FOUR YEAR UNDER GRADUATE (FYUG) PROGRAMME
UNDER
NATIONAL EDUCATION POLICY, 2020

ECONOMICS

Date of approval in Academic Council – 30th May and 21st June 2024.

Preface

Economics has emerged as one of the most sought-after subjects of study in Social Sciences as it immediately communicates with the changing societal priorities and needs. The curriculum under the NEP, 2020 has been structured so as to make it practically more useful and job-oriented in the multifaceted environment ranging from trade, industry, infrastructure, etc. to information technology. At the same time, the syllabus gives sufficient impetus for academic inputs to prepare students for a research or teaching career in Economics. The programme emphasises both on theory and applied nature of the subject that has registered rapid changes during the recent times.

There are a total of fifteen compulsory core courses that students are required to take across six semesters in the first three years of the programme. The question paper shall be prepared as per University guidelines. Out of 100 marks in each course, 75 marks will be assessed in the end semester examination and 25 marks will be carried from the sessional assessments. In the end semester examination, there will be two questions from each unit and the students have to answer at least one question from each unit.

Programme Outcomes

The Undergraduate programme in Economics aims to

1. Develop a comprehensive understanding and critical thinking among students.
2. Impart knowledge of key economic theories and policies.
3. Develop an ability to utilise the knowledge to examine and analyse past and present economic situations and issues.
4. Impart skills using mathematical and statistical tools to develop the ability for economic analysis.
5. Facilitate development of a deeper insight in each individual so as to enable him/her to opt for challenges of self-employment in the face of broadening gap between the number of graduates and the number of available jobs.
6. Create an understanding of the importance of economic, social and environmental dimensions for the promotion of sustainable development.
7. Engage in lifelong learning in the principles and practices of economics in the context of evolving social change.

Structure of the Syllabus

1st Semester

Course Code	Title of the Course	Credit			Total Contact Hours
		Theory	Practical	Total	
ECO-100	Microeconomics I (Major)	4	-	4	60
ECO-100	Microeconomics I (Minor)	4	-	4	60
MDC-110...119	Any of the available courses as notified by the University from time to time	3	-	3	45
AEC-120...129	Any of the available courses as notified by the University from time to time			3	45
SEC-130...139	Any of the available courses as notified by the University from time to time			3	45
VAC-140	Environmental Science			3	45
				20	

2nd Semester

Course Code	Title of the Course	Credit			Total Contact Hours
		Theory	Practical	Total	
ECO-150	Macroeconomics I (Major)			4	60
ECO-150	Macroeconomics I (Minor)			4	60
MDC-160...169	Any of the available courses as notified by the University from time to time			3	45
AEC-170...179	Any of the available courses as notified by the University from time to time			3	45
SEC-180...189	Any of the available courses as notified by the University from time to time			3	45
VAC-190...199	Any of the available courses as notified by the University from time to time			3	45
				20	

3rd Semester

Course Code	Title of the Course	Credit			Total Contact Hours
		Theory	Practical	Total	
ECO-200	Economics of Growth and Development (Major)	4	-	4	60
ECO-201	Mathematical Methods for Economics I (Major)	4	-	4	60
MDC-210...219	Any of the available courses as notified by the University from time to time	3	-	3	45
AEC-220...229	Any of the available courses as notified by the University from time to time	2	-	2	30
SEC-230...239	Any of the available courses as notified by the University from time to time			3	45-90
VTC-240...249	Any of the available courses as notified by the University from time to time	1	3	4	105
				20	

4th Semester

Course Code	Title of the Course	Credit			Total Contact Hours
		Theory	Practical	Total	
ECO-250	Public Economics (Major)	4	-	4	60
ECO-251	Mathematical Methods for Economics II (Major)	4	-	4	60
ECO-252	Environmental Economics (Major)	4	-	4	60
ECO-253	Macroeconomics II (Major)	4	-	4	60
VTC-260...269	Any of the available courses as notified by the University from time to time	1	3	4	105
				20	

5th Semester

Course Code	Title of the Course	Credit			Total Contact Hours
		Theory	Practical	Total	
ECO-300	Statistical Methods for Economics (Major)	4	-	4	60
ECO-301	Microeconomics II (Major)	4	-	4	60
ECO-302	Indian Economy (Major)	4	-	4	60
ECO-302	Indian Economy (Minor)	4	-	4	60
ECO-303	Internship/ Apprenticeship/ Community engagement and service/ field based learning or minor project	-	4	4	120
				20	

6th Semester

Course Code	Title of the Course	Credit			Total Contact Hours
		Theory	Practical	Total	
ECO-350	International Economics (Major)	4	-	4	60
ECO-351	History of Economic Thought (Major)	4	-	4	60
ECO-352	Financial Economics (Major)	4	-	4	60
ECO-353	Economics of Education and Health / Introductory Econometrics (Major)	4	-	4	60
VTC-360...369	Any of the available courses as notified by the University from time to time	1	3	4	105
				20	

FIRST SEMESTER
Course Code: ECO-100
Course Title: MICROECONOMICS I
Total Contact Hours 60/ Total credit 4/ Total Marks 100

Course Objectives:

This course is designed to expose the students to the basic principles of microeconomic theory. The emphasis will be on thinking like an economist and the course will illustrate how microeconomic concepts can be applied to analyze real life situations.

