Syllabi and Scheme of Examination

for

Master of Arts (Economics)

(Two-Year PG Degree Programme)

(With effect from August, 2015)

University School of Humanities and Social Sciences
Guru Gobind Singh Indraprastha University
Dwarka, New Delhi - 110078

Employability/Skill Development/Entrepreneurship

1. *1st and 3rd semester revised and approved in the 42nd AC meetings held on 28/11/2016 vide agenda item 42.07 w.e.f. 2016.*
2. *3rd and 4th semester revised and approved in the 43nd AC meetings held on 25/05/2017 vide agenda item 43.04 w.e.f. 2016.*
3. *Scheme of Examination revised and approved in the 57th AC meeting held on20 12/2023 vide agenda item 57.30 w.e.f. the Academic Session 2023-2024.*

University School of Humanities and Social Sciences

MA Economics(Semester Wise Course Contents)

SEMESTER – I

S. No.	Course Code	Course ID	Title of the Course	Total Credits	Pedagogy
Theory				L+T*	
1	HSECO-601	307601	Microeconomics	4+1=5	Lectures / Assignments
2	HSECO-603	307603	Macroeconomics	4+1=5	Lectures / Assignments
3	HSECO-605	307605	Statistical Methods	4+1=5	Lectures / Assignments
4	HSECO-607	307607	Mathematical Methods	4+1=5	Lectures / Assignments

SEMESTER - II

S. No.	Course Code	Course ID	Title of the Course	Total Credits	Pedagogy
Theory				L+T*	
1	HSECO-602	307602	Econometrics-I	4+1=5	Lectures / Assignments
2	HSECO-604	307603	Economics of Money, Banking and Financial Markets	4+1=5	Lectures / Assignments
3	HSECO-606	307605	Development Economics	4+1=5	Lectures / Assignments
Elective – I (Any one from the following)					
4	HSECO-608	307608	Industrial Economics	4+1=5	Lectures / Assignments
	HSECO-610	307610	Financial Economics	4+1=5	Lectures / Assignments
	HSECO-612	307612	Environmental Economics	4+1=5	Lectures / Assignments

SEMESTER – III

S. No.	Course Code	Course ID	Title of the Course	Total Credits	Pedagogy
Theory				L+T*	
1	HSECO-701	307701	Econometrics-II	4+1=5	Lectures / Assignments
2	HSECO-703	307703	Public Economics	4+1=5	Lectures / Assignments
3	HSECO-705	307705	International Economics	4+1=5	Lectures / Assignments
Elective – II (Any one from the following)					
4	HSECO-709	307709	Corporate Finance	4+1=5	Lectures / Assignments
	HSECO-711	307752	Health Economics	4+1=5	Lectures / Assignments

SEMESTER – IV

S. No.	Course Code	Course ID	Title of the Course	Total Credits	Pedagogy
Theory				L+T*	
1	HSECO-702	307702	Issues in Indian Economics	4+1=5	Lectures/Assignments
Elective – II (Any one from the following)					
2	HSECO-704	307704	Game Theory	4+1=5	Lectures/Assignments
	HSECO-708	307708	Natural Resource Economics	4+1=5	Lectures/Assignments
	HSECO-710	307710	Law and Economics	4+1=5	Lectures/Assignments
3	HSECO-752	307752	Dissertation and Viva	10	UES (revised in 25thBOS)

Note: (1). L= Lecture, T = Tutorial; (2). In case of Practicals / Tutorials / Seminars, one credit would be equivalent to two hours of teaching.

DISTRIBUTION OF CREDITS

Semester – I	Semester – II	Semester – III	Semester – IV	Total Credits
20	20	20	20	20

Note: For the award of PG degree in MA Economics the student shall have to earn 80 credits.

A. SCHEME OF EXAMINATION

1. The student shall be evaluated for each paper on continuous basis through internal and external evaluations respectively.
2. The internal evaluation for each paper shall be for 40 marks as detailed below:

Minor Exams (Theory Test)	= 20 marks
Assignment	= 10 marks
Presentations and Class Discussions	= 10 marks (5+5)
TOTAL	**= 40 marks**

3. The external evaluation for theory paper shall be based on end-term examination (as outlined in the detailed course content) carrying 60 marks.

4. The distribution of marks for the Practical Examination would be 40 : 60 (Internal : External).

5. For Paper Code HSECO 752 (Dissertation and Viva) students shall carry out individual research on a given or mutually decided topic under the supervision of the Teacher Mentor/ Supervisor. The research topics would be assigned in the beginning of the semester. The progress of the dissertation work shall be continuously monitored by the supervisor and would be evaluated at the end of the semester by a panel of internal and external examiners through viva-voce examination for 100 (40 internal + 60 external) marks.

B. INSTRUCTIONS FOR PAPER SETTING/SETTER (END SEMESTER EXAMINATION)

1. End Semester Theory papers shall be set from all four units (ie., UNIT 1, II, III and IV) of the respective course content.
2. **There will be five questions in all, with internal choice.** The student shall be required to attempt all the five questions.
3. Each question shall carry 12 marks.
4. Question no. 1 shall be of short answer type questions which will cover all four units of the course content in each paper. It shall have eight subparts, two from each unit. The students would be required to attempt any four parts choosing at least one question from each unit.
5. Questions No. 2 to 5 shall be essay type questions. There will be one question from each unit with internal choice.
6. The Question Papers must be set so as to achieve the objectives laid down for the course.
7. Guidelines for setting papers would be sent to the External Examiners/Paper Setters.

Semester - I

Paper Code: HSECO-601
Nomenclature of the Paper: Microeconomics
Internal Marks: 40

Lectures – 4, Tutorial – 1
Total Credit – 5
External Marks: 60

Objective:*To enable the students to familiarize themselves with fundamental theories and models of microeconomics that will help them to take more specialized courses in microeconomic theory and other related courses offered in other semesters of the program.*

Course Outcome (COs):

CO1: ***Knowledge*** - Imparting knowledge of Economic variables at a Micro (Individual) levels
CO2: ***Understanding*** - Assessing the role of market mechanism in shaping the economies
CO3: ***Analysis*** - Analysing the Payoff decision making power of a consumer and a Producer
CO4: ***Synthesis*** - Using the fundamental techniques of Economic efficiency and Factor Market
CO5: ***Comprehension*** - Demonstrating quantitative skills for solving the equilibrium equation

Unit – I: Review of Consumer and Producer Behavior

Consumer behavior – Utility function– Budget constraint – consumer choice – Revealed preference– Applying consumer theory –Consumer and producer surplus – Consumer behaviour and uncertainty – Theory of production – Laws of productions –Economies and diseconomies of scale and scope –Estimation of demand and production functions.

Unit – II: Competition and Game Theory

Pricing and output decisions in monopoly, monopolistic and oligopoly competition – Game theory and market strategy – Dominant Strategies – Nash Equilibrium – Sequential Games – Threats, commitments and credibility – Application of game theory.

Unit – III:Competitive Factor Market

Competitive factor market – Demand and supply of factor input – Equilibrium in factor market – Monopsony in labour market – monopoly power – Labour unions.

Unit – IV: General Equilibrium and Welfare Economics

General equilibrium analysis – Feedback between markets – Efficiency in exchange andproduction – Equity and efficiency – Market failure and role of government–Criteria of social welfare – Pareto-Optimality – Kaldor-Hicks-Samuelson compensation – Bergson's criterion – Arrow's impossibility theorem – Rawl'stheory of social justice.

Suggested Readings

Pindyck, R.S. and D.L. Rubinfeld.*Microeconomics*, Prentice Hall, 2013.
Perloff, Jeffery M. Microeconomics, Pearson, 2012.
Varian, H. R.*Microeconomic Analysis*, W.W. Norton and Co. 2010.
Nicholson, W. and Christopher M. Snyder.*Microeconomic Theory: Basic Principles and Extensions*, South-Western College Publication, 2011.
Jehle, Geoffrey A and Philip J. Reny.*Advanced Microeconomic Theory*, Prentice Hall, 2011.

Semester - I

Paper Code: HSECO-603
Nomenclature of the Paper: Macroeconomics
Internal Marks: 40

Lectures – 4, Tutorial – 1
Total Credit – 5
External Marks: 60

Objectives: *To help students critically engage themselves with various macroeconomic theories, models and policy debates and hone up their understanding of the existing literature and recent macroeconomic events in the world economy.*

Course Outcome (COs):

CO1: ***Understanding*** - Understanding of macroeconomic models by describing relationships among macroeconomic variables

CO2: ***Knowledge*** - Demonstrate knowledge of macroeconomic concepts by explaining them using appropriate terminology

CO3: ***Comprehension*** - Understand how the economy is regulated through monetary and fiscal policies.

CO4: ***Application*** - Apply the principle of Macroeconomics in explaining the behaviour of Macroeconomic variables at national as well as global level

CO5: ***Analysis*** - Analyse fiscal and monetary policy decisions to counter business cycle swings by using various macroeconomic models.

Unit – I Demand, Supply and Business Cycle

Macroeconomics and recent events in the world economy – Good market and money market – Supply side and imperfect competition – Equilibrium in labour market –Business cycle – New classical economics – Rational Expectation and policy ineffectiveness.

Readings: Carlin and Soskice, 2010. (Chapter: 1)
Froyen, 2015. (Chapter: 10 &11).
Scarth, 2014. (Chapter: 1 & 2).
#Mankiw, Gergory."*A Quick Refresher Course in Macroeconomics.*"Journal of Economic Literature XXVIII (1990):1645-1 660.
#Woodford, M. "*Revolution and Evolution in Twentieth-Century Macroeconomics.*"In P. Gifford (ed.) Frontiers of the Mind in the Twenty: First Century. Harvard University Press, 1999.
#Blanchard, O. "*What Do We Know About Macroeconomics that Fisher and Wicksell Did Not?*"Quarterly *Journal of Economics*115.4 (2000): 1375-1410.
#Lane, Philip R. "*The European Sovereign Debt Crisis.*" Journal of Economic Prespective 26.3 (2012):49-68.
#Mishkin, Frederic s. *"Over the Cliff: From the Subprime to the Global Financial Crisis."* The Journal of Economic Perspectives 25.1 (2011): 49-70.
#Mankiw, N. Gregory.*"Real Business Cycles: A New Keynesian Perspective."* The Journal of Economic Perspectives 3.3 (1989): 79-90.
#Plosser, Charles I. "Understanding Real Business Cycles." The Journal of Economic Perspectives 3.3 (1989): 51-77.

