financial Accounting and Accounting Standards, Accounting Equation
- Users of Accounting Statements,
- Importance - Objectives and Principles
- Accounting Concepts and Conventions
- Principle of Double Entry Book Keeping
- Trends in Accounting principles, GAAP, IFRS, IAS

Module 2:

The Accounting Process

- Preparation of Books of Original Records:
- Journals - Subsidiary Book - Problems on Cash Book and Petty Cash Book
- Ledgers & Trial Balance
- Classification of Capital and Revenue Expenses
- Final Accounts with Adjustments

Module 3:

Preparation of Final Accounts/Statement

- Sole traders with Basic Adjustments
- Preparation of Final Accounts / Statement of Companies (Both Horizontal & Vertical Form of Financial Statements)
- Brief Introduction to Partnership Account
- Accounting for small, medium and large companies

Module 4:

Statement of Changes in Funds

- Funds Flow Statement - Cash Flow Statement
- Problems with Basic Adjustment on FFS & CFS
- Statement of Changes in Working Capital - Funds from Operations
- Paid Cost and Unpaid Costs
- Distinction Between Cash Profits and Book Profits
- Preparation and Analysis of Cash Flow Statement and Funds Flow Statement.

Module 5:

Depreciation and Inventory Valuation

- Concepts & Methods of Depreciation
- Problems on Straight Line & WDV Methods
- Inventory - Concepts & Methods - Problems on LIFO, FIFO & Weighted Average
- Valuation of Fixed Assets- Current and Non -current assets and liabilities
- Tangible v/s Intangible assets
- Depreciation of Fixed Assets and Methods of Depreciation
- Inventory Valuation: Methods of Inventory Valuation
- Valuation of Goodwill - Methods of Valuation of Goodwill.

Module 6:

Analysis of Companies' Annual Reports

- Provisions of the Companies Act 1956 - Provision Affecting Preparation - Presentation & Analysis of Audit Reports & Directors' Reports.

Module 7:

Financial Analysis of Financial Performance of a Firm

- Different Tools - Ratio Analysis - Different Types of Ratio's - Inter-Relation Between Ratio's - Due-point Analysis
- Common Size Statement of Inter Firm and Intra Firm - Internal Revenue Code
- Interpretation of Financial Statements From Investor and Company Point of View
- Horizontal Analysis and Vertical Analysis of Company Financial Statements
- Liquidity, Leverage, Solvency and Profitability Ratios
- Du Pont Chart - A Case Study on Ratio Analysis

Module 8:

Accounting of Foreign Currency Transactions

- Accounting of Foreign Operations, Process and Translation Risks
- Consolidation of Foreign with Domestic Financial Statements
- IFRS and Accounting of International Transactions

Suggested Readings:

Books

Basic Reading List

- Ghosh, T.P., (2010), Understanding IFRS, Taxmann.
- D'Souza, Dolphy, (2009), Indian Accounting Standards and GAAP In 2 Vol., Snow White Publications Pvt. Ltd.
- International Accounting Standards Board (2007), International Financial Reporting Standards 2007 (including International Accounting Standards (IAS(tm)) and Interpretations as at 1 January 2007), LexisNexis, ISBN 1-4224-1813-8.
- Case studies of IFRS implementation in Brazil, Germany, India, Jamaica, Kenya, Pakistan, South Africa and Turkey, United Nations Intergovernmental Working Group on International Standards of Accounting and Reporting (ISAR). (Various years)
- Catty, James P. (2010), Wiley Guide to Fair Value, Under *IFRS [6]*, ISBN: 0470477083, John Wiley & Sons.

Course Code: A-16:

Course Name: Financial Economics

Course Outcome: The course will enable the students:

- To familiarize students with the financial system and its components (Module 1 and 2)
- To understand the risk and return structure in financial markets (Module 1)
- To comprehend the students with the functioning of capital market (Module 3)
- To help students with contemporary theories related to financial markets including money market, capital markets (bonds, stocks and hybrids) and derivative markets. (Module 4, 5, 6, 7, 8 and 9)
- To familiarize them with the policy and regulatory framework within which financial markets are required to function (Module 10)

Module 1:

The demand for securities (15 hours)

- The time dimension, Present value and duration, The calculation of yields on zero-coupon bonds
- The term structure of interest rates
- The risk dimension, Measurement of risk
- Bivariate distributions, Conditional probabilities and expected values
- Estimating the mean and variance of returns, Expected utility

Module 2:

The supply of securities (15 Hours)

- Regulations governing supply of securities,
- General characteristics of securities,
- Government bonds
- Index linked bonds
- Corporate Securities, equities, bonds, convertible securities
- Stock market operations
- Money market funds
- Claims on financial institutions.

Module 3:

Securities markets and their efficiency (5 Hours)

- Stock exchanges
- The over the counter stock market
- Operational efficiency and the Efficient Market Hypothesis(EMH) - The weak, semi-strong and the strong form of EMH.

Module 4:

The determination of equity prices (6)

- Shares as claims on future dividends and on corporate net worth
- The Capital Asset Pricing Model (CAPM)- The simplest form, Estimating betas, Implications for portfolio management, Validity of CAPM
- Arbitrage Pricing theory- An alternative approach
- Stock indices – Bombay Sensitive Index, Bombay National Index, Dow Jones Industrial Index(DJI), New York Stock exchange composite index(NYSE)

Module 5:**Security analysis and market efficiency (6 Hours)**

- A modern view of security analysis
- Macroeconomic developments and securities markets
- Performance of securities markets
- Industry growth, structure and firm specific factors
- Uses and pitfalls of Price / Earnings ratios.

Module 6:

Derivatives Uses of Derivatives – Futures contracts and futures markets – Forward contracts – The origins of Futures trading – Basic elements and organization of futures contracts.

Module 7:

Futures prices Relation among spot and futures prices – financial futures – commodity futures – Closing out with futures – Hedgers, speculators, market equilibrium – The role of expectations – Futures and portfolio management.

Module 8:

Options and option pricing Institutional aspects – Exchange traded stock options – The payoffs from buying and selling options – Boundary conditions on option prices – The put-call parity theorem – The Black-Scholes formula – Other option models

Module 9:

Swaps, Currency and Interest Rate Swaps Vanilla Interest Rate Swaps – Swaptions – Other types of swaps – Currency, Equity and Commodity Swaps.

Module 10:**Regulation of financial markets (3 hours)**

- The ethics of finance and the economic function of financial markets
- The purpose of regulation, levels of regulation
- Securities Contract Regulation Act – Securities and Exchange Board of India (SEBI).

Suggested Reading

Books

- Black, F., Jensen, M.C. and Scholes, M.A. (1972), “The Capital Asset Pricing Model: Some Empirical Tests”, in M.C. Jensen (ed.), *Studies in the Theory of Capital Markets*, (Praeger, New York)
- Chandra, Prasanna (2008), *Investment Analysis and Portfolio Management*, Tata McGraw Hills
- Fabozzi (2009), *Bond Markets*, 7th revised edition, Pearson Publications, USA, February 27
- Houthakkar H.S. and Williamson P.J. (1996), *The Economics of Financial Markets*, Oxford University Press

Papers

- Barsky, R. and Long, J. De (1993), “Why Does the Stock Market Fluctuate?”, *Quarterly Journal of Economics*, 108, pp. 291-311
- Markowitz, H. (1952), “Portfolio Selection,” *Journal of Finance*, 7: 77-91.
- Merton, R. (1980), “On Estimating the Expected Return on the Market: An Exploratory Investigation”, *Journal of Financial Economics*, 8, pp. 323-361.
- Ross, S.A. (1976), “Arbitrage Theory of Capital Asset Pricing”, *Journal of Economic Theory*, 13, pp. 341-60

Additional Reading List:

- (Basel: BIS, April 1986) “*Bank for International Settlements*”, Recent Innovations in International Banking.
- Benjamin M. Friedman H. Hahn (1990) “*A formal treatment of the requirements for targets*” is available in Benjamin M. Friedman, “*Targets and Instruments of Monetary Policy*,” chapter 22 in Benjamin M. Friedman H. Hahn, *handbook of Monetary Economics*, (Amsterdam: North-Holland, 1990).
- Blume, Marshall, E. (June 1975) “*Betas and Their Regression Tendencies*,” *Journal of Finance*, 30, 785-96.
- Cox. Ingersoll, and Ross, “*A Re-examination of Traditional Hypothesis*,” pp. 774-775.
- Culbertson, J.M. (November 1957) “*The Term Structure of Interest Rates*,” *Quarterly Journal of Economics*, pp. 489-504.
- Daniel C. Inro, Christine X. Jaing, Michael Y. Ho, Wayne Y. Lee (May/June 1999) “*Mutual Fund Performance: Does Fund Size Matter?*” *Financial Analysis Journal*, pp. 74-87.
- William F. Sharpe (September 1964) “*Capital Assets Prices: A Theory of Market Equilibrium Under Conditions of Risk*,” *Journal of Finance*, pp. 425-442.

Course Code: A – 22

Course Name: Business Analytics

Course Outcomes:

- To develop a proficiency in analysing data using different techniques. (Module 1 to 8)
- To learn how to build and apply predictive models to forecast future outcomes. (Module 2 and 3)
- To gain knowledge of business outcomes. (Module 1 to 8)
- To apply optimization techniques to solve business problems. (Module 1 to 8)
- To understand the role of business analytics in strategic decision making. (Module 3 and 5)
- To learn skills and techniques for the application of R. (Module 4,6 and 7)

Module 1:

The need for Analytics and Understanding Analytics

- Decision Making – Heuristics and Biases
- The need for analytics
- Impact of analytics on business
- Being analytically competitive
- The difference between analytics and BI
- Introduction to the business Analytics model
- Types of analytics
- Models and algorithms in Analytics
- The Analytics Methodology

Module 2:

Tool and Tech Landscape

- A review of technology used in data storage, data processing, and data science
- Popular tools used in Data Science and when to use each

Module 3:

Descriptive Analytics with excel and Tableau

- An introduction to Tableau
- Using descriptive statistics in analysis and reporting
- Advanced reporting with Tableau

Module 4:

R programming

- An introduction to R
- Importing and exporting data in R
- Data Manipulation with R
- Advanced Data Manipulation with R
- Data Visualization with R

Module 5:

Data Pre-processing

- Data Exploration and Assessment for Data Science
- Identifying and dealing with noise in Data

- Preparing data for Data Science Modelling

Module 6:

Predictive Models in R

- Linear Regression Models and their applications
- Logistics Regression Models and Their applications
- Time Series Forecasting

Module 7:

ML Models in R

- Clustering Algorithms and application
- Decision Tree Algorithms and applications
- Random Forest Algorithms and applications

Module 8:

Storytelling with Data

- Communicating data science results
- Effective presentation skills
- Using Data visualizations for storytelling

References:

- Provost, F., & Fawcett, T. (2013). Data science for business: What you need to know about data mining and data-analytic thinking. O'Reilly Media.
- Davenport, T. H., & Harris, J. G. (2017). Competing on analytics: Updated, with a new introduction. Harvard Business Press.
- Evans, J. R., & Paquette, L. (2019). Business analytics: Methods, models, and decisions. Pearson.
- Shmueli, G., Bruce, P. C., & Patel, N. R. (2019). Data mining for business analytics: Concepts, techniques, and applications in R. John Wiley & Sons.
- Witten, I. H., Frank, E., Hall, M. A., & Pal, C. J. (2016). Data mining: Practical machine learning tools and techniques. Morgan Kaufmann.
- Kelleher, J. D., Mac Namee, B., & D'Arcy, A. (2015). Fundamentals of machine learning for predictive data analytics: Algorithms, worked examples, and case studies. MIT Press.
- Few, S. (2019). Show me the numbers: Designing tables and graphs to enlighten. Analytics Press.
- Cairo, A. (2019). The truthful art: Data, charts, and maps for communication. New Riders.

