



**Proposed Syllabus  
for  
Five-Year Integrated B.A. (Hons.) Economics – M.A. Economics Program  
with Exit Option after B.A. (Hons.) at the End of Third Year**

**Presented By  
School of Economics,  
Faculty of Management,  
Shri Mata Vaishno Devi University,  
Katra.**

**2020-21**

## B. A. Economics (Honours)

Semester	Ability Enhancement Courses	Skill Enhancement Courses	Generic Elective Courses	Discipline Specific Elective Courses	Core Courses
<b>First Semester</b>	<b>AEC 1:</b> Professional Communication		<b>GE 1:</b> Students have to choose any subject from School of Language & Literature/Philosophy & Culture/ Business		<b>Core 1:</b> Introductory Microeconomics <b>Core 2:</b> Mathematical Methods for Economics-I
<b>Second Semester</b>	<b>AEC2:</b> Environmental Science		<b>GE 2:</b> Students have to choose any subject from School of Language & Literature/Philosophy & Culture/ Business		<b>Core 3:</b> Introductory Macroeconomics <b>Core 4:</b> Mathematical Methods for Economics-II
<b>Third Semester</b>		<b>SEC 1:</b> Programming Using Excel & R	<b>GE 3:</b> Students have to choose any subject from School of Language & Literature/Philosophy & Culture/ Business		<b>Core 5:</b> Intermediate Microeconomics <b>Core 6:</b> Intermediate Macroeconomics <b>Core 7:</b> Statistical Methods for Economics
<b>Fourth Semester</b>		<b>SEC 2:</b> Discourse on Human Virtues	<b>GE 4:</b> Students have to choose any subject from School of Language & Literature/Philosophy & Culture/ Business		<b>Core 8:</b> Introductory Econometrics <b>Core 9:</b> Agricultural Economics <b>Core 10:</b> International Economics
<b>Fifth Semester</b>				<b>DSE 1 &amp; DSE 2:</b> Students have to choose any two papers from the list: i. Labour Economics, ii. Applied Econometrics, iii. Economics of Health iv. Economics of Demography	<b>Core 11:</b> Evolution of Indian Economy since Independence <b>Core 12:</b> Development Economics
<b>Sixth Semester</b>				<b>DSE 3 &amp; DSE 4:</b> Students have to choose any two papers from the list: i. Financial Economics, ii. History of Economic Thought, iii. Digital Economics	<b>Core 13:</b> Public Finance <b>Core 14:</b> Environmental Economics

### **Credit System:**

<b>Sl. No.</b>	<b>Course Type</b>	<b>Number of Courses</b>	<b>Credit</b>	<b>Total Credit</b>
1.	Ability Enhancement Courses	02	04	08
2.	Skill Enhancement Courses	02	04	08
3.	Generic Elective Courses	04	04	16
4.	Discipline specific Courses	04	06	24
5.	Core Courses	14	06	84
<b>Grand Total</b>				<b>148</b>

### **GENERIC ELECTIVES TO BE OFFERED BY SCHOOL OF ECONOMICS**

<b>Course</b>	<b>Course Title</b>	<b>Course Code</b>	<b>L-T-P</b>	<b>Credit</b>
Generic 1	Principles of Economics	SEE 1201	4-2-0	6
Generic 2	Introduction to Microeconomics	SEE 1231	4-2-0	6
Generic 3	Introduction to Macroeconomics	SEE 2241	4-2-0	6
Generic 4	Indian Economy	SEE 2321	4-2-0	6

## M. A. Economics

Seventh Semester	Eighth Semester	Ninth Semester	Tenth Semester
<b>Core 1:</b> International Finance	<b>Core 6:</b> Advanced Macroeconomics	<b>Core 11:</b> Business Analytics	<b>Core 14:</b> Indian Economy: Theories and Practices
<b>Core 2:</b> Optimisation Techniques and Game Theory	<b>Core 7:</b> Advanced Microeconomics	<b>Core 12:</b> Time Series Analysis	<b>Core 15:</b> Economics of Education
<b>Core 3:</b> International trade: Institutions and Policies	<b>Core 8:</b> Growth Economics	<b>Core 13:</b> Research Methodology	Dissertation
<b>Core 4:</b> Political Economy	<b>Core 9:</b> Law & Economics	Specialization 1	Specialization 3
<b>Core 5:</b> Economics of Tourism	<b>Core 10:</b> Natural Resource Economics	Specialization 2	Specialization 4

### Specialization Papers

#### Specialisation -Econometrics

Sl. No.	Course Title	Course Code	L-T-P	Credit
1	Panel Data Econometrics	SEE 7222	4-2-0	6
2	Multivariate Data Analysis	SEE 7223	4-2-0	6
3	Financial Econometrics	SEE 7224	4-2-0	6
4	Macro-Economic Modelling	SEE 7225	4-2-0	6

#### Specialisation –Development Economics

Sl. No.	Course Title	Course Code	L-T-P	Credit
1	Rural Economics	SEE 7361	4-2-0	6
2	Energy Economics	SEE 7353	4-2-0	6
3	Economics of Infrastructure	SEE 7362	4-2-0	6
4	Urban Economics	SEE 7363	4-2-0	6

#### Specialisation –Agricultural Economics

Sl. No.	Course Title	Course Code	L-T-P	Credit
1	Agricultural Marketing and Price Analysis	SEE 7342	4-2-0	6
2	Agricultural Development and Policies	SEE 7343	4-2-0	6
3	Farm Management	SEE 7344		
4	Agricultural Finance	SEE 7345	4-2-0	6
5	Agricultural Production Economics	SEE 7346	4-2-0	6

### Specialisation –Environmental Economics

Sl. No.	Course Title	Course Code	L-T-P	Credit
1	Environmental Valuation	SEE 7354	4-2-0	6
2	Environmental Policies	SEE 7355	4-2-0	6
3	Economics of Global Climate Change	SEE 7356	4-2-0	6
4	Trade and Environment	SEE 7357	4-2-0	6
5	Environment and Sustainable Development	SEE 7358	4-2-0	6
6	Economics of Exhaustible Resources	SEE 7359	4-2-0	6

### Specialisation –Financial Economics

Sl. No.	Course Title	Course Code	L-T-P	Credit
1	Advanced Financial Economics	SEE 7262	4-2-0	6
2	Corporate Finance	SEE 7263	4-2-0	6
3	Financial Econometrics	SEE 7224	4-2-0	6

### Credit System:

Sl. No.	Course Type	Number of Courses	Credit	Total Credit
1.	Core Courses	15	04	60
2.	Specialisations	04	06	24
3.	Dissertation	01	06	06
<b>Grand Total</b>				<b>90</b>

**SEMESTER-I**  
**CORE 1 – INTRODUCTORY MICROECONOMICS**

SEL 1232			Introductory Microeconomics				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
4	2	0	6	1.5 Hours	3 Hours	10	20	20	50	100

**COURSE OUTCOMES**

**After successful completion of this course, students shall be able to:**

1. Understand basic concepts of Microeconomics.
2. Understand nature and scope of Microeconomics.
3. Apply basic concepts of Microeconomics for developing economic theories.

**COURSE CONTENTS**

**Unit I Introduction to Microeconomic Concepts**

Nature and scope of economics, definitions of economics, important concepts of economics, scarcity and choice, the basic issues of what to produce, how to produce and for whom to produce, problem of distribution of output, branches of economics. Concept of demand, law of demand, elasticity of demand: price, income and cross elasticity of demand, different methods of measurement of elasticity of demand and determinants of demand. Concept of supply, law of supply, elasticity of supply and determinants of supply.

**Unit II Theory of Demand and Production**

Theory of demand and utility analysis – cardinal and ordinal approach, total and marginal utility, consumer preferences (types of preferences) & indifference curves analysis-properties, types of indifference curves (for goods, bads, neutrals, complements, substitutes), marginal rate of substitution, budget constraints, properties of budget set, changes in budget line, consumer equilibrium, price, income and substitution effects, price consumption curve and income consumption curve, the changes in demand and Engel's curve and consumer surplus.

Production possibility curve, production function :- law of variable proportions, returns to scale, isoquants:- properties and types , marginal rate of technical substitution, producer's equilibrium, linear homogenous production function, Cobb-Douglas production function, cost concepts and its types, short run and long run cost curves, revenue concepts: - average, marginal and total revenue, numerical problems.

**Unit III Theories of Distribution**

Marginal productivity theory; theories of wage determination; wages and collective bargaining; wage differentials; theories of rent: Ricardian and Modern, quasi rent; interest- Classical and Keynesian theories; profits — innovation, risk and uncertainty theories. Market: meaning and types, competitive and monopoly equilibrium; short run and long run under different cost conditions.

## **SUGGESTED READINGS**

1. Case K.E. and Fair R.C. *Principles of Economics*, Pearson Education, Inc., 8<sup>th</sup> edition, 2007.
2. Mankiw G. *Economics: Principles and Applications*, India edition by South Western, a part of Cengage Learning, Cengage Learning India Private Limited, 4<sup>th</sup> edition, 2007.
3. Stiglitz J. and Walsh C., *Economics*, W.W. Norton & Company, Inc., New York, International Student Edition, 4<sup>th</sup> edition, 2007.
4. Verian H. *Microeconomic Analysis*, W.W Norton, New York (Latest Edition).
5. Koutsoyiannis, A. *Modern Microeconomics*, MacMillan Press, London (Latest Edition).

## CORE 2 - MATHEMATICAL METHODS FOR ECONOMICS-I

SEL1221			Mathematical Methods for Economics-1				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
4	2	0	6	1.5 Hours	3 Hours	10	20	20	50	100

### COURSE OUTCOMES

**After successful completion of this course, students shall be able to:**

1. Understand basic concepts of Mathematics.
2. Understand various concepts of sets, relations, functions, linear algebra, sequence and time
3. Apply various concepts of sets, relations, functions, linear algebra, sequence and time for applied economic analysis.
4. Develop the ability to construct some basic mathematical model for analysis of economic theory.

### COURSE CONTENTS

#### Unit I            Matrix Algebra

Matrices: concept and types of matrices: null and identity matrix, transpose of a matrix, symmetric matrix; operation on matrices: addition and multiplication and multiplication with a scalar, properties of addition, multiplication and scalar multiplication, idiosyncrasies of matrix operation, concepts of elementary row and column operations, invertible matrices and proof of the uniqueness of inverse.

Determinants: determinant of a square matrix (up to  $3 \times 3$  matrices), properties of determinants, minors, cofactors, adjoint and inverse of a square matrix, system of linear equations: consistency, inconsistency and number of solutions of system of linear equations by examples, solving system of linear equations in two or three variables (having unique solution) using inverse of a matrix, solution of system of linear equations using Cramer's rule.

#### Unit II            Real Number System and Introduction to Relations and Functions

Real number system, sets and their representations, empty set, finite and infinite sets, equal sets, subsets, subsets of a set of real numbers especially intervals (with notations), power set, universal set, Venn diagrams, union and intersection of sets, difference of sets, complement of a set, properties of complement of sets, practical problems based on sets, ordered pairs, Cartesian product of sets, definition of relation: domain, co-domain and range of a relation, graphical presentation of functions, types of functions: constant, polynomial, rational, modulus, exponential, logarithmic and greatest integer function, with their graphs, sum, difference, product and quotients of functions.

#### Unit III            Introduction to Differential Calculus

Limit, continuity and differentiability, derivatives – rules of derivative (sum and difference, multiplication and quotient rule), derivative of composite functions (chain rule), derivatives of logarithmic and exponential functions, derivative using logarithm, derivative of functions expressed in parametric forms, second- and higher-order derivatives, functions of several variables, implicit function theorem, partial derivative, total derivative, economic applications, marginal and elasticity concepts, increasing and decreasing function, Taylor's approximation, homogeneous production function, Cobb-Douglas production function and CES production function.

## **SUGGESTED READINGS**

1. Chiang, A. C. *Fundamental Methods of Mathematical Economics*, McGraw Hill Publications
2. Sydester, K and P Hammond. *Essential Mathematics for Economic Analysis*, Pearson Publications
3. Allen, RGD. *Mathematical Analysis for Economics*, A.I.T.B.S publishers
4. Dowling E D. *Introduction to Mathematical Economics*, Schaum's Outline Series, McGraw Hill Publication.
5. Henderson and Quandt. *Microeconomic Theory- A Mathematical Approach*, McGraw Hill (Latest Edition).
6. Baumol, W.J. *Economic Theory and Operations Analysis*, Prentice Hall, ND (Latest Edition).

**SEMESTER-II**  
**CORE 3 - INTRODUCTORY MACROECONOMICS**

SEL1242			Introductory Macroeconomics				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
4	2	0	6	1.5 Hours	3 Hours	10	20	20	50	100

**COURSE OUTCOMES**

**After successful completion of this course, students shall be able to:**

1. Understand basic concepts of macroeconomics.
2. Understand various concepts of national income, consumption functions, investment function, monetary policies and fiscal policies.
3. Develop the ability to construct some basic macroeconomic model for analysis of economic theory.

**COURSE CONTENTS**

**Unit I Introduction to Macroeconomics**

The roots of macroeconomics, difference between micro and macro economics, macroeconomic concerns, the role of government in the macro economy, the components of the macro economy, the methodology of macroeconomics.

Circular flow of income in two, three, and four-sector economy, national income concepts and accounting methods; flow of funds accounting and balance of payments accounting, introduction to national income accounting: concepts of GDP, GNP and national income, approaches to calculating GDP, personal income, nominal and real GDP, limitations of the GDP concept.

**Unit II Classical Macroeconomics**

Aggregate supply function-production function and aggregate supply curve, the classical system: the full-employment model: macroeconomic equilibrium, the labour market, the product market, the capital market; extending the full employment model, Say's law of markets, output and employment in classical theory, the quantity theory of money, classical model with and without saving and investment. Keynes' objection to the classical theory.

**Unit III Theories of Consumption and Investment**

Theories of consumption – absolute, relative, permanent and life cycle income hypothesis, decisions to invest-autonomous and induced investment, MEC and MEI schedule, Multiplier and Accelerator theories of investment, rate of interest and the rate of investment, role of finance beyond the interest rate, monetary and fiscal policies instruments, their role and effects, IS-LM approach to the determination of equilibrium interest rate, elasticity and shifts of IS and LM schedules.