Unit – II Inflation and Unemployment and Labour market

Inflation and Phillips curve – inflation inertia – Cost of disinflation – Disinflation and central bank preferences – Monetary rules and 3-equation IS-PC-MR model – Temporary and permanent demand shock – Supply-side structures – WS and PS curves – Price and wage push factors – Unions and wage setting arrangements – Hysteresis – The insider-outsider effect.

Readings: Carlin and Soskice, 2010. (Chapter: 3& 4).
Pierce and Tysome, 1985. (Chapter: 9)

#Romer, David. "*Keynesian Macroeconomics without the LM Curve.*"Journal of Economic Perspectives 14.2 (2000): 149–169.

#Staiger, Douglas., James H. Stock and Mark W. Watson. "The NAIRU, Unemployment and Monetary Policy."The Journal of Economic Perspectives 11.1 (1997): 33-49.

#Ball, Laurence and N. Gregory Mankiw."The NAIRU in Theory and Practice." The Journal of Economic Perspectives 16.4 (2002): 115-136.

Unit – III:Monetary and Fiscal policy

Monetary Policy – Objectives and targets– Rule versus discretion – Types of policy lags– The 3-equation model – Central bank's utility function – Phillips curve constraint – Monetary policy transmission mechanism –Automatic stabilizers – Fiscal policy transmission mechanism – Deficits and debt – Costs of Fiscal consolidation – Monetizing the debt – Fiscal policy rule.

Readings: Carlin and Soskice, 2010. (Chapter: 5 & 6).

Pierce and Tysome, 1985. (Chapter: 11)

Bernanke et al. 2001. (Chapter: 2)

#Friedman ,Milton. "*The Role of Monetary Policy.*" The American Economic Review LVIII.1 (1968): 1-17.

#Mishkin, Frederic S. "*Symposium on the Monetary Transmission Mechanism.*"Journal *of Economic Perspectives* 9.4 (1995): 3-10.

#Taylor, John B. "*The Monetary Transmission Mechanism: An Empirical Framework.*"*Journal of Economic Perspectives* 9.4 (1995): 11-26.

#Mohan, Rakesh."*Monetary Policy Transmission in India.*"RBI Monthly Bulletin, April, (2007).

#Alesina, A. and R. Perotti."*The Political Economy of Budget Deficits.*" IMF Staff Papers 42 (1994).

Unit – IV: The Open Economy

Goods market equilibrium – Sector financial balances – Price setting in the open economy – Output and trade balance in short-run – Financial market – Interest parity condition – Fixed and flexible exchange rate regimes – Mundell-Fleming model for the short-run.

Readings: Carlin and Soskice, 2010. (Chapter: 9).

#Reinhart, Carmen M and Kenneth S. Rogoff. "*The Modern History of Exchange Rate Arrangements: A Reinterpretation.*" Quarterly Journal of Economics CXIX.1 (2004).

#Taylor, Mark P.*The Economics of Exchange Rates*, Journal of Economic Literature XXXIII (1995): 13-47.

#Guillermo A. Calvo and Frederic S. Mishkin.*"The Mirage of Exchange Rate Regimes for Emerging Market Countries."* The Journal of Economic Perspectives 17.4 (2003): 99-118.

#Calvo, Guillermo A and Carmen M. Reinhart.*"Fear of Floating.*The Quarterly Journal of Economics 117.2 (2002): 379-408.

Suggested Readings (# indicates '*Optional Further Reading' for discussion in class & presentations*)

Carlin, Wendy and David Soskice.*Macroeconomics: Imperfections, Institutions & Policies*, Oxford University Press, 2008.

Froyen, Richard T.*Macroeconomics: Theories and Policies*, 10th Edition, Pearson, 2012.

Pierce, David G and Peter J Tysome. *Monetary Economics:theories,evidence and policy.* Butterworths. 1985.

Snowdon, Brian and Vane R. Howard.Modern Macroeconomics.USA:Edward Elgar, 2005.

Scarth, W.*Macroeconomics: The Development of Modern Methods of Policy Analysis.* Edward Elgar, 2014.

Semester - I

Paper Code: HSECO-605
Nomenclature of the Paper: Statistical Methods
Internal Marks: 40

Lectures – 4, Tutorial – 1
Total Credit – 5
External Marks: 60

Objectives: To enable the students to familiarize themselves with the essential statistical concepts and techniques required for studying and understanding economics and to demonstrate how statistical concepts are applied in economic theory and practice.

Course Outcome (COs):

CO1: ***Knowledge*** – Familiarize with essential statistical concepts and techniques for data analysis.

CO2: ***Understanding***- Impart understanding of issues like data collection, processing and organizing along with basics of descriptive and inferential statistics

CO3: ***Comprehension*** – Comprehension and practice of statistical concepts with applications to economics and social issues.

CO4: ***Analysis***- Introduction to execution of statistical analysis with professional softwares like SPSS, Excel.

CO5: ***Synthesis***- Practical projects wherein students will build and assess data-based models.

Unit – 1 Probability: Theory and Distribution

Probability and inference – Random events and probability – Sample point method – Conditional probability and independence of event – Laws of probability – Event-composition method –Law of total probability and Bayes' rule – Probability distribution – Discrete theoretical distribution – Binomial and Poisson distribution –Normal and other theoretical distribution.

Unit – II Sampling Theory and Large Random Numbers

Population and sample – Parameter and statistic – Data collection methods – Objects of sampling – Methods of sampling – Random and Non-Random – Sampling and Non-Sampling error-Sampling distribution of a Statistic – Law of statistical regularity – Law of inertia of large numbers – Central limit theorem.

Unit – III Theory of Estimation

Meaning and concept estimation and estimator – Types of estimation – Properties of an estimator –Maximum Likelihood Estimation and properties – Uniformly minimum variance unbiased estimates – Decision-theoretic approach to estimation – Other methods of estimation – Standard error of estimator – Confidence limits – confidence interval for unknown parameters.

Unit – IV Statistical Inference

Formulation and testing of statistical hypotheses – Stages in hypothesis testing –Level of significance and confidence coefficient Critical region –Computation of test statistic and significance test –Neyman-Pearson lemma – Likelihood Ratio Tests – Hypotheses for a single parameter and two samples.

Suggested Readings:

Wackerly, Dennis D., William Mendenhall III and Richard L. Scheaffer.*Mathematical Statistics with Application*, Thomson, 2008.

Ramachandran, K.M. and Chris P. Tsokos.*Mathematical Statistics with Applications*, Elsevier Academic Press, 2009.

Speigal.M. R. *Theory and problems of Statistics*, McGraw Hill, London, 1992.

Hogg, R .V.,A. Craig and J. W. McKean.*Introduction to Mathematical Statistics*, Pearson Education Limited, UK. 2012.

Miller, I. & M. Miller. *John E. Freund's Mathematical Statistics with Applications*, Pearson.2012.

Semester - I

Paper Code: HSECO-607
Nomenclature of the Paper: Mathematical Methods
Internal Marks: 40

Lectures – 4, **Tutorial** – 1
Total Credit – 5
External Marks: 60

Objectives: To enable the students to familiarize themselves with the essential mathematical concepts required for studying and understanding core economics papers and to demonstrate how mathematical concepts are used in economics theory and practice.

Course Outcome (COs):

CO1: ***Knowledge*** - Impart necessary knowledge to express economic ideas with formal mathematical concepts

CO2: ***Application*** - Identify, solve and interpret functions using differential calculus and understanding the economic applications

CO3: ***Analysis*** - Use integration and matrix algebra techniques in economic analysis

CO4: ***Understanding*** - Using Optimization and linear programming in solving mathematical problems and to express economic concepts

CO5: ***Evaluation*** - Critically analyse and evaluate economic models by using formal mathematical tools.

Unit – I Linear Algebra

Matrix algebra – Determinants – Vectors – System of linear equations – Cramer's rule forsolving system of linear equations – Input-output model – Hawkin - Simon condition – Linear independence – Characteristic (eigen) roots and vectors.

Unit – II Differential Calculus

Derivatives and economic applications – Functions of several variables – Calculus of several variable – Young's theorem – Economic application – Implicit functionsand their derivatives – System of implicit functions – Economic application.

Unit – III Optimization and Economics Applications

Introduction to quadratic forms – Unconstrained optimization – Constrained optimization with equality constraints – Kuhn-Tucker formulation – Multiplier – Envelope theorems – Economic applications: utility maximization, cost minimization, profit and output maximization.

Unit – IV Dynamic Analysis: Integration, Difference and Differential Equations

Review of one variable integration – Leibniz's formula – Multiple integration over product domain – Riemann integral – Generalized double integrals – Differential Equations: first and second order differentialequations – Difference equations:first and second order difference equations – constant coefficients – system of difference equations.

Suggested Readings

Simon, P. C. and L. Blume, (1994), *Mathematics for Economists*, W.W. Norton.

Sydsaeter, K., Peter Hammond, AtleSeierstad and Arne Strom.*Further Mathematics for Economic Analysis*, Prentice Hall.2005.

Sydsaeter, K. and P. J. Hammond.*Mathematics for Economic Analysis*, Pearson.2009.

Rangarajan K. Sundaram, (1996), A First Course in Optimization Theory, Cambridge University Press.

Avinash K. Dixit, (1990), Optimization in Economic Theory, Oxford University Press, UK.

Intriligator, Michael D. *Mathematical Optimization and Economic Theory*, Society for Industrial and Applied Mathematics Philadelphia

Semester -II

Paper Code: HSECO-602
Nomenclature of the Paper- Econometrics - I
Internal Marks: 40

Lectures- 4, **Tutorial**- 1
Total Credit - 5
External Marks: 60

Objectives: To enable the students to familiarize themselves with fundamental concepts, methods and models of econometrics and time series analysis.

Course Outcome (COs):

CO1: ***Knowledge*** - Familiarise students with the fundamental concepts, methods and models of econometrics

CO2: ***Understanding*** - Impart understanding of simple and multiple regression, simultaneous equations and qualitative variables.

CO3: ***Application***–Discussion of empirical application of econometric estimation techniques.

CO4: ***Comprehension*** - Introduction to execution of econometric analysis with professional software like STATA, R.

CO5: ***Evaluation*** - Practical projects to train students to build and assess simulated models.

Unit – I Regression

Regression Analysis – Simple and Multiple Regression Model – Assumptions – Estimation – Gauss-Markov Theorem, Heteroscedasticity, Multicollinearity and Auto-Correlation: Consequence, detection and remedial measures.