Course Code: B-01:

Course Name: Indian Agricultural Economics

Course Outcomes:

- The objective of this course is to provide a detailed treatment of issues in Indian agricultural economics. (Module 1, 2 and 3)
- To formalize students with policy issues that are relevant to Indian Agricultural Economics. (Module 4, 5 and 6)
- To enable them to analyze the issues, using basic macro-economic concepts, which will be followed by micro-economic concepts in the follow up course farm management economics. (Module 7 and 8)
- Overall, the course helps students to appreciate the climate of agricultural economics in India through various modules.

Module 1

Scope and Subject matter of Agricultural Economics, Nature and Utility of Agricultural Economics, Role and Importance of Agriculture in National Economy: share in National income, Source of livelihood, Employment generation, Industrial development and trade and economic planning.

Module 2

National Resource base of Indian agriculture; climate, land resources, water resources, India's position in World Agriculture, Comparison of India with other countries.

Module 3

Agricultural Growth in India during pre and post-Independence period; contribution of area and yields, sources of agricultural, levels and growth of crop yields, value of crop output, challenges ahead.

Module 4

Factors responsible for agricultural development in India, Growth in use of technological factors in production such as irrigation, seed, fertilizers, capital during last five decades

Module 5

Land Utilization Pattern, Changes in agrarian structure in India, Patterns of Cropping in different regions, Shift in Cropping Pattern and its Implications on Food Security.

Module 6

Credit in Indian agriculture: purposes of loans, Sources of finance and changes in these over the plan period. Factors determining demand for credit. Recent policy changes in regard to farm credit and their implications.

Module 7

Marketing: Characteristics of primary agricultural markets in India, Regulated markets and market intervention, Marketing efficiency, Marketed and Marketable surplus, Marketing Channels and Functionaries

Module 8

Farm prices, Trends in relative prices of farm products, Supply response to prices in agriculture; Behavior of marketed surplus, Price policy in India and its basis, Cost concepts

Suggested Readings:

- Acharya and Agarwal, 1987, Agricultural Marketing in India, Oxford & IBH Publishing Company.
- Agricultural Research Data Book 2009, Indian Agricultural Statistics Research Institute, Pusa, New Delhi 110 012
- Agricultural Statistics at a Glance 2010, Directorate of Economics and Statistics, Ministry of Agriculture, Government of India, New Delhi.
- Bhalla, G. S. and Singh G., 2001, Indian Agriculture: Four Decades of Development, Sage Publications.

Articles

- Acharya, S.S., 2007, “Agribusiness in India: Facts and Emerging Issues”, Agricultural Economics Research Review, Vol. 20, Conference Issue, pp. 409-424
- Arora, V.P.S., 2010, Promoting Agribusiness in India, Indian Journal of Agricultural Marketing, Vol. 24, No. 3, p. 1-31.
- Chand, R., 2001, Emerging Trends and Issues in Public and Private Investments in Indian Agriculture: A Statewise Analysis, Indian Journal Of Agricultural Economics, Vol 56, No. 2, April-June 2001
- Gulati, A. and Sharma, P.K., 1991, Government Interventions in Agricultural Markets : Nature Impact and Implications, Journal of the Indian School of Political Economy, Vol 3, No. 2, April-June, 1991.
- Joshi, P.K., BIRTHAL, P.S. and Monot, N., 2006, Sources of Agricultural Growth in India: Role of Diversification towards High Value Crops, MTID Discussion Paper No. 98, International Food Policy Research Institute, Washington DC, USA
- Kannan, E. and Sundaram, S., 2011, Analysis of Trends in India’s Agricultural Growth, Working Paper 276, ISEC, Bangalore
- Kumar, A., Singh, D.K. and Kumar, P., 2007, Performance of Rural Credit and factors Affecting the Choice of Credit Source, Indian Journal of Agricultural Economics, Vol. 62, No. 3, pp. 297-313.
- Srivastava, R., Saxena, N.C. and Thorat, S., 2008, Land Institutions, Policy and Reforms in India, in The Dragon and the Elephant, Agricultural and Rural reforms in China and India edited by Ashok Gulati and Shenggen Fan, Oxford 2008.

Course Code: B-02:

Course Name: Transport Economics

Course Outcomes:

- To understand the linkages between transportation and economic growth. (Module 1)
- To analyze the role of location and transportation planning. (Module 2)
- To apply the various theories and models of transportation in order to promote economic growth. (Module 3)
- To evaluate the large scale transportation projects and model application on the same. (Module 4)
- To synthesize the impact of transportation on environmental sustainability. (Module 5)
- To critically evaluate the role of public policy in transportation. (Module 6)

Module 1:

Development Objectives and the Role of Transportation

The Transport function – Requirements of transport in the development context – Relationship between transportation and economic growth – Effects of an improved transportation system – Characteristics of the transportation system: technological characteristics – Design of the transport sector: choice of transport technology and impact of innovations.

Module 2:

Theoretical Analysis of the Location of Economic Activities

Concept of economic space – Location theory: structure of transport costs, concept of market areas, concentration and dispersion of industry – The urban and regional spatial structure – Principles of Transport planning: distinctive features of transport planning – deriving an optimal plan – The systems approach to transport planning: macro planning.

Module 3:

Application of Economic Theory to Transportation

Analysis of demand – Demand studies – Passenger demand models: trip generation and attraction models – Trip distribution models: the gravity model formulation and others: modal split models and network assignment formulations – Passenger demand models – The demand for freight services: extension of passenger demand models to analyze freight demand: optimization and behavioral models in freight transportation – Analysis of supply: concept and importance of user cost: defining a supply function in the context of transportation services – Equilibrium in networks: Network analysis – Principles of pricing in transport: Transport as a utility-pricing on the basis of costs: theoretical considerations of costs – Identification of costs- problem of joint and common costs – Average cost versus marginal cost pricing – long run marginal versus short run marginal cost pricing – Value of service principle in pricing: price discrimination – rail tariffs – Road pricing: two-part tariff and congestion pricing.

Module 4:

Theory and Application of Decision Making Principles and Evaluation of Large-scale Transport Projects

Cost-benefit analysis in transport investment-measurement of economic costs and benefits: choice of a discount rate: some practical problems of investment evaluation – Some case studies.

Module 5:**Transport and Energy**

Efficient energy modes – Transport and the environment: External effects and the social costs of transportation: efficiency and equity, Transport and environmental sustainability.

Module 6:**Role of Public Policy**

Scope of Government transport policy – Rationale of intervention: historical perspective – Control on quality and quantity of services – Policy aimed at efficiency and better allocation of resources – Towards an efficient and socially feasible regulation of transport – Objectives of Transport policy in India: A review of transport development under the plans – Operational and financial performance of the Railways – Highway transport performance – Alternative modes of transport: water and air transport – Problem of coordination, privatization as a policy measure.

Basic Reading List

- National Council of Applied Economic Research, Indian Shipping Industry: Retrospect & Prospect
- Infrastructure Development Finance Company, Indian Institute of Management, Indian Infrastructure Report (2001, 2002 & 2003), Ahmedabad
- Stubbs, Tyson & Dalvi, Transport Economics
- Verma, K.B., Indian Railway Finance
- Mohan, Rakesh (2001), Indian Railways Report, Vol. 1, Vol. 2 (Part 1 & 2)
- Mohan, Rakesh (1996), The India's Infrastructure Report
- Alonso, William, "Location, Land and Use: Towards a General Theory of Land Rent"
- Pickering, D., Park J. M and Bannister, D. H, Utility Mapping & Record Keeping for Infrastructure
- Davey, Kenneth J., Elements of Urban Management
- Stuart, Chapel, Urban Growth Dynamic in a Regional Cluster of Cities
- Kozlowski, J., Threshold Analysis: Quantitative Planning Methods
- Rebelo, George, M, Reforming the Urban Transport Sector in The Rio De Janeiro Metropolitan Region
- World Bank, Sustainable Transport

Course Code: B-03

Course Name: Industry: Organization, Structure, And Problems

Course Outcomes:

- The course will help critically examine the industrial scenario in India and discuss debates involved in the industrial development of India.
- To study what determines market structure and how firms may be able to act strategically, in choosing their prices, products or advertising, to affect market structure and market outcomes.
- To provide empirical justifications to the theory that is discussed in the course.
- Overall, the course will help in understanding the organization, structure and problems associated with the industries.

Module 1

Assessments of the changes in structure of industries – Growth of corporate sector/non-corporate sector, large/small/household – public/private – appraisal of policies that facilitated – implications and consequences.

Module 2

Constraints on growth – shortages of raw material, lack of demand, shortage of capital, inadequate infrastructure.

Module 3

Regional disparities – measure for dispersal – inadequate contribution of large/capital intensive enterprises to regional spread – promotional and public financial institutional support – consequences of liberal credit and finance – emphasis on capital-intensive enterprises.

Module 4

Growth of small scale and household sector – role in Indian economy – problems like demand constraints – linkage with large and medium.

Module 5

Strategic interaction – full Information and incomplete information

Module 6:

Market structure & models of market entry

What are the welfare effects of more firms? What determines the degree of product differentiation? Is it optimal? How does the number of firms change as market size increases? Why do we see firms of different sizes? Some facts on entry and exit. Static (2-period) Entry games with firms, which are non-explicitly differentiated. Dynamic entry games. Entry models with explicit product differentiation.

Module 7

Empirical analysis of price discrimination and non-linear pricing.

Module 8:

Mergers and Antitrust

Horizontal mergers – Horizontal mergers with homogeneous goods, differentiated goods mergers. Vertical restraints. Incomplete contracts and the boundaries of the firm.

Module 9:

Research and development and adoption of new technologies

Patents and R&D incentives, network effects and technology adoption.

Module 10:

Advertising

Views on advertising: persuasive view, informative view, and complementary view. Empirical regularities: direct effects of advertising and the indirect effects of advertising. Monopoly advertising. Advertising and price. Advertising and quality. Advertising and entry deterrence. Empirical analyses: advertising and firm conduct.