Learning Outcomes: On completion of the course, the student will:

1. Understand the behaviour of an economic agent, namely, a consumer, a producer, a factor owner and the price fluctuations in a market.
2. Learn principles of factor pricing and welfare economics.

Unit – I
Consumer Behaviour: Nature and scope of Economics. Concepts of demand and supply, price mechanism and market equilibrium. Individual and market demand curve; shifts in demand curve; elasticity of demand: types, determinants and methods of measurement (point, arc and total outlay methods); relationship between the price elasticity of demand and the slope of the demand curve. Indifference curve analysis of demand: basic assumptions, properties, consumer's equilibrium.

Unit – II
Production, Cost and Supply: Concepts of production function, isoquants and their properties; returns to a factor, returns to scale, law of variable proportions; cost curves – short run and long run; total, average and marginal revenue curves, relationship between AR, MR and price elasticity. Concept of supply, derivation and shifts of supply curve, elasticity of supply.

Unit – III
Market Structure: perfect and imperfect competition; equilibrium of the firm and industry under perfect competition in the short run and long run; equilibrium of the firm under monopoly and monopolistic competition in the short run and long run; Chamberlin's group equilibrium; meaning and features of oligopoly.

Unit - IV
Factor Pricing and Welfare Economics: marginal productivity theory of distribution; Ricardian and modern theories of rent; Subsistence and wage fund theories of wages; liquidity preference theory of interest; Knight's theory of profit. Concepts of welfare; value judgements; problems in measuring welfare; Classical welfare economics; Pareto optimality; social welfare function.

Suggested Readings:

Ahuja, H. L. *Advanced Economic Theory,* S. Chand Publishing, New Delhi, (latest edition).

Koutsoyiannis, A. *Modern Microeconomics*. Macmillan, London (latest edition).

Mankiw, N. G., *Principles of Economics*, Cengage Learning, New Delhi (latest edition).

Samuelson, P.A. and W.D. Nordhaus (1998), *Economics*, Tata McGraw Hill, New Delhi.

Stonier, A.W. and D.C. Hague (1999), *A Textbook of Economic Theory*, Pearson Education, New Delhi.

SECOND SEMESTER
Course Code: ECO-150
Course Title: MACROECONOMICS I
Total Contact Hours 60/ Total credit 4/ Total Marks 100

Course Objectives:

Macroeconomics deals with the functioning of the economy as a whole, including how the economy's total output of goods and services and employment of resources is determined and what causes these totals to fluctuate. This paper has an extensive, substantive as well as methodological content.

Learning Outcomes: On completion of the course, the student will:

1. Understand preliminary concepts associated with the determination and measurement of aggregate macroeconomic variables like saving, investment, GDP, money, inflation and the balance of payments.
2. Learn about the basic theoretical framework underlying the field of macroeconomics.
3. He/ she will be able to undertake economic analyses in terms of theoretical, empirical as well as policy issues.

Unit – I
National Income: meaning, concepts and their inter-relationship; methods of measuring national income and their limitations; national income identity in a closed economy; circular flow of income – two, three and four sector models; green accounting.

Unit – II
Output and Employment: Classical theory of employment; Keynesian theory of income and employment; the principle of effective demand; consumption and saving function; investment multiplier; marginal efficiency of capital; saving and investment: ex post and ex ante (concepts only); concept of accelerator.

Unit – III
Money, Banking, Inflation and Unemployment: Functions of money; Fisher's quantity theory of money; determination of money supply and demand; credit creation and credit control. Inflation: meaning, types, causes, effects and control. Unemployment: meaning and types; Phillip's curve.

Unit – IV
Trade Cycles and Balance of Payments: Concept, nature and characteristics of trade cycles; Hawtrey's monetary theory, Hayek's over-investment theory, Schumpeter's innovation theory; controlof trade cycles. Balance of Trade and Balance of Payments: concepts and components; equilibrium and disequilibrium in the BoP; consequences of disequilibrium and measures to correct the deficit in the BoP.