Unit – II Model Selection and Specification

Model Selection Criteria – Specification Errors – Testing Model Specification – Errors of Measurement – Identification problem – Rules of Identification – order and rank condition.

Unit – III Simultaneous Equations

Simultaneous-Equation Specification – Method of Estimating Simultaneous Equation System – Recursive Method and Ordinary Least Squares - Indirect Least Square and 2SLS method.

Unit – IV Qualitative Variables

Dichotomous Dependent Variable – Logit and Probit Models – Qualitative independent variables – Dummy variables, Software Application (STATA/E-Views/ Rats)

Suggested Readings:

Jeffrey M.Wooldridge (2014), *Introductory Econometrics: A modern approach*, S" Edition, Cengage Learning

James H. Stock and Mark W. Watson (2011), *Introduction to Econometrics*, 3rd Edition, Addison-Wesley.

Chris Brook (2008), *Introductory Econometricsfor Finance*, Cambridge university press.

Johnston, Econometrics Methods, Mcgraw Hill (Fourth Edition)

W.H. Green (2008), *Econometric Analysis,* New York University, Pearson.

Jan Kmenta (1997), *Element of Econometrics*, University of Michigan Press, New York.

(Any other reading materials and case studies to be provided by the instructor in the class)

Semester -II

Paper Code: HSECO-604
Nomenclature of the Paper: Economics of Money, Banking and Financial Markets
Internal Marks: 40

Lectures – 4, Tutorial – 1
Total Credit – 5

External Marks: 60

Objective: To enable the students to familiarize themselves with fundamental concepts, theories of monetary economics and to enhance their understanding of various operational and regulatory issues in central and commercial banking in India.

Course Outcome (COs):

CO1: ***Knowledge*** – Familiarize students with fundamental concepts, theories of monetary economics, dynamics of economic variables as interest rates, inflation, the exchange rate, and unemployment on money.

CO2: ***Understanding***- understanding of various operational and regulatory issues in central and commercial banking in India.

CO3: ***Comprehension*** – Give in-depth knowledge of Banking & Finance with practical inputs.

CO4: ***Application***- Case studies to allow students appraise the given financial set up for survival.

CO5: ***Evaluation*** - Project work wherein students are given a hypothetical situation to work and give solutions

Unit – I Demand for and Supply of Money

Supply of money – Demand for money – Quantity theory – Cash balance approach – Keynesian view – Tobin's portfolio model – Demand for money in India – Testing and stability of demand for money.

Unit – II Money, Banking and Macro-economy

Banks and 3-equation model – Modern financial system – Credit constraint and collateral – Banks in fractional reserve system – Liquidity risk and Lender of last resort – Deposit insurance – Solvency and bail-out – Balance sheet – Banks and macro stabilization.

Unit – IIIBanking Institutions in India

Commercial banking and banking institutions in India – Banking structure in rural India – Co-operative Banks: features, problems and policy measures – Microfinance institutions in India: issues and policy measures.

Unit – IV Regulatory Mechanism in India

Indian regulatory mechanism – RBI and financial stability in India – SEBI: functions and performance – Financial reforms in India.

Suggested Readings:

Frederic S. Mishkin. *The Economics of Money Banking and Financial Markets*, Pearson, 2004.

Pierce D.G. and P.J. Tysome.*Monetary Economics: Theories, Evidence and Policy*, Butterworths, London, 1985.

Handa, Jagdish. *Monetary Economics*, Routledge, New York, 2009.

Howell, Peter and Keith Bain.*The Economics of Money, Banking and Finance*, Prentice Hall, 2008.

Pathak, Bharti. *Indian Financial System*, Pearson Education India, 2014.

Schooner, Heidi Mandanis and Michael W. Taylor.*Regulation of Global Banking: Principles and Policies*, Academic Press, Elsevier, 2010.

(Any other reading materials and case studies to be provided by the instructor in the class)

Further Readings

Unit – 1

#Damodar Gujarati. "The demand for money in India", *The Journal of Development Studies*, 5:1 (1968): 59-64.

#Goldfeld, Stephen M and Daniel Sichel. "The demand for money", *Handbook of Monetary Economics*, Ed. B. M. Friedman and F. H. Hahn, Elsevier, Vol.1 (2003): 299-356.

Werner, Richard A. "Can banks individually create money out of nothing?-The theories and the empirical evidence", *International Review of Financial Analysis* 36 (2014): 1–19.

Werner, Richard A. "How do banks create money, and why can other firms not do the same? An explanation for the coexistence of lending and deposit-taking", *International Review of Financial Analysis*, 36 (2014): 71–77.

Unit – II

Cecchetti, Stephen G and PitiDisyatat. "Central bank tools and liquidity shortages", *FRBNY Economic Policy Review* (2010): 29-42.

Ngalawa, Harold, FulbertTchana and Nicola Viegi. "Banking Instability and Deposit Insurance: The Role of Moral Hazard", *Journal of Applied Economics* XIX: 2 (2016): 323-350.

Sarin, Natasha and Lawrence H. Summers. "Have big banks gotten safer?",*Brooking Papers on Economics Activity* (2016).

Unit – III

#Weiss, John and Heather Montgomery. "Great Expectations: Microfinance and Poverty Reduction in Asia and Latin America", *Oxford Development Studies* 33: 3 & 4 (2005): 391-416.

#Satish, P. "Mainstreaming of Indian Microfinance", *Economic and Political Weekly* 23 (2005): 1731-1739.

Reddy, Y Venugopal. "Microfinance Industry in India: Some Thoughts", *Economic and Political Weekly* XLVI: 41 (2011): 46-49.

Unit – IV

#Megginson, William L. "The economics of bank privatization", *Journal of Banking & Finance* 29 (2005): 1931–1980.

#Mohan, Rakesh. "Financial Sector Reforms in India: Policies and Performance Analysis", *Economics and Political weekly* (2005): 1106-1119.

#Patil, R.H. "Financial Sector Reforms: Realities and Myths", *Economic and Political Weekly* XLV: 19 (2010): 48-61.

Semester -II

Paper Code: HSECO-606
Nomenclature of the Paper: Development Economics
Internal Marks:40

Lectures - 4, **Tutorial** - 1
Total Credit - 5
External Marks: 60

Objectives: To enable the students to familiarize themselves with the theories, issues and recent debates in development economics.

Course Outcome (COs):

CO1: ***Understanding*** - Familiarize students with the theories, issues and recent debates in development economics

CO2: ***Knowledge*** - Imparting the knowledge of various endogenous and exogenous theories of developmental economics

CO3: ***Synthesis*** - Developing the insights for the research opportunities in this field

CO4: ***Analysis*** - Analysing the social programs and projects on income growth, poverty, human development etc.

CO5: ***Evaluation*** - To critically evaluate economic problems and policy reforms in developing countries

Unit - 1 Meaning and Measurement of Economic Development

Development: measures and indicators of development – PPP adjustment – Basic-Needs attainment – Capability approach – Objectives of development – Capitalism and western economic development – Growth in non-western world – Convergence controversy.

Unit - II Theories of Economic Development

Classical theory – Marx's historical materialism – Rostow's stages of growth – Vicious circle theory – Balanced and unbalanced growth – O-ring theory – Lewis model – Neoclassical and Endogenous growth theory.

Unit - III Inequality, Poverty and Income distribution

Measuring inequality and poverty – Dualistic development and Lorenz curve – Inverted U hypothesis – Policy options on inequality and poverty – Demographic transition – Malthusian population trap – Household theory of fertility – Population growth and economic development.

Unit - IV Factors and Policies of Development

Role of education and health – Economic and non-economic benefits – Human capital approach – Child labour – Gender gap – Education system and development – International flow of financial resources – Foreign aid debate – Two-gap model – Role of NGOs in aid.

Suggested Readings:

Michael P. Todaro and Stephen C. Smith (2011), Economic Development (11th Edition),
E. Wayne Nafziger (2006), Economic Development (41h Edition), Cambridge University Press, UK. Addison- Wesley, Delhi.
A.P. Thirwall (2005), Growth and Development: With Special Reference to Developing Economies, Palgrave Macmillan.
Basu, K. (2010). Analytical development economics: the less developed economy revisited. MIT press.
Charles P. Kindleberger and Bruce Herrick (1983), Economic Development, McGraw-Hill.

(Any other reading materials and case studies to be provided by the instructor in the class)

Semester -II

Paper Code: HSECO- 608
Nomenclature of Paper: Industrial Economics
Internal Marks:40

Lectures- 4, **Tutorial-**1
Total Credit - 5
External Marks: 60

Objective: To enable student to familiarize themselves with current theory and empirical work in Industrial economics by understanding various aspects of strategic interaction between firms and the determinants of industrial structure.

Course Outcome (COs):

CO1: ***Knowledge*** - Familiarise students with theory and empirical work including basic models of firms and various aspects of strategic interaction between firms

CO2: ***Understanding*** - Understanding types of corporate restructuring, their regulation and the determinants of industrial structure.

CO3: ***Application*** - Discussion on market failures, analysis of effect of government measures (policies, taxes, etc.) on market prices and quantities.

CO4: ***Comprehension*** - Infusion of important characteristics through case descriptions, addressing the problem(s) sketched in the case description using economic concepts and quantitative methods to support economic decision making and giving sound strategic advice to firms operating in the real world.

CO5: ***Analysis*** - Development of economic intuition with practical projects where students perform supply and demand analysis on input factors in markets with varying market structures

Unit – I Theory of the Firm

Size and structure of firms – Technological view – Transaction costs and property rights approach – Investment specificity, incomplete contracts and vertical integration – Empirical evidence – Separation of ownership and control – Foundations of the profit maximization hypothesis.

Unit – II Firm Conduct and Market Structure

Short-run price competition – Dynamic price competition – Repeated interaction – Entry deterrence and entry accommodation – Strategic substitutability vs. Complementarity – Taxonomy of business strategies – Predation.

Unit – III Firm Dynamic Behavior

Product differentiation and non-price competition – Markets with asymmetric information – Degrees of Price discrimination – Vertical restraints and horizontal externalities: efficiency explanations and restraints.

Unit – IV Mergers, Acquisitions and Regulatory Issues

Mergers and Acquisitions – Joint Ventures – Strategic Alliances and other inter-firm linkages – Regulation and de-regulation – Regulatory Reforms.