**SUGGESTED READINGS**

1. Dornbusch, Fischer and Startz. *Macroeconomics*, McGraw Hill, 11th edition, 2010.
2. Mankiw G. *Macroeconomics*, Worth Publishers, 7th edition, 2010.
3. Blanchard O. *Macroeconomics*, Pearson Education, Inc., 5th edition, 2009.
4. Andrew and Bernanke. *Macroeconomics*, Pearson Education, Inc., 7th edition, 2011.
5. D'Souza E. *Macroeconomics*, Pearson Education, 2009

## CORE 4 - MATHEMATICAL METHODS FOR ECONOMICS-II

SEL 1222			Mathematical Methods For Economics- II				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
4	2	0	6	1.5 Hours	3 Hours	10	20	20	50	100

### COURSE OUTCOMES

**After successful completion of this course, students shall be able to:**

1. Understand basic concepts of differential calculus and integral calculus which are highly required in Economics.
2. Focus on the mathematical methods and models that are required to understand current economics and to investigate economic models.
3. Assimilate advanced economic theory with mathematical formulations like difference and differential equations.

### COURSE CONTENTS

#### Unit I Optimization

Optimization with function of single variable, two variables and more variables case with Hessian determinant, convexity and concavity of functions.

Constrained optimization with equality constraints, Lagrangian method, Boarded Hessian determinant, economic applications: utility maximization, cost minimization, profit – output maximization.

#### Unit II Dynamic Analysis and Integral Calculus

Indefinite integrals: concept and rules of operation (rules of substitution and by-parts), definite integrals: concept, approximation of area under a curve, properties, economic applications – measuring total from marginal functions (MU, MR, MC, MP etc), consumer and producer surplus, investment and capital formulation, continuous interest – discount calculations.

#### Unit III Differential and Difference Equation

Differential equation: first order differential equations: linear equation (homogeneous and non-homogeneous cases with constant and variable coefficient terms), exact differential equation, nonlinear differential equation (both cases), second order differential equation: particular integral and complementary function, some economic applications.

Difference equation: discrete time and difference equation, first-order difference equation, dynamic stability of equilibrium, cobweb model, second order linear difference equation, multiplier-accelerator interaction model, Inflation and unemployment analysis, long-run Phillips relation.

### SUGGESTED READINGS

1. Chiang, A.C. and K Wainwright. *Fundamental Methods of Mathematical Economics*, McGraw Hill publication
2. Dorfman, Samuelson and Solow. *Linear Programming and Economic Analysis*, McGraw Hill, NewYork.
3. Allen, RGD. *Mathematical analysis for Economics*, A.I.T.B.S publications
4. Sydsaeter K and Hammond P. *Mathematics for Economic Analysis*, Pearson Publishers.

5. Dowling E T. *Introduction to Mathematical Economics*, Schaum's Outline Series, McGraw Hill Publication.
6. Hoy et al. *Mathematics for Economics*, Prentice Hall India.

**SEMESTER III**  
**CORE 5 - INTERMEDIATE MICROECONOMICS**

SEL 2233			Intermediate Microeconomics				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
4	2	0	6	1.5 Hours	3 Hours	10	20	20	50	100

**COURSE OUTCOMES**

**After successful completion of this course, students shall be able to:**

1. Learn various concepts and theories of market behavior.
2. Learn various models of pricing of goods and services.
3. Learn the microeconomic techniques which they may use in higher learning and research.

**COURSE CONTENTS**

**Unit I Perfect Competition, Monopoly and Monopolistic Competition**

Price and output determination under perfect competition: short-run and long-run equilibrium of firm and industry, dynamic changes and industry equilibrium, monopoly market: equilibrium price and output, dynamic changes, and comparison with pure competition. price discrimination and elasticity of demand, price discrimination and existence of industry, regulated monopoly monopolistic competition: characteristics of monopolistic competition; Chamberlin's theory of monopolistic competition (importance of product differentiation, selling cost, product group); short-run and long-run equilibrium of the monopolistic competition; excess capacity.

**Unit II Classical Oligopoly**

Price and output determination under oligopoly: characteristics and sources of oligopoly; duopoly models of oligopoly (Cournot, Bertrand, Chamberlin and Stackelberg); kinked demand model, collusive oligopoly: cartels and joint profit maximization, price leadership with low cost firm, dominant firm and barometric price leadership. basing point price system, critique of neoclassical theory of firm: Hall and Hitch principle and full cost pricing principle, Gordon attack on marginalism, average cost pricing and mark up rule, critique of average cost pricing.

**Unit III Limit Pricing and Managerial Theories of Firm**

Theories of Limit Pricing: Bain's Model, Sylos-Labini model, Bhagawati model, Modigliani Model; Managerial theories of firm: Baumol's Model of sales revenue maximization, Marris's managerial model of firm, Williamson's managerial model of firm.

**SUGGESTED READINGS**

1. Varian H. *Intermediate Microeconomics: A Modern Approach*, W.W. Norton and Company/Affiliated East-West Press (India), 8th edition, 2010. The workbook by Varian and Bergstrom may be used for problems.
2. Koutsoyiannis A. *Modern Microeconomics*, Macmillan Press, London (2nd Edition).
3. Pindyck and Rubinfeld. *Microeconomics*, Pearson/Prentice Hall, New Jersey, 2009. 7th ed.
4. Gravelle and Rees. *Microeconomics*, Pearson Education, 2nd edition, 1992.

5. Stiglitz and Walsh. *Economics*, W.W. Norton & Company, Inc., New York, International Student Edition, 4th edition, 2007.
6. Snyder and Nicholson. *Fundamentals of Microeconomics*, Cengage Learning (India), 2010.
7. Bernheim and Whinston. *Microeconomics*, Tata McGraw-Hill (India), 2009.
8. Henderson, M. and Quandt R. *Microeconomic Theory: Mathematical Approach*, McGraw Hill, 1980
9. Mas-Colell A., Whinston M and Green J. *Microeconomic Theory*, Oxford University Press, 1995.
10. Varian H. *Microeconomic Analysis*, W.W Norton, New York (Latest Edition).

## CORE 6 - INTERMEDIATE MACROECONOMICS

SEL 2243			Intermediate Macroeconomics				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
4	2	0	6	1.5 Hours	3 Hours	10	20	20	50	100

### COURSE OUTCOMES

**After successful completion of this course, students shall be able to:**

1. Familiarize themselves with the generally accepted principles of macroeconomics.
2. Learn Business cycle, inflation, unemployment to understand the working of economy better
3. Learn various policy making tools to fit into particular macroeconomic situation.

### COURSE CONTENTS

#### Unit I Supply of and Demand for Money

Supply of money – Measures of money supply; money multiplier theory, determinants of money supply; demand for money - approaches of Baumol and Tobin, inflation and unemployment - Philips curve analysis; factor and goods markets – “full” inflation; IS-LM analysis of an open economy; foreign trade multiplier.

#### Unit II Aggregate Demand, Aggregate Supply and Inflation

Characteristics of change and movements; accelerator and multiplier principles and their interactions. Macroeconomic policy issues – targets, indicators and instruments – activist Policy –Gradualism *versus* Shock therapy – rules *versus* discretion – role of credibility – dynamic inconsistency problem – inflation targeting – seignorage – Barro-Ricardo and Blinder-Solow hypotheses – political economy of stabilisation and adjustment.

#### Unit III Internatioonal Linkages

Balance of payments – exchange rate regimes – Mundell-Fleming model under fixed and flexible exchange rates – exchange rate overshooting – purchasing power and interest rate parities automatic adjustment – adjustment policies: external *versus* internal. monetary approach to balance of payments-monetary analysis under a fixed exchange rate; monetary analysis under a flexible exchange rate; policy implication of the law of one price; policy implication of a small open economy model.

### SUGGESTED READINGS

1. Mankiw N. G. *Macroeconomics*, Worth Publishers
2. Levacic and Rebman. *Macroeconomics*, McMillan
3. Dornbusch and Fischer, *Macroeconomics*, McGrawhill
4. Snowdon and Vane, *A Macroeconomics*, Routledge
5. Snowdon and Vane. *Modern Macroeconomics: Its Origins, Development and Current State*. Edward Elgar Publishing, Inc.
6. Froyen R. *Macroeconomics*, Pearson Indian Ed
7. Barro J. R. *Macroeconomics*, PHI

## CORE 7 - STATISTICAL METHODS FOR ECONOMICS

SEL 2223			Statistical Methods for Economics				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
4	2	0	6	1.5 Hours	3 Hours	10	20	20	50	100

### COURSE OUTCOMES

**After successful completion of this course, students shall be able to:**

1. Get familiar with various concepts of averages and sampling techniques that are helpful in carrying out research work.
2. Acquaint with the concept of probability, the only technique, to deal with many uncertain situations in life
3. Understand the concepts of hypotheses that is a scientific way of looking at a problem and the methods to test a hypothesis.
4. Apply the statistical concepts for analyzing the data and find the solutions of many day to day problems

### COURSE CONTENTS

#### Unit I Basic concepts of statistical measures and sampling techniques

Measures of Central tendency: Mean, Median, Mode, Geometric mean, Harmonic mean; Measures of dispersion; Range, Quartile deviation Mean deviation, Standard deviation; Moments, Skewness and Kurtosis.

Principal steps in a sample survey; Methods of sampling- Probabilistic and non- probabilistic sampling techniques, Sampling Distribution of Sample Mean and Sample Variance in case of Simple random Sampling (SRSWR and SRSWOR), Stratified random sampling, Methods of Allocation- Equal allocation, Proportional allocation, Neyman allocation, Construction of strata properties of random samples; non-random sampling, sampling vs. non-sampling errors,.

#### Unit II Probability Distributions

Probability: Concepts of Sample Space and Events, Probability of an Event, Addition and Multiplication Theorems; Conditional Probability and Independence of Events; Bayes theorem Concept of a Random Variable, Discrete and Continuous Random Variable, Probability Density Function, Mathematical Expectation and Its Properties,

#### Unit III Testing of Hypotheses

Concepts of testing of hypothesis: Defining statistical hypotheses; null vs. alternative hypotheses, Type I and Type II errors; power of a test; the concept of degrees of freedom; test of significance: testing hypotheses related to population parameters based on Z, t,  $\chi^2$  and F-tests.

### SUGGESTED READINGS

1. Croxton and Dudley "Applied General Statistics", (Latest Edition).
2. Gupta S .P . "Statistical Methods", Sultan Chand & Sons, N. Delhi (Latest Edition).
3. Hooda, R. "Statistics for Business and Economics", Macmillan, ND (Latest Edition).
4. Jay L. Devore, Probability and Statistics for Engineers, Cengage Learning, 2010.
5. RichardJ.Larsen and MorrisL.Marx, An Introduction to Mathematical Statistics and its Applications, Prentice Hall, 2011.

**SEMESTER IV**  
**CORE 8 - INTRODUCTORY ECONOMETRICS**

SEL 2224			Introductory Econometrics				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
4	2	0	6	1.5 Hours	3 Hours	10	20	20	50	100

**COURSE OUTCOMES**

**After successful completion of this course, students shall be able to:**

1. Learn the basic econometric tools like regression and various estimation problems associated with it.
2. Know, understand and absorb the techniques and use it in their practical research problems
3. Learn to test various economic theories with help of data by using econometric tools.
4. Interpret econometrics model results and provide policy suggestions

**COURSE CONTENTS**

**Unit I Introduction to Econometrics**

Scope and importance of Econometrics, and limitations of Econometrics applications, variables, parameter and constant, sample and population, types of data and functions, two variable linear regression model (2VLRM) analysis, error term and white noise error, PRF and SRF, CLRM and its assumptions, OLS method of estimation, properties of estimators and SRF, BLUE, GLS method, ANOVA, statistical inference, goodness of fit, normality assumptions, maximum likelihood estimation.

**Unit II Econometric Problems**

Multicollinearity – Reasons – Consequences – Methods of Detection – Important Remedial measures. Heteroscedasticity – Reasons – Consequences – Methods of Detection (Rank Correlation test, Goldfeld and Quandt test, Glejse test) – Important Remedial measures. Autocorrelation – Reasons – Consequences - Methods of detection (Run test, Durbin-Watson d statistic) – Important remedial measures.

**Unit III Dummy Variable Regression Models**

Nature of dummy variables – Models with one qualitative variable – Regression on one quantitative variable and one qualitative variable – Dummy variable trap – Regression on one quantitative and two qualitative variables. Auto regressive and distributed lag models – Role of lag in economics – Reasons – Estimation of distributed lag model – Koyck model.

**SUGGESTED READINGS**

1. Gujarati, D.N. “Basic Econometrics”, McGraw Hill, ND(Latest Edition).
2. Johnston, J. “Econometric Methods”, McGraw Hill, London(Latest Edition).
3. Koutsoyiannis, A. “Theory of Econometrics”, Macmillan, London(Latest Edition).
4. Maddala, G.S. “Econometrics”, McGraw Hill, NY(Latest Edition).
5. Ramanathan, R. “Introductory Econometrics with Applications”, South Western Cengage Learning, ND (Latest Edition).
6. Theil, H. “Introduction to Econometrics”, Prentice Hall (Latest Edition).

## CORE 9 – AGRICULTURAL ECONOMICS

SEL 2341			Agricultural Economics				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
4	2	0	6	1.5 Hours	3 Hours	10	20	20	50	100

### COURSE OUTCOMES

**After the successful completion of the course, the student will be able to;**

1. Analyze the complex nature of Indian Agriculture with the support of economic theory.
2. Understand the importance of agriculture in economic development vis-à-vis major agricultural issues and policies.
3. Endow with a theoretical understanding of agricultural marketing, price policy, credit structure etc that will enhance the analytical understanding of the issues.
4. Understand India's position in International Agricultural trade and evaluate the Impact of World Trade Organization on Indian agriculture

### COURSE CONTENTS

#### Unit I Agriculture Production and Transformation

Introduction: definition, scope and nature of agricultural economics; need for a separate study of agricultural economics; agricultural linkages with other sectors, role of agriculture in economic development (historical evidence from Europe, USA and Japan); transformation of agriculture: Schultz thesis of transformation of traditional agriculture and Green Revolution in Indian agriculture; production function analysis: factor-product, factor-factor and product-product relationships; system of farming; problems and prospects of Indian agriculture

#### Unit II Agricultural Marketing and Price Analysis

Concept of agricultural marketing; functional and institutional approaches to agricultural marketing, marketed and marketable surplus; market integration; measures of marketing efficiency; regulated markets; agriculture price policy: need, objectives, and instruments of agricultural price policy; food security in India and public distribution system.