Suggested Readings:

Ackley, G. (1976), *Macroeconomics: Theory and Policy*, Macmillan Publishing Co., New York.
Ahuja, H. L. *Advanced Economic Theory,* S. Chand Publishing, New Delhi, (latest edition).
Branson, W.H. (2005), *Macroeconomic Theory and Policy*, East West Press.
Mankiw, N.G. (2007), *Principles of Macroeconomics*, Thomson Learning Inc., New Delhi.
Shapiro, E. (1996), *Macroeconomic Analysis*, Galgoti Publications, New Delhi.

THIRD SEMESTER
Course Code: ECO-200
Course Title: ECONOMICS OF GROWTH AND DEVELOPMENT
Total Contact Hours 60/ Total credit 4/ Total Marks 100

Course Objectives:

This course is designed to provide a basic understanding of economic theories driving growth and development. It will develop skills to analyze real-world economic data and assess development policies as well as critically evaluate and formulate effective development policies. It will cultivate awareness of the global dynamics shaping economic growth, exploring international influences and the impact of globalization on development.

Learning Outcomes: On completion of the course, the student will be able to:

1. Grasp the definition and measurement of growth and development concepts.
2. Examine diverse models illustrating growth and development and explore HDI and other indicators influencing quality of life, acknowledging the role of institutions in the economy.
3. Understand the relationship between development theory and practice.

Unit – I
Understanding Development and Related Concepts: Difference between Growth and Development; Concept of Human Development; Sen's Capabilities Approach; Human Development Index; Multi-dimensional Poverty Index; Environmental sustainability in the context of development; Role of the Market and State in Economic Development.

Unit – II
Theories of Growth: Harrod-Domar growth model; Solow's growth theory; Theories of endogenous growth with special reference to Romer's model; Kuznet's inverted-U Hypothesis.

Unit – III
Development Models: Rostow's stages of growth; Vicious Circle of Poverty; Lewis theory of unlimited supply of labour; Harris-Todaro Model of Migration, Balanced Growth and Unbalanced growth; Critical Minimum Effort Thesis.

Unit – IV
Drivers of Economic Growth: Trade and Development; Infrastructure and Economic Development; Innovation and Technology; Foreign assistance; Debt and Development; Financial institutions and Economic Growth.

Suggested Readings:

Meier, G., Rauch, J. (2005), *Leading Issues in Economic Development*, Oxford University Press.
Ray, D. (1998), *Development Economics*, Princeton University Press.
Thirlwall, A.P. (2011), *Growth and Development*, 9e. Palgrave McMillan, New York.
Todaro, M.P, and Stephen C. S. (2012), *Economic Development*, 10e. Pearson, New Delhi.

THIRD SEMESTER
Course Code: ECO-201
Course Title: MATHEMATICAL METHODS FOR ECONOMICS – I
Total Contact Hours 60/ Total credit 4/ Total Marks 100

Course Objectives:

This course is the first part of the two-course compulsory sequence. It is designed to impart knowledge on basic mathematical tools and techniques used for analysing various concepts of economic principles and relations.

Learning Outcomes: On completion of the course, the student will:

1. Have an elementary knowledge of mathematical tools that are used in economic analyses.
2. Apply mathematical techniques to economic theory in general.

Unit – I

Basic Concepts: Sets and set operations; Relations and Functions; Types of Functions: quadratic, polynomial, power, exponential, logarithmic, convex, quasi convex and concave functions; Graphs of functions of one real variable; Equations; Identities; Equilibrium condition; System of Simultaneous Linear Equations; The Straight line and its slope.

Unit – II

Differential Calculus: Limit and Continuity of a function; Differentiation: Meaning, Rules of Differentiation, Partial and Total differentiation; Second and higher order derivatives for single variables; Applications of Differential Calculus: Derivation of marginal functions from total functions; Inter-relationships among total, marginal and average costs and revenues; Elasticity.

Unit – III

Single-variable Optimization: Maxima and minima: concept, geometric characterizations, solution using calculus; Equilibrium of a firm: Revenue maximisation and cost minimisation.

Unit – IV

Integration: Concept; Rules of integration; Methods of integration: Integration by substitution, Integration by parts and Integration by partial fractions; Derivation of total functions from marginal functions, Definite integral: Consumer's and producer's surplus.

Suggested Readings:

Allen, R.G.D. (2008), *Mathematical Analysis for Economists*, Macmillan Press, London

Chiang, A.C. and K. Wainwright (2013), *Fundamental Methods for Mathematical Economics*, McGraw Hill, New Delhi.