Module 11:

Regulations

Theories of regulations. The regulation of entry – Competition Act, 2002, India – Effects of privatization and competitive pressure on firms' price cost margins – Impact of liberalization on market disciplines and productivity growth – Business environment and firm entry – Puzzle of jobless growth in Indian manufacturing – Impact of labour regulation on industrial performance.

Module 12:

Law and Economics of Corporate Law

Characteristics of corporation, functions of corporate law, Basic constituents and stake holders, Gatekeepers, Various branches of economics and theories of firm - Neoclassical Economics, Transaction Cost Economics, New Institutional Economics, Economics of Organization, Contract Theory, Economics of Information, Financial Economics, Corporate Finance, Behavioural Economics.

Basic Reading List

Books:

- Mookherjee, D. (1997). *Indian Industry: Policies and Performance*. Oxford University Press, Edited.
- Jean Tirole: *The Theory of Industrial Organization*, (MIT Press) Prentice Hall India.
- Oz Shy: *Industrial Organization*, MIT Press.
- Stephen Martin: *Advanced Industrial Economics*, Blackwell.
- Kaushik Basu: *Lectures in Industrial Organization Theory*, Blackwell.
- Richard Schmalensee and Robert D. Willig (Ed:), *Hand Book of Industrial Organization*, Volume I and II, North Holland.
- Donald A. Hay and Derek J. Morris: *Industrial economics and organization; theory and evidence*, Oxford University Press.

Papers:

- J. Bulow, J. Geanakoplos and P. Klemperer, "Multimarket Oligopoly: Strategic Substitutes and Complements", *Journal of Political Economy*, 1985, 488-511.
- A. Dixit, "The Role of Investment in Entry Deterrence", *Economic Journal*, 1980, 721-9.
- David M. Kreps; Jose A. Scheinkman, "Quantity Precommitment and Bertrand Competition Yield Cournot Outcomes", *The Bell Journal of Economics*, 1983, Vol. 14, No. 2., pp. 326-337.
- L. Dafny, "Entry Deterrence in Hospital Procedure Markets: A Simple Model of Learning-By-Doing", 2003, NBER 9871.
- R. Smiley, "Empirical Evidence on Strategic Entry Deterrence", *International Journal of Industrial Organization*, 1988, 6, 167-180.
- Klein, Benjamin and Kevin M. Murphy, "Vertical Integration as a Self-Enforcing Contractual Arrangement." 1997, *American Economic Review* 87: 415-20.
- Hubbard, Thomas, "Contractual form and market thickness in trucking", *Rand Journal of Economics*, 2001, 32(2), 369-386.
- Gilbert, R. and C. Shapiro, "Optimal patent length and breadth," *Rand Journal of Economics*, 1990, 21(1), 106-112.
- Klemperer P., "How broad should the scope of patent protection be?," *Rand Journal of Economics*, 1990, 21(1), 113-130.
- Katz, M. and C. Shapiro, "Network externalities, competition, and compatibility", *American Economic Review*, 1985, 75(3), 424-440.
- Katz, M. and C. Shapiro, "Technology adoption in the presence of network externalities," *Journal of Political Economy*, 1986, 94(4), 822-841.
- Saloner, G. and A. Shepard, "Adoption of Technologies with Network Effects: An Empirical Examination of the Adoption of Automated Teller Machines", *Rand Journal of Economics*, 1995, 13(3), 479-501.

Course Code: B-05

Course Name: Economics of Labour

Course Outcomes:

- To introduce students to micro-economic foundations of the economics of labour. (Module 1, 2 and 3)
- To introduce students to equilibrium concepts of labour market, both from the demand side and supply side of the economy. (Module 4 and 5)
- To appreciate the income distribution, wage adjustment process and unemployment issues pertaining to labour market. (Module 6, 7 and 8)
- To enunciate the macro-economic aspects of the labour market. (Module 9 and 10)
- Unions and labour contracts are discussed. (Module 11 and 12)
- Overall, the course gives a comprehensive view of labour economics.

Module 1:

Supply

Static Labour-Leisure Choice – Effects of Social Programs and Income Taxes – The Life-Cycle Model – Investments in Human Capital – Collective Models of Household Labour Supply – Occupational Choice

Module 2:

Demand

Static Cost, Profit and Labour Demand Functions – Elasticity of Derived demand: the Hicks-Marshall Rules; Adjustment Costs and Dynamic Labour Demand

Module 3:

Equilibrium

Compensating Differences – Adam Smith – Evidence on Premium for Risky or Nasty Jobs – Efficiency Wages – Segmented Labour markets – Migration

Module 4:

Wage Structure

Industry Wage Differentials – Productivity and Real wages – Returns to Education – Signaling – Pensions and Retirement – Training – Minimum Wage Laws

Module 5:

The Distribution of Income

Earnings by Size – The Roy Model – Functional Distribution – Intergenerational Income Mobility

Module 6:

Cyclical Fluctuations

Equilibrium Models of Employment Fluctuations – Real Wages over the Business Cycle

Module 7: Discrimination

Economic Effects of Prejudice: Theoretical Analysis – Wage Differentials by Race and Sex

Module 8:

Unemployment

Definition and Measurement – Variations over time and Space – Job Search – Effects of Unemployment Insurance

Module 9:

Macroeconomics of Labour Market

Classical Analysis – Neoclassical Analysis – Keynesian Analysis – Dual and Segmented Labour Market Theory – Marxian Alternative – Human Capital theory – Flexibility and Institutions in Labour Market

Module 10:

Unions

Objectives and Political Structure – Bargaining Theories – Relative Wage Effects – Strikes – Union Growth and Decline – Unions in the Public Sector – Union-Oligopoly Models

Module 11:

Labour Contracts

Employment Determination – Allocation of Risk – Compensation – Bonding; Tournaments; Incentive Pay – Multi- tasking – Team Production – Relational Contracts – Career Concerns – Wages and Promotions

Module 12:

Regulations and International Labour Standards

Regulation of Labour – Experience of India vis-à-vis Other Countries – Entry and Product Market Regulation – International Labour Standards – Comparative Analysis – International Trade and Labour Markets

Reading List

- Sundaram, K, 2001, 'Employment- Unemployment Situation in the Nineties: Some Results from the NSS 55th Round Survey', *Economic and Political Weekly*, P.931-40.
- Robinson, Joan, R, 1936, 'Disguised Unemployment', *The Economic Journal*, June
- Banerjee, P C, 1960, 'Full Employment and Low Full Employment in a Developing Economy', *Indian Journal of Labour Economics*, 2(4): 227-243.
- Rakshit, Mihir, 1983, *The Labour Surplus Economy: A Neo-Keynesian Approach*, Macmillan India Limited, New Delhi.
- Seth, V K and S C Aggarwal, *The Economics of Labour Markets: Policy Regime Changes and The Process of Labour Adjustment in the Organised Industry in India*. New Delhi: Ane Books, 2004
- Basu, K, 1984, *The Less Developed Economy: A Critique of Contemporary Theory*, New Delhi: Oxford India Paperbacks. (Chapter 5: The structure of Dual Economy; Chapter 6: Migration and Unemployment).
- Stephen, Donald Deere. 1994. "Unionization and Profitability: Evidence of Spillover Effects," *Journal of Political Economy*, 102(6): 1281-128
- Schmidt, C. M., A. Stilz and K. F. Zimmermann (1994): "Mass Migration, Unions, and Government Interventions," *Journal of Public Economics*, 55, 185- 210.
- Laffont, J. and Martimort, D. (2002), *The Theory of Incentives: The Principal-Agent Model*, Princeton University Press

Course Code: B-06

Course Name: Financial Institutions and Markets

Course Outcome

- To introduce the various domestic and foreign financial markets and describe the special functions of financial institutions (Module 1 and 8).
- To look at factors that determine interest rate levels, as well as their past, present, and expected future movements (Module 2)
- To describe the central bank's role and how monetary policy implemented by the monetary authority affects interest rates and, provide a comprehensive look at the regulations under which these financial institutions operate and, particularly, the effect of recent changes in regulation (Module 3).
- To take an analytical look at how financial markets and institutions benefit today's economy; (Modules 4, 5 and 7)
- To provide an overview describing the key characteristics and regulatory features of international financial institutions (Module 6)

Module 1:

Financial System and Market Risk Management: (6 hours)

- Structure of Financial System, Indian Financial System, The Place of Financial Markets in the Economy,
- Real Assets and Financial Claims – A Framework for Macro-Economic Analysis of Financial and Non-Financial Flows, The Relation Between Stocks and Flows,
- Types of Risk - Importance of Risks in the Competitive Management of the Banking Institutions
-

Module 2:

Rate of Interest, International Transactions and Exchange Rates: (6 hours)

- Rate of Interest
- International Transactions
- Exchange Rates

Module 3:

The Central Bank, Commercial Banks and Co-operative Banks: (6 hours)

- Functions of Central Banks
- The Aims and Objectives of the Monetary Policy in Developed and Developing Countries
- Instruments of Monetary Policy
- Effectiveness of Monetary Policy
- Credit Creation and Control
- Commercial Banks - Profitability, Efficiency, Role in the Economy, Co-operative Banks - Role in the Economy

Module 4:

Specialized Financial Institutions: (6 hours)

- Industrial Finance Corporation of India (IFCI)
- Industrial Development Bank of India (IDBI)
- Industrial Credit and Investment Corporation of India (ICICI)

- Industrial Investment Bank of India (IIBI), Small Industries Development Bank of India (SIDBI), Shipping Credit and Investment Corporation of India (SCICI), National Bank for Agriculture and Rural Development (NABARD), Export Import Bank of India (EXIM), National Housing Bank (NHB)

Module 5:

Other Financial Institutions: (6 hours)

- Insurance Companies, Types of Insurance Companies, Securities Firms
- Investment Banks, Finance Companies, Mutual Funds, Pension Funds

Module 6:

International Financial Institutions: (6 hours)

- International Monetary Fund (IMF), World Bank, International Finance Corporation (IFC), Asian Development Bank (ADB), International Development Association (IDA), Bank of International Settlements (BIS)
- International Financial Standards and Codes and Issues of Financial Contagion

Module 7:

Financial Markets and Market Regulations: (7 hours)

- Primary Markets Vs. Secondary Markets, Securities Firms and Securities Industry, Government Securities Markets and Dealerships
- Money Markets, Capital Markets, Structure And Operations of Indian Money Market, Bond Markets, Mortgage Markets
- Stock Markets, Foreign Exchange Market, Call Money Market, Treasury Bill Market, Commercial Bill Market
- Government (Gilt-Edged) Securities Market
- Derivative Markets
- Capital Market Regulations
- Money Market Regulations. stock Market Regulations
- Role of SEBI - Its Impact on the Working of Capital Market in India, Insurance Regulation and Accounting Practices

Module 8:

International Markets: (7 hours)

- Functions of Central Banks US Money and Capital Markets
- London Money Markets, London Capital Markets
- Foreign Trade Finance
- External Commercial Borrowings
- GDRs and ADRs
- Eurocurrency and Eurobond Markets

Suggested Readings:**Books:**

- Bhole, L.M. (2003), Financial Institutions and Markets, 3rd edition, Tata Mc Graw Hill Company Ltd., New Delhi
- Goldsmith, R.W. (1969), Financial Structure and Development, Yale, London
- Hanson, J. A. and S. Kathuria (Eds.) (1999): A Financial sector for the Twenty-First Century, Oxford University Press, New Delhi
- Khan, M.Y. (1996), Indian Financial System, Tata McGraw Hill, New Delhi
- Ohlson, J.A. (1987), The Theory of Financial Markets and Institutions, North Holland, Amsterdam
- Perter, S. Rose (2002), 5th Ed. Commercial Bank Management, McGraw Hill, Irwin

Course Code: B-07

Course Name: Law and Economics - I

Course Outcomes:

- To identify the interaction between economics and the legal system.
- To explain the impact of legal rules on economic institutions.
- To apply laws of economics as per the legal system.
- To learn the regulatory framework of various laws such as contract, tort, etc. in order to promote economic development.
- To critically evaluate the legal system meant for externalities and its application in Economics.
- To evaluate the competitiveness of Indian policies.