#### Unit III Agricultural Credit, Trade and Global Issues

Agricultural credit: importance of credit, agricultural credit system in India 3 R's and 3 C's of credit; reforms in agricultural credit policy.

International trade in agricultural commodities, export and import performance of Indian agriculture; World Trade Organization (WTO): agreement on agriculture, pillars of agreement on agriculture; impact of world trade organization on Indian agriculture; India's agricultural trade potential in post-WTO period.

### SUGGESTED READINGS

1. Bhaduri, A. *The Economic Structure of Backward Agriculture*, Macmillan, Delhi (Latest Edition).
2. Bilgrami, S.A.R. *Agricultural Economics*, Himalaya Publishing House, Delhi (Latest Edition).
3. Dantwala, M.L. et.al. *Indian Agricultural Development Since Independence*, Oxford & IBH, New Delhi (Latest Edition)

4. Heady, E O. *Economics of Agricultural Production and Resource Use*, Prentice-Hall of India Pvt. Ltd., New Delhi
5. Metacalf, D. *The Economics of Agriculture*, Penguin
6. Lekhi and Singh. *Agricultural Economics: An Indian Perspective*, Kalyani Publishers (latest Edition)
7. Reddy S S et al. *Agricultural Economics*, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi
8. Reddy S. S. and Ram P.R. (2004), 'Agricultural Finance and Management', Oxford & IBH Publishing Co. Pvt. Ltd, New Delhi
9. Soni, R.N. *Leading Issues in Agricultural Economics*, Vishal Publishing House, 2008.
10. Vaidyanathan A. *India's Agricultural Development in a regional perspective*, Oxford University Press, New Delhi.
11. Acharya S. S., and Agarawal A.N. *Agricultural Marketing*, Oxford and IBH, New Delhi.
12. Sadhu, A.N. and Singh. *Agricultural Problems in India*, Himalaya Publishing House, Mumbai (Latest Edition).

## CORE 10 – INTERNATIONAL ECONOMICS

SEL2251			International Economics				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
4	2	0	6	1.5 Hours	3 Hours	10	20	20	50	100

### COURSE OUTCOMES

**After the successful completion of the course, the student will be able to;**

1. Understand the basis for trade between two economies.
2. Measure the benefits accrued from international trade.
3. Evaluate the cost and the rate at which the goods and services will be traded between two countries.

### COURSE CONTENTS

#### Unit I Introduction to International Economics

Importance of the study of international economics; Inter-regional and international trade; theories of absolute advantage, comparative advantage and opportunity cost; factor endowments and Heckscher-Ohlin theory of trade — its main features, assumptions and limitations, empirical studies - Leontief paradox, Rybzynski effect, factor price equalization and Stolper-Samuelson theorem.

#### Unit II Gains from trade

Gains from trade— their measurement and distribution; technical progress and international trade, growth and trade: small and open country cases, concepts of terms of trade and their importance in the theory of trade; doctrine of reciprocal demand — its importance and limitations in the theory of trade.

#### Unit III Exchange Rates and Trade theories

Concept and types of exchange rate (bilateral vs trade-weighted exchange rate, cross exchange rate, spot, forward, futures), demand for and supply of foreign exchange, exchange rate determination: trade or elasticity approach, purchasing-power parity theory, the monetary model to exchange rates, asset or portfolio model of exchange rates, fixed versus flexible exchange rate, trade restrictions: tariff, partial equilibrium analysis of tariff, theories of tariff structure, import quotas and other non-tariff barriers, economic integration: customs union and free trade areas, WTO and India.

### SUGGESTED READINGS

1. Krugman P. and Obstfeld M. *International Economics*, Pearson Education
2. Salvatore D. *International Economics*, Wiley India.
3. Sodersten B and Reed J. *International Economics*, McMillan Publisher
4. Carbaugh R. *International Economics*, South-Western College Publication.
5. Gandolfo G. *International Trade Theory and Policy*, Springer Publication.

## SEMESTER V

### CORE 11 – EVOLUTION OF INDIAN ECONOMY SINCE INDEPENDENCE

SEL 3322			Evolution of Indian Economy since Independence				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
4	2	0	6	1.5 Hours	3 Hours	10	20	20	50	100

#### COURSE OUTCOMES

After the successful completion of the course, the student will be able to;

1. Read the current economic situation in India.
2. Know how India grew after the independence.
3. Distinguish between the economic situation pre and post liberalisation period.

#### COURSE CONTENTS

##### Unit I Structural Change of Post Independent India

Indian Economy at the time of independence- features of Indian economy around 1947- 1950 and characteristics of economic underdevelopment of India (with reference to colonial rule of India)- trend in national income and Per capita income; sectoral composition (output and employment) – primary, secondary and tertiary Sectors; broad demographic features — population size and growth rates, sex composition, occupational distribution.

##### Unit II Resource Mobilization and Planning in India

Evolution of economic planning in India; economic planning – rationale, features and objectives; strategy of planning; types of plans and planning; a dynamic analysis of 5 year plans in India; broad achievements and failures; NITI Aayog; Indian tax system; public expenditure in India- pattern and growth; public debt, deficit and subsidies in the Indian economy; centre-state financial relation.

##### Unit III Indian Economy in Post Reform Period

Background of Indian economic reforms – New Economic Policy; redefining India’s development strategy; changing role of state and market, industrial policy, disinvestment policy and privatization; financial sector reforms including banking reform; external sector reforms: foreign exchange market, balance of payments, reform, convertibility, export-import policy, foreign direct investment; post-reform agricultural performance and its crisis; appraisal of Indian economic reform.; India’s growth experience.

#### SUGGESTED READINGS

1. Kapila U. *Indian Economy since Independence*. Academic Foundation, New Delhi (latest edition)
2. Misra, S.K. and Puri V. *Indian Economy — Its Development Experience*, Himalaya Publishing House, Mumbai
3. Datt, R. and Sundharam K. *Indian Economy*, S. Chand & Company Ltd., New Delhi

## CORE 12 – DEVELOPMENT ECONOMICS

SEL 3323			Development Economics				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
4	2	0	6	1.5 Hours	3 Hours	10	20	20	50	100

### COURSE OUTCOMES

**After the successful completion of the course, the student will be able to;**

1. Understand the development process of underdeveloped countries and gain better understanding of basic developmental problems that LDCs are facing.
2. Know, understand the theories of economic development and apply them in their practical research problems.
3. Learn to critically examine and analyse the relevance of various developmental policies.
4. Interpret quantitatively the impact of various policy regimes with econometric techniques and provide policy suggestions.

### COURSE CONTENTS

#### **Unit I Economic Development: Meaning, Measurement**

Economic development: definitions and its distinction from economic growth, measures of economic development: traditional (GNP, PCI), modern (HDI, HPI and others) and Sen's capability approach.

Poverty, Inequality and Development: conceptual issues of poverty measurement, measures of poverty (HCR, PGR, IGR, Sen's P-measure, FGT), functional impact of poverty: nutrition and labour market, credit market, poverty and the household: unequal sharing, measures of inequality: Lorenz curve, Gini coefficient; inequality and growth: the inverted-U hypothesis and its critic, effects of inequality: on income growth, savings, political redistribution, occupational choice and labour supply and capital market, poverty-inequality-growth (GIP) development triangle with empirics

#### **Unit II Theories of Economic Development**

Classical Theories of development - contributions of Adam Smith, David Ricardo, Karl Marx and development of capitalist economy-theory of social change, surplus value and profit.

Development as growth and linear stages theories: Rostow's stages of growth, Harrod-Domar growth model; criticism of stages model.

Other Post world war development ideas: Vicious circle of poverty and its circular causation, Kremer's O-Ring theory of low productivity, strategies of development: big push, balanced growth, unbalanced growth, critical minimum effort thesis, low-income equilibrium trap;

Structural change models in dual economy set up: Lewis model of dualism and surplus labour, Ranis and Fei model; Harris –Todaro model of migration

Dependence theory of development and counter revolution: Neocolonial dependence model, false paradigm model and dualistic development thesis

Neoclassical counter revolution: neoclassical models of Solow, endogenous growth models (AK model, learning by doing and knowledge spillover, Lucas, Romer's model of technological change)

### **Unit III            Resources Allocation and Investment Planning for Development in LDCs**

Investment criteria and its need: capital turn over criterion, SMP criterion and others. Cost benefit analysis and project evaluation.

Domestic resources and Development: money market and economic growth, inflation and economic growth, fiscal policy and economic growth: deficit financing and tax structure and resource mobilization for growth.

Foreign resources and Development: foreign resources and its distribution criterion, foreign aid and economic growth, dual gap analysis and its evaluation, MNC and transfer of technology to LDCs: gains and losses.

Planning for development in India: planning and economic development: case for and against planning, development planning models: Harrod-Domar model one sector and two sector model and India's five year plan, Mahalanobis model and second five year plan, some macro-models of development for India (contributions by K N Raj, Pranab Bardhan, M. Rakshit, A. Bose and S. Chakraborty)

#### **SUGGESTED READINGS**

1. Alain de Janvry and E. Sadoulet. *Development Economics: Theory and Practice*, Routledge,
2. Subrata Ghatak. *Introduction to Development Economics*, Routledge.
3. Todaro, M. P. and Smith, S. *Economic Development*, Pearson.
4. Thirwal, A.P. *Growth and Development*, Macmillan.
5. Basu, K. *Analytical Development Economics*, Oxford University Press.
6. Amartya Sen. *Commodities and Capabilities*, Oxford University Press.
7. Ray, D. *Development Economics*, Oxford University Press.
8. Kuklys, W. *Amartya Sen's Capability Approach: Theoretical Insights and Empirical applications*, Springer.
9. Chackraborty, S. *Development Planning: The Indian Experience*, Oxford University Press.
10. Mukherjee, S. *Contemporary Development Economics*, NCBA.
11. Jones, H. G. *An Introduction to Modern Theories of Economic Growth*, Nelson.
12. Barro, R. J. and Sala-i-Martin, X. *Economic Growth*, PHI
13. C I Jones. *Economic Growth*, Viva Publication

#### **Additional Readings**

14. Skarstein, R. *Development Theory*, Oxford University Press
15. Adelman, I. *Theories of Economic Growth and Development*, Stanford University Press.
16. Dasgupta, P. *An Enquiry into Well-being and Destitution*, Clarendon Press

## DISCIPLINE SPECIFIC ELECTIVE

### 1. LABOUR ECONOMICS

SEE 3291			Labour Economics				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
4	2	0	6	1.5 Hours	3 Hours	10	20	20	50	100

#### COURSE OUTCOMES

After the successful completion of the course, the student will be able to;

1. Characterise labour market and labour processes.
2. Identify employment and development relationship.
3. Study the process of determination of wage and its determination.

#### COURSE CONTENTS

##### UNIT I Labour Market

Nature and characteristics of labour markets in developing countries like India – paradigms of labour market – classical, neo-classical and dualistic – analysis of demand and supply forces – demand for labour relating to size and pattern of investment, choice of technology and government labour policies and their orientation – supply of labour in relation to growth of labour force – labour market process

##### UNIT II Employment

Employment and development relationship – importance of employment in the context of poverty in the developing countries – concept and measurement of unemployment – causes – issues relating to employment, rationalization, technological, change and modernization – Rural unemployment and educated unemployment – employment policy under the five year plans – evaluation of employment policy in India.

##### UNIT III Wage Determination

Theory and Practice, classical, neo-classical and bargaining theories of wage determination – concepts of wages – fair, living – minimum – problems of implementation of minimum wages – wage determination by sectors – urban and rural organized and unorganized sectors – wage and non-wage components of labour recommendation – wage and productivity and wage and inflation relationship – productivity and profit sharing schemes – wage differentials in terms of firm, industry, occupation, region, sex and skills, wage policy in India.

#### SUGGESTED READINGS

1. Hunter and Mulvey, *Economics of Labour*, Macmillan, 1983
2. Freeman A. *Labour Economics*, 1982
3. Lester R, *Economics of Labour*, Macmillan, 1964
4. Jolley et al. (Eds.), *Third World Employment: Problems and Strategy*, Penguin, 1973.
5. Dunlop J (Ed.), *Theory of Wage Determination*, Macmillan, 1957
6. Hicks J, *The Theory of Wages*, Oxford, 1932

## 2. APPLIED ECONOMETRICS

SEE 3221			Applied Econometrics				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
4	2	0	6	1.5 Hours	3 Hours	10	20	20	50	100

### COURSE OUTCOMES

After the successful completion of the course, the student will be able to;

1. Model researches involving subjective variable.
2. Analyse cause and effect relationship between two or more variables.
3. Understand panel data and its structure.

### COURSE CONTENTS

#### Unit I Dummy Variables and Linear Regression Models

Dummy independent variables-dummy variable trap, testing structural stability of regression models comparing two regressions, interaction effects, estimating seasonal effects, ANOVA vs ANCOVA, piecewise linear regressions; linear probability model, formulating a probability model, the probit and the logit models, misspecification in binary dependent models, ordered probit, tobit models.

#### Unit II Distributed Lag Models

Koyck's geometric lag, Almon's polynomial lag, partial adjustment and adaptive expectation models; autoregressive models- estimation by using instrumental variables, detecting autocorrelation in autoregressive models- Durbin h-test; error correction mechanism, causality in economics- Granger and Sim's tests, simultaneous equation bias and inconsistency of OLS estimators, identification- rank and order conditions, estimation- recursive system, ILS, 2SLS, LIML, 3SLS methods

#### Unit III Introduction to Panel Data

Sources and types of panel data, simple panel data methods-policy analysis with pooled cross sections, two period panel data analysis, policy analysis with two period panel data analysis, differencing with more than two time periods; advanced panel data methods- fixed effects estimation, random effects model, Wu-Hausman test, dynamic heterogeneous panels: bias in dynamic panels, solution to the bias problem, bias in heterogeneous slope parameters, solution to heterogeneous bias-the mean group estimator, the pooled mean group (PMG) estimator.