Hoy, Livernois, Mckenna, Rees and Stengos (2011), *Mathematics for Economics*, Mc Graw Hill

Sydasaeter, K., P. J. Hammond and A. Strom (2014), *Essential Mathematics for Economic Analysis*, Pearson

Taro, Yamane (2012), *Mathematics for Economists: An Elementary Survey* (2e), Prentice Hall of India, New Delhi

FOURTH SEMESTER
Course Code: ECO-9
Course Title: PUBLIC ECONOMICS
Total Contact Hours 60/ Total credit 4/ Total Marks 100

Course Objectives:

This course is an overview of government finances with special reference to India. The course provides an introduction to the different key concepts of Public Economics, pertaining to taxes, public expenditure and public budget. The course offers a critical reflection on the merits and scope of public intervention in the context of the growing role of the private sector in a globalized economy.

Learning Outcomes: On completion of the course:

1. The students will be familiar with key concepts of Public Economics.
2. They will be able to understand the functions of the government in allocation, distribution and regulatory roles.
3. They will understand the role of the budget and public debt as fiscal policy instrument and the fiscal policy challenges in India.

UNIT- I
Role of Government: Public Economics: Nature, Scope and Significance; Public vs. Private Finance; Principle of Maximum Social Advantage: Approaches and Limitations; Functions of Government: Economic functions - Allocation, Distribution and Stabilization; Regulatory Functions of the Government and its economic significance.

UNIT-II
Public Goods and Public Sector: Concept of Public Goods; Characteristics of Public goods; National vs. Local Public Goods; Determination of Provision of Public good; Externality- Concept of Social Versus Private Costs and Benefits, Merit Goods, Club Goods; Provision versus Production of Public Goods - Market Failure and Public Provision.

UNIT-III
Theories of Taxation and Public Expenditure: Concept of tax; Types of taxes; Principles of taxation - Ability to pay; Cost of Service and Benefit Principle; Impact, Incidence and Shifting of Tax Burden; Excess Burden: Meaning, Magnitude and Excess Burden Theory; VAT and GST; Public Expenditure - Structure and Growth with Special Reference to India; Wagner's Law of increasing state activities; Wiseman-Peacock hypothesis.

UNIT- IV
Public Debt and Budget in India: Concept of Public Debt and Sources; Government Budget and its Structure; Receipts and Expenditure; Concepts of Current and Capital account; Balanced, Surplus, and Deficit budgets; Concept of Budget Deficit vs. Fiscal Deficit; Functional Classification of Budget; Primary Deficit, Revenue and Capital Deficit, Budget Deficit; Fiscal policy with reference to India; Counter cyclical fiscal policy.

Suggested Readings:
Bagchi, Amaresh. 2005 (Ed.). *Readings in Public Finance,* Oxford University Press.
Lekhi, R.K. and Joginder Singh (2021): *Public Finance,* Kalyani Publishers, New Delhi.
Musgrave R.A. (1959). *The Theory of Public Finance*. McGraw Hill, New York.
Musgrave R.A. & P.B. Musgrave (2017), *Public Finance in Theory and Practice (Fifth Edition),* Mc-Graw Hill.

FOURTH SEMESTER
Course Code: ECO-10
Course Title: MATHEMATICAL METHODS FOR ECONOMICS – II
Total Contact Hours 60/ Total credit 4/ Total Marks 100

Course Objectives:

This course is the second part of the two-course compulsory sequence. It is designed to impart knowledge on basic mathematical tools and techniques used for analysing various concepts of economic principles and relations.

Learning Outcomes: On completion of the course, the student will:

1. Have more knowledge of mathematical tools that are used in economic analyses.
2. Apply mathematical techniques to economic theory in general.
3. Learn how to formulate economic models in mathematical form.

Unit - I
Linear algebra: Vector and vector space; Matrix representation and types; Elementary Operations and their Properties; Determinants: Definition and Properties; Solution of Linear equations: Matrix inverse method and Cramers rule; Rank of a matrix.

Unit - II
Functions of several variables and Multi-variable Optimization: Differentiable Functions, Homogeneous and Homothetic functions; the Implicit Function Theorem and Application; Unconstrained Optimization: Solution using Calculus and Application; Constrained Optimization with Equality Constraints, Lagrange Multiplier and Application.

Unit – III
Differential and Difference Equations: Meaning; Solutions of First Order Equations; Nature of Time Path; Applications: Cost function, Dynamic market model, Cobweb model.

Unit- IV
Input-output Analysis and Linear Programming: Concept of I-O analysis; Determination of Output (Static Open Model Only); Hawkins-Simon condition. Concept of Linear Programming and graphical solution only; Formulation of Duals from Primals.