Module 1:

Introduction to Law and Economics

Economic Analysis of Law: An Introduction

Why do economists need to be concerned about law? - Relationship between law and economics

Economic Concepts and their relevance to Law

Legal Concepts - The Common Law and the Civil Law Traditions, Introduction to Judicial System in India, Economic Approach to Legal Rules, Methodological Aspects of Legal Rules, Efficiency, Justice and the inherent rationality of Private Law, Development of efficient Rules: Selected Cases

Module 2:

Economic Analysis of Contract Law

Introduction - Economic Theory of Contract - Perfect Contracts, Imperfect Contracts

Economics of Remedies for Breach of Contract - Expected Damages, Opportunity Cost, Reliance Damages, Restitution, Specific Performance

Differences between Contracts and Torts - The Foreseeability Rule in Contract Law, Pure Economic loss in Torts

Module 3:

Economic Analysis of Tort Law

Introduction, Economic Theory of Torts Law - Accident Costs and their minimization, Liability Rules, Negligence, Contributory Negligence, Comparative Negligence, Strict Liability, Economics of Tort Liability - Liability v. Regulation, Causation in Torts, Joint and Multiple Liability, Product Liability: Producers' Responsibility, and Consumer Protection through Consumer Courts, Environmental Liability, Immaterial Damages: Pain and Suffering

Module 4:

Economic Analysis of Property Law

Introduction, An Economic Theory of Property, Economics of Property Law - Market strategies, Non-market strategies, Allocation of Property Rights - First come first served, Good faith purchase, Title to Land, Establishment of entitlements - Property Rule, Liability Rule, Inalienability Rule

Module 5:**The Coase Theorem**

Externalities, Transaction Costs, Efficiency Hypothesis & Invariance Hypothesis.

Module 6:**Economic Analysis of Criminal Law**

Introduction, Principal Types of Crime, Optimal Criminal Sanctions: Economics of Crime and Punishment, Criminal Intent, The Defence of Necessity, The Economics of Organised Crime

Module 7:**Economic Analysis of Competition Law**

Introduction, Economic Theory of Competition Law - Workable Competition: Structure-Conduct- Performance, Competition as Dynamic Process, Reappraisal of Price Theory - Vertical Restraints: Vertical Price Fixing, Predatory Pricing: Lowering Prices, Control of Concentration: Collusion, Transaction Cost Approach, Theory of Contestable Markets, Applications to USA and EC Competition Policy

Module 8:**Competition Policy in India**

Monopolies and Restrictive Trade Practices Act, and Competition Policy Report, Divestment of Public Sector Units and Deregulation, Regulated Competitions and Regulatory Authorities (Power, Telecom, Insurance, Banking)

Basic Reading List

- Posner Richard A – Economic Analysis of Law (7th Edition 2007)
- Cooter Robert & Ulen Thomas- Law and Economics (5th Edition 2007)
- Shavel Steven – Foundation of Economic Analysis of Law (2004)
- Harison Jeffrey L. & Theeuwes Jules - Law and Economics (2008)
- Mercurio Nicholas, Medema Steven G. – Economics & the Law- Second Edition (2006)
- Baird, Gentner & Picker – Game Theory & the Law (1994)

Further Readings

- Bouckaert, B. & De Geest, G., Encyclopedia of Law and Economics
- Divan, S. & Rosencronz, A. *Environmental Law and Policy in India*, Oxford University Press, New Delhi, 2001, 2nd ed.
- Schmidh, P., *An Economic Analysis of Crime and Justice*, Academic Press, Orlando, 1984.
- Williamson, O.E., *The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting*, The Free Press, New York, 1985.

Articles:

- Alessi De Louis & Staaf, R. J., "Subjective Value in Contract Law", Journal of International and Theoretical Economics, Vol. 145, 1989, pp. 561- 577.
- Bebchuk, L. A. & Shavell, S., "Information and the Scope of liability for Breach of Contract: The Rule of Hadley vs. Baxendale", Journal of Law, Economic Organisation, 1991, pp. 284-312.
- Murali Prasad Panta, "The relative efficiency of Liability vs. Regulation in providing incentives to the tortfeasor" Journal of the Indian Law Institute, 41, (3&4), pp.405-428, 1999.
- Niskanen, W. A. "Bureaucrats and Politicians", Journal of Law and Economics, Vol. 18, 1975, pp. 617- 641.

Additional Reading List

- Ayres, I. & Gertner, R., "Filling Gaps in Incomplete Contracts: An Economic Theory of Default Rules", The Yale law Journal, 1989, pp. 101- 107.
- Calabresi, G. & Klevorick, K. A., "Four Tests for Liability in Torts", Journal of Legal Studies, Vol. 14, No. 3, December 1985, pp. 585- 627.

Course Code: B-08

Course Name: Law and Economics – II

Course Outcomes

- To understand the legislative procedure for economies.
- To develop an integrated approach of contract law and economics.
- To evaluate the environmental protection laws and the working of the economy.
- To learn about land acquisition procedure and evolution of the economy's growth with respect to this.
- To learn about the planning structure of economies and setting up of SEZs in order to grow.

Module 1:

Economic Theory of Legislation: Legislative process, Delegated legislation, Precedents, Rules v/s Standard, Interpretation of Statute

Module 2:

Economic Analysis of Litigation: Rules of procedure, Rules of Evidence, The adversarial and inquisitorial trial mode, Alternative dispute resolution (ADR), Lok Adalat, Arbitration, Conciliation and mediation, Settlement, Appeals and error correction, Cost of litigation, Case -load and Court Delay Crisis

Module 3:

Economic approach to Contract law in India: Contract Act, Specific Relief Act, Court approach to formation, validity, performance, interpretation, breach of contract and remedies for breach

Module 4:

Economic Approach to Environmental Protection Laws: Environmental protection laws and Court decisions, Principles and doctrines evolved by Supreme Court for protection of Environment, Air pollution, Water pollution, Sound pollution, Automobile and industrial pollution, Climate change, Carbon credits – emerging market

Module 5:

Economic Approach to Issues in Land Acquisition Laws: Acquisition of land for public purpose, Acquisition for companies, Purpose and suitability, Market value and compensation

Module 6:

Town Planning Laws: Allocation of land – for residential, industrial, commercial, agricultural purposes, Reservation of land for public purpose

Module 7:

Special Economic Zones: Concept, Law, Policy and Problems

Module 8:

Intellectual Property Rights: Patents, Copyrights, Trademark, Trade secrets, Plant varieties & Farmers' Rights, Salient features of Indian Laws

Module 9:

Economic Analysis of Corporate Law Issues: Formation of a company, share capital and fund raising, Separation of ownership and control, Majority power and minority protection, Corporate governance, Regulation of security markets and protection of investors and SEBI, Management of foreign investment and foreign exchange under FEMA

Basic Reading List

- Posner Richard A – Economic Analysis of Law (7th Edition 2007)
- Cooter Robert & Ulen Thomas- Law and Economics (5th Edition 2007)
- Polinsky Mitchell A – An Introduction to Law and Economics (2003)
- Friedman David D. – Law’s Order (2000)
- Wittman Donald A – Economic Analysis of Law- Selected Reading (2003)
- Micali Thomas J – The Economic Approach to Law (2009)
- Hirsch Werner Z - Law and Economics (1999)
- Salient Features of Civil Procedure Code, 1908 and Indian Evidence Act, 1872.

Additional Reading List.

- Indian Contract and Specific Relief Acts.
- Patent Act, 1970.
- Copyright Act, 1957.
- Trademark Act, 1999.

Course Code: B-09

Course Name: Economic Sociology

Course Outcomes:

- To discuss the various sociological approaches and its boundaries. (Module 1)
- To appreciate the various schools of sociological views of the economy and to critically appraise them. (Module 2)
- To understand the various social contexts of economic action. (Module 3)
- To enunciate the labour market outcomes based on sociological concepts. (Module 4)
- To similarly appraise the consumption aspects of sociological concepts. (Module 5)
- All the above modules culminate in understanding the socio-cultural aspects of economic development. (Module 6)

Module 1:

Emergence of economic sociology and its boundaries; sociological approaches to the study of economy.

Module 2:

Classical sociological views of the economy: Marx: critique of political economy; Durkheim: division of labour; Weber: sociology of capitalism, religious ethics and economic rationality; Polanyi: economy as instituted process.