### SUGGESTED READINGS

1. Johnston and Dinardo, Econometric Methods, McGraw-Hill International Editions, Singapore, 1997
2. Walter Enders, Applied Econometric Time Series, Wiley India (P) Ltd, New Delhi 2004
3. Amemiya, T. (1985) Advanced Econometrics Harvard University Press
4. Baltagi, B.H. (1998) Econometrics Springer, New York.
5. Dongherty, C, (1992) Introduction to Econometrics, Oxford University Press, New York.
6. Goldberger, A.S. (1998), Introductory Econometrics, Harvard University Press
7. Gujarati D. N. (1995), Basic Econometrics (2<sup>nd</sup> Edition) Mc Grow Hill, New Delhi.
8. Hill R.C., E. G. William and G.G. Judge (1997) Undergraduate Econometrics, Wiley
9. Kennedy P. (1998) A Guide to Econometrics (4<sup>th</sup> Edition) MIT Press, New York.

### 3. ECONOMICS OF HEALTH

SEE 3281			Economics of Health				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
4	2	0	6	1.5 Hours	3 Hours	10	20	20	50	100

#### **COURSE OUTCOMES**

**After the successful completion of the course, the student will be able to;**

1. Relate health issues with economics.
2. Identify how the health services operates and how prices are determined.
3. Recognise and measure the improvement in health care system.

#### **COURSE CONTENTS**

##### **Unit I Economics of Health**

Distinction between health and health care - determinants of health - health accounts: sources of health expenditure; providers of health care and health expenditure by functions - health care and its linkages with poverty, nutrition; morbidity and mortality- demand and supply of healthcare - opportunity costs and problems of rationing- health care-costs and efficiency-types of equity. - markets vs state.

##### **Unit II Financing Health Care and Delivery of Health Care**

Economics of financing health care - financing options- the rationale of government funding and regulation of health care- user charges and community financing schemes – issues of affordability and accessibility-delivery of health care–models of decentralization - private/public mix., private and public health insurance – formal and informal sectors.

The supply and demand for health and medical care, health insurance industry, decision-making under uncertainty, insurance markets, causes and consequences of employer-based private health insurance managed care, hospital service industry and long-term care, physician service industry, pharmaceuticals, the government’s role and policy analysis, social insurance comparative health systems, health care reforms.

##### **Unit III Evaluation of Health Care**

Conceptual foundations for health utility measurement-preference based measures of health contingent valuation in health- discrete choice experiments in health economics- stages and validity of discrete choice variables, economic evaluation in health care-cost-effectiveness analysis- decision rules in economic evaluation.

#### **SUGGESTED READINGS**

1. Briggs, A.H., Claxton, K. and Sculpher M. J. *Decision Modeling for Health Economic Evaluation*, Oxford University Press (Latest Edition).
2. Cleverley, W.O., Cleverley, J.O. and Song, P.H. *Essential of Health Care Finances*, Jones & Bartlett Learning (Latest Edition).
3. Cutler, D. *Your Money or Your Life: Strong Medicine for America’s Health Care System*, Oxford University Press (Latest Edition).
4. Culyer, A.J. and Newhouse J.P. *Handbook of Health Economics*, Amsterdam, New York: North Holland/Elsevier (Latest Edition).
5. Culyer, A.J. *The Dictionary of Health Economics*, Cheltenham, UK: Edward Elgar Publishers (Latest Edition).

## 4. ECONOMICS OF DEMOGRAPHY

SEE 3292			Economics of Demography				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
4	2	0	6	1.5 Hours	3 Hours	10	20	20	50	100

### COURSE OUTCOMES

**After the successful completion of the course, the student will be able to;**

1. Relate population with economic development.
2. Identify the current trends in population.
3. Grasp different concepts of demography.

### COURSE CONTENTS

#### Unit I Population and Development

Theories of population - divergent views on population and development – population and development linkage, growth, structure and distribution of world population, regional variations in rates of growth, sources of population data, socioeconomic implications of population growth.

Migration- basic concepts and definitions – importance of migration in the study of population – types of migration – internal, international, temporary, international migration – levels, trends and differentials in developed and LDCs – effects of immigration and emigration, theories of internal migration, costs and benefits of internal migration and out migration.

#### Unit II Trends in Population

Size of population in India, growth, composition and distribution of population in India – inter-state variations, measure of fertility and mortality, birth rates and death rates, concepts of life table, nexus between population and poverty, population and health, population and education, MDGs, shifting proportions of human population in recent years and density, population growth and urbanisation.

#### Unit III Concepts in Demography

Gender and Age Structure: patterns of gender and age structure in developed and less developed countries – determinants of sex and age structure; Sex Ratio: determinants of sex ratio; Fertility: levels and trends – factors affecting fertility in developed and LDCs; Nuptiality: concepts, trends in age at marriage – change in age pattern of marriage; Mortality: level and trends of mortality in developed and LDCs, factors affecting mortality differentials, factors affecting mortality declines in developed and LDCs.

### SUGGESTED READINGS

1. Birdsall N., Kelley A. and Sinding S.W. eds. *Population Matters: Demographic Change, Economic Growth, and Poverty in the Developing World*. Oxford University Press.
2. Bloom D. Canning D. and Sevilla J. *The Demographic Dividend: A New Perspective On The Economic Consequences of Population Change*. Rand Corporation.
3. Cassen, R, ed. *Population and Development: Old Debates, New Conclusions*. Transaction Publishers.
4. Dasgupta, P. (1995), "The population problem: theory and evidence." *Journal of economic literature* 33(4): 1879-1902.

5. Dyson, T., Cassen R. and Visaria L. (eds.) *Twenty-First Century India: Population, Economy, Human Development and Environment*, Oxford University Press.
6. Agarwala S.N. *India's Population Problem*, Tata McGraw Hill, 1972.
7. Srinivasan K. and Pathak K.B. (Ed.), *Dynamics of Population and Family Welfare*, Himalaya.

**SEMESTER VI**  
**CORE 13 – PUBLIC FINANCE**

SEL 3271			<b>Public Finance</b>				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
4	2	0	6	1.5 Hours	3 Hours	10	20	20	50	100

**COURSE OUTCOMES**

**After the successful completion of the course, the student will be able to;**

1. Deal with the economic analysis of taxation, public expenditure for promoting socially efficient resource allocation.
2. Recognise central theories and empirical basis for economic policy for a desirable income distribution.
3. Learn the process of budgeting.

**COURSE CONTENTS**

**Unit I Introduction to Public Finance**

Meaning and scope of public finance, public finance vs. private finance, fiscal functions- allocation, distribution and stabilisation role of government, public goods - pure and partial public goods, private goods and merit goods, characteristics of public goods, rationale of public provision of public goods, free rider problem and externality, the role of government – taxes vs. regulation, fundamental principle of public finance – maximum social advantage.

**Unit II Public Expenditure and Revenue**

Classification and growth of public expenditure, Wagner’s law of increasing state activity, Peacock- Wiseman hypotheses, cannons of public expenditure, effects of public expenditure on production, distribution and economic activities, sources and classification of public revenue, direct and indirect taxes, effects of tax on production, distribution and economic activities, principles of taxation – benefit theory, ability to pay theory, burden of taxation: neutrality in taxation, shifting and incidence of taxation, taxable capacity, allocative and equity aspect of taxation.

**Unit III Public Debt and Concepts of Budget**

Sources of public borrowing, importance of public borrowing, effects of public debt, tax vs. debt, burden of public debt- classical, Ricardian and others, shifting of debt burden, intergenerational shifting, methods of debt redemption, debt management, Basic concepts, balanced vs. unbalanced budget, balanced budget theorem and its criticism, budgetary deficits and their limitations, budget as an instrument of economic policy, zero based budgeting, the salient features of the most recent union budget of India.

**SUGGESTED READINGS**

1. Ghosh, A and Ghosh C. *Economics of the Public Sector*, PHI.
2. Musgrave R.A. and Musgrave P. *Public Finance in Theory and Practice*, McGraw Hill International
3. Goode R. *Government Finance in Developing Countries*, Tata McGraw Hill.
4. Houghton, J.M. *The Public Finance: Selected Reading*, Penguin, Harmondsworth

## CORE 14 – ENVIRONMENTAL ECONOMICS

SEL 3351			Environmental Economics				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
4	2	0	6	1.5 Hours	3 Hours	10	20	20	50	100

### COURSE OUTCOMES

**After the successful completion of the course, the student will be able to:**

1. Evaluate the economic roots of environmental problems.
2. Formulate environmental problems using economic theory.
3. Understand the economic valuations of environmental resources
4. Understand the current mechanism and the inherent economic interpretation of the pollution control measures at the national as well as at the global level.

### COURSE CONTENTS

#### Unit I Economy and the Environment

Nature and scope of environmental economics; the economy and the environment: inter-linkages; circular flow model and environment; economic efficiency and market failures: problem of externalities; public goods and public bads; common property resources; non-convexities; asymmetric information. market solutions and government actions – promoting Coasian markets; Pigouvian taxes and subsidies, command and control verses market based instruments.

#### Unit II Valuing the Environment

Concepts of total economic value– use values; option values and non- use values; revealed and stated preference methodologies of valuation; methods based on observed market behavior: market price method, hedonic property values and travel cost method etc; methods based on response to hypothetical markets, contingent valuation methods.

#### Unit III Global Environmental Issues

Economics of pollution: damage functions and abatement cost functions; marginal decisions; optimal level of pollution tran boundary pollution, economics of global warming, impact of trade on environment and environment on trade, Porter's hypothesis, Pollution havens hypothesis, case studies

### SUGGESTED READINGS

1. Kolstad, C. *Environmental Economics*, Oxford University Press (Latest Edition).
2. Baumol, W.J, and Oates W.E. *The Theory of Environmental Policy*, Cambridge University Press (Latest Edition).
3. Freeman, A. M. *The Measurement of Environmental and Resource Values*, Resources for the Future (Latest Edition).
4. Hanley, N., J.F.Shogren, and White, B. *Environmental Economics: In Theory and Practice*, Macmillan India Ltd. (Latest Edition).
5. Seneca J.J. and Taussig M K. *Environmental Economics* (Latest Edition).
6. Abelson P. *Cost Benefit Analysis and Environmental Problems*, (Latest Edition).

7. Shyam Divan and Armin Rosencranz *Environmental Law and Policy in India*, Oxford University Press (Latest Edition).
8. Rajagopalan R. *Environmental Studies*, Oxford University Press(Latest Edition).
9. Nordström H. and Vaughan S. *Trade and Environment*, WTO (Latest Edition).
10. Perman R, Ma Y, McGilvray J, and Common M. *Natural Resource and Environmental Economics*, (Latest Edition).

## DISCIPLINE SPECIFIC ELECTIVE

### 1. FINANCIAL ECONOMICS

SEE 3261			Financial Economics				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
4	2	0	6	1.5 Hours	3 Hours	10	20	20	50	100

#### COURSE OUTCOMES

**After the successful completion of the course, the student will be able to;**

1. Understand the basic concepts and financial markets.
2. Comprehend how securities are priced and affected by the institutional arrangements in stock market and other government regulations,
3. Understand and analyze the fundamental operations of financial markets and instruments.
4. Estimate the value of the financial assets like bonds, securities etc. and Able to interpret the company's financial ratios.

#### COURSE CONTENTS

##### Unit I Introduction to Finance and Financial System

Investment basics - money and finance, the structure of the financial system and functions of financial markets- debt and equity markets-primary and secondary markets, money and capital markets. types of financial intermediaries and financial instruments. stock exchange-, the role of the primary market- issue of shares- Initial Public Offer (IPO)- SEBI's role in an issue- foreign capital issuance- products in the secondary markets, depository - how is a depository similar to a bank, the depositories in India, mutual funds- regulatory body for mutual funds, net asset value, risks involved in investing in mutual funds, different types of mutual funds, ETF, SIP, SWP and STP.

##### Unit II Financial Assets and Interest Rates

The interest rates- time value of money- present value and future value, types of credit market instruments, yield to maturity-simple loan-fixed payment loan-bond price for a coupon bond-yield to maturity on a discount bond-perpetuity-annuity- distinction between interest rates and returns - rate of capital gain, distinction between real and nominal interest rates

##### Unit III Regulatory Institutions

Regulatory institutions - role of regulatory institutions in a market-based economy measurement of risk and return of a portfolio, risk-return trade off, capital asset pricing model (CAPM), the arbitrage pricing theory, financial ratios analysis, markets for derivatives, types, uses of derivatives; spot and future, financial future and options.

#### SUGGESTED READINGS

1. Mishkin F.S. *The Economics of Money, Banking, and Financial Markets*, Pearson.
2. Elton J. E. *Modern Portfolio Theory and Investment Analysis*, Wiley
3. Gardener D. C. *Derivatives*, Macmillan India Limited, New Delhi.
4. Hull J C. *Options Futures and other Derivatives*, Prentice Hall, New Delhi.
5. Pilbeam, K. *Finance & Financial Markets*, PalgraveMc Millan.

6. Tuckman, B. *Fixed Income Securities – Tools for Today’s Markets*, Wiley Frontiers, Finance.
7. NSE-NCFM *Financial Markets*, [www.nseindia.com](http://www.nseindia.com)

## 2. HISTORY OF ECONOMIC THOUGHT

SEE 3211			History of Economic Thought				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
4	2	0	6	1.5 Hours	3 Hours	10	20	20	50	100

### COURSE OUTCOMES

**After the successful completion of the course, the student will be able to;**

1. Understand how the economic philosophy, theory and writings evolved with due course of time and happenings of the world.
2. Understand the basic difference between different paradigms of economic thought.
3. Evaluate the unique and heterodox Indian development thinking in comparison to the concurrent conventional development thinking in the rest of the world.

### COURSE CONTENTS

#### Unit I Introduction to Heterodox Economic Thinking

Rationale of studying economic thought; pre-smithian economic thought: physiocracy and mercantilism; William Petty and Francois Quasney; Adam Smith and his economic theory, Ricardo’s contribution to classical economic thought, Ricardo-Malthus glut controversy, the decline of Ricardianism; Marx and his economic thought; Keynesian economics: decline of Keynesian economics and the revival of Keynes after 2008 Global Crisis; Joseph Schumpeter; Piero Sraffa

#### Unit II Introduction to Orthodox Economic Thinking

The Marginalist revolution; William Stanley Jevons; the Austrian School (Karl Menger and his Economics); the Lussane School (Leon Walras; General Economic Equilibrium); Alfred Marshall and early neoclassical economics.

#### Unit III Introduction to Indian Economic Thinking

Indian development thinking; Bhim Rao Ambedkar, M K Gandhi and Indian economy and society; modern Indian economic thinker: D R Gadgil, V K R V Rao, Amartya Sen; Indian economy from the point of view of heterodox economics.