Suggested Readings:

Allen, R.G.D. (2008), *Mathematical Analysis for Economists*, Macmillan Press, London
Chiang, A.C. and K. Wainwright (2013), *Fundamental Methods for Mathematical Economics*, McGraw Hill, New Delhi.
Hoy, Livernois, Mckenna, Rees and Stengos (2011), *Mathematics for Economics*, Mc Graw Hill
Sydasaeter, K., P. J. Hammond and A. Strom (2014), *Essential Mathematics for Economic Analysis*, Pearson
Taro, Yamane (2012), *Mathematics for Economists: An Elementary Survey* (2e), Prentice Hall of India, New Delhi

FOURTH SEMESTER
Course Code: ECO-11
Course Title: ENVIRONMENTAL ECONOMICS
Total Contact Hours 60/ Total credit 4/ Total Marks 100

Course Objectives:

The course is designed to introduce the students to the scope and significance of Environmental Economics. The structure of the course focuses on the linkage between Environment and Economy, how market failure arises in the context of environmental goods and bads, the problems and challenges associated with common property resources.

Learning Outcomes: On completion of the course, the student will:

1. Understand the trade-off between development and environmental degradation.
2. Have an awareness about the importance of sustainable development and the policy interventions undertaken by various countries at the global level.

Unit I
Introduction and Basic Concepts: Environmental Economics-meaning, definition, nature, scope, and limitations. Difference between Environmental Economics and Ecological Economics; Environment and Ecology linkage; Development and Environment Trade Off; Sustainable Development- concepts, definitions, and indicators; Concept of Sustainable Accounting.

Unit II
Market Failure and Externalities: Market Failure, Characteristics of Public Goods and Bads, Market Failure and Externalities; Coase Theorem; Common Property Resource (CPR)- Concept of Tragedy of Commons, Destruction of CPRs and Its impact on Human Welfare.

Unit III
Environmental Regulations and Policies: Pollution as an Economic Problem, Pollution Prevention, Instruments of Pollution Control: Command and Control Policy, Economic Incentive Pollution Control Instruments; Pigovian Tax.

Unit IV
Environmental Valuation: Concept of Total Economic Value, Uses of Economic Value, Components of Total Economic Value, Willingness to Pay and Willingness to Accept, Valuation and Decision Making, Environmental Cost Benefit Analysis.

Suggested Readings:

Bhattacharya, R.N. (ed) (2004), *Environmental Economics: An India Perspective*, OUP, New Delhi.
Eugine, T. (2004), *Environmental Economics*, Vrinda Publications.
Hanley N., Shogren, J. F. & White, B. (2006). *Environmental Economics in Theory and Practice*, (2e), Palgrave Macmillan.
Kolstad, C.D. (1999), *Environmental Economics*, Oxford University Press, New Delhi.
Muthukrishnan, S. (2010), *Economics of Environment*, PHI Learning Pvt. Ltd, EEE edn., New Delhi.
Pearce, D.W & Turner, R.K. (1990), *Economics of Natural Resources and Environment*, The John Hopkins University Press.
Shankar, U. (ed.) (2001), *Environmental Economics*, OUP, New Delhi.

FOURTH SEMESTER
Course Code: ECO-12
Course Title: MACROECONOMICS II
Total Contact Hours 60/ Total credit 4/ Total Marks 100

Course Objectives:

The course is a follow up of Macroeconomics I and discusses the various approaches to the demand and supply of money and theories of output and employment determination in closed economy. A more comprehensive discussion is also provided on the theories of consumption and investment.

Learning Outcomes: On completion of the course, the student will:

1. Learn more about the theoretical framework which will prepare them for higher studies in Economics.
2. Learn the application of macroeconomic theories in the real world by studying economic policies.

Unit - I
Monetary Theory: The Quantity Theory of Money: The Cash Balance Approach; Comparison between Transactions and Cash Balances Approaches; Superiority of Cash Balances Approach over Transaction Approach; Keynes Theory of Demand for Money; Friedman's theory of demand for money; High Powered Money; Money Multiplier.

Unit - II
Consumption and Investment Theories: Theories of Consumption: Absolute Income, Relative Income and Permanent Income Hypotheses. Decision to Invest; Types of Investment Spending. Acceleration Theory of Investment- fixed and flexible.

Unit - III
IS-LM Analysis: IS and the goods market; LM and the money market; equilibrium in the goods and money market; Elasticity and shifts of IS and LM curves; changes in equilibrium level of income and interest rate; deriving the aggregate demand schedule; IS-LM and the government sector.

Unit - IV
Economic Policies: Objectives of Economic Policies- Price Stability, Price and Employment Stability, Balance of Payments, Steady Economic Growth; Conflicts of Objectives- price stability and economic growth; full employment and economic growth; full employment and price stability. Monetary Policy- role and instruments. Monetary Policy and Economic Growth. Fiscal policy- role and instruments. Monetary Policy vs Fiscal Policy.