Module 3:

Social contexts of economic action: Economic action, varieties of embeddedness, social networks in economic behaviour, social structure and competition

Module 4:

Sociology of labour markets: Sociological approaches to labour market; social determinants of inequalities in wage and earning

Module 5:

Sociology of consumption: Sociological theories of consumption (Marry Douglas and Baron Isherwood: the use of goods, Jean Baudrillard: the system of objects, Pierre Bourdieu: forms of capital, Veblen: conspicuous consumption); socio-cultural aspects of consumer spending

Module 6:

Socio-cultural aspects of economic development: Impact of religion, caste, gender, ethnicity, family on economy, social background of business groups and entrepreneurship, debate on influence of social capital and public action on economic progress; social movements and economic development

Basic Reading List

- Dobbin, Franf. 2004, "Comparative and Historical Approaches to Economic Sociology" in Neil J. Smelser, and Richard Swedberg, (eds.) *Handbook of Economic Sociology*, Princeton: Princeton University Press.
- Durkheim, Emile, 1960, *The Division of Labour in Society*, Glencoe: The Free Press. (2nd ed: Chapter one & two, 3rd ed: Chapter one)
- Gerth H. H and C. Wright Mills, 1946, *From Marx Weber*, New York: Oxford. (Part III: Chapter 12th & 13th)
- Smith-Doerr, Laurel and Walter W. Powell, 2005, "Networks and Economic Life" in Neil J. Smelser, and Richard Swedberg, (eds.) *Handbook of Economic Sociology*, Princeton: Princeton University Press.
- Streeck Wolfgang, 2004, "The Sociology of Labour Markets and Trade Unions" in Neil J. Smelser, and Richard Swedberg, (eds.) *Handbook of Economic Sociology*, Princeton: Princeton University Press.
- Weeden, Kim, 2002, "Why do some occupations pay more than others? Social Closure and Earning inequality in the United States", *American Journal of Sociology*, 108, (55-101).
- William P. Bridges and Robert L. Nelson 2001, "Economic and sociological approaches to Gender Inequality in Pay" in Mark Granovetter and R. Swedberg, (eds.) *The Sociology of Economic Life*, Boulder: Westview Press.
- Sen, Amartya, 2004, "How does Culture Matter?" in Vijayendra Rao and Michael Walton (eds.) *Culture and Public Action*, Delhi: Permanent Black.
- Wuthnow, Robert. 2004, "New Directions in the Study of Religion and Economic Life", in Neil J. Smelser, and Richard Swedberg, (eds.) *Handbook of Economic Sociology*, Princeton: Princeton University Press.

Additional Reading List:

Kalpagam, U. 1993, *Labour and Gender: Survival in Urban India*. New Delhi: Sage.

Kalpagam, U. *Analytics of Work and Survival*.

Agarwal, B. 1999, *The Gender and Environment Debate: Lessons from India* in Menon, N. (Ed.), *Gender and Politics in India*. New Delhi: OUP.

Banerjee, N. 1991, *Indian Women in a Changing Industrial Scenario*. New Delhi: OUP.

Yadav, Sushma and A. Dutta Mishra (2003), *Gender issues in India: Some Reflections*, Radha Publications, New Delhi.

Course Code: B-13

Course Name: Environment and Natural Resource Economics

Course Outcomes:

- To introduce students to the theory and problems of environmental and natural resource economics and the analytical procedures used to assess natural resource issues. (Module 1)
- To review the economic principals and concepts that form the basis of environmental and natural resource economics in a sustainable manner; (Module 2)
- To become familiar with the analytic tools used in analyzing environmental and natural resource management problems; this will include both non-market and market models of resource valuation; (Module 3, 4 & 5).
- To assess and evaluate the workability of various solutions and policies (Module 6-9).
- To understand the international trade issues and modelling of environmental problems. (Module 10-11).
- The course intends to familiarize with issues of nature resource and environmental economics.

Module 1:

Introduction to Natural Resource and Environmental Economics

The emergence of resource and environmental economics-Classical Economics, Neoclassical Economics, Welfare Economics, Ecological Economics, Fundamental Issues in the Economic Approach to Resource and Environmental Issues, Property Rights, Externalities, Environmental Problems and Economic Efficiency

Module 2:

The Sustainability Problem

Economy-Environment interdependence, The Drivers of Environmental Impact, Limits to Growth, Sustainable Development

Module 3:

Welfare Economics and the Environment

Efficiency and Optimality, Allocation in a Market Economy, Market Failure, Public Policy and the Environment

Module 4:

Pollution Control: Targets and Instruments

Air pollution, Water pollution, Modeling pollution within an economic efficiency framework, efficient levels of pollution, pollution policy, criteria for choice of pollution control instruments, cost efficiency and cost effective pollution abatement instruments, economic incentive instruments

Module 5:

Benefit-Cost Analysis

Normative Criteria for Decision Making, Social Cost Benefit Analysis, Finding Optimal Outcome, Relating Optimality to Efficiency, Willingness to pay, hypothetical compensation acceptance, discounting approach, sustainability approach, Cost Benefit Analysis and the Environment (Estimates Benefits of Carbon Dioxide Reduction and case studies)

Module 6:**Valuing the Environment**

Types of values, classifying valuation methods, Stated Preference Methods, Revealed Preference Methods, Benefit Transfer and Meta-analysis

Module 7:**Case Studies**

The efficient and optimal use of natural resources, Simple optimal resource depletion model, extraction cost and renewable resources, non-renewable resource extraction in various markets

Module 8:**Renewable Resources**

The dynamics of renewable resource harvesting-fishery models, problem of fisheries and underlying causes, instruments, policies and programmes for fisheries management, forestry resources, socially and privately optimal multiple –use plantation forestry, natural forest and deforestation, Alternatives to mitigate depletion of forests

Module 9:**Recyclable Resources – Minerals, Paper and E-Waste**

Factors Mitigating Resource Scarcity, Market Imperfection, Corrective Policies, markets for recycled materials, Pollution damage Field Visit to Landfill sites at Samdoli and Bedag, and Sangli Miraj Kupwad Corporation

Module 10:**Economy-wide Modeling**

Input-output analysis, Environmental input-output analysis, Computable General Equilibrium Analysis, Environmental Accounting, Integration of Environmental Accounts into the System of National Accounts

Module 11:**International Environmental Problems**

International Environmental Agreements, Global Climate Change, Economic policy and action in Stratospheric Ozone Depletion, Acid Rain, Biological Diversity Conservation, Solid Waste Management, Deforestation and Desertification.

Module 12:**Trade and the Environment**

Traditional Trade Theory and Extension of Environment, Economic Approaches of Trade and Environment, Banning Trade on Endangered Species, GATT and WTO, Environmental Regulations and Patterns of Trade, trading environmental permits/carbon credits, ecological and carbon debt, international forums and role of developed and developing nations, Application of trade and environment-case of India and other countries in Asia

Module 13:**Seminar presentation on specific resource valuation**

Suggested Readings

- Chipman, John S. and Guoqiang Tian. 2011. Detrimental Externalities, Pollution Rights, and the “Coase Theorem”. *Economic Theory* DOI 10.1007/s00199-011-0602-1.
- Van den Bergh, Jeroen C.J.M. 2010. Externality or Sustainability Economics? *Ecological Economics* 69:2047-2052.
- Ingraham, M.W. and S.G. Foster. 2008. The Value of Ecosystem Services Provided by the U.S. National Wildlife Refuge System in the Contiguous U.S. *Ecological Economics* 67:608-618.
- Gowdy, John M. 2004. “The Revolution in Welfare Economics and Its Implications for Environmental Valuation and Policy.” *Land Economics* 80:239-257.
- Just, Richard. 2011. Behavior, Robustness and Sufficient Statistics in Welfare Measurement. *Annual Review of Resource Economics* 3:37–70
- Chakraborty, D and K. Mukhopadhyay (2014) Water pollution and Abatement Policy in India: A Study from an Economic Perspective, *Springer, the Netherlands*, ISBN: 978-94-017-8928-8
- Mukhopadhyay, K and S. Bhattacharjya. (2006). Estimation of Marginal Abatement Cost of Air Pollution in Durgapur City of West Bengal, Working Paper # 13/2006, Madras School of Economics, Chennai, India
- Knetsch, Jack. 2010. Values of Gains and Losses: Reference States and Choice of Measure”. *Environmental and Resource Economics* 46:179-188.
- Brown, Thomas C. Chapter 4. Introduction to Stated Preference Methods. In *A Primer on Nonmarket Valuation*. Champ, P.A., K.J. Boyle and T.C. Brown. (Eds) Kluwer Academic Publishers: Boston 2003.
- Louviere, J.J., D.A. Hensher and J.D. Swait. Choosing a Choice Model. In *Stated Choice Methods: Analysis and Application*. Cambridge University Press: Cambridge. 2006.
- Bergstrom, J.C. and L.O. Taylor. 2006. Using Meta-Analysis for Benefits Transfer: Theory and Practice. *Ecological Economics* 60(2): 351-360.
- W.A. Brock, W. A., A. Xepapadeas, and A.N. Yannacopoulos. 2014. Optimal Control in Space and Time and the Management of Environmental Resources. *Annual Review of Resource Economics* 6:33–68.
- Boyd, James. 2007. Counting Nonmarket, Ecological Public Goods: The Elements of a Welfare Significant Ecological Quantity Index. Resources for the Future Discussion Paper.
- Barbier, Edward B. 2011. Pricing Nature. *Annual Review Resource Economics* 3:337–53
- Gonzalez-Ramirez, Jimena, Catherine L. Kling, and Adriana Valcu. 2012. An Overview of Carbon Offsets from Agriculture. *Annual Review of Resource Economics* 4:145–84.
- Mukhopadhyay, K & D. Chakraborty. (2005). Is Liberalization of Trade Good for the Environment? Evidence from India, *Asia Pacific Development Journal*, UN ESCAP, 12(1):109-136.
- Dietzenbacher, E. & K. Mukhopadhyay. (2007). Testing the Pollution Haven Hypothesis: Towards a Green Leontief Paradox? *Environment and Resource Economics*, 36(4):427-449.

Course Code: B-11

Course Name: Study of Social Exclusion and Inclusion Policy

Course Outcome:

- To develop an understanding of the origin, basis and different forms of Social Exclusion (Module I)
- To study the diverse theoretical perspectives on discrimination, social choice and welfare. (Module II)
- To understand the social order of different caste and concepts associated with the exclusion of geographically excluded population. (Module III)
- To formulate policy paradigms for their inclusion in the economy. (Module IV)
- To create awareness about the social excluded people from an economic and social policy perspective as well as to analyze social inclusive policy for them. (Module V)
- To study the institutional role in affirmative action and reservation policies for inclusive policies (Module VI)

Module 1:

Understanding Social Exclusion (10 hours)

- Conceptualising Social Exclusion, Origin and Basis of Social Exclusion
- Forms of Social Exclusion like Religion, Race, Caste, Gender, Ethnicity, Region, Culture, Language, Disability, Migrants and Refugees
- Excluded Groups and Socio-Economic Disparities: Scheduled Castes, Tribals, Minorities, Women, Old Aged and the Physically Challenged;
- Contemporary Discussions on Social Exclusion

Module 2:

Theoretical Perspectives on discrimination (12 hours)

- Economics of Discrimination; Marxist and Liberal Perspective
- Capability Approach and Theories of Poverty
- Economic Justice, Economic Freedom and Welfare
- Social Choice and Human Rights Approach
-

Module 3:

Social Exclusion of Caste, Tribe and Minority (8 hours)

- Indian society: Social Order in Caste, Tribe and Minority; Caste System as an Institution of Exclusion
- Exclusion of Tribes: Nation-State Formation, Industrialisation, Urbanisation, Globalisation etc
- Dimensions of Exclusion for Marginality: Development, Issues of Identity and Human Rights Violation

Module 4:

Dimensions of exclusions and inclusive policy perspectives (8 hours)