Suggested Readings:

Martin Peitz and Paul Belleflamme.*Industrial Organization: Markets and Strategies*, Cambridge University Press, 2012.

Tirole, J. *The Theory of Industrial Organization*. Cambridge, MA: MIT Press, 1988.

Armstrong, M., S. Cowan and J.Vickers. *Regulatory Reform*.MIT Press, 2002.

Andreu Mas-Colell, Michael Whinston, Jerry Green. *Microeconomic Theory*, OUP USA, 1995.

C. Shapiro, *"Theories of Oligopoly Behaviour"*, in R. Schmalensee and R. Willig, Handbookof Industrial Organization, vol. I (1989).

(Any other reading materials and case studies to be provided by the instructor in the class)

Semester -II

Paper Code: HSECO-610
Nomenclature of the Paper: Financial Economics
Internal Marks: 40

Lectures – 4, Tutorial – 1
Total Credit – 5
External Marks: 60

Objectives: To enable the students to familiarize themselves with the theories, issues and recent debates in financial economics.

Course Outcome (COs):

CO1: ***Knowledge*** - Familiarize with theories, classical finance models, behavioural finance, Chaos in financial markets, issues and recent debates in financial economics

CO2: ***Understanding*** - Understand how securities are priced, the role played by time, uncertainty, information, inflation, arbitrage and other market inefficiencies in asset pricing.

CO3: ***Analysis*** - Analysis of numerical data problems using existing finance theories for risk and return analysis for both securities and portfolios.

CO4: ***Comprehension***- Comprehension and understanding of financial newspapers and journal articles that make use of the concepts and methods introduced in the course.

CO5: ***Comprehension*** - Critical analysis of contemporary financial challenges and advancing recommendations by relating theoretical models to reality.

Unit – 1 Asset Classes, Asset Prices and Interest Rates

Asset classes and Financial instruments – Money, bond and equity security market – Valuing income stream – Classical theory of asset prices – Fluctuation in asset prices – Asset price bubbles and crashes – Theories of interest rate – Term structure of interest rate.

Unit – II Return and Risk

Risk and risk premiums – Efficient set – Diversification and portfolio risk – Optimal portfolio – Market equilibrium portfolio – The capital asset pricing model.

Unit – III Asset Pricing Theory and Efficient Capital Markets

Arbitrage pricing theory – Empirical approaches to asst pricing – Efficient capital market – Efficient market hypothesis – Foundations and types of market efficiency – Anomalies and market efficiency – Tests and empirical evidence on market efficiency.

Unit – IV Introduction to Behavioral Finance and Chaos

Behavioral critique – Information processing – Technical analysis and behavioral finance – Introduction to chaos and biased random walk – Failure of linear paradigm – Rescale range analysis – Tests and empirical evidences on biased random walk.

Suggested Readings:

Ross, Stephen A, Randolph W. Westerfield and Jeffrey Jaffe.*Corporate Finance*, McGraw-Hill, New York, 2013.
Bodie, Zvi, Alex Kane and Alan J. Marcus.*Essentials of Investments*, McGraw-Hill, New York, 2013.
Ball, Laurence M. *Money Banking and Financial Markets*, Worth Publishers, New York, 2012.
Peters, Edger E. *Chaos and order in the capital markets*, Johan Wiley & Sons, New York, 1996.
Reilly, Frank K and Keith C. Brown.*Investment Analysis & Portfolio Management*, South-Western, Cengage Learning, USA, 2012.
(Any other reading materials and case studies to be provided by the instructor in the class)

Further Readings:

Unit – I

Shiller, Robert J. "Speculative Asset Prices", Nobel Prize Lecture, December 8, 2013.
Campbell, John Y. and John Ammer. "What Moves the Stock and Bond Markets? A Variance Decomposition for Long-Term Asset Returns." Journal of Finance 48:3 (1993): 1-37.
Campbell, John Y and Robert J. Shiller."Cointegration and Tests of Present Value Models." Journal of Political Economy 95 (1987): 1062–1088.

Unit – II

Fama, Eugene F. and Kenneth R. French. "The Capital Asset Pricing Model: Theory and Evidence." *Journal of Economic Perspectives* 18:3 (2004): 25–46.
Mullins, David. "Does the Capital Asset Pricing Model Work?" *Harvard Business Review* (1982): 105-113.
Schwert, G. William. "Anomalies and market efficiency", In G. M. Constantianides, M. Harris, and Rene Stulz (Eds.), Financial Markets and Asset Pricing, Handbook of the Economics of Finance (2003), Volume 1, Part B, Pages 939-974.

Unit – III

Hirshleifer, David. "Investor Psychology and Asset Pricing", *The Journal of Finance*, Vol. LVI (4) (2001): 1533-1597.
Shiller, Robert. "Efficient Markets, Random Walks, and Bubbles."In *Irrational Exuberance*, Princeton University Press, 2015.
Ball, Ray. "The Theory of Stock Market Efficiency: Accomplishments and Limitations," *Journal of Applied Corporate Finance* 8:1 (Spring 1995): 1-13.
Ang, Andrew, and Geert Bekaert. "Stock Return Predictability: Is It there?" Review of Financial Studies 20 (2007): 651–757.
Campbell, John Y., and MotohiroYogo. 2006. "Efficient Tests of Stock Return Predictability." 81(1):27–60
Cutler, David M, James M. Poterba, and Lawrence H. Summers. "What Moves Stock Prices?" The Journal of Portfolio Management 15:3 (1989): 4–12.

Fama, Eugene F. "Random Walks in Stock Market Prices." *Financial Analysts Journal* 51:1 (1995): 75-80.
Fama, Eugene F. "Market efficiency, long-term returns, and behavioral finance", *Journal of Financial Economics* 49 (1998): 283—306.

Fama, Eugene. "Efficient Capital Markets: A Review of Theory and Empirical Work." *Journal of Finance* 25 (1970): 383-417.
Lewellen, Jonathan. "Predicting Returns with Financial Ratios."*Journal of Financial Economics* 74:2 (2004):209–35.
Summers, Lawrence H. "Does the Stock Market Rationally Reflect Fundamental Values.",*Econometrica* 41 (1986): 591–601.
Malkiel, Burton G. "The Efficient Market Hypothesis and Its Critics." *Journal of Economic Perspectives* 17:1 (2003): 59 – 82.

Unit – IV

Barberis, Nicholas and Richard Thaler. "A survey of behavioral finance", In G. M. Constantianides, M. Harris, and Rene Stulz (Eds.) Financial Markets and Asset Pricing, *Handbook of the Economics of Finance*, Volume 1, Part B (2003): 1053-1128.
Gervais, Simon and Terrance Odean. "Learning to be Overconfident", *The Review of Financial Studies* 14.1, (2001): 1-27
Savit, Robert. "When Random is Not Random: An Introduction to Chaos in Market Prices." *The Journal of Futures Markets* 8.3 (1988): 271-289.
Barnett, William A. and ApostolosSerletis."Martingales, nonlinearity, and chaos."*Journal of Economic Dynamics & Control* 24 (2000): 703-724.
Hsieh, David. "Chaos and Nonlinear Dynamics: Application to Financial Markets." *Journal of Finance* XLVI:5 (1991): 1839-1877.

Semester -II

Paper Code: HSECO-612 **Lectures** – 4, **Tutorial** – 1
Nomenclature of the Paper: Environmental Economics **Total Credit** – 5
Internal Marks: 40 **External Marks:** 60

Objectives: To enable the students to familiarize themselves with the essential concepts, models and issues of environmental economics and recent global efforts on climate change and sustainable development.

Course Outcome (COs):

CO1: ***Knowledge*** - Introducing to the essential concepts, models and issues of environment from economic perspective.

CO2: ***Synthesis*** – Impart knowledge to utilize various instruments developed by economists to deal with environmental problems.

CO3: ***Application*** – Ability to apply economic principles to analyse environmental problems and solutions.

CO4: ***Comprehension*** – Demonstrate an understanding of static, dynamic, and sustainability criterion for economic efficiency

CO5: ***Analysis*** - Economic analyses of practical situations which involves environmental regulation.

Unit – I Introduction

Economy-environment interdependence – Material balance model (MBM) – Public good – Externality – Market failure.

Unit – II Pollution and Control Policy – I

Modelling pollution mechanisms – Efficient level of pollution – Control Instruments – Criteria – Cost-efficiency and Cost-effective instruments

Unit – III Pollution and Control Policy – II

Command and control instruments – Non-transferable emission licenses – Quasi-market instruments – Emission taxes and subsidies – Marketable emissions permits – Monitoring and enforcement – Voluntary approach – Climate Policy.

Unit – IV Environmental Valuation

Environmental risk analysis – classification of risk – Basic concepts: Environmental Benefits – User versus Existence value – Methods: Dose-Response analysis – Travel Cost Method – Hedonic Price Method – Contingent Valuation.

Suggested Readings

Charls D. Kolstad (2010), *Environmental Economics*, Oxford University Press.
Roger Perman, Yue Ma, James McGilvary and Michael Common (2003), *Natural Resources and Environmental Economics*, Pearson.
Janet M. Thomas and Scott J Callan (2007), *Environmental Economics*, Cengage Learning.
Murty, M.N. and Kumar, S., (2004), Environmental and Economic Accounting for Industry, Oxford University Press, New Delhi.
(Any other reading materials and case studies to be provided by the instructor in the class)

Semester III

Paper Code: HSECO-701 | **Lectures – 4, Tutorial – 1**
Nomenclature of the Paper: Econometrics – II | **Total Credit – 5**
Internal Marks: 40 | **External Marks: 60**

Objectives: To enable the students to familiarize themselves with fundamental concepts, methods and models of time series and panel data analysis.

Course Outcome (COs):

CO1: ***Knowledge*** - Familiarise with advanced time series modelling, concept of stationary and volatility.

CO2: ***Understanding***–Provide in depth understanding of different data structures and estimations such as panel data analysis.

CO3: ***Application*** - Practice of time series modelling and panel data analysis on economic data problems

CO4: ***Comprehension*** - Teaching advanced econometric analysis on software's like E-views, STATA, and RATS.

CO5: ***Evaluation*** - Practical projects wherein students apply panel data analysis and time series concepts to empirical tests and application

Unit – I:Time Series Regression

Autoregression – Autoregressive distributed lag model – ARMA model –Autocorrelation and partial autocorrelation – Estimation of ARMA model – Box-Jenkins model selection – Granger causality test – Lag length selection – Nonstationarity: trends & breaks – Problems and detection – Vector Autoregression – Impulse response function – Cointegration and error correction model.