Suggested Readings:

Ackley, G. (1976), *Macroeconomics: Theory and Policy*, Macmillan Publishing Co., New York.
Branson, WH (2005), *Macroeconomic Theory and Policy*, East West Press.
Dornbusch, R., Fischer, S. &Startz, R. (2000) Macroeconomics, Tata McGraw Hill Publication, New Delhi.
Mankiw, N.G. (2007), *Principles of Macroeconomics*, Thomson Learning Inc., New Delhi.
Samuelson, P.A. and W.D. Nordhaus (1998), *Economics*, Tata McGraw Hill, New Delhi.
Shapiro, E (1996), *Macroeconomic Analysis*, Galgoti Publications, New Delhi.
Thomas, Alex M. (2021), *Macroeconomics: An Introduction*, Cambridge University Press.

FIFTH SEMESTER
Course Code: ECO-13
Course Title: STATISTICAL METHODS FOR ECONOMICS
Total Contact Hours 60/ Total credit 4/ Total Marks 100

Course Objectives:

This course is meant to train the student in the knowledge and applications of statistical techniques which are essential to understand economic problems clearly.

Learning Outcomes: On completion of the course, the student will:

1. Gain an understanding of basic statistical concepts like measures of central tendency, dispersion, simple correlation and regression, theory of index numbers and time series, probability and theoretical distributions and sampling
2. Learn how to carry out simple statistical analysis using economic data.

Unit – I
Sampling and Descriptive Statistics: Probability and Non-Probability Sampling; Measures of Central Tendency: Mean, Median, Mode, Geometric Mean and Harmonic Mean, Measures of dispersion: Range, Mean Deviation, Standard Deviation, Coefficient of Variation, Quartile deviation, Lorenz Curve; Skewness and Kurtosis.

Unit – II
Correlation and Regression: Correlation - Scattered diagram; Coefficients of correlation - Karl Pearson and Rank Correlation; Simple Linear Regression - Least Square method, Interpretation of regression coefficients (two variables only); Concept of R^2 .

Unit – III
Index Numbers: Concept, price relative, quantity relative, value relative; Laspeyre's Index; Paasche's Index and Fisher's Index; Problems in the construction and limitations of index numbers; Tests for ideal index number.

Unit – IV
Probability and Hypothesis Testing: Probability: Concept, Rules of Probability (Addition and Multiplication); Random variables; Mathematical Expectations; Theoretical distributions: Binomial, Poisson and Normal – their properties and uses; Hypothesis Testing: z, t and Chi-square tests.

Suggested Readings:
Das, N. G. (2009), *Statistical Methods, Vol. I & II*, Tata McGraw-Hill Education, New Delhi.
Goon, A.M., M.K. Gupta and B. Dasgupta (2005), *Fundamentals of Statistics, Vol. I & II*, The World Press Ltd., Kolkata.
Hooda, R. (2013), *Statistics for Business and Economics*, Vikas Publishing House.
Kendall, M.G. and Stuart, Alan (2009), *The Advanced Theory of Statistics, Vol. I, II, III*, Wiley.
Medhi, J. (2009), *Statistical Methods: An Introductory Text (2e)*, New Age International, New Delhi.
Nagar, A.L. and R.K. Das (1997), *Basic Statistics (2e)*, Oxford University Press, New Delhi.

FIFTH SEMESTER
Course Code: ECO-301
Course Title: MICROECONOMICS II
Total Contact Hours 60/ Total credit 4/ Total Marks 100

Course Objectives:

Microeconomic theory provides the tools for understanding how economies operate and is the basis for most applied fields of economics. This course is designed to expose the students to advanced concepts of microeconomic theory.

Learning Outcomes: On completion of the course, the student will:

1. Be able to bring together the theory of consumer behaviour and theory of production to analyze how price and output are determined in imperfectly competitive markets.
2. Learn about conditions for general equilibrium, market efficiency and what leads to inefficiencies.
3. Understand and appreciate the real-world importance and relevance of the economics of information.

Unit – I
Consumer Theory: Income effect – income consumption curve and Engel's curve; substitution effect; decomposition of price effect (Hicks and Slutsky); compensated demand curves; substitutes and complements in indifference curve analysis; consumer's surplus; revealed preference theory; Lancaster's theory of demand for attributes; Choice under uncertainty – utility function and expected utility, risk aversion and risk preference.

Unit – II
Theory of production: Isoquants and isocost lines; marginal rate of technical substitution; producer's equilibrium; expansion path; elasticity of factor substitution; economies of scale; concept of producer's surplus; output elasticity; concept of homogeneous production functions; concept and properties of Cobb-Douglas production function.

Unit – III
Market Structure: Price discrimination under monopoly; measure and sources of monopoly power; multiplant monopoly; deadweight loss and efficiency implications of monopoly; Oligopoly: Cournot's model and kinked demand curve theory; Collusive Oligopoly – cartels and price leadership; barriers to entry and limit pricing (Bain's model only).