- Scheduled Castes, Minorities and Affirmative Action;
- The Question of Reservation and Affirmative Action – Constitutional Provisions and Contemporary Debates with reference to the Mandal Commission Report and the Sachar Committee Report

- Labour Market Discrimination, Wage Differentials, Problems of Employability, Social Security and Pension
- Access to Finance, Micro Finance and Financial Inclusions of the Excluded People

Module 5:

Physically challenged and Old Aged Social Exclusion (10 hours)

- Physically Challenged and Social Exclusion: Constitutional Provisions, National and State Policies and Social Security Policy;
- Community Support, Awareness and Assimilation Activities;
- Aging: Social and Economic Exclusion; Gerontology Outlook in Policy Framework: Government Laws and Welfare Programmes

Module 6:

Institutions and Inclusive Policies (12 hours)

- Inclusive Policy Agenda: United Nations Organisation, Constitutional Provisions, Nodal Government Agencies and Planned State Interventions
- Human Rights Framework, Affirmative Action and Reservation Policies
- Designing Innovative Strategies for Inclusive Policies

Suggested Readings:

- Sen, A. (2000), 'Social Exclusion: Concept, Application, and Scrutiny -*/&, Asian Development Bank, Manila.
- Byrne, David (2003), 'Social Exclusion: Issues in Society', Open University Press, 2005.
- Lal, A.K. (2005) (Ed.), 'Social Exclusion: Essays in Honour of Dr. Bindeshwar Pathak', New Delhi, Concept.
- Hills John, Le Grand, J. and Piachaud, D (2002) (eds.), 'Understanding Social Exclusion', Oxford University Press
- Saith, R. (2001), 'Social Exclusion: The Concept and Application to Developing Countries', Queen Elizabeth House Working Paper Series 72, Queen Elizabeth House, Oxford.
- Jordan, Bill (1996), 'A Theory of Poverty and Social Exclusion', Polity Press.
- Breman, Jan (2002), 'The Labouring Poor in India: Patterns of Exploitation, Subordination, and Exclusion', Oxford University Press.

Course Code: B-12

Course Name: Political Economy of India's Development

Course Outcome:

The course enables students to be able to comment on the state of India's development, by introducing aspects of various development parameters, followed by a critical study of the given subject in each module:

- To be able to understand the perspectives of both sides that economic historians take – that colonialism did more good than harm to India or the other-way-around; on the role of colonialism on Indian political and economic development. (Module 1)
- This module introduces students to understand the policy environment demographic dividend in the liberalized country. (Module 2)
- This module introduces students to the various planning periods and various growth indicators in the Planning period are analyzed. (Module 3)
- Multi-dimensional nature of poverty and inequality are taught. Students are also introduced to the literature on ways to combat poverty. (Module 4)
- Growth-inducing development is analyzed for all the sectors of the economy. Students are able to comprehend the consequences of adopting the reforms in this module. (Module 5)
- Overall, across all modules, the course enables the student to form their critical view on the current

Module 1:

Effect of British Colonialism on Independent India

- Effect through industrialization and trade in pre-colonial and colonial India.
- Debates of economic historians between those who propose that Indian development owes its debt to British colonialism and their critique.

Module 2:

How did India handle the demographic dividend?

- Correlation between data on demographic dividend and Indian growth parameters.
- Factors affecting the strategy for making use of the demographic transition.
- The demographic dividend as is evident from pre-liberalization and liberalization period.

Module 3:

Indian development in the Planning period

- Purpose behind introducing the Indian Plans.
- Various Plans are discussed and the literature on the theories of economic planning are introduced.

Module 4:

Poverty and Inequality in the 21st century

- Poverty and inequality estimating measures are introduced.
- Current discussions on multidimensional poverty and inequality.
- Poverty and inequality in the pre-liberalized period.
- One of the policy measures, namely, Universal Basic Income is studied in detail.

Module 5:

Post-liberalized India and its economic development

- Factors led to reforms and its consequences are discussed.
- Reasons behind the economic boom of 2003-08 are studied.

- Aspects of industries and growth in the 21st century are analysed.

References

Books:

- Rudra, A. (1975), Indian Plan Models, *Allied Publishers*.
 - Basu, K. (ed) (2004), India's Emerging Economy, New Delhi Delhi: *Oxford University Press*.
 - Dreze, J. and A. Sen (2003), Development and Participation, Delhi: *Oxford University Press*.
- Bardhan, P. (1998), Political Economy of Development in India, Oxford: *Oxford University Press*

Course Code: B-15

Course Name: Urban Economics

Course Outcomes:

- To understand the fundamentals of urban economics with the help of case studies. (Module 1)
- To get familiar with the conditions of urban cities. (Module 2 and 3)
- To understand the role of urban infrastructure. (Module 4, 5, and 6)
- To synthesize the approaches and limitations associated with urban infrastructure. (Module 4, 5 and 6)
- To analyze the situation of land and rent. (Module 3)
- To critically evaluate the role of local government for urban development. (Module 6)

Module 1:

Introduction

Urban Economics, Existence and importance of cities, 5 axioms of urban economics, Case Studies and Reports related to important Indian cities.

Module 2:

The Development of Cities: Clusters & Agglomeration; City Size and Urban Growth

Development of a factory town, firm clustering, labor pooling, localization and urbanization economies, differences in city sizes

Urban employment growth and the multiplier, the effects of taxes and subsidies on location choices

Module 3:

Land Rent & Markets and Land use pattern

Land rent and urban structure, Residential Land Market, Urban Land Markets with Factor Substitution

The Spatial Distribution of Employment and Population, The Monocentric City- Rise and Demise, Urban Sprawl, Neighborhood Choice, Zoning and Growth controls

Case study of Mumbai and Pune

Module 4:

Urban Transportation

Congestion Externalities, Congestion Tax and Alternatives, Autos and Air Pollution, Automobiles and Poverty.

Commuting and transit Ridership- the Cost of Travel and Model Choice, Efficient Volume of Ridership, Designing a Transit System

Module 5:

Urban Infrastructure

Spending and Educational Achievement- Education Production Function, Spending Inequalities and Public Policy

Crime Facts, the Rational Criminals, the Equilibrium Quantity of Crime, Legal Opportunities and Education

Water supply and sanitation, Access to basic urban amenities

Module 6:

Housing

Importance of Housing- Durability, Detritions and Maintenance, the Filtering Model of Housing Market
Housing Policy- Public Housing, Housing Vouchers, Rent Control and Rent Regulation

Model 7:

Local Government

The Role of Local Government, Local Government Revenue and Expenditure, The Tiebout Model and Property tax
Financial Instruments (municipal Bonds)

*Students would be encouraged to go through the case studies on Indian Cities related to above mentioned topics.

Text Books

Arthur O'Sullivan, *Urban Economics* (7th edition), McGraw Hill Irwin, 2008.
Jan K Brueckner, *Lectures on Urban Economics*, the MIT Press, 2011

Reference Books

Edward L. Glaeser, *Cities, Agglomeration, and Spatial Equilibrium: the Lindahl Lectures*, New York, Oxford University Press, 2008 (ISBN-13: 9780199290444)
(Focus on Mathematical Modeling)

Klein, Daniel B., Moore, Adrian T., and Reja, Binyam. *Curb Rights: A Foundation for Free Enterprise in Urban Transit*. (New York: Brookings Institution, 1997 (ISBN: 978-0815749394)
William Cronon. *Nature's Metropolis: Chicago and the Great West*. W.W. Norton, 1991.
James Howard Kunstler. *The Geography of Nowhere*. Free Press, 1994

William Julius Wilson. *The Truly Disadvantaged: The Inner City, the Underclass and Public Policy*. University of Chicago Press, 1987.

Brueckner, Jan (1987) "Structure of Urban Equilibria: A Unified Treatment of the Muth-Mills Model," *Handbook of Regional and Urban Economics*, Volume II, Edwin W. Mills Ed., 821-845.

Arzaghi & Henderson (2008) "Networking off Madison Avenue" *Review of Economic Studies* (2008) 75, 1011–1038

Edward Glaeser (1998) "Are Cities Dying?" *Journal of Economic Perspectives* 12(2): 127-138.

Adam Jaffe et al. (1993) "Geographic Localization of Knowledge Spillovers as Evidenced by Patent Citations." *Quarterly Journal of Economics* 108(3): 577-598

Quigley (1998) "Urban Diversity and Economic Growth" *Journal of Economic Perspectives*—Volume 12, Number 2—Spring 1998—Pages 127–138

Roger G. Noll and Andrew Zimbalist (1997) "Sports, Jobs, and Taxes: Are New Stadiums Worth the Cost?" *The Brookings Review* 15: 35-39.

Kerr & Kominers (2010) "Agglomerative Forces and Cluster Shapes", NBER working paper, 16639 18(4): 177-200.

Glaeser, Edward L., Matthew Kahn, and Jordan Rappaport (2007) "Why do the poor live in cities?" *Journal of Urban Economics*.

Book_ Newman, P. and Kenworthy, J. (1999) "Sustainability and Cities. Overcoming automobile dependence". Washington D.C.: Island Press ISBN-13: 978-1559636605, ISBN-10: 1559636602

Glenn Blomquist, Mark Berger, and John Hoehn (1988) "New estimates of the quality of life in urban areas." *The American Economic Review* 78(1): 89-107.

Glaeser, Edward L., Matthew Kahn, and Jordan Rappaport (2007) "Why do the poor live in cities?" *Journal of Urban Economics*.

Glenn Blomquist, Mark Berger, and John Hoehn (1988) "New estimates of the quality of life in urban areas." *The American Economic Review* 78(1): 89-107.