Readings: Stock and Watson, 2010, (Chapter: 14 & 16).
Enders, 2015, (Chapter: 2 & 6).
#Stock, James H and Mark W. Watson."Variable Trends in Economic Time Series."*The Journal of Economic Perspectives*2.3 (1988): 147-174.
Elder, John and Peter E. Kennedy. "Testing for Unit Roots: What Should Students Be Taught?" *The Journal of Economic Education* 32.2 (2001): 137-146.
#Stock, James H. and Mark W. Watson. "Vector Autoregressions", *The Journal of Economic Perspectives* 15.4 (2001): 101-115.

Unit – II: Nonstationary Time Series and Volatility

Volatility clustering, Leverage effect and ARCH model – Estimation and Inference of ARCH and GARCH model – The GARCH-M model – Other models of conditional variance.

Readings: Stock and Watson, 2010, (Chapter: 16).
Enders, 2015, (Chapter: 3).
#Engle, Robert. "GARCH 101: The Use of ARCH/GARCH Models in Applied Econometrics." *The Journal of Economic Perspectives*15.4 (2001): 157-168.

Unit – III: Panel Data Methods

Introduction to panel data – Data with two time periods – Fixed effects regression Model: assumptions and estimation – Random Effects Model – Correlated random effect approach – Generalized method of moments estimator.

Readings: Stock and Watson, 2010, (Chapter: 10)
Wooldridge, 2013, (Chapter. 10)
Baltagi, 2005, (Chapter: 2)
Wooldridge, Jeffrey M. "Applications of Generalized Method of Moments Estimation."*The Journal of Economic Perspectives*15.4 (2001): 87-100.

UNIT – IV: Data analysis using econometric softwares (Eviews and STATA and R).

Suggested Readings (# indicates '*Optional Further Reading' for discussion in class & presentations*)

Enders, Walter. *Applied Econometric Time Series*, John Wiley & Sons, 2015.
Stock, James H. and Mark W. Watson.*Introduction to Econometrics*, Addison-Wesley, 2010.
Wooldridge, Jeffrey M. *Introductory Econometrics: A modern approach*, South-Western, 2013.
Baltagi, Badi H. *Econometric Analysis of Panel Data*, John Wiley & Sons, 2005.
Wooldridge, Jeffrey M, *Econometrics Analysis of Cross Section and Panel Data*, MIT Press, 2010.
Hamilton , James D, Time Series Analysis, Levant Books 2012.
Hayashi, Fumio, Econometrics, New Age International Private Limited 2007.

Semester III

Paper Code: HSECO-703 | **Lectures – 4, Tutorial – 1**
Nomenclature of the Paper: Public Economics | **Total Credit – 5**
Internal Marks: 40 | **External Marks: 60**

Objective:To enable students to develop the required theoretical understanding and tools for analyzing the role of government in the modern economic system and related practical tradeoffs involved in public finance policy on the allocation of resources and the distribution of income in the economy.

Course Outcome (COs):

CO1: ***Knowledge*** - Developing theoretical and analytical understanding of the role of govt. and the welfare state

CO2: ***Analysis*** - Analysing the trade-off between the allocation and distribution of public and private goods

CO3: ***Comprehension*** - Demonstrating the knowledge of Taxation, debt and subsidies for attaining economic efficiency

CO4: ***Understanding-*** Critically examine the impact of governmental policies, budgetary procedures and economic survey

CO5: ***Application***- Formulating a perspective for research and PublicPolicy formulation

Unit – I: Welfare State and Social Justice

Welfare state and objectives – Liberal theories of society – Collectivist views – Role of state – Economic efficiency – Deviations from first best – Intervention and social justice – Vertical and Horizontal equity – Public choice and political process: Political Equilibrium – Logrolling – Leviathan hypothesis – Bureaucracy and public output.

Readings: Barr, 2012. (Chapter: 1, 2 & 3).
Hyman, 2011. (Chapter: 5).
Musgrave and Musgrave, 1989. (Chapter: 7).
Grand, Julian Le."Equity as an Economic Objective."*Journal of Applied Philosophy* 1.1 (1984): 39-51.

Unit – II: Insurance, Cash Benefit and Poverty Relief

Demand for insurance – Supply of insurance and asymmetric information – Social insurance – State intervention – Incentive and equity issues – Poverty relief – Arguments for state intervention – Income-tested benefits, work tax credits and other options.

Readings: Barr, 2012. (Chapter: 4, 6 and 8).
Sen, Amartya K. "The political economy of targeting."*Public Spending and the poor: Theory and Evidence*. Ed. Dominique Van de Walle and Kimberly Nead. Johns Hopkins University Press, 1995, 11-24.
Wang, Chen, KoenCaminada and KeesGoudswaard. "Income distribution in 20 countries over time."*International Journal of Social Welfare* 23 (2014): 262-275.
Slater, Rachel. "Cash transfer, social protection and poverty reduction." *International Journal of Social Welfare* 20 (2011): 250-259.

Ahn , Sang-Hoon and Soo-Wan Kim. "Social investment, social service and the economic performance of welfare states."*International Journal of Social Welfare* 24 (2015): 109-119.

Unit – III Economics of taxation and efficiency

Lump-sum taxes – Efficiency loss ratio – Ad Valorem taxes – Excess burden and incidence of taxes – Taxation of labour earnings and work-leisure choice – Labour market analysis of income taxation – Taxation of interest income and effect on saving – Tax inefficiencies and their implications for optimal taxation – Tax evasion and shadow economy – Tax reforms in India.

Readings: Hyman, 2011. (Chapter: 11 & 13).

Gruber, 2011. (Chapter: 20).

Hillman, 2009. (Chapter: 4).

Slemrod, Joel and Yitzhaki, Shlomo."Tax avoidance, evasion, and administration," *Handbook of Public Economics*, Ed. A. J. Auerbach& M. Feldstein.Elsevier, 2002. Volume 3, PP. 1423-1470.

Slemrod, Joel."Cheating Ourselves: The Economics of Tax Evasion."*Journal of Economic Perspectives* 21.1 (2007): 25– 48.

Tanzi, Vito."Uses and Abuses of Estimates of the Underground Economy."*The Economic Journal* 109. 456 (1999): F338-F347.

Unit – IV Economics of Public Debt and Deficit Financing

Budget deficit and the economy – Debt intolerance and default – Illiquidity versus insolvency – Doctrine of odious debt – Effects of budget deficit and surplus on credit market – Ricardian equivalence – Saving imbalances and sovereign debt crisis – Burden of public debt – Pubic debt and inflation – Public debt and economic growth.

Readings: Hyman, 2011. (Chapter: 12).

Reinhart and Rogoff, 2009. (Chapter: 2 & 4).

Ball, Laurence and N. Gregory Mankiw. "What do budget deficits do?" *Economic Policy Symposium*, Jackson Hole, Federal Reserve Bank of Kansas City (1995): 95-119.

Reinhart, Carmen M. and Kenneth S. Rogoff."Growth in a Time of Debt."*American Economic Review: Papers & Proceedings* 100, (2010): 573–578.

Frisch, Helmut."The Algebra of Government Debt."*FinanzArchiv / Public Finance Analysis*, Bd. 54, H. 4 (1997): 586-599.

Catao, Luis and Marco E. Terrones."Fiscal Deficits and Inflation."*IMF Working Paper WP/03/65*, 2003.

Irons, John and Josh Bivens. "Government Debt and economic Growth: overreaching claims of debt threshold suffer from theoretical and empirical flaws." *Economic Policy Institute*, Briefing paper # 271, 2010.

Bowen, William G., Richard G. Davis and David H. Kopf. "The Public Debt: A Burden on Future Generations?" *The American Economic Review* 50. 4(1960): 701-706.

Domar, Evsey D. "The Burden of the Debt and the National Income."*The American Economic Review* 34.4 (1944): 798-827.

Mishan, E. J. "How to Make a Burden of the Public Debt."*Journal of Political Economy* 71.6 (1963): 529-542.

Sill, Keith. "Do Budget Deficits Cause Inflation?" *Business Review* Q3 (2005): 26-33.

#Lane, Philip R. "*The European Sovereign Debt Crisis."The Journal of Economic Perspectives* 26.3 (2012): 49-67.

Suggested Readings (# indicates '*Optional Further Reading' for discussion in class & presentations*)

Barr, Nicholas. *Economics of the Welfare State*, Oxford University Press, 2012.

Hyman, David N. *Public Finance: A contemporary application of theory to policy*, USA: South-Western Cengage Learning, 2011.

Gruber, Jonathan. *Public Finance and Public Policy*, NY: Worth Publishers, 2011.

Hillman, Arye L. *Public Finance and Public Policy*, Cambridge University Press, 2009.

Reinhart, Carmen M. and Kenneth S. Rogoff, *This Time is Different: Eight centuries of financial folly*, Princeton University Press. 2009.

(Any other reading materials provided by the instructor in the class)

Semester III

Paper Code: HSECO-705 **Lectures – 4, Tutorial – 1**

Nomenclature of the Paper: International Economics **Total Credit** – 5

Internal Marks: 40 **External Marks:** 60

Objectives: *To enable the students to familiarize themselves with the theories, issues and recent debates in the areas of international economics.*

Course Outcome (COs):

CO1: ***Knowledge***- Familiarizing students with theories, issues and recent debates in the areas of international economics

CO2: ***Synthesis*** – Establishes the relationship between international economics and economic development.

CO3: ***Application*** – Able to apply economic principles to absolute and comparative advantages, H-O model etc.

CO4: ***Comprehension*** – Demonstrate an understanding of static, dynamic, and sustainability criterion for trade efficiency

CO5: ***Analysis*** - Economic analyses of practical situations which involves international trade regulation etc.

Unit – 1: International Trade and Evolution of Trade Theories

Gains from trade – Free trade equilibrium – Free trade – Trade gains with resource movement – Ricardian trade model – The specific factor model – Heckshcher-Ohlin model – Leontief's Paradox – Trefler's Theorem – Stolper–Samuelson theorem – Rybczynski theorem – Implications of decreasing cost and imperfect competition.

Readings: Caves, Frankel and Jones, 2002. (Chapter: 2, 3, 5 & 7).

Dunn and Mutti, 2004, (Chapter: 2, 3 & 4).

Feenstra, 2003, (Chapter: 1 & 2)

Irwin, 2009. (Chapter: 2).