### SUGGESTED READINGS

1. Roncaglia A. *The Wealth of Ideas*, Cambridge University Press
2. Rima I. *Development of Economic Analysis*, Routledge, London
3. Schumpeter, J. *History of Economic Thought*, Oxford University Press
4. Vaggi G. *Palgrave Concise History of Economic Thought*. Palgrave
5. Ganguly, B N. *Indian Economic Thought- Nineteenth century perspectives*, Tata Mc-Graw Hills Publications.

### 3. DIGITAL ECONOMICS

SEE 3311			Digital Economics				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
4	2	0	6	1.5 Hours	3 Hours	10	20	20	50	100

#### COURSE OUTCOMES

After the successful completion of the course, the student will be able to;

1. Knowledge to use IT in Economics & Business
2. Skill to develop network models according to the digital products or services
3. Awareness to procure or purchase with technology
4. Learning from the business cases the pros and cons of technology in business

#### COURSE CONTENTS

##### Unit I Introduction to Digital Economics

Nature, scope and foundation of the digital economy, network design, designing options, factors influencing network design, frame work for network design, fundamental material properties of digital technology.

##### Unit II Digital Economy: Growth and Theories

Growth and development of digital economy, information communication market size and network development, ICT adoption and use across economic social activities, new and evolving business models and markets, sustainable innovation strategies for digital products, the implications of digitalization on markets, organizations, and technological design.

##### Unit III Digital Economy: Impacts

Impact of the digital economy: growth , productivity and jobs, overview of ERP, ERP implementation and national differences. Compare and differentiate industrial innovation and digital innovation.

Global positioning systems in digital economy, internet of things, e- procurement technology model, adaptation of B2B technologies.

#### SUGGESTED READINGS

1. Ray R. *Enterprise Resource Planning*, McGraw Hill
2. Irene C.L. *Creating New Markets in the Digital Economy*, Cambridge University Press.
3. Benkler Y. *The Wealth of Networks: How Social Production Transforms Markets and Freedom*, Yale University Press.
4. Brynjolfsson E. and Kahin B. *Understanding the Digital Economy: Data, Tools, and Research Reprint*
5. Brynjolfsson, E and Saunders, A. *Wired for Innovation : How Information Technology is Reshaping the Economy*, MIT press .

**SEMESTER VII**  
**CORE 1 - INTERNATIONAL FINANCE**

SEL 6252			International Finance				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
3	1	0	4	1.5 Hours	3 Hours	10	20	20	50	100

**COURSE OUTCOMES**

**After Successful Completion of this Course, students shall be able to;**

1. Learn concepts and theories involving balance of payment.
2. Learn how the foreign exchange market behaves and its impact on international trade.
3. Learn the objectives and role of different existing Institutions of international finance.

**COURSE CONTENTS**

**Unit I Balance of Payment**

The balance of payments: definition and use. balance-of-payments accounting principles: credits and debits. double-entry bookkeeping, the international transactions of india, accounting balances and disequilibrium in international transactions, measuring deficits or surpluses in the balance of payments, the principles of balance of payments, implications of the bop accounting identity balance of payments theory: different approaches and synthesis, imports, exports and deriving currency supply and demand curve, stock vs flow theories, the monetary theory of exchange rates, asset approach to exchange rate portfolio-balance approach to exchanges rates, sticky price theory, theories of overshooting.

**Unit II Foreign Exchange Market**

Functions of the foreign exchange market, equilibrium exchange rates, cross exchange rates, effective exchange rates and arbitrage, spot and forward exchange rates, foreign exchange futures and options, foreign exchange risks, hedging, speculation, overview of exchange rate determination: trade or elasticity approach, purchasing-power parity theory, the monetary model to exchange rates, asset or portfolio model of exchange rates, classical gold-standard system, Bretton Woods, european money market, hybrid system of exchange rates, purchasing power parity principle, interest parity combination of ppp and covered interest parity.

**Unit III Institutions in International Finance**

The euro dollar, euro currency markets, multinational banking, international trader with letters of credit, financing international trade, institutions regulating international trade GATT, WTO, free trade areas, customs union, NAFTA, ASEAN; Investment and borrowing with transaction costs, international dimension of cash management, portfolio investment international capital asset pricing, capital budgeting for foreign direct investment.

**SUGGESTED READINGS**

1. Levi, M.D. International Finance: The Markets and Financial Management of
2. Multinational Business, 3rd Edition, McGraw Hill International Editions, Finance Series, 1996.
3. Pilbeam, K. International Finance, Macmillan, 1994

## CORE 2 – OPTIMIZATION TECHNIQUES AND GAME THEORY

SEL 6225			Optimization Techniques And Game Theory				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
3	1	0	4	1.5 Hours	3 Hours	10	20	20	50	100

### COURSE OUTCOMES

**After the successful completion of the course, the student will be able to;**

1. Learn various optimization techniques which is the core of analysis for entire economics discipline.
2. Equip with techniques and practical problem solving approach which will be helpful if they do research work.
3. Understand the cutting-edge theories and model of many branches of economics.

### COURSE CONTENTS

#### Unit I Free Optimization Techniques and Economic Applications

Relative versus absolute extremum, relative extremum with one variable case: first derivative test, second derivative test and relative extremum: necessary vs. sufficient conditions, economic applications: profit maximization, cost minimization, revenue maximization from demand functions, MR-AR Relations, MC-AC relations, Maclaurin and Taylor series and relative extremum:  $n^{\text{th}}$  derivative test, relative extremum in case exponential and logarithmic functions. economic applications: problems of interest compounding, rate of growth, present and future value calculation, optimal timing and present value maximization, optimization in the case of more variables: necessary and sufficient conditions, hessian determinant, economic applications: profit maximization of multiproduct firm, monopoly and price discriminations, convex set and concept of convexity and concavity of function: geometric and derivative conditions, Jensen's inequality.

#### Unit II Constraint Optimization Techniques and Economic Applications

Optimization with equality constraints: first order condition, Lagrange multiplier method and its interpretation, total differential approach, n-variables and multi-constraint cases: second order condition and bordered hessian, nth variable nth constraint case, concept of quasi convexity and quasi concavity, economic applications: utility maximization and consumer demand, envelop theorem, duality theorems and consumer demand: Roy's identity - Shephard's lemma, production maximization and input demand.

#### Unit III Introduction to Game Theory

Rules of the game, the extensive and strategic form of games. solutions: dominant strategy, dominance solvability, Nash equilibrium, applications: Cournot duopoly, Stackelberg model, the commons problem; mixed strategies and their applications: natural monopoly and bankruptcy law, zero-sum games, playing safe: maximin, playing sound: minimax, playing both safe and sound: playing nash. perfect information games, backward induction, application: R&D model, subgame perfect equilibrium, finitely repeated games, infinitely repeated games: trigger strategies and good behavior, folk theorem, the model of commons problem, sustainable development and social optimum, moral hazard and incentives theory, games with incomplete information, mechanism design, the revelation principle, signaling games and the lemons problem.

## **SUGGESTED READINGS**

1. Chiang and Wainwright. *Fundamental Methods of Mathematical Economics*, McGraw Hill publication.
2. Intriligator M.D. *Mathematical Optimization and Economic Theory*, Prentice Hall of India.
3. Dixit A. *Optimization in Economic Theory*, Oxford University Press.
4. Dowling E.T. *Introduction to Mathematical Economics*, Schaum's Outline.
5. Hands W.D. *Introductory Mathematical Economics*, Oxford University Press.
6. Gibbons, R. *Game Theory For Applied Economists*, Harvester Wheatsheaf, New York.

### CORE 3 - INTERNATIONAL TRADE: INSTITUTIONS AND POLICIES

SEL 6253			International Trade: Institutions and Policies				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
3	1	0	4	1.5 Hours	3 Hours	10	20	20	50	100

#### COURSE OUTCOMES

After the successful completion of the course, the student will be able to;

1. Learn various concepts of trade policies involved in international trade practices.
2. Analyse the international trade policies to promote and protect domestic economy.
3. Understand the role of existing international institutions to promote trade among nations.

#### COURSE CONTENTS

##### Unit I Concepts on Trade Policies

Export documentation and information, export contract; foreign exchange regulations, exchange rate and forward exchange cover, quality control and pre-shipment inspection; export trade control; cargo insurance; commercial practice; shipment of export cargo, central excise clearance; customs clearance of export/import cargo; export by post-parcel by air; role of clearing and forwarding agents, export credit (letter of credit); export credit guarantees and policies; finance of export on deferred payment term; duty drawback; import licensing, export houses/trading houses; sales tax exemption on exports, canalization, certificate of origin; documents prescribed by importing countries; standardized export documents, international trade and second generation economic reforms in India.

##### Unit II Policies for Free trade and Protection

Free trade versus protection, trade restrictions: tariffs (partial and general equilibrium analysis), effective rate of protection and optimum tariff, non-tariff trade barriers: import quotas, voluntary export restraints, international cartels, dumping, export subsidies, economic integration: customs union and free trade areas, international resource movements and multinational corporations.

##### Unit III International Institutions and Their Role

Forms of economic cooperation; reforms for the emergence of trading blocs at the global level; static and dynamic effects of a customs union and free trade areas; rationale and economic progress of SAARC/SAPTA and ASEAN regions, problems and prospects of forming a customs union in the Asian region, regionalism (EU, NAFTA); multilateralism and WTO; rise and fall of gold standard and Bretton-woods system; need, adequacy and determinants of international reserves; conditionality clause of IMF; emerging international monetary system with special reference to post-Maastricht developments and developing countries; reform of the international monetary system, India and developing countries; theory of short-term capital movements and East-Asian Crisis and lessons for developing countries; international trade and financial institutions—functions of GATT/WTO (TRIPS, TRIMS), UNCTAD, IMF, World Bank and Asian Development Bank — their achievements and failures; WTO and World Bank from the point of view of India.

#### SUGGESTED READINGS

1. Batra, R. N. *The Pure Theory of International Trade under Uncertainty*, Macmillan Press.
2. Bhagwati, J. *International Trade: Selected Readings*, Cambridge University Press.
3. Chacholiades, M. *The Pure Theory of International Trade*, McGraw Hill.

4. Dana, M.S. *International Economics: Study, Guide and Work Book*, Routledge Publishers.

## CORE 4: POLITICAL ECONOMY

SEL 6331			Political Economy				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
3	1	0	4	1.5 Hours	3 Hours	10	20	20	50	100

### COURSE OUTCOMES

**After the successful completion of the course, the student will be able to;**

1. Learn about the role of institutions in the development process of economy.
2. Analyse the difference in price systems and quantity dynamics followed in different branches of economic analysis.
3. Understand and articulate the economic processes and situations; and relates to the political economy.

### COURSE CONTENTS

#### Unit I Institutions and Economy

The need for non-market institutions - drawing lessons from public economics, Efficient and inefficient institutions, How do efficient institutions come to exist?, Institutions and Political Economy, What is political economy and the need to study it?

#### Unit II Traditions in Political Economy

Different traditions in political economy: (a) Classical Political Economy, (b) Marxist Political Economy, (c) New Political Economy

#### Unit III Scope of Political Economy

Political economy and economic growth, inequality and economic growth, political economy and social/human development, political economy and governance, political economy and corruption, political transition in the development world: elite capture, political clientelism, transition to liberal democracy

### SUGGESTED READINGS

Acemoglu, D. and Robinson J. *Why Nations Fail: The Origins of Power, Prosperity, and Poverty Business*, 2012. Chapters 1-7 and 11-15.

Acemoglu, D., Johnson, S. and Robinson, J.A. (2001) "The colonial Origins of Comparative Development: An Empirical Investigation", *American Economic Review*, 91 (5), pp. 1369-1401

Dixit, A., (2009) "Governance Institutions and Economic Activity", *American Economic Review* 99 (1), pp. 5-24

North, D. *Institutions, Institutional Change and Economic Performance*, Cambridge: Cambridge University Press.

Pasinetti L. *Theories of Production*, Cambridge University Press.

Sraffa P. *Production of Commodities by Means of Commodities*, Cambridge University Press.

Rima I. *Development of Economic Analysis*, Routledge: London.

Santhakumar V. *Economic Analysis of Institutions*, Sage, New Delhi.

## CORE 5 – ECONOMICS OF TOURISM

SEL 6381			Economics of Tourism				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
3	1	0	4	1.5 Hours	3 Hours	10	20	20	50	100

### COURSE OUTCOMES

**After Successful Completion of this Course, students shall be able to;**

1. Demonstrating knowledge and understanding of the basic principles of tourism.
2. Taking decisions on tourism business and in analyzing tourism business environment.
3. Relating the economic dimension of tourism through the analysis of demand and supply of tourist products in the context of markets and economic cycles.
4. Understanding the tourism policy and perspectives.

### COURSE CONTENTS

#### Unit I Introduction to Tourism Economics

Basic concepts in tourism, history of development of travel and tourism, what is “tourism economics, tourism product, tourism and the national economy, definitions and economic measures of tourism products and services, methods for estimating visits, demand and value of recreation & tourism, travel cost, competition among tourism industries, global tourist, sustainable tourism development.

#### Unit II Demand and Supply in Tourism Industry

Tourism demand, types of tourism demand, determinants of tourism demand, measurement of tourism-volume statistics, value statistics, visitor’s profile statistics, statistical measurement of tourism-measuring economic impact, economic impact of tourism- foreign exchange, employment generation investment and development, multiplier effect, regional development, tourism as a foreign exchange earner, economic impact.

#### Unit III Planning for Tourism Development

Economic planning of tourism-tourism five year plans, policy frame work of 12th five year plan, tourism investment policies and incentives, government tourism promotion measures, tourism management in India-national tourism policy 2002, objectives, national action plan 2015, objectives, strength of master plan.

### SUGGESTED READINGS

1. James M. *Tourism and the Economy: Understanding the Economics of Tourism*, Versha Press.
2. [Sinclair](#) M.T. and [Stabler](#) M., *The Economics of Tourism*, Routledge Publisher
3. Roy K C., Allan, T. *Toursim in Indian and India’s Economic Development*, Nova Science Publishers.