Unit - IV
General Equilibrium and Efficiency: General equilibrium: meaning, existence, uniqueness, stability; general equilibrium and economic efficiency; reasons for non-attainment of Pareto efficiency – monopoly, externalities and public goods; markets with asymmetric information - adverse selection, moral hazards, agency problems.

Suggested Readings:
Koutsoyiannis, A. *Modern Microeconomics*. Macmillan, London (latest edition).
Mankiw, N. G. (2007), *Economics: Principles and Applications*, Cengage Learning, New Delhi.
Nicholson, W. & Snyder, C. & (2017). *Microeconomic Theory: Basic Principles and Extensions*, Cengage India Private Limited.
Salvatore, D. (2009): *Principles of Microeconomics (5e)*, OUP, New Delhi.
Samuelson, P.A. and W.D. Nordhaus (1998), *Economics*, Tata McGraw Hill, New Delhi.
Stonier, A.W. and D.C. Hague (1999), *A Textbook of Economic Theory*, Pearson Education.
Varian, H. (2000): *Intermediate Microeconomics: A Modern Approach* (5e), Affiliated East-West Press.

FIFTH SEMESTER
Course Code: ECO-301
Course Title: MICROECONOMICS II
Total Contact Hours 60/ Total credit 4/ Total Marks 100

Course Objectives:

FIFTH SEMESTER
Course Code: ECO-302

Course Title: INDIAN ECONOMY
Total Contact Hours 60/ Total credit 4/ Total Marks 100

Course Objectives:

This course provides an overview of the Indian economy, its structure and key features. It examines sector-specific policies and their impact in shaping trends in key economic indicators of India.

Learning Outcomes: On completion of the course, the student will be able to:

1. Analyze the key sectors of the Indian economy and their contributions to economic growth and development.
2. Critically examine the challenges and policy initiatives in the Indian economy as well as the North-Eastern Region of India.

Unit – I

Basic features of the Indian economy: Characteristics and structure of the Indian economy; Broad demographic profile; Population growth and distribution, population policy; urbanisation; Poverty and Inequality: causes of poverty and poverty alleviation measures; Economic Reforms; Roles of Planning Commission and NITI Aayog.

Unit – II

Agriculture and Industry: Trends and challenges in agriculture; green revolution; land reforms; agricultural finance and marketing; Public Distribution system; Subsidies and price support. Industrial Policy and initiatives; Micro, Small and Medium Enterprises (MSMEs) in India, Growth and problems of Small-Scale Industries.

Unit – III

Service Sector and External Sector: Role, Importance and Growth of Service Sector in Indian Economy with special emphasis on Banking, Education, Health, Tourism, IT and IT-Enabled Services. Composition and direction of India's foreign trade; Trends in exports and imports; Balance of payments crisis, EXIM policy; Foreign capital- FDI, FII, Foreign Trade Policy.

Unit – IV

Economy of the North-Eastern Region: Basic features: trends of GSDP and sector wise contribution, occupational pattern; Natural Resources: Land, Water and forest resources; Agriculture: cropping pattern; land holdings and reforms; Industry: Importance; Industrial policy of 1997, 2007; small-scale industries; Role of DoNER ministry, NEC; Tourism- Nature; Importance; Potential and challenges.

Suggested Readings:

Cherunilam, F. (2019). *Business Environment: Text and cases*, Himalaya Publishing House.

Datt, Ruddar and K.P.M Sundharam, *Indian Economy*, S.Chand & Co. Ltd., New Delhi, (latest edition)

Kapila, Uma (Ed.) (2007) *Indian Economy*: *Performance and Policies*, Academic Foundation.

Mahajan, A. *Indian economy*. S.Chand & Company Ltd (latest edition).

Prakash, B.A. (2011), *The Indian Economy Since 1991: Economic reforms and performance*. Pearson Publication.

Puri, V.K. and S.K. Misra, *Indian Economy*, Himalaya Publication, New Delhi, (latest edition).

SIXTH SEMESTER
Course Code: ECO-350
Course Title: INTERNATIONAL ECONOMICS
Total Contact Hours 60/ Total credit 4/ Total Marks 100

Course Objectives:

The course is designed to expose the students to the basic international economic principles, theories, and their applications to the real-world situations. The course focuses on the issue of why and how nations trade, and the problems that arise from international trade.

Learning Outcomes: On completion of the course, the student will:

1. Understand the basis of international trade, the theories and policies associated with it.
2. Learn about the monetary system and the various policies that will enhance international trade.