Samuelson, P. A. "The Gains from International Trade Once Again." *TheEconomic Journal* 72 (1962): 820-829.

Helpman, Elhanan. "The Structure of Foreign Trade."*The Journal of Economic Perspectives* 13.2 (1999): 121-144.

Eaton, Jonathan and Samuel Kortum."Putting Ricardo to Work."*The Journal of Economic Perspectives* 26.2 (2012): 65-89.

Leamner, Edward E. and James Levinsohn. "International Trade Theory: The Evidence." *Handbook of International Economics*, Ed. G. Grossman and K. Rogoff. Vol. III (1995): 1339-1394.

Unit – II: Theory of Trade Protection

Tariff and other barriers to trade – Small and large country case – Tariff and national welfare – Political economy of protection and trade policy.

Readings: Caves, Frankel and Jones, 2002. (Chapter 10 & 11).
Dunn and Mutti, 2004. (Chapter: 5 & 6).
Irwin, 2009. (Chapter: 3-5).

Unit – III: Trade Liberalization and Issues in Trade Policy

Welfare effect of trade preferences – Trade creation and trade diversion – Preferential arrangements in practice – The European Union – NAFTA – Agreements in the Asian region – Multilateral trading system: history and recent controversies – Globalization and Indian economy – Controversies in trade policy.

Readings: Dunn and Mutti, 2004. (Chapter: 5 & 6).
Krugman, Obstfeld and Melitz, 2012. (Chapter: 12)
Bhagwati, 2004. (Chapter: 1-4).
Irwin, 2009. (Chapter: 6).
Sen, Amartya. "How to Judge Globalisation."*The Globalization Reader*, Ed. Frank J. Lechner and John Boli.Wiley Blackwell, 2015.
Sraiger, Robert W. "International Rules and Institutions for Trade Policy." *Handbook of International Economics*, Ed. G. Grossman and K. Rogoff. Elsevier: Vol. III (1995): 1495-1551.

Unit – IV: Balance of Payment and Exchange Rate

Alternative models of exchange rate determination – Balance of Payments adjustment with fixed exchange rate – Dollarization – Currency boards – Bretton Woods adjustment mechanism – Payments adjustment through exchange rate changes – International macroeconomics puzzles.

Readings: Dunn and Mutti, 2004. (Chapter: 17, 18 & 19).Burstein, Ariel and Gita Gopinath."International Prices and Exchange Rates."*Handbook of International Economics*, Volume 4, 2014, pp. 391-451.

Garber, Peter M. and Lars E.O. Svensson. "The operation and collapse of fixed exchage rate regimes." *Handbook of International Economics*, Ed. G. Grossman and K. Rogoff, 1995.

Obstfeld, M and Kenneth Rogoff. "Six major puzzles in International Macroeconomics;" *NBER Macro Annual*, Ed. Ben S. Bernanke and Kenneth Rogoff , MIT Press, 2000.

Lewis, K. "Puzzles in International Finance." *Handbook of International Economics*, Ed. Grossman, Gene M., Rogoff, Kenneth. North Holland: Amsterdam, 1995.

Lucas, R. "Why doesn't capital flow from rich to poor countries?"*American Economic Review 80.2 (*1990): 92-96.

Rogoff, K. "The Purchasing Power Parity Puzzle" *Journal of Economic Literature* 34 (1996): 647-668.

Suggested Readings (# indicates '*Optional Further Reading' for discussion in class & presentations*)

Caves, Richard E, Jeffery A. Frankel and Ronald W. Jones.*World Trade and Payments*, Pearson, 2002.

Dunn, Robert M. and John H. Mutti.*International Economics*, New York: Routledge, 2004.

Feenstra, Robert. *Advanced International Trade: Theory and Evidence*, Princeton University Press, 2003.

Krugman, Paul R, Maurice Obstfeld and Marc J. Melitz.*International Economics: Theory & Policy*, Addison-Wesely, 2012.

Irwin, Douglas A. *Free Trade Under Fire*, Princeton University Press, 2009.

Bhagwati, Jagdish. *In defense of globalization*. USA: Oxford University Press, 2007.

(Any other reading materials provided by the instructor in the class)

Semester III

Paper Code: HSECO-711 | **Lectures – 4, Tutorial – 1**
Nomenclature of the Paper: Health Economics | **Total Credit – 5**
Internal Marks: 40 | **External Marks: 60**

Objectives: *To enable the students to familiarize themselves with the essential concepts, models and issues and policy debates in health economics in both developed and developing countries from an economic perspective. The course will also focus on understanding the theoretical and practical insights derived from the policy measures adopted by various governments.*

Course Outcome (COs):

CO1: ***Knowledge*** – Provide broad knowledge of the essential models, concepts and issues in health economics

CO2: ***Understanding*** – Provide understanding of different policy debates in health care market in both developed and developing countries from economic perspective.

CO3: ***Analysis*** – Analysis and predict peoples' health related behaviour and the consequences of different social actions

Unit – I: Introduction to Economics of Health

Determinants of health – Health and development – Health policy challenges – Public and private roles in health – Instruments and rational for government intervention – Approaches to economic evaluation of health – Cost effectiveness analysis – Cost-Utility analysis – Human capital approach.

Readings: Jack, 1999. (Chapter: 3)
Musgrove, 2004. (Chapter: 2 & 3).
Folland, Goodman and Stano, 2013. (Chapter: 4 & 19).
Hsiao, William C. and Peter S. Heller. "What Macroeconomists Should Know about Health Care Policy." *International Monetary Fund*, Washington, D.C. 2007.
Deanton, Angus. "Health, Inequality, and Economic Development."*Journal of Economic Literature* XLI (2003): 113–158.
Miguel, Edward. "Health, Education, and Economic Development." Health and Economic Growth: Findings and Policy Implications. Ed. GuillemLópez-Casasnovas, Berta Rivera and Luis Currais, Cambridge: MIT Press, (2005): 140-168.

Unit – II: Demand for Health Care

Health and human capital – Demand for health – Grossman's investment model and empirical evidence – Consumption model – Demand for health care – Health insurance market: demand and supply – Welfare loss and excess health insurance – Income transfer effect – Asymmetric information and health market – Lemons principle.

Reading: Folland, Goodman and Stano, 2013. (Chapter: 4, 8 &10).
Wagstaff, Adam. "The demand for health: theory and applications." *Journal of Epidemiology and Community Health* 40 (1986): 1-11.
Grossman, Michael. "The Demand for Health: A Theoretical and Empirical Investigation." *NBER* (1972): 31-38.
Grossman, Michael. "On the Concept of Health Capital and the Demand for Health."*The Journal of Political Economy* 80.2 (1972): 223-255.

Unit – III: Public Health Care

McGuire and Pauly's model of physician's practice – Supplier-induced demand – Target income hypothesis – Diffusion of information and SAV – Public health expenditure: criteria and size across countries – Socialization of health care – Economics of health bads: models of addiction – public intervention – taxes on consumption of bads.

Readings: Folland, Goodman and Stano, 2013. (Chapter: 15 & 24).

Musgrave, 2004. (Chapter: 9& 10)

#Charles, Kerwin Kofi and Philip DeCicca. "Local labor market fluctuations and health: Is there a connection and for whom?" *Journal of Health Economics* 27 (2008): 1532–1550.

#Labelle, Roberta, Greg Stoddart and Thomas Rice."A re-examination of the meaning and importance of supplier-induced demand." *Journal of Health Economics* 13 (1994) 347-368.

#Wagestaff, Adam. "Social health insurance reexamined." *Health Economics* 19 (2010): 503–517.

#Adda, Jérôme and Francesca Cornaglia."Taxes, Cigarette Consumption, and Smoking Intensity."*The American Economic Review* 96.4 (2006): 1013-1028.

Unit – IV: Health Care Systems: issues and experiences

Health care system – Contemporary health care systems – Indian health care system – Comparison of other health care systems: United Kingdom, United States of America and China – Integrated health systems.

Readings: Folland, Goodman and Stano, 2013. (Chapter: 22).

Jack, *Principles* 1999. (Chapter: 10)

Hsiao, William C. "What is a Health System? Why Should We Care?,*Working paper*, Harvard School of Public Health, 2003.

National Commission on Macroeconomics and Health, *Financing and Delivery of Health Care Services in India*, Ministry Of Health And Family Welfare, Government Of India, 2005.

Suggested Readings (# indicates '*Optional Further Reading' for discussion in class & presentations*)

Folland, Sherman, Allen C. Goodman and MironStano.*The Economics of Health and Health Care*, Pearson, 2013.

Jack, William. *Principles of Health Economics for Developing Countries*, WBI Development

Studies, The World Bank, 1999.

Musgrave, Philip. *Health Economics in Development*, The World Bank, 2004.

(Any other reading materials provided by instructor in the class)

Semester III

Paper Code: HSECO-709 **Lectures – 4, Tutorial – 1**
Nomenclature of the Paper: Corporate Finance **Total Credit – 5**
Internal Marks: 40 **External Marks:** 60

Objectives:*To enable the students to familiarize themselves with the working of modern financial system, financial instruments, and different financial markets. The course aims to introduce issues of corporate finance to the students from the perspective of financial economist/financial manager for preparing them for investment and financing decisions.*

CO1: ***Knowledge*** - Familiarize with the working of Indian financial system, fixed income markets and derivatives markets.
CO2: ***Synthesis***–Ability to synthesize concepts on investment theory, market efficiency, empirical testing, risk analysis and market chaos.
CO3: ***Understanding*** -Introduction of trading fundamentals for preparing them for investment and financing decisions.
CO4: ***Analysis***- Virtual trading projects where students apply concepts and analytical procedures to analyse real stocks on real market indices.
CO5: ***Comprehension*** - Comprehension and understanding of financial newspapers and journal articles that make use of the concepts and methods introduced in the course.

Unit – I Introduction to finance and financial markets

Finance and Society – Types of firm – Financial institutions and markets – Functions of financial markets – Agency problem – Asset class and financial instruments: money market, bond market, equity securities, derivative markets – Security trading – Time value of money.

Readings: Shiller, 2012, (pp. 1.15)
Brealey, Myers and Marcus, 2001. (Chapter: 1 & 2).
Bodie, Kane and Marcus, 2014. (Chapter: 2 & 3).
Wolf, Martin. "Unfettered finance is fast reshaping the global economy." *Financial Times*, June 18, 2007.
"The slumps that shaped modern finance", *The Economist*, April 12, 2014.