**SEMESTER VIII**  
**CORE 6 - ADVANCED MACROECONOMICS**

SEL 6244			Advanced Macroeconomics				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
3	1	0	4	1.5 Hours	3 Hours	10	20	20	50	100

**COURSE OUTCOMES**

**After Successful Completion of this Course, students shall be able to;**

1. Understand the macroeconomics of that involves trade among nations.
2. Learn and articulate the problem of Inflation and unemployment with advanced modern theories.
3. Find the solution to the Business cycles and macroeconomic problems relating to infinite time.

**COURSE CONTENTS**

**Unit I The Open Economy**

Mundell-Fleming model — asset markets, expectations and exchange rates; the new-classical critique of micro foundations, the new classical approach – market clearing, rational expectations and aggregate supply hypothesis; policy implications of new-classical approach - empirical evidence, critiques of new-classical macroeconomics.

**Unit II Theories of Inflation**

Classical, Keynesian and Monetarist and Structuralist approaches to inflation; Philips curve analysis (Short run and long run), natural rate of unemployment, expectation augmented Phillips curve, non-accelerating inflation rate of unemployment (NAIRU), Tobin’s modified Philips curve; adaptive expectations and rational expectations hypothesis; Search theory: DMP (Diamond, Mortenson, Pissarides) model; policies to control inflation.

**Unit III Business Cycles and Modern Macroeconomic Theory with Time Horizon**

Theories of business cycle-Schumpeter, Kaldor, Samuelson, Hicks, and Goodwin, targetting monetary aggregates, targetting interest rates, inflation targetting, budget deficits and money creation, Barro-Ricardo equivalence theorem (Ricardian equivalence), hyper inflation, costs of inflation, the issue of central bank autonomy, rules vs discretion, Taylor rule-time inconsistency of policy.

**SUGGESTED READINGS**

1. Levacic R. and Rebman A. *Macroeconomics*, McMillan
2. Snowdon B. and Vane H. *Modern Macroeconomics: Its Origins, Development and Current State*. Edward Elgar Publishing, Inc.
3. Froyen R. T. *Macroeconomics*, Pearson India Ed.
4. Romer D. *Advanced Macroeconomics*. Mc-GrawHill
5. Barro J. R. *Macroeconomics*, PHI
6. Gordon R. J. *Macroeconomics*, Harper Collins

## CORE 7 - ADVANCED MICROECONOMICS

SEL 6234			Advanced Microeconomics				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
3	1	0	4	1.5 Hours	3 Hours	10	20	20	50	100

### COURSE OUTCOMES

**After the successful completion of the course, the student will be able to;**

1. Analyse the complex nature of consumer human behavior.
2. Analyse the behavior of consumer as well as producer when risk and information asymmetry are involved.
3. Learn the conditions of optimality and equilibrium.

### COURSE CONTENTS

#### Unit I Theory of Consumer Behaviour and Applications

Consumer preferences and utility functions: properties, types and existence of utility function, utility maximization and MRS (of various utility functions), homogeneity and homotheticity of utility functions, monotonic transformation, Separable utility function; demand function-derivation of Marshallian demand function and Hicksian demand function (some empirics), indirect utility function and expenditure function-properties, relations between two demand functions, Roy's identity, Shephard's lemma; labour-leisure choice and demand functions for leisure. Elasticity and aggregation of consumer demand-Engel's aggregation and income elasticity, Cournot's aggregation, Slutsky equation-income and substitution effect, nature of goods-gross (Marshallian) substitutes and complements, net (Hicksian) substitutes and complements, Slutsky versus Hicks compensation, composite commodity theorem, consumer surplus and expenditure function, revealed preference approach to consumer demand.

#### Unit II Analysis of Behaviour under Risk and Imperfect Information

Expected utility-fair gambles and expected utility hypothesis, St. Petersburg paradox, Von Neumann-Morgenstern theorem, risk aversion-measuring risk aversion, mean-variance utility function, methods of risk for reduction - insurance, diversification, flexibility, the state-preference approach to choice under uncertainty.

Asymmetric information-complex contracts as a response to asymmetric information, principal-agent model, multi-task agency; performance measurement, hidden actions, owner-manager relationship, moral hazard in insurance, hidden type and nonlinear pricing, adverse selection in insurance, market signaling, auctions.

#### Unit III General Equilibrium and Welfare Analysis

Partial market equilibrium, an elasticity interpretation (some empirics), welfare analysis, tax incidence analysis, interrelations and interdependence of markets; general equilibrium in exchange and production; general equilibrium in competitive product market; Pareto optimality, competitive equilibrium and Pareto optimality, welfare theorems, Social welfare functions, concept of fairness, criteria of welfare maximization: Cardinalists criterion, Bentham's Criterion; Pareto optimality criteria; compensation principle; social welfare function – properties and limitations: theory of second best. Arrow's impossibility theorem.

### SUGGESTED READINGS

1. Geoffrey A J and Phillip J. R. *Advanced Microeconomic Theory*, Pearson publication.

2. Silberberg E. and Suen W. *The Structure of Economics: A Mathematical Analysis*, (Indian Edition), McGraw Hill Education.
3. Varian H.R. *Microeconomic Analysis*, W.W. Norton and Company/Affiliated East-West Press (India), 3rd edition.
4. Henderson, M. and Quandt R.E. *Microeconomic Theory: A Mathematical Approach*, McGraw Hill.
5. Varian H.R. *Intermediate Microeconomics with Calculus* (International Student Edition), W. W. Norton & Company.
6. C. Snyder and Nicholson W. *Microeconomic Theory: Basic Principles and Extensions*, Cengage Learning (11<sup>th</sup> Edition).
7. Gravelle H. and Rees R. *Microeconomics*, Pearson Education, 2nd edition.
8. Perloff J.M. *The Microeconomics with Calculus*, Pearson; 7<sup>th</sup> edition.
9. David W. and Bryant A., *Advanced Microeconomics: Theory, Applications And Tests*, 2<sup>nd</sup> edition.

## CORE 8- GROWTH ECONOMICS

SEL 6324			Growth Economics				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
3	1	0	4	1.5 Hours	3 Hours	10	20	20	50	100

### COURSE OUTCOMES

**After Successful Completion of this Course, students shall be able to;**

1. Analyse the sources of economic growth.
2. Learn existing traditional and modern theories of economic growth.
3. Relate the theories to understand the situations in Indian economy.

### COURSE CONTENTS

#### Unit I Sources of Growth and Technical Progress

Growth accounting, standard primal growth accounting, dual approach to growth accounting, problems with growth accounting, tfp and its measurement issues, growth accounting vs sources of growth, factors affecting economic growth-capital, labour, technology; technological progress - embodied and disembodied technical progress

#### Unit II Economic Growth- Traditional Theories

Growth models- Harrod-Domar; Neo-classical growth models- Solow and Meade; Joan Robinson's growth model; Cambridge criticism of neo-classical analysis of growth, the capital controversy, growth models of Kaldor and Pasinetti, golden rule of capital accumulation

#### Unit III Economic Growth- Modern Theories

Theoretical dissatisfaction with Neoclassical Theory, models with endogenous growth: one sector growth models- AK model, learning by doing and knowledge spillover; two-sector model of Ujjawa - Lucas, Romer's model of technological change; growth models with consumer optimization (Ramsey model), overlapping generations model

### SUGGESTED READINGS

1. Barro R. and Sala-i-Matin X. *Economic Growth*, PHI
2. Adelman, I. *Theories of Economic Growth and Development*, Stanford University Press, Stanford.
3. Chenery, H. and Srinivasan T.N. (Eds) *Handbook of Development Economics*, Vols 1 & 2 Elsevier, Amsterdam

## CORE 9- LAW AND ECONOMICS

SEL 6301			Law and Economics				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
3	1	0	4	1.5 Hours	3 Hours	10	20	20	50	100

### COURSE OUTCOMES

**After Successful Completion of this Course, students shall be able to;**

1. Learn the concepts of law and economics.
2. Make economic interpretation of contract laws.
3. Relate economic decision making to criminal laws

### COURSE CONTENTS

#### Unit I Introduction to Law and Economics

Convergence of law and economics, law and legal institutions, efficiency concepts (pareto optimal, Kaldor-Hicks etc), Coase theorem, defining tort law, traditional theory of tort law , economic theory of tort law: various rules of liability , hand rule, activity levels and accident risk, determinants of damages, the legal concept of property: meaning and emergence, bargaining theory, an economic theory of property, protection of property rights, what can be privately owned?-public and private goods, what may owners do with their property?

#### Unit II Contract Laws and Economics

Bargaining theory, economic theory of contract, law of contract and essential elements of valid contracts, remedies for breach of contracts, the litigation process, rationale to sue: differing perception model, asymmetric information model, social vs. private incentives to sue, procedural rules and litigation costs: discovery; English & American rules, settlement bargaining, selection of disputes for trial, judicial decision making and legal change, appeals.

#### Unit III Criminal Laws and Economics

Traditional theory of criminal law , economic theory of crime and punishment (i)Becker's model(ii) Ehrlich's model, some econometric evidence on criminal behaviour, optimal punishment: various forms of punishments, economic analysis of death penalty, crime and business cycles, constitutional law and economics

### SUGGESTED READINGS

1. Miceli T. J. *The Economic Approach to Law*, 1<sup>st</sup> Edition, Stanford University Press.
2. Cooter R. and Ulen T. *Law and Economics*, 6th Edition, Pearson New International Edition.
3. Miceli T.J. *Economics of the Law: Torts, Contracts, Property, Litigation*, 1<sup>st</sup> Edition, Oxford University Press.
4. Pyle D.J. *The Economics of Crime and Law Enforcement*, 1<sup>st</sup> Edition, Palgrave Macmillan Publication.
5. Polinsky A.M. *An Introduction to Law and Economics*, 4<sup>th</sup> Edition, Aspen Publishers.

## CORE 10 - ECONOMICS OF NATURAL RESOURCES

SEL 6352			Economics of Natural Resources				Prerequisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
3	1	0	4	1.5 Hours	3 Hours	10	20	20	50	100

### COURSE OUTCOMES

**After Successful Completion of this Course, students shall be able to;**

1. Learn about various types of natural resources and how to conserve them for a sustainable development.
2. Learn the trade-off between the environment and development and subsequent concept of sustainability.
3. Learn how to conserve and economize the consumption of energy and water.

### COURSE CONTENTS

#### Unit I Introduction to Natural Resource Economics

A resource taxonomy, efficient intertemporal allocations, market allocations, natural resources management and sustainable development: theories of optimal use of exhaustible and renewable resources, environment and development trade off and the concept of sustainable development, integrated environmental and economic accounting, environmentally corrected GDP

#### Unit II Economic Modeling of Energy

Demand for energy, natural gas price control, oil-the cartel problem, transition fuels- environmental problems, conservation and local management, renewable and non-conventional sources of energy, energy modelling, need for and a sketch of an optimal energy policy.

#### Unit III Economic Modeling of Water

The potential for water Scarcity, the efficient allocation of scarce water, surface water and ground water, the current allocation system, potential remedies, water pollution, nature of water pollution programmes- sources of contamination, types of pollutants, water pollution control policy, efficiency and cost effectiveness.

### SUGGESTED READINGS

1. Titenberg T. *Environmental Economics and Policy*, Addison-Wesley
2. Fisher A.C. *Resource and Environmental Economics*, Cambridge University Press.
3. Pearce D.W. and Turner R. *Economics of Natural Resources*, JohnHopkins University Press.
4. Sengupta R. P. *Ecology and Economics*, Oxford University Press.

**SEMESTER IX**  
**CORE 11 - BUSINESS ANALYTICS**

SEL 7226			Business Analytics				Pre Requisites		Econometrics & Financial Econometrics	
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
3	1	0	4	1.5 Hours	3 Hours	10	20	20	50	100

**Course outcomes**

**After you have completed this course you should be able to:**

1. Define data and information, identify a wide range of data sources, label the data types in those sources, and show how these data can be collected, analyzed, and presented to business audience
2. Demonstrate the ability to communicate the value of data to business organizations and the ability to translate data into clear, actionable insights to the business
3. Demonstrate the ability to use technical skills in predicative and prescriptive modeling to support business decision-making
4. Demonstrate the ability to think critically in making decisions based on data and deep analytics.

**COURSE CONTENTS**

**Unit I Introduction of Business Analytics**

Evolution of business analytics, scope of business analytics visual perspective of business analytics, analytics module and cycle, data collection process, data set and databases, data measurement and data classification, business analytics process, comparison of business analytics and organization decision making process, business analyst role and requirement, requirements types, the body of knowledge in the business analytics and its relationship, business architecture frameworks, POLDAT frameworks, needs and wants of business analysis plan, smart goals in the business analysis, business analysis planning & monitoring, exploring the transcript to narrative analysis with decoding.

**Unit II Data Quality Criterion**

GIGO principle, business analytics action plan, problem solving and decision making analytics, data visualizations and interpretation, descriptive statistics, standardized values, coefficient of variation, outliers and investigation, Chebyshev's theorem and the empirical rule, the nature and measures of skewness and kurtosis, descriptive statistics for grouped data, measures of association-covariance, correlation, statistical thinking in business decisions, identify the variation in the data, case study's (Example: Cincinnati zoo management adopted the Business Analytics and etc...)

**Unit III Business analysis core models**

Enterprise analysis-creating and maintaining the business architecture -preparing the business case – conducting the initial risk assessment-preparing, the decision package-predictive analytics- trend lines and regression analysis, forecasting techniques-qualitative and judgmental forecasting-forecasting models for stationary times series-moving average models, error metrics and forecast accuracy and exponential smoothing models, forecasting time series with seasonality-decision analysis.

## **SUGGESTED READINGS**

1. Evans J.R. *Business Analytics*, 2nd edition, Publisher: Pearson
2. Hanke J.E. *Business Forecasting*, 9<sup>th</sup> edition, Publisher: Pearson
3. *The Body of Knowledge*, IIBA Version 1.6, Version 3.

## CORE12 - TIME SERIES ANALYSIS

SEL 7227			Time Series Analysis				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
3	1	0	4	1.5 Hours	3 Hours	10	20	20	50	100

### COURSE OUTCOMES

**After Successful Completion of this Course, students shall be able to;**

1. Learn and test characteristics of time series data.
2. Learn and apply advanced techniques to access relationships between variables.
3. Estimates causality and build models to analyze research problem that uses time series data.