Caitlin Knowles Myers (2004) "Discrimination and neighborhood effects: Understanding racial differentials in US housing prices." *Journal of Urban Economics* 56(2): 279-302.
Michael Greenstone Enrico Moretti (2004) "Bidding for Industrial Plants: Does Winning a "Million Dollar Plant" Increase Welfare?" Working Paper Series, MIT (0-39)

Course Code: B-14

Course Name: Behavioral Economics

Course Outcomes:

The course will enable students:

- To explain the decision choices that deviate from predictions of neo-classical economics (module 1)
- To understand the choices under risk, uncertainty, strategic interactions and inter-temporal nature (Module 2,3,4)
- To discuss the applications of behavioral economics for better development outcomes (Module 5)
- To discuss standard research methods of the subject viz. laboratory and field experiments to understand their contribution to the advancement of the subject. (Module 6)

Module 1:

Introduction: Decision-Making Theories (4 hours)

- Neo-Classical Economics – Rationality Assumption, Optimization
- Origin of Behavioral Economics - Bounded Rationality, Rationality in Psychology and Economics by H. Simon
- Dual System Theory, Prospect Theory

Module 2:

Decision-Making Under Risk and Uncertainty (16 hours)

- Heuristics and Biases Programme- Representativeness, Availability, Anchoring and Adjustment, Mental Accounting
- Biases: Overconfidence, Confirmation Bias, Framing, Status Quo Bias, Endowment Bias, Self-Control Bias
- Fallacies: Conjunction and Disjunction Fallacies, Gambler's Fallacies

Module 3:

Inter-Temporal Choices (4 hours)

- The Discounted Utility Model, Exponential Discounting
- Hyperbolic Discounting

Module 4:

Strategic Interactions (10 hours)

- Fairness, Trust, Cooperation, Reciprocity, Altruism
- Norms And Culture

Module 5:

Applications of Behavioral Economics (14 hours)

- Introduction to Behavioral Labour Economics, Behavioral Finance
- Taxation and the Contribution of Behavioral Economics
- Choice Architecture: The Role of Nudging
- Public Policies : Psychological and Social Perspectives on policy in the area of Poverty, Health, Climate Change

Module 6:

Research Methods for Behavioral Economics (12 hours)

- Survey: hypothetical choices, self-reported perceptions & biases
- Laboratory experiments – Precepts of laboratory experiments, internal and external validity
- Field experiments – Randomized Control Trails

Suggested Readings:

Books:

- Wilkinson, Nick and Klaes, Matthias, 2012, An Introduction to Behavioral Economics, 2nd Edition, *Palgrave Macmillan*.
- Camerer, C. F., Loewenstein, G., Rabin, M., 2004, Advances in Behavioral Economics, ed. *Princeton University Press*.
- Ariely, D., Perennial, H., 2010, Predictably Irrational: The Hidden Forces That Shape Our Decisions, *Harper Collins /Perennial*.
- Altman, M., 2007, Handbook of Contemporary Behavioral Economics: Foundation and Developments, *Prentice Hall India*
- E. Cartwright, 2011, Behavioral Economics, *Routledge*
- D. Kahneman, 2011, Thinking Fast and Slow, Allen Lane, *Penguin Books*
- G. Loewenstein, 2007, Exotic Preferences: Behavioral Economics and Human Motivation , *Oxford University Press*
- Angner, E., 2016, A Course in Behavioral Economics, *Palgrave Macmillan*
- Dhami S., 2016, The Foundations of Behavioral Economic Analysis, *Oxford University Press*
- Thaler, R., 2015, Misbehaving: The Making of Behavioral Economics, *W. W. Norton Company*

Reports:

- World Development Report 2015: Mind, Society, and Behavior, *World Bank Group*

Articles:

- Lotito, G., 2006, Dynamic Inconsistency and Different Models of Dynamic Choice – A Review, Working Paper 83, *Department of Public Policy and Public Choice – POLIS*, p. 25-76
- Shane F., Loewenstein G., and O’Donoghue T., 2002, Time Discounting and Time Preference: A Critical Review, *Journal of Economic Literature*, 40, no. 2: 351–401.

Course Code: B-16

Course Name: Linear Economics – I

Course Outcome:

The course will enable the students:

- Appreciation of the major shortcomings of Neoclassical Economics (Module 1)
- Develop understanding of analytical Classical Economics (Module 2)
- Develop understanding of von Neumann, Leontief, Sraffa, Kaldor and Pasinetti models and their applications (Module 3 and 4)
- Construction of Empirical General Equilibrium Models (Module 5)

Module 1:

Critique of the Neo-classical Theory

- Critique of Marshall's demand-supply theory
- Critique of marginal productivity theory
- Critique of Neoclassical production functions

Module 2:

Leontief System

- Introduction to static open and closed input-output models
- Construction of input-output tables
- Dynamic input-output analysis

Module 3:

Sraffa System

- Critique of von-Neumann model
- Introduction to Sraffa system and its properties
- Construction of standard commodity
- Reduction to dated labour

Module 4:

Income Distribution

- Alternative models of income distribution
- The Kaldor Pasinetti model and its development

Module 5:

A theory of General equilibrium

- Closure of Sraffa System
- Construction of a Sraffian General Equilibrium
- Its empirical relevance.

Reading List:**Books:**

Hadley, G. (1961), Linear algebra, Addison-Wesley Massachusetts

Shanti, Narayan, Lipson Marc (2002), A text book of matrices, Schaum Outlines Series.

Bellman, Richard (1970), Introduction to matrix analysis, 2nd edition, McGraw-Hill, New York, NY.

Leontief (1986), Input-output economics (2nd edition), Oxford University Press

Leontief, W.W., Structure of American economy 1919-1939 (third edition), Oxford University Press, New York.

Mathur P.N. & Bharadwaj R. (1968), An application with dynamic Input-output model for planning

Sraffa, Piero (1960), Production of commodities by means of commodities Cambridge University Press, Cambridge.

Kurz, H. and Salvadori, N. (1995), Theory of Production: A Long Period Analysis, Cambridge University Press, Cambridge.

Parchure, R. (1989), The Pure Theory of Value: The Times Research Foundation Pune.

Pasinetti, L.L. (1977), Lectures on the theory of production: Mathematical appendix, New York, Columbia University Press.

Fabio Petri (1999) "Hahn on the 'Neo-Ricardian' Criticism of Neoclassical Economics", in the Value, Distribution and Capital eds. Gary Mongiovi and Fabio Petri, pp. 19-68, London.

Garegnani, P. (1970) "Heterogeneous Capital, The Production Function under Theory of Distribution" Review of Economic Studies. Vol.

Garegnani, P. (1990) "Reply" in Bharadwaj K. and B. Schefold eds. Essay on Piero Sraffa, Critical Perspectives on the Revival of Classical Theory, Oxford University Press, Oxford.

Hahn, F.H. (1975) "Revival of Political Economy: The Wrong Issues and the Wrong Argument" Economic Record.

Article:

Hahn, F.H. ((1982) "The Neo Ricardians", Cambridge Journal of Economics, Vol.6.

Harcourt, G. C. (1969) "Some Cambridge Controversies in the Theory of Capital", Journal of Economic Literature, 7:369-405.

Hayek, F.A. (1932) "Reply" Economic Journal.

Hawkins D. and H. Simon (1949) "Note: Some Conditions of Macroeconomic Stability." Econometrica Vol.17.

Kaldor, N. (1956) "Alternative Theories of Distribution," Review of Economics Studies, Vol. 23.

Pasinetti, L.L. (1962) "Rate of Profit and Income Distribution in Relation to the Rate of Economic Growth," Review of Economic Studies, Vol.29.

Pasinetti, L.L. (1978) Lectures on the Theory of Production, Macmillan, London.

Robinson Joan (1956) The Accumulation of Capital. London: Macmillan.

Sraffa, P. (1960) Production of Commodities by Means of Commodities, Cambridge University Press, Cambridge.

Von Neumann J. (1945-46) "A Model of General Economic Equilibrium." Review of Economic Studies. Vol.13.

Whitin, T.M. (1953) "Classical Theory, Graham's Theory, and Linear Programming in International Trade," Quarterly Journal of Economics, Vol.67.

Course Code: B-17

Course Name: Linear Economics – II

Course Outcome :

The course will enable the students :

- Incorporation of Money and Finance in General Equilibrium theory (Module 1)
- Proof of Essentiality and non-neutrality of modern money (Module 2 and 3)
- Construction of Keynesian model with deflationary gap (Module 4)
- Multi-country general equilibrium model of exchange rates (Module 5)
- Trade equilibrium with many countries and commodities (Module 6)

Module 1:

Critique of trade models and exchange-rate theories

- Critique of the Heckscher-Olin-Samuelson model of trade
- Non-viability of reduction of reality to $2 \times 2 \times 2$ models.
- Critique of exchange rate theories

Module 2:

Frank D. Graham's theory of multi-country multicommodity trade

- Introducing the theory of Frank D. Graham
- Extensions of the theory to tariffs, intercountry transfers and taxation.
- Trade in intermediate and final goods.

Module 3:

Keynesian Revolution

- Money in general equilibrium theory: Patinkin's findings of Arrow, Clower, Hahn, Ostroy.
- Keynesian Counter revolution.

Module 4:

Building the Keynesian critique of the Classical theory

- The Static Keynesian economy with money.
- Critique of IS-LM model.
- Possibility of unemployment equilibrium. Fiscal Policy. General ineffectiveness of monetary policy instruments including TARP, etc.

Module 5:

Integrated model of the level and structure of spot interest rates.

- Dichotomy in the theories of the level and theories of the term structure of interest rates.
- Integrated model of the level and structure of spot interest rates.

Module 6:

Dynamic Keynesian economy

- The dynamic Keynesian economy with money and several financial assets.
- General disequilibrium.
- Role of fiscal and monetary policies.

Reading List:

Books:

Graham, F. D. (1948), *The theory of International Values*; *Princeton University Press*
Parchure, Rajas (1994), *The Theory of International Values*, *Wiley Eastern, New Delhi*

Article:

Garegnani (1983) "Two Routes to Effective Demand: Comment on Kregel", in J. A. Kregel (ed.), *Distribution, Growth and International Economic Relations*, London: Macmillan

Hahn, F.H. 1965. "On Some Problems of Proving the Existence of an Equilibrium in a Monetary Economy," in *The Theory of Interest Rates*, ed. F.H. Hahn and F.P.R. Brechling, 126-135, London; Macmillan.

Hahn, F.H. 1971. "Equilibrium with transaction costs". *Econometrica* 39, 417-39.

Hahn F. H. (1977) "Keynesian Economics and General Equilibrium Theory: Reflections on Some Current Debates" in *Microeconomic Foundations of Macroeconomics* ed. G. C. Harcourt.

Hahn (1978) "On non-Walrasian Equilibria" *Review of Economic Studies*, 45, 1-17.

Hicks, J.R. 1937. "Mr Keynes and the Classics: A Suggested Interpretation", *Econometrica*, 5, 147-159.

Keynes, J.M. 1936. *The General Theory of Employment, Interest and Money*, London: Macmillan.

Keynes, J.M. 1937. "The General Theory of Employment" *Quarterly Journal of Economics*, 51, 209-223.

Kurz H. D. (2016) *Economic Thought, A Brief History*, New York: Columbia University Press.

Kurz, M. 1974. "Equilibrium in a finite sequence of markets with transactions cost". *Econometrica* 42, 1-20.

Ostroy, J.M. and Starr, R.M. 1974. "Money and the Decentralization of Exchange", *Econometrica*, 42, 1093-1113.

Pigou, A.C. 1943. "The classical stationary state". *Economic Journal*, 53, 343-51.

Posner R. (2011) "Walras, Keynes and the 'Great Recession'", in Bridels P. (ed.) *General Equilibrium Analysis. A Century after Walras*, New York: Routledge.

Shapley, L. and Shubik, M. 1977. "Trade using one commodity as a means of payment". *Journal of Political Economy* 85, 937-68.

Smith, A. 1776, *'The Wealth of Nations'*, J.M. Dent, London.

Sraffa P. (1960). "Dr. Hayek on Money and Capital", *The Economic Journal*, 42, 42-63.