Unit-II: Investment Theory and Recent Developments

Efficient capital markets – Alternative efficient market hypotheses – Portfolio management – Markowitz portfolio theory – Measurement of risk – CAPM – Empirical tests of CAPM – Arbitrage pricing theory – Empirical tests of APT – Multifactor model and risk estimation – Behavioral Finance and Technical Analysis – Biased random walk and chaotic structure in asset price movements.

Readings: Reilly and Brown, 2012. (Chapter: 6-8).
Bodie, Kane and Marcus, 2014. (Chapter: 9-13).

Mullins, David. "Does the Capital Asset Pricing Model Work?" *Harvard Business Review* (1982): 105-113.
Shiller, Robert. "Efficient Markets, Random Walks, and Bubbles."In *Irrational Exuberance*, Princeton University Press, 2015.
Fama, Eugene F. and Kenneth R. French. "The Capital Asset Pricing Model: Theory and Evidence." *Journal of Economic Perspectives* 18.3 (2004): 25–46.
Malkiel, Burton G. "The Efficient Market Hypothesis and Its Critics." *Journal of Economic Perspectives* 17.1 (2003): 59 – 82.
Fama, Eugene F. "Random Walks in Stock Market Prices." *Financial Analysts Journal* 51. 1 (1995): 75-80.
Savit, Robert. "When Random is Not Random: An Introduction to Chaos in Market Prices." *The Journal of Futures Markets* 8.3 (1988): 271-289.
Barnett, William A. and ApostolosSerletis."Martingales, nonlinearity, and chaos."*Journal of Economic Dynamics & Control* 24 (2000): 703-724.
Hsieh, David. "Chaos and Nonlinear Dynamics: Application to Financial Markets." *Journal of Finance* XLVI.5 (1991): 1839-1877.

Unit – III Fixed Income Securities and Term Structure of Interest rate

Bond prices and yields – Bond pricing – Default risk and bond pricing – Determinants of bond safety – Credit default swaps (CDS) – Collateralized Debt Obligations – Yield curve and future interest rate – Theories of term structure.

Readings:
Reilly and Brown, 2012. (Chapter: 17-18).
Bodie, Kane and Marcus, 2014. (Chapter: 14-15).
#Tood, Steven. "Credit Default Swaps, in Financial Derivatives: Pricing and Risk Management." *Financial derivatives: Pricing and Risk Management*. Ed. Robert W. Kolb and James A. Overdahl. John Wiley & Sons, (2010): 177-198.
#Stulz, René M. "Credit Default Swaps and the Credit Crisis." *Journal of Economic Perspectives* 24.1 (2010): 73–92.
#Augustin, Patrick., et al. "Credit Default Swaps:Past, Present, and Future." *Annual Review of Financial Economics* 8 (forthcoming, December 2016).
#Coval, Joshua.,JakubJurek and Erik Stafford. "The Economics of Structured Finance."*The Journal of Economic Perspectives* 23.1 (2009): 3-26.
#Krishnamurthy, Arvind. "How Debt Markets Have Malfunctioned in the Crisis." *The Journal of Economic Perspectives* 24.1 (2010): 3-28.

Unit – IV Derivative Security Analysis

Introduction to derivative market and securities – Social functions of financial derivatives – Options market – Futures market – Swap contracts and convertible securities –

Readings:
Reilly and Brown, 2012. (Chapter: 20-23).
Bodie, Kane and Marcus, 2014. (Chapter: 20-23).
#Koppenhaver, G. D. "Derivative Instruments: Forwards, Futures, Options, Swaps, and Structured Products." *Financial Derivatives: Pricing and Risk Management*. Ed. Robert W. Kolb and James A. Overdahl. John Wiley & Sons, (2010): 3-20.

#Christopher L. Culp."The Social Functions of Financial Derivatives."*Financial Derivatives: Pricing and Risk Management*. Ed. Robert W. Kolb and James A. Overdahl. John Wiley & Sons, (2010): 57-72.

#Todd, Steven."Structured Credit Products."*Financial Derivatives: Pricing and Risk Management*. Ed. Robert W. Kolb and James A. Overdahl, John Wiley & Sons, (2010): 199-210.

#Stulz, René M. "Should We Fear Derivatives?"*The Journal of Economic Perspectives* 18. 3 (2010): 173-192.

Suggested Readings (# indicates '*Optional Further Reading' for discussion in class & presentations*)

Reilly, Frank K. and Keith C. Brown, *Analysis of Investment & Management of Portfolio*, Cengage Learning, 2012.

Bodie, Zvi., Alex Kane and Alan J Marcus. *Investments*, McGraw Hill Eductaion, 2014.

Brealey, Richard A., Stewart C. Myers and Alan J. Marcus, *Fundamentals of Corporate Finance*, McGraw-Hill Companies, 2001.

Peters, Edgar E. *Chaos and Order in the Capital Markets: A New View of Cycles, Prices, and Market Volatility*, John Wiley & Sons, 2008.

Peters, Edgar E. *Fractal Market Analysis: Applying Chaos Theory to Investment and Economics*, John Wiley & Sons, 1994.

Kolb, Robert W and James A. Overdahl.*Financial Derivatives: Pricing and Risk Management*, John Wiley & Sons, 2010.

Chisholm, Andrew M. *Derivative demystified*, John Wiley & Sons, Ltd, 2010.

Shiller, Robert J. *Irrational Exuberance*, Princeton University Press, 2015.

Shiller, Robert J, *Finance and the Good Society*, Princeton University Press, 2012.

(Any other reading materials provided by instructor in the

Semester IV

Paper Code: HSECO- 702
Nomenclature of Paper: Issues in Indian Economy
Internal Marks:40

Lectures- 4, **Tutorial**-1
Total Credit - 5
External Marks: 60

Objective: To enable the students to familiarize themselves with various dimensions of Indian economy and policy issues.

Course Outcome (COs):

CO1: ***Knowledge***–Familiarize the students with basic structure of Indian economy
CO2: ***Synthesis*** – Able to synthesize major policy debates in India in post-independence period
CO3: ***Understanding*** – Able to understand the sector wise development of Indian economy
CO4: ***Comprehension*** – comprehension and analysis of various economic policies

Unit – I Indian Economy: Introduction

Basic features of Indian economy – Sectoral composition – Different dimensions of land reform – Green revolution – Impact of green revolution and current debate – Industry- structure and composition of industry – pattern of industrial growth – Small scale industrialization.

Unit – II Planning in Indian Economy

Background and structure of Indian planning – Sectoral development under plans – State- led industrialization – India's industrial growth during planning period – Planning and market – Changing perceptions – Decentralization: 73rd and 74th amendment – Future of planning – NITI Aayog.

Unit – III Indian Economy in Post Liberalization Era

Economic reforms – Transition from state to market – Macroeconomic reforms – Disinvestment – Strategies and Issues – Privatization – Strategy of industrialization – Post reform sectoral performance – Growth debate.

Unit – IV Social Sector Performance of Indian Economy

Poverty debate and inequality in India – Food security and public distribution system – food subsidy – Buffer stock – Inclusive growth

Suggested Readings:

Kapila, Uma (ed.) *India's economic development since 1947*.Academic foundation, New Delhi.
Kapila,Uma (ed.) *Indian economy: performances and policies*. Academic foundation, New Delhi
Ahluwalia, I.J.& I.M.D Little(ed.) (1994). *India's Economic Reforms and development* (Essays in honour of Manmohan sing) Oxford University Pres.
(Any other reading materials and case studies to be provided by the instructor in the class)

Further Readings

Unit- 1

#Vidyanathan A. 1994.*Performance of Indian agriculture since independence* in KaushikBasu(ed.) Agrarian question, Oxford university press.

#Joshi, P.C.(1975). *Land reforms in India*. Allied Publishers Pvt. Ltd, New Delhi

#Wadhwa C.D., *Some problems of India's Economic Policy*.Tata McGraw Hill.

#Bagchi, Amiya Kumar (1976), 'De-industrialization in India in the Nineteenth Century:Some Theoretical Implications', *Journal of Development Studies*, 12 (2), January, pp. 135-64.

Unit-II

#Chakravarti, S.(1987). *Development Planning: The Indian Experience*. Oxford University Press.

#Agrawal, A.N.(2006). *Indian Economy: Problems of development and planning;*A division of New Age International(p); Limited, New Delhi.

#Frankel, Francine, R. (2005), *India's Political Economy 1947 – 2004*, Oxford University Press.

#Bhagwati, Jagdish (1993), *India in Transition: Freeing the Economy*, Oxford University Press, New Delhi, Chapter 2 ('What went wrong'?)

#Nayyar, Deepak (1978) 'Industrial Development in India: Some Reflections on Growth and Stagnation' in Nayyar, Deepak ((ed.) 1994) *Industrial Growth and Stagnation: The Debate in India*, Oxford University Press, New Delhi.

#Mahalanobis, P.C. (1955), 'The Approach of Operational Research to Planning in India', *Sankhyā: The Indian Journal of Statistics*, Vol. 16, Parts 1 and 2, pp. 3 – 62.

Unit – III

#Jalan,B.,*Indian economy- problems and prospects.*

#Rangarajan, C.,(2000). *Perspective of Indian Economy- A Collection of Essays*. UBSPD Publishers Distributers Ltd. New Delhi.
#HanumanthaRao, C.H. &Linnemann, H. (Eds.) (1996*): Economic Reforms and Poverty Alleviation in India*. SAGE, New Delhi.

#A Varshney, J. Sachs &Bajpai,N.(ed). *India in the Era of Economic Reforms*. Oxford University Press.

#Patnaik, Prabhat and Chandrasekhar, C.P (1995), 'Indian Economy under 'Structural Adjustment', *Economic and Political Weekly*, 25 November.

#Rodrik, Dani and Subramanian, Arvind (2004), 'From "Hindu Growth" to Productivity Surge: The Mystery of the Indian Growth Transition', Working Paper, International Monetary Fund, May.

#Nagaraj, R. (1997), What has happened since 1991? Assessment of India's Economic Reforms', *Economic and political weekly.*

Unit – IV

#Mahendraev S.(2010) Inclusive Growth in India. Oxford University Press.

#Jalan, Bimal.*Indian economy- problems and prospects*.

#Acharya, S. &Rakesh M. (ed.) (2011) India's economy: Performances and challenges.

#Wadhwa C.D., *Some problems of India's Economic Policy*.Tata McGraw Hill.