### COURSE CONTENTS

#### Unit-I Basic Concepts in Time Series Analysis

Properties of time series, Properties of AR, MA, ARMA, ARIMA processes, stationary stochastic process-random walk and white noise, tests for stationarity- graphic inspection, integrated series, trend stationary and difference stationary series, unit root tests, ARIMA models- identification, estimation, diagnostic testing, forecasting- MA(1), ARMA(1,1) and ARIMA(1,1,0) processes, seasonality

#### Unit II Advanced Models in Time Series Analysis

Deterministic and stochastic trends, removing the trend, Unit roots and regression residuals, structural change, cointegration: a general cointegrated system, error correction model and tests for cointegration; cointegration in single equations- Engle-Granger method, system estimation method – Johansen procedure

The stylized facts of economic time series, the ARCH model- testing for ARCH effects, estimation of ARCH model by iteration; the GARCH model, the GARCH (1,1) as an infinite ARCH(q), maximum likelihood estimation of GARCH models, estimating GARCH model with E-Views; introduction to EGARCH model.

#### Unit-III Causality and Model Building in Time Series

Vector autoregressions(VARs):Estimation of VAR- testing the order of the VAR, testing for Granger causality and Sim's test, the impulse response function, orthogonal innovations, variance decompositions; vector error correction models-testing for cointegration ranks, estimation of cointegration vectors, estimation of a vector error correction model; structural VARs, identification conditions, estimation of structural equations, forecasting in VAR models, problems with VAR modeling.

### SUGGESTED READINGS

1. Johnston J. and Dinardo J. *Econometric Methods*, McGraw-Hill International Eds, Singapore
2. Walter E. *Applied Econometric Time Series*, Wiley India (P) Ltd, New Delhi
3. Amemiya, T. *Advanced Econometrics* Harvard University Press
4. Baltagi, B. H. *Econometrics* Springer, New York.
5. Dongherty, C. *Introduction to Econometrics*, Oxford University Press, New York.
6. Goldberger, A. S. *Introductory Econometrics*, Harvard University Press
7. Kennedy P. *A Guide to Econometrics* (4<sup>th</sup> Edition) MIT Press, New York.

### **CORE 13 - RESEARCH METHODOLOGY**

SEL 7228			Research Methodology				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
3	1	0	4	1.5 Hours	3 Hours	10	20	20	50	100

#### **COURSE OUTCOMES**

**After Successful Completion of this Course, students shall be able to;**

1. Learn the concepts and steps in research.
2. Learn different methods to carry out research.
3. Use computer techniques and tools to analyse and design research.

#### **COURSE CONTENTS**

##### **Unit I            Fundamentals of Research Methodology**

Meaning of research – the relation between theory and research – scientific and social research – pure and applied research – special features of social research – different approaches in social research method– interdisciplinary research

##### **Unit II            Formulation of Research Problem & Design**

Formulation of null and alternative hypothesis – research design and methods – exploratory, diagnostic and experimental studies – deductive and inductive method – static and dynamic method – historical and dialectical method – case study

Sampling methods – random, stratified, multistage, systematic, cluster, quota and judgment samples – data analysis techniques – drawing inferences from analysis; report writing procedure

##### **Unit III            Computer Applications**

Estimation of mean, median and mode – standard deviation and coefficient of variation – presentation of graphs – line, sub divided, multiple, pie graphs – estimation of growth rates – estimation of trend equations – estimation of regression equations – introduction to EXCEL, SPSS.

#### **SUGGESTED READINGS**

1. Goodn and Hatt: Social Research Methods
2. Paul Young: Scientific Social Surveys
3. Kothari: Research Methodology

**SPECIALIZATION 1**

**SPECIALIZATION 2**

**SEMESTER X**  
**CORE 14 - INDIAN ECONOMY: THEORIES AND PRACTICES**

SEL 7325			Indian Economy: Theories and Practices				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
3	1	0	4	1.5 Hours	3 Hours	10	20	20	50	100

**COURSE OUTCOMES**

**After Successful Completion of this Course, students shall be able to;**

1. Understand the underlying doctrines of the Development planning in India.
2. Understand the aspects of growth in different sectors of Indian economy.
3. Make out economic issues in India and will be able to realize the causes.

**COURSE CONTENTS**

**Unit I Development Planning**

Discourse on development planning (Gandhi, Nehru-Mahalanobis), growth process during 1955-1974, the structure and evaluation of the Mahalanobis model, the new agricultural policy, the Fifth Plan model as the watershed, growth process during 1974-1991 (role of public sector – the fiscal constraint – the agrarian constraint – the savings constraint – the trade and payments constraint – appraisal of the programme of industrialization), *economic reforms since 1991*- context and rationale of reforms, sequencing of macroeconomic reforms and implications, theoretical appraisal, the institutionalization of poverty ‘alleviation’.

**Unit II Macroeconomics of Post reforms India**

Trends in GDP, performance of economic sectors (agriculture, industry and services), employment scenario in India, industrialisation and growth, petty production and poverty, sources of growth in India, price stability, performance of external trade, money market and banking system in India, fiscal and monetary policy (issues and implementation, tax reforms).

Reading list:

**Unit III Issues in Indian Economy**

Population growth and demographic features, relative poverty and redistribution, problem of jobless growth, literacy and training in the labour force, formalising the economy, black money.

**SUGGESTED READINGS**

1. Chakraborty S. *Development Planning: The Indian Experience*. Clarendon Press.
2. Jalan B. *Indian Economic Policy*. Penguin Books Ltd
3. Rakshit, M. *Macroeconomics of Post reforms India*, Oxford University Press.
4. Kapila U. *Indian economy since Independence*. Academic Foundation, New Delhi
5. Government of India, *Economic Survey (Annual)*, Economic Division, Ministry of Finance, New Delhi

## CORE 15 - ECONOMICS OF EDUCATION

SEL 7282			Economics of Education				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
3	1	0	4	1.5 Hours	3 Hours	10	20	20	50	100

### COURSE OUTCOMES:

**After Successful Completion of this Course, students shall be able to;**

1. Develop an understanding of planning, financing and cost of education.
2. Develop and understanding of the link between the educational system and economic development.
3. Develop an understanding of educational problems in the context of economic concepts, Theories and techniques.

### COURSE CONTENTS

#### Unit I Introduction to Economics of Education

Conceptual issues in economics of education: meaning, definition, scope and importance of economics of education, the relationship between education and the economic system, the role of the economic system in (i) financing of education, and (ii) absorbing the educated manpower, education as an industry, education as consumption and education as individual, social and national investment. e. spill-over and inter-generational effects of education.

Cost of education: concept of cost of education, types of educational costs: direct cost, indirect cost, private cost, social cost and opportunity cost, unit cost of education: its estimation. its applications to different levels, modes and types of education. (levels: primary, secondary and tertiary modes: formal and distance, types: i) general i.e. arts, science and commerce, and ii) professional and technical), external and internal efficiency of education.

#### Unit II Pricing Education

Cost-Benefit analysis in education: meaning of cost-benefit analysis. its purpose and problems, profiles of age-education earnings, calculation private marginal and benefit cost ratio, interpretations and evaluation of rates of return on investment in education., cost effectiveness analysis in education, difference between cost-benefit and cost –effectiveness analysis, concept of cost consciousness in education.

Pricing of education: micro and macro aspects of pricing of education (theoretical study), practical solution to the pricing of education especially at the tertiary level, problem of capitation fees.

#### Unit III Human Resource Development & its Contribution

Human Resource Development: the concept of human resource development, meaning, definition, significance and development of human resources through education, the concepts of economic development and economic growth, the interrelationship between education and economic development, measuring the contribution of education to economic growth, approaches other than cost benefit analysis: correlation approach, residual approach, manpower forecasting approach, wage-differential approach.

### SUGGESTED READINGS

1. Blaug. M. *An Introduction to the Economics of Education*, Penguin, London.
2. Cohn, E. and Gesker T. G. *The Economics of Education*, Pergamon Press, Oxford.

3. Tilak J. B. *Education and its Relation to Economic Growth Poverty and income distribution: past Evolution and Further Analysis*, The World Bank, Washington D. C.

**CORE 16 - DISSERTATION**

SED 7371			Dissertation			Pre Requisites		
Version R-01						Co-requisites		
L	T	P	C	Mid-Term Evaluation by School Level Committee	Evaluation by External Examiner	Evaluation by Guide & Co-Guide	Total	
			6	10	60	30	100	

**SPECIALIZATION 3**

**SPECIALIZATION 4**

## SPECIALIZATION COURSES

### 1. Panel Data Econometrics

SEE 7222			Panel Data Econometrics				Pre Requisites		Advanced Econometrics	
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
4	2	0	6	1.5 Hours	3 Hours	10	20	20	50	100

#### **COURSE OUTCOMES**

**After the successful completion of the course, the student will be able to;**

1. Understand concepts of Panel Data Econometrics
2. Learn Dynamic Panel Data
3. Estimate advanced model of VAR & binary dependent variable

#### **COURSE CONTENTS**

##### **Unit I Introduction to Panel Data**

Structure of panel data: cross-sectional dimension and time-series dimension, Balanced and unbalanced panels, panels and pseudo-panels, Error component models: one-way and two-way & Fixed or random effects, The Hausman specification test, Detection of Heteroscedasticity and Autocorrelation in panel Data, Instrumental Variable and GMM Estimation, The fixed effects model: Least Squares Dummy Variables (LSDV) estimation Testing for fixed effects, The random effects model: Generalized Least Squares (GLS) estimation, The Between and Within estimators, The fixed effects model: Least Squares Dummy Variables (LSDV) estimation, Testing for fixed effects, The random effects model: Generalized Least Squares (GLS) estimation

##### **Unit II Dynamic Panel Regression**

Serial correlation in error component models, Dynamic fixed effects model: bias of LSDV estimator, Dynamic random effects model: instrumental variables estimation

##### **Unit III Binary Dependent Variable, VAR and Panel Data**

Binary dependent variable models: review, Fixed effects logit: conditional maximum likelihood estimation, Fixed effects logit: semiparametric estimation, Random effects probit.

Vector Autoregressions: review, Panel stationary VAR with individual effects, Panel stationary VAR with individual effects and shocks to a common factor, Panel nonstationary VAR with individual effects.

#### **SUGGESTED READINGS**

1. Johnston J. and Dinardo J. *Econometric Methods*, McGraw-Hill International Editions, Singapore.
2. Enders W. *Applied Econometric Time Series*, Wiley India (P) Ltd, New Delhi
3. Amemiya, T. *Advanced Econometrics*, Harvard University Press
4. Baltagi, B.H. *Econometrics*, Springer, New York.
5. Kennedy P. *A Guide to Econometrics*, (4<sup>th</sup> Edition) MIT Press, New York.

## 2. Advanced Financial Economics

SEE 7262			Advanced Financial Economics				Pre Requisites		Financial Economics	
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
4	2	0	6	1.5 Hours	3 Hours	10	20	20	50	100

### COURSE OUTCOMES

**After the successful completion of the course, the student will be able to;**

1. Understand advanced concepts of financial economics
2. Learn various functions of Derivatives Markets
3. Estimate the advanced models of Capital Market & Derivative Market

### COURSE CONTENTS

#### Unit I Markets for Derivatives

Derivatives, types, uses and pricing of derivatives; future contracts and forward contracts; future and forward markets, origin of future trading; future prices relation between spot and future prices, commodity future; financial future; hedging in futures, options, the put option and call option; option pricing, the pay-offs from buying and selling options, option pricing models: binomial model, swaps currency and interest rate swaps; equity and commodity swaps, european and american options; pricing futures, wasp and synthetic futures; bounds for option prices, put-call parity; black-scholes option pricing models, option to expand, valuation of a real option.

#### Unit II Capital Structure Choice & Efficient Markets Hypothesis

Defining capital market efficiency, relationship between the value of information and efficient capital markets, rational expectations and market efficiency, market efficiency with costly information, various approaches to efficient market hypothesis, variance bounds tests, anomalies, cross-asset relationships, over-reaction hypothesis.

#### Unit III Markets for Investment Banking

Corporate debt and underwriting procedures securitization and asset backed debt securities, high yield debt investment bankers as traders and market-makers, private placements. Equity issues; valuing an initial public offering, international equity issues, GDR, ADR, convertible securities, innovation and new equity securities, derivative securities

### SUGGESTED READINGS

1. Brahmaiah, B. and Subba Rao, P. *Financial Future and Options*, Himalaya Publishing House, Mumbai.
2. Gardener D. C. *Derivatives*, Macmillan India Limited, New Delhi.
3. Hull J.C. *Options Futures and other Derivatives*, Prentice Hall, New Delhi.
4. Khan, M.Y. and Jain, P.K. *Financial Management, Text, Problems and Cases*, Tata McGrawHill Company Ltd. New Delhi.
5. Pilbeam, K. *Finance & Financial Markets*, Palgrave McMillan.
6. Cuthbertson, K. *Quantitative Financial Economics Stocks, Bonds and Foreign Exchange*, John Wiley and Sons, USA.
7. Eichberger J. and Harper I R. *Financial Economics*, Oxford University Press, New York.

8. Tuckman, B. *Fixed Income Securities – Tools for Today’s Markets*, Wiley Frontiers, Finance.

### 3. RURAL ECONOMICS

SEE 7361			Rural Economics				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
4	2	0	6	1.5 Hours	3 Hours	10	20	20	50	100

#### COURSE OUTCOMES

**After the successful completion of the course, the student will be able to;**

1. Analyze and understand the long-term tendencies in the rural economy and agricultural development in India
2. Acquaint the knowledge on theories of rural development and rural local self-governance namely Panchayati Raj Institutions and its role in planning and development of rural areas
3. Evaluate the coordination among various stakeholders for sustainable rural development
4. Understand the rural credit system, infrastructure development and various policies to eradicate socio-economic problems in rural sector of India.