Starr R. (2010). "Sequence Economies" in *The New Palgrave*, Dictionary of Economics, Palgrave Macmillan.

Tobin J. 'A General Equilibrium Approach to Monetary Theory' reprinted in J. Tobin, *Essays in Economics*, 1971, vol.I, 322-338, Amsterdam: North-Holland.

Sraffa, P. (1962) "The Laws of Returns under Competitive Conditions," *Economic Journal*, Vol.36.

Sraffa, P. (1932a) "Dr. Hayek on Money and Capital," *Economic Journal*, Vol.52.

Sraffa, P. (1932b) "Rejoinder", *Economic Journal*, Vol.52.

Course Code: B-18

Course Name: Introduction to Game Theory

Course Outcome:

The course will enable the students:

- This module enables students to understand what a game is and how to model a game in matrix format (Module 1)
- To learn how to model real life situations in a game theoretic form and to find the solutions and outcomes of such situations through Nash equilibrium (Module 2 & 3)
- To learn dynamic games and their solution concepts (Module 4)
- To appreciate the outcomes in finite repeated games vs infinite repeated games (Module 5)
- To learn games of incomplete and imperfect information along with solving the Bayesian Nash equilibrium of these games (Module 6)
- The last module enables students to differentiate between non-cooperative games and cooperative games along with some cooperative games and Shapley value (Module 7)
- Overall, the course enables the student to analyze strategic situations in game theoretic form in facing real-life situations.

Module 1, 2 & 3:

Introducing games, its form and a solution concept : (8 hours)

- Definition and description of games is introduced.
- One of the solution concepts namely Nash equilibrium (in both pure strategies and mixed strategies) is defined along with its existence and other properties.
- Problems are solved to find Nash equilibrium in two-players and finite players games.
- Various famous two-player games and real-life applications are discussed.

Module 4:

Dynamic games of complete information : (8 hours)

- Extensive form games are introduced along with its strategic forms.
- Backward induction is discussed.
- Relevant solution concept called subgame perfect Nash equilibrium is discussed.
- Introduction to imperfect information games along with applications.

Module 5:

Repeated games : (8 hours)

- An application of repeated prisoner's dilemma is taught.
- Finite and infinite repeated games, along with comparisons of equilibrium strategies in finite vs infinite games are analyzed.
- Folk theorem for Nash equilibrium is discussed in a theoretical way.

Module 6:

Games of incomplete information : (12 hours)

- Bayesian games along with real life applications are discussed.
- Signaling games with strategies and solutions are taught.

Module 7:

Introduction to cooperative games : (12 hours)

- Introduction to TU-games, core, Shapley value and nucleolus are taught.

References

Books:

Game Theory, by Fudenberg and Tirole, 1st Edition, MIT Press.

Thinking Strategically: The Competitive Edge in Business, Politics, and Everyday Life (Norton Paperpack), Dixit and Nalebuff.

Games of Strategy, Dixit, Skeath et al, W.W. Norton and Co., (2020)

Games and Decisions, Luce and Raiffa, Dover Publications.

Collected Papers, Vol. 1, Robert J Aumann

Course Code: B-19

Course Name: Insurance Economics

Course Outcome:

- The Course will enable the students:
- To know the conceptual inputs related to Insurance Environment in India (Module I)
- To understand implications of insurance legislation in India (Module II)
- To have insurance product knowledge – both life and non life for all classes of business so as to succeed in techno marketing assignment (Module III)
- To apply principles of economics and related mathematics to insurance (Module IV & V)
- To get knowledge of underwriting acceptances and risks measurement including pricing (Module VI)
- To have awareness of new techniques, products and processes of Insurance which will be covered for remaining updated in the industry (Module VII)

Module 1:

Introductory Inputs (7 Hrs.)

- Insurance concepts like, History and Advantages of insurance, Insurance Environment, Contribution to economy, Latest Trends.
- Insurance value chain PESTLE Analysis, H'ubiverse's Theory of Human Life Value.
- Principles Of Insurance like Indemnity, Utmost good faith, Insurable interest and proximate cause.
- Basic terms like Risk, Perils, Hazard, Spread of Risk, Co insurance, Reinsurance etc.

Module 2:

Insurance Legislation (7 Hrs.)

- Like Insurance Act, Indian Contracts Act, IRDAI Act.
- Latest IRDAI Regulations, Investment Norms for insurers, Organizational Structure of insurance companies.

Module 3:

Types Of Insurance Products (9 Hrs.)

- Life Insurance policies like ULIPs, Double Endowment, Term Assurance, Survival benefits, death cover, Group Insurance Policies.
- Key man Insurance, Whole life policies, types of Annuities, Life & Death Annuities, Immediate & Deferred Annuities.
- Various types of Health Insurance policies including Mediclaim & OMP, Group Health Insurance Policies for Corporates etc. critical illness, OPD covers, corona kavach etc.
- Various types of Nonlife Policies like Fire, Motor, Marine, Liability, PA, Engineering etc.

Module 4:

Principles of Economics (6 Hrs.)

- Approach of Mathematics and basic actuarial concepts like theory of probability, law of large numbers.
- Mortality, Morbidity, Risk Based underwriting, Maximum & Minimum probable loss.

- Control of expenses, aiming at profitability, claim minimization measures, contingency risks v/s investment risks, sharing & Spreading risks.

Module 5:

Mathematics Of Insurance (9 Hrs.)

- Special features of Insurance accounting, Investment function in insurance companies, present value methods, compounding effect, perpetuities.
- Discounted cash flow, sinking fund, life fund, yield, profitability, stationary population, select mortality tables, survival rates, morbidity concept, BMI, Valuation of surplus, Assets & Liability.
- Types of Financial Reserves in Insurance Companies Balance Sheets, Premium Loadings, Pricing of insurance products etc. Bonus/Malus concepts, “Fair Value” of assets/liabilities, life office valuations.
- Concepts of Estate & Trading Profits, distribution of surplus, payment of dividends/bonus, profit centers, management expenses, fresh/renewal expenses, solvency margins etc.

Module 6:

Underwriting (7 Hrs.)

- Definition, importance, profits generation , underwriting process , physical & moral hazards.
- Extras & discounts in rating structure, deductibles, underwriting factors in Life Insurance & General Insurance.
- Risk inspection, risk minimization, adverse selection, Use of riders, Loss sensitive pricing, Embedded devices, comparison between Indian & Global underwriting practices and need for contract certainty, proposal form.

Module 7:

Basic Concepts (5 Hrs.)

- This module is for creating awareness for advanced course in insurance.
- Reinsurance, claims settlement, coinsurance.
- Risk Management, Insurance Marketing and Intermediaries, Futuristic Insurance Products , “Insure Tech”.

References:**Text Books**

Understanding General Insurance - PC James PCJ Value Media , Bengaluru

Insurance Institute of India Books on various aspects of general insurance IC 51 to IC 54 , IC 71 to IC 74, IC 77.

Black, Kenneth Jr, Skipper, Harold D Jr, Life & Health Insurance Latest Edition, Prentice Hall.
Rejda George E (2010)

Principles of Risk Management and Insurance Prentice Hall (11th Edition)

Zartman, Lester W (2003), Yale Readings in Insurance , Life Insurance, William S Hein & Company

Bates, Ian and Atkins, Derek (2009) Management of Insurance Operations, Global, Professional, Publications.

Research Papers:

Underwriting Prudence – Winning Strategy, MD Garde, BIMAQUEST, Volume 17, January 2017.

KPMG Report titled “The Connected Ecosystem a New Business Model for Insurance.

“BIMAQUEST” & “Pravartak” Publications of National Insurance Academy, Pune.

Asian Insurance Review, Publication from Singapore.

The Journal, Insurance Institute of India.

Webliography References:

<https://www.insuranceinstituteofindia.com>

<https://www.licindia.in>

<https://www.agriinsurance.gov.in/pmfby.aspx>

Course Code: B-20

Course Name: Insurance Economics (Advanced Practices)

Course Outcome:

The Course will enable the students:

- To know the marketing principles applied to insurance (Module I)
- To deal with claim matters as after sales service (Module II)
- To get knowledge of innovative insurance products (Module III)
- To learn the importance of reinsurance and its methods (Module IV)
- To understand applications of risk management to insurance issues (Module V)
- To learn the best practices followed globally including India (Module VI)

Module 1:

Insurance Marketing (10 Hrs.)

- Fixing premium goals annually, need for marketing strategy, front desk skills, insurance intermediaries like agents, brokers etc.
- Bancassurance tie ups as a win – win mechanism, direct/tied clients servicing, Market funneling, segmentation.
- New products development, PR & Publicity, Customer Service Pre – Sale , POS & Aftersales, Lead generation thro referrals, Broker development programs.
- Customer focus at all levels, grievances resolution etc.

Module 2:

Insurance Claims (8 Hrs.)

- Use of claim form, need for Claims Investigations, Importance of claims as a service parameter, types of claims for each class of insurance business.
- Stages involved in the claims process, control over claims ratio , typical claim disputes, out sourcing of claims function, arbitration process.
- Compliance of section 64 VB, salvage disposal, reinstatement and loss of profits claims , fraudulent claims handing etc.

Module 3:

Innovative Insurance Products (8 Hrs.)

- Innovative policies in Health Insurance. The process of product innovation as a 24×7 activity, Customer Focused & Tailor Made Products.
- New Global Products Like Autonomous Car Insurance, PAYD, Genetic Defects Coverage, Aerospace Related Products, Cyber Liability, Robot Surgeons Cover , Political risk.
- Demat Policies , Drone Insurance , Sports events , Retirement Products, Managed Care , Retroactive Liability ,Gaming & Entertainment Covers.

Module 4:

Reinsurance (7 Hrs.)

- Types of risks covered in reinsurance, Definition , Importance and the process involved, various methods of reinsurance like Reciprocal , surplus Treaties etc. concept of lines, layers, avoidance of “Spiral” effect.
- Advantages of Reinsurance, reinsurance brokers , consortiums in reinsurance, Increasing retention capacities.
- Big Reinsurance Companies & Reinsurance Brokers.

Module 5:**Risk Management (9 Hrs.)**

- Definition and process, its importance, various methods, advantages , covering maximum risk at minimum premium, Risk identification, transfer, evaluation, finance & controlling,
- Risk inspection reports, Types of risks covered, Global risk report, Insurance and reinsurance as risk transfer mechanisms.
- Need for Enterprise Risk Management (ERM)

Module 6:**Global Insurance Best Practice (8 Hrs.)**

- Underwriting desk bench , formation of KPO's, LPO's BPO's, Demat policies.
- Online claims & underwriting, implementation of Insure Tech, Telematics, Telemedicine, Embedded Devices.
- CRM solutions, Artificial Intelligence tools in insurance underwriting & claims, fraud investigations.
- Better practices of Pvt. Insurance Companies in India Project Insurance.

References:

Text Books

Insurance Institute of India *IC 22 to IC 26 , IC 81 & 85*

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