Semester IV

Paper Code: HSECO- 704
Nomenclature of Paper: Game Theory
Internal Marks:40

Lectures- 4, **Tutorial**-1
Total Credit - 5
External Marks: 60

Objective: To enable students to analyse situations in which the payoff of a decision maker depends not only on his own actions but also on those of others. In this course, students would be introduced to the basic tools of game theoretic analysis.

Course Outcome (COs):

CO1: ***Knowledge*** - Introducing to the modelling tool of game theoretic analysis

CO2: ***Synthesis*** - Imparting knowledge about the strategic environment and the advantage of moving first

CO3: ***Application*** - Applying well bounded strategies in biding, bargaining and Auction

CO4: ***Comprehension*** - Demonstrating simple games involving both sequential- and simultaneous-moves

CO5: ***Analysis*** - Analysing Strategic decision in various business environments

Unit – I Normal form games

The normal form-dominant and dominated strategies-dominance solvability-mixed Strategies in static Games-Nash equilibrium-symmetric single population games-applications.

Unit – II Extensive form games with perfect information

The game tree strategies-subgame perfection in an equilibrium-backward induction in finite games-commitment-bargaining-other applications.

Unit – III Repeated Games.

Finitely repeated games and backward induction-infinitely repeated games-history dependent Strategies-one-step deviation property-the repeated prisoners' dilemma-idea of folk theorem.

Unit – IV Simultaneous move games

Strategies-Bayesian Nash equilibrium-auctions-other applications.Extensive form games with imperfect information.Strategies-beliefs and sequential equilibrium-applications.Adverse selection-moral hazard-signalling games.

Suggested Readings:

Martin J. Osborne, *An Introduction to Game Theory*, Oxford University Press, New Delhi, 2004.

Martin J. Osborne, *A Course in Game Theory,* MIT Press, 1994.

Robert Gibbons ,*Primer In Game Theory*, Financial Times/ Prentice Hall, 1992.

Binmore, *Game Theory: A Very Short Introduction*, OxfordUniversity Press; Edition Eighth, 2007.

Mas Colell Andrew, Whinston Michael, Green Jerry, *Microeconomics Theory*, Oxford; First edition, 1995.

(Any other reading materials and case studies to be provided by the instructor in the class)

Semester IV

Paper Code: HSECO- 708
Nomenclature of Paper: Natural Resource Economics
Internal Marks:40

Lectures- 4, **Tutorial**-1
Total Credit - 5
External Marks: 60

Objective: To enable students to introduce them to the theories, issues and recent debates in natural resource economics.

Course Outcome (COs):

CO1: ***Knowledge*** - Imparting the knowledge of theories, issues and recent debates in natural resource economics

CO2: ***Understanding*** – Provide a basic understanding of the effects of government sponsored environmental policy.

CO3: ***Application*** – Able to apply economic principles and models to address private and public policy issues related to the allocation of natural resources.

CO4: ***Comprehension***- Demonstrate a basic knowledge of the roles of the market and government with regard to allocation of resources.

CO5: ***Analysis*** – Able to use economic principles to analyse the various steps taken by government to protect the natural resources.

Unit – I Introduction to environmental and resources economics

Distinctive features of environmental and natural Resources-Existing economic debates in resource management and related welfare issues.

Unit – II Economics of renewable and non renewable resources

Renewable resources- Fishery, Forestry and ground water-problem of renewable resources-non-renewable resources and market structure and respective market failures.

Unit – III Economic growth and sustainability

The economics of sustainable development-exhaustibility-environment and Globalization-International trade and renewable and non renewable resources.

Unit – IV Environment sustainability and Policy issues

Economics of endangered species act-conflicts and choices in biodiversity preservation-the choice of regulatory instruments in environmental policy-international conventions and their related issues in context of Indian economy.

Suggested Readings:

Stavins, Rober, ed. *Economics of the Environment: Selected Readings*. 4th ed. W. W. Norton Co., 2000

Oates, Wallace, ed. *The RFF Reader in Environmental and Resource Management*.Resources for the Future, 1999.

Cohen, Mark A. "Monitoring and Enforcement of Environmental Policy." Mimeograph, Vanderbilt University, 1998.

Perman, R., May, Y., McGilvray, J. and Common, M. (2000). *Natural Resource and Environmental Economics*,London: Longman

Hecht, Joy. "Environmental Accounting: Where We Are Now, Where We Are Heading." Resources 135 (1999): 14-17.
(Any other reading materials and case studies to be provided by the instructor in the class)

Further Readings:

Kolstad, Charles. *Environmental Economics*. 2nd ed. Oxford University Press, 2010
Nordhaus, William D. "A Review of the Stern Review on the Economics of Climate Change." Journal of Economic Literature 45, no. 3 (2007): 686-702.
Passell, Peter. "When the Benefits are Mostly Modest, What Price Clean Air?" *New York Times*, April 3, 1997, pp. D2.
Bhagwati, Jagdish, and Herman Daly. "Debate: Does Free Trade Harm the Environment?" *Scientific American* 269, no. 5 (1993): 41-57.
Metcalf, Gilbert. "Market-Based Policy Options to Control U.S. Greenhouse Gas Emissions." Journal of Economic Perspectives 23, no. 2 (2009): 5-27.
Allcott, Hunt, and Nathan Wozny."Gasoline Prices, Fuel Economy, and the Energy Paradox."Working Paper.MIT, 2010.

Semester IV

Paper Code: HSECO-710 | **Lectures** – 4, **Tutorials** – 1
Nomenclature of the Paper: Law and Economics | **Total Credits** -5
Internal Marks:40 | **External marks:**60

Objectives: To enable the students understand the efficiency implications of various branches of law and study the behavioural outcomes of agents with respect to legal requirements.

Course Outcome (COs):

CO1: ***Knowledge*** – Introduce students to the concepts of legal systems with little or no prior training of role of economics in the field of law

CO2: ***Understanding*** – Provide understanding of the content of different economic theories of law and its application to economics domains related to laws such as tort law, contract law, property law and legal institutions

CO3: ***Analysis*** – Enable students and analysis of traditional and contemporary concepts in the field of law and economics and the application of economic theories to legal concepts.

CO4: ***Synthesis*** – The students would be trained to not only understand but also contribute to the existing theories and empirically test and apply the theories on economics of law.

CO5: ***Comprehension***– Enable the students to comprehend the role of law and legal institutions in economic framework, the court systems, theories of bargaining, intellectual property rights etcetera.

Unit - II: Introduction to Economic Analysis of Law

Concept of Efficiency - Efficiency and Distribution – Property law – Emergence of Property law - Economic Theory - Property Rights and Efficiency - Remedies for violation of property rights – Inalienability, Intellectual Property Rights – Patent – Copyright – Trademark - Protection measures.

Unit - III: Contract Law

Contract law – Efficient Contracts – Damages - Complete and Incomplete contracts - Risk allocation and Information Revelation - Remedies

Unit - IV: Tort Law

Tort Law– Economic Essence - Traditional Theory – Economic Theory, Liability Rules - Negligence, Efficiency properties

Unit - V: Criminal Law

Criminal Law – Rational Crimes, Economics of Crime and Punishment – Social Costs – Social Optimum – Deterrence and Punishments.

Suggested Readings:

Cooter, R. D. and Ulen, T.S. (2000).*Law and Economics*.6th ed. New York: Addison-Wesley.

Miceli, T.J. (1997).*Economics of the Law: Torts, Contracts, Property, Litigation*. Oxford: Oxford University Press.

Jain, S. K. (2010). *Law and economics*.Oxford University Press.

(Any other reading materials and case studies to be provided by the instructor in the class)

Further Readings:

Unit - I

#Coase, R. H. (2013). "The Problem of Social Cost" The Journal of Law and Economics, 56(4), 837-877.

#Parisi, F. (2004)."Positive, normative and functional schools in law and economics"European Journal of Law and Economics, 18(3), 259-272.

Unit - II

#Calabresi, Guido and Douglas Melamed (1972) "Property Rules, Liability Rules and Inalienability: One View of The Cathedral." Harvard Law Review 85: 1089-1127.

#Posner, Richard A. (2005) "Intellectual Property: The Law and Economics Approach" JEP 19(2): pp. 57-73.

Unit - III

#Hart, O. D. (1988)."Incomplete Contracts and the Theory of the Firm" Journal of Law, Economics, & Organization, 4(1), 119-139.

Unit - IV

#Jain, S.K. and Singh, R. (2002) "Efficient Liability Rules: Complete Characterization." Journal of Economics, 75(2), pp. 105–24.

#Cooter, R.D. (1987) "Torts as the Union of Liberty and Efficiency: An Essay on Causation." Chicago-Kent Law Review, 63, pp. 522–551.

Unit - V

#Becker, G. S. (1968) "Crime and Punishment: An Economic Approach." Journal of Political Economy, 76, pp. 169–217.

#Bar-Ilan, A., &Sacerdote, B. (2001)."The response to fines and probability of detection in a series of experiments" (No. w8638), National Bureau of Economic Research.

Semester IV

Paper Code: HSECO-752 **Total Credits** -10

Nomenclature of the Paper: Dissertation and Viva

Internal Marks:40 **External Marks:** 60

Objectives: To enable the students to familiarize themselves with the process of planning, designing and carrying out research in the field of economics by systematically documenting research issues, their arguments, hypothesis and analysis results in favour/ against of any existing economic propositions. Such propositions may have been read or discussed in the class, or their own hypothesis related to any economic theory or policy implemented/debated in domestic as well as in the world economy. During the dissertation work the students would be encouraged to work on different databases on Indian Economy as well as the world economy. An important aim of the dissertation work is to encourage the students to apply their theoretical understanding of model building, hypothesis testing and time series and panel data analysis through empirical investigation of different economic and socio-economic issues.

Course Outcome (COs):

CO1: ***Knowledge*** - The Dissertation is aimed at introducing the students to basic concepts of research methodology and implementation of a research project.

CO2: ***Application***– On completion of the dissertation, the students should be able to design a research hypothesis, understand data collection, empirical estimation and results analysis.

CO3: ***Analysis***– The course would enable the students to apply the economic concepts and theories studied during the course of the programme and be able to empirically test the theories and hypotheses.

CO4: ***Synthesis*** – The dissertation is an original work of the student, under the guidance of the supervisor. Thus, the course prepares the students towards a application of economic concepts and contribute to the existing literature in economics.

CO5: ***Comprehension***- The dissertation and viva prepares the students on comprehension, synthesis and analysis of the hypothesis tested, both in written and oral presentation