#### COURSE CONTENTS

##### Unit I Introduction to Rural Economy

Rural economics- nature and scope, structure and features of rural economy of India, rural demography, rural occupational structure; rural poverty-meaning, estimates, causes and consequences, unemployment - meaning, types, magnitude of rural unemployment, causes and consequences, rural natural resources and sustainable development

##### Unit II Rural Development Theories and approaches

Concept and approaches to rural development; issues in rural development and planning; rural development administration; rural panchayats, models of rural development: theory of unlimited supply; Ranis and Fei model of economic growth; Schultz’s transformation of traditional agriculture; Jorgenson’s model of development of dual economy; Todaro’s model of rural-urban migration; rural development programmes

##### Unit III Rural Credit system and Infrastructure Development

Rural credit system, rural banks, microfinance and SHGs; rural indebtedness: issues, prospectus and problems; rural industrialization and development of agro-based industries; rural infrastructure, rural transport, communication and extension services-roles, rural healthcare and education; future prospects of development of rural economy

#### SUGGESTED READINGS

1. Dende A K. *Studies in Rural Development*
2. Gour A. *Integrated Rural Area Development*
3. Bhagavan M.R *The Technological Transformation of Third World.*
4. Brahmananda, et.al- *Dimensions of Rural Development in India*
5. Chahdhary *Rural Economics*
6. Chatterton, A. *Rural Economics In India*, Oxford University Press

7. Jain S.C. *Community Development and Panchayat Raj in India*.
8. Kurian C.T. *Poverty Planning and Social Transformation*.
9. Laxman and Morayan *Rural Development in India*.
10. Quaraishi M.A. *Indian Agriculture and Rural Development*
11. Mohanlal M. *Poverty alleviation, The Indian Experience*
12. Lal S K and Rajnahar U. *Rural Social Transformation*.
13. Sundarm. T.S. *Antipoverty Rural Development in India*
14. Carver T N. *Principles of Rural Economics*
15. Desai V. *A Study of Rural Economics: A Systems Approach*, Himalaya Publishing House

## 4. Energy Economics

SEE 7353			Energy Economics				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
4	2	0	6	1.5 Hours	3 Hours	10	20	20	50	100

### COURSE OUTCOMES

**After the successful completion of the course, the student will be able to;**

1. Learn economic concepts that relates to energy.
2. Learn pricing policy in the energy sector.
3. Find the economic efficiency of renewable energy use.

### COURSE CONTENTS

#### Unit I Concepts in Energy Economics

Nature and scope of energy economics, economic approach to energy analysis, economics system, Reference energy systems, Econometrics, Statistical approach, Input–output economics, Pattern of energy use and conservation.

#### Unit II Policies Relating to Energy and Pricing

Energy (and power) policies in the country, tariffs and subsidies, energy utility interface, private sector participation in power generation, energy and development, National energy plan , role of modeling in energy policy analysis, macroeconomic growth models, dynamic models of the economy, simple theory of business fluctuations energy investment planning and energy pricing.

#### Unit III Renewable Energy

Environmental repercussions and economic structure, Social costs, Decision and uncertainty, Economics of Renewable Energy Systems and energy policy

### SUGGESTED READINGS

1. O’Callaghan P. *Integrated Environmental Management Hand Book*, John Wiley & Sons, Chichester, 1996.
2. O’Callaghan P. *Energy Management : A comprehensive guide to reducing costs by efficient energy use*, McGraw Hill Book Company, London, 1993.
3. Henry H, Symonds F. *Energy Management : Theory and practice*, Marcel Dekker Inc., New York, 1980.
4. Sarkar H. and Kadekodi G. *Energy pricing in India: perspectives, issues and options*

5. Porter M. *Competitive Strategy: Techniques for Analyzing Industries & Competitors*.

6. Griffin J & Steele H. *Energy Economics and Policy*, Elsevier.

## 5. CORPORATE FINANCE

SEE 7263			Corporate Finance				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
4	2	0	6	1.5 Hours	3 Hours	10	20	20	50	100

### COURSE OUTCOMES

**After completing this course, students should be able to;**

- 1) Identify the key themes in corporate finance and explain the role of finance in an organization
- 2) Explain and analysis the interrelationship between finance and corporate governance
- 3) Estimate a company's cost of capital; evaluate investment projects
- 4) Able to interpret the company's financial ratios and critically evaluate finance and investment theory with particular reference to the operation of financial markets

### COURSE CONTENTS

#### Unit I Concepts in Corporate Finance

The Economic function of a financial market, meaning of corporation, characteristics of business organization, corporate finance and financial manager organizational chart of company, goal of financial management, overview of corporate finance, cash flow between firms and financial market, the essential role of financial manager, invest tradeoff between the company, financial view of firms assets and liability, Principle of corporate finance, opportunity cost, principle agent problems, hostile acquisition, Agency Problems and Corporate Governance, the reality strike the corporate objective, relationship between the bondholder and shareholders.

#### Unit II Theories and Methods in Estimating Value

Introduction of time value of money, future value of cash inflows and outflows necessary to satisfy present value – interest rate, calculating future and present value – net present value – risk and present value – present values and rates of return, the opportunity cost of capital, capital markets reconcile preferences for current vs. future consumption, corporate goals and corporate governance, valuing cash flows in several periods – discount factors declines as futurity increases, perpetuities and annuities – value of growing perpetuities – annuities, nominal and real rates of interest.

#### Unit III Financial Decision Making

Financial statements and cash flow -Lowe's financial statements, measuring Lowe's performance-economic value added (eva) / accounting rates of return / problems with eva and accounting rates of return, measuring efficiency, analyzing the return on assets: the du pont system, measuring leverage, leverage and the return on equity, measuring liquidity, operating cash flows interpreting financial ratios, links between long-term and short-term financing decisions.

### SUGGESTED READINGS

1. Brealey R. and Stewart M., *Principles of corporate finance*, McGraw Hill Education
2. Damodaran A. *Corporate finance, theory and Practices*, Wiley.
3. Westerfield R. and Jordan P. *Fundamentals of Corporate finance*, McGraw-Hill/Irwin

**GENERIC ELECTIVES TO BE OFFERED BY SCHOOL OF ECONOMICS**  
**GENERIC 1 – PRINCIPLES OF ECONOMICS**

SEE 1201			Principles of Economics				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
4	2	0	6	1.5 Hours	3 Hours	10	20	20	50	100

**COURSE OUTCOMES**

**After successful completion of this course, students shall be able to;**

1. Understand nature and scope of Economics.
2. Understand basic concepts of microeconomic models can be used to consider fundamental economic choices of households and firms.
3. Understand how macroeconomic models can be used to analyse the economy as a whole
4. Apply basic concepts of government policy influences for determining market equilibrium

**COURSE CONTENTS**

**Unit I Basic Concepts in Economics**

Principles of Economics - How People Make Decisions, How People Interact, How the Economy as a Whole Works. Nature and scope of economics, definitions of economics, important concepts of economics, scarcity and choice, the basic issues of what to produce, how to produce and for whom to produce, problem of distribution of output, branches of economics, The methods of Economics, The Economic Policy, PPF-some elementary ideas, different economic systems-elementary ideas, How to read and understand graphs; slope: nature and measurement

**Unit II Introduction to Demand and Supply**

Market, Concept of Demand, Law of Demand, Market Equilibrium. Market Demand versus Individual Demand. Elasticity of demand: price, income and cross elasticity of demand, different methods of measurement of elasticity of demand and determinants of demand. Concept of supply, law of supply, elasticity of supply and determinants of supply. How price ceilings affect market outcomes, how price floors affect market outcomes, Consumer, Producers and the Efficiency of Markets-Welfare economics, Consumer surplus, Producer surplus. Market efficiency and market failure

**Unit III Introduction to Macroeconomics**

Macroeconomics Concepts, Introduction to National Income Accounting: Concepts of GDP, GNP and national income, approaches to calculating GDP, personal income, Nominal and real GDP, the components of GDP, GDP Deflator, Limitations of the GDP concept, Unemployment and Natural Rate-unemployment measurement, Labour force participation rate. Public policy and Job search

**SUGGESTED READINGS**

1. Case K E. and Fair Ray C. *Principles of Economics*, Pearson Education Asia
2. Mankiw N. G. *Principles of Economics*, Thomson.
3. Samuelson P. and Nordhaus W. *Economics*, McGraw-Hill

## GENERIC 2 – INTRODUCTION TO MICROECONOMICS

SEE 1231			Introduction to Microeconomics				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
4	2	0	6	1.5 Hours	3 Hours	10	20	20	50	100

### COURSE OUTCOMES

**After successful completion of this course, students shall be able to:**

1. Understand basic concepts of Microeconomics.
2. Understand nature and scope of Microeconomics.
3. Apply basic concepts of Microeconomics for developing economic theories.

### COURSE CONTENTS

#### Unit I Introduction to Microeconomic Concepts

Nature and scope of economics, definitions of economics, important concepts of economics, scarcity and choice, the basic issues of what to produce, how to produce and for whom to produce, problem of distribution of output, branches of economics. Concept of demand, law of demand, elasticity of demand: price, income and cross elasticity of demand, different methods of measurement of elasticity of demand and determinants of demand, concept of supply, law of supply, elasticity of supply and determinants of supply.

#### Unit II Theory of Demand and Production

Theory of demand and utility analysis – cardinal and ordinal approach, total and marginal utility, consumer preferences (types of preferences) & indifference curves analysis-properties, types of indifference curves (for goods, bads, neutrals, complements, substitutes), marginal rate of substitution, budget constraints, properties of budget set, changes in budget line, consumer equilibrium, price, income and substitution effects, price consumption curve and income consumption curve, the changes in demand and Engel's curve and consumer surplus.

Production possibility curve, production function :- law of variable proportions, returns to scale, isoquants:- properties and types , marginal rate of technical substitution, producer's equilibrium, linear homogenous production function, Cobb-Douglas production function, cost concepts and its types, short run and long run cost curves, revenue concepts: - average, marginal and total revenue, numerical problems.

#### Unit III Theories of Distribution

Marginal productivity theory; theories of wage determination; wages and collective bargaining; wage differentials; theories of rent: Ricardian and Modern, quasi rent; interest- Classical and Keynesian theories; profits — innovation, risk and uncertainty theories. Market: meaning and types, competitive and monopoly equilibrium; short run and long run under different cost conditions.

### SUGGESTED READINGS

1. Case K.E. and Fair R.C. *Principles of Economics*, Pearson Education, Inc., 8<sup>th</sup> edition, 2007.
2. N. Gregory Mankiw, *Economics: Principles and Applications*, India edition by South Western, a part of Cengage Learning, Cengage Learning India Private Limited, 4<sup>th</sup> edition, 2007.
3. Verian H. *Microeconomic Analysis*, W.W Norton, New York (Latest Edition).
4. Koutsoyiannis, A. *Modern Microeconomics*, MacMillan Press, London (Latest Edition).

### GENERIC 3 – INTRODUCTION TO MACROECONOMICS

SEE 2241			Introduction to Macroeconomics				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
4	2	0	6	1.5 Hours	3 Hours	10	20	20	50	100

#### COURSE OUTCOMES

**After successful completion of this course, students shall be able to:**

1. Understand basic concepts of macroeconomics.
2. Understand various concepts of national income, consumption functions, investment function, monetary policies and fiscal policies.
3. Develop the ability to construct some basic macroeconomic model for analysis of economic theory.

#### COURSE CONTENTS

##### **Unit I Introduction to Macroeconomics**

The roots of macroeconomics, difference between micro and macro economics, macroeconomic concerns, the role of government in the macro economy, the components of the macro economy, the methodology of macroeconomics.

Circular flow of income in two, three, and four-sector economy, national income concepts and accounting methods; flow of funds accounting and balance of payments accounting, introduction to national income accounting: concepts of GDP, GNP and national income, approaches to calculating GDP, personal income, nominal and real GDP, limitations of the GDP concept.

##### **Unit II Classical Macroeconomics**

Aggregate supply function-production function and aggregate supply curve, the classical system: the full-employment model: macroeconomic equilibrium, the labour market, the product market, the capital market; extending the full employment model, Say's law of markets, output and employment in classical theory, the quantity theory of money, classical model with and without saving and investment. Keynes' objection to the classical theory.

##### **Unit III Theories of Consumption and Investment**

Theories of consumption – absolute, relative, permanent and life cycle income hypothesis, decisions to invest-autonomous and induced investment, MEC and MEI schedule, Multiplier and Accelerator theories of investment, rate of interest and the rate of investment, role of finance beyond the interest rate, monetary and fiscal policies instruments, their role and effects, IS-LM approach to the determination of equilibrium interest rate, elasticity and shifts of IS and LM schedules.

#### SUGGESTED READINGS

1. Dornbusch, Fischer and Startz. *Macroeconomics*, McGraw Hill, 11th edition, 2010.
2. Mankiw G. *Macroeconomics*, Worth Publishers, 7th edition, 2010.
3. Blanchard O. *Macroeconomics*, Pearson Education, Inc., 5th edition, 2009.
4. Andrew and Bernanke. *Macroeconomics*, Pearson Education, Inc., 7th edition, 2011.
5. D'Souza E. *Macroeconomics*, Pearson Education, 2009

## GENERIC 4 – INDIAN ECONOMY

SEE 2321			Indian Economy				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
3	1	0	4	1.5 Hours	3 Hours	10	20	20	50	100

### COURSE OUTCOMES

After the successful completion of the course, the student will be able to;

1. Read the current economic situation in India.
2. Know how India grew after the independence.
3. Distinguish between the economic situation pre and post liberalisation period.

### COURSE CONTENTS

#### Unit I Structural Change of Post Independent India

Indian Economy at the time of independence- features of Indian economy around 1947- 1950 and characteristics of economic underdevelopment of India (with reference to colonial rule of India)- trend in national income and Per capita income; sectoral composition (output and employment) – primary, secondary and tertiary Sectors; broad demographic features — population size and growth rates, sex composition, occupational distribution.

#### Unit II Resource Mobilization and Planning in India

Evolution of economic planning in India; economic planning – rationale, features and objectives; strategy of planning; types of plans and planning; a dynamic analysis of 5 year plans in India; broad achievements and failures; NITI Aayog; Indian tax system; public expenditure in India- pattern and growth; public debt, deficit and subsidies in the Indian economy; centre-state financial relation.

#### Unit III Indian Economy in Post Reform Period

Background of Indian economic reforms – New Economic Policy; redefining India’s development strategy; changing role of state and market, industrial policy, disinvestment policy and privatization; financial sector reforms including banking reform; external sector reforms: foreign exchange market, balance of payments, reform, convertibility, export-import policy, foreign direct investment; post-reform agricultural performance and its crisis; appraisal of Indian economic reform.; India’s growth experience.

### SUGGESTED READINGS

1. Kapila U. *Indian Economy since Independence*. Academic Foundation, New Delhi (latest edition)
2. Misra, S.K. and Puri V. *Indian Economy — Its Development Experience*, Himalaya Publishing House, Mumbai
3. Datt, R. and Sundharam K. *Indian Economy*, S. Chand & Company Ltd., New Delhi