Unit I:
Trade theories: The law of absolute advantage, the law of comparative advantage, theory of reciprocal demand, Heckscher – Ohlin trade model, Factor Reversal and Leontief paradox, Monopolistic competition and international trade.

Unit-II
Terms of trade, Gains from trade and Instruments of trade policies: Concepts of terms of trade, factors affecting terms of trade., Measurement of gains from trade and factors determining gains from trade: Tariffs and Quotas- Types of tariffs and quotas, effects of tariffs under partial equilibrium and optimum tariff, effects of import quotas, non-tariff barriers to trade.

Unit-III
Balance of Payments and Foreign Exchange: Problems, Adjustment Process, Absorption Approach, Foreign Trade Multiplier, Spot and Forward Rates of Exchange, Fixed and Flexible Exchange Rate, Purchasing Power Parity Theory, Current Account Convertibility of the Rupees.

Unit-IV
International Macro Economic Policies: International Monetary System-Gold Standard and Bretton Woods, Functions of IMF, World Bank and W. T. O in the Context of India; Globalization and Financial Crisis; Concept of Regional Trade Blocks – BRICKS, ASEAN and Their Role in the Promotion of Trade.

Suggested Readings:
Kindleberger, C. P. (1973), *International Economics*, R. D. Irwin, Homewood.
Mannur, H. G. (1997), *International Economics*, Vikas Publishing House, Pvt. Ltd.
Rana, K.C & Verma, K.N. (2012). *International Economics*, Vishal Publishing Co, Delhi.
Salvatore, D. L. (1997), *International Economics*, Prentice Hall, Upper Saddle River, N. J.
Sodersten, Bo (1991), *International Economics*, Macmillan Press Ltd., London.

SIXTH SEMESTER
Course Code: ECO-18
Course Title: HISTORY OF ECONOMIC THOUGHT
Total Contact Hours 60/ Total credit 4/ Total Marks 100

Course Objectives:

This course examines the systemic structures and institutions of capitalist economies and their evolution. Students will read traditional texts, comments, and modern studies on alternate schools of thought.

Learning Outcomes: On completion of the course:

1. The student will be exposed to the foundations of economic philosophy through the reading and discussion of primary sources and scholarly papers.
2. The many perspectives presented to them will help the students refine their own ideas and perspectives.

Unit- I
Pre-Classical School and the Classical: Mercantilism; Physiocrats: "Nature's Rule", Net Produce, Laissez-faire; Adam Smith's Notion of Wealth of Nations, Division of Labour, Labour Theory of Value, Doctrine of Invisible Hands; David Ricardo's Theory of Value, Theory of Distribution, Malthus'Theory of Gluts; Theory of Population; John Stuart Mill' s Contribution to Economics.

Unit- II
The Marxian Challenge and Marginal Revolution: Marxian Perspective on Capitalism-A Critique of Political Economy; Bohm-Bawerk - The Positive Theory of Capital; Marginalism: Contribution of Jevons, Menger, Gossen and Walras.

Unit- III
Contemporary School of Economic Thought: Neoclassical School: Contribution of Alfred Marshall and A.C. Pigou; V. Pareto; J. M. Keynes & his policies; Milton Friedman's Monetarism; Robert Lucas' Rational Expectation George Akerlof: Information Asymmetry.

Unit- IV
Indian Ancient Economic Thought: Kautilya's Arthshastra; Dadabhai Naroji'sThe Drain Theory; Gandhian Economic Thought and Ambedkar's Economic Thought.

Recommended Readings:

Hunt, E.K. and Lautzenheiser, M., (2022) *History of Economic Thought: A Critical Perspective*, M.E. Sharpe.

Medema, S.G. and Samuels, W.J., (2016).*The History of Economic Thought: A Reader*, Routledge.

Mukherjee, Sampat. (2017), *Encyclopaedic History of Economic Thought: Aristotle to Angus Deaton*, NCBA, London

Rubin, Isaac Illych (1979) *A History of Economic Thought*, translated and edited by Donald Filtzer.

SIXTH SEMESTER
Course Code: ECO-19
Course Title: FINANCIAL ECONOMICS
Total Contact Hours 60/ Total credit 4/ Total Marks 100

Course Objectives:
This course deals with the theory and operations of the financial sector in the economy. It explores the basics of financial economics and financial management. It also introduces the main financial instruments and regulators in India.

Learning Outcomes: On completion of the course the student will:

1. Understand the basics of financial economics
2. Acquire ample knowledge about the functioning of the financial market.
3. Learn various tools and techniques used by financial analysts.

Unit-I

Introduction to Financial Markets: An overview of financial system, structure and functions: Role of financial system in economic development; Structure of financial markets in India: debt and equity market, primary and secondary market, exchange and over the counter market money and capital market.

Unit-II

Investment Criteria: Time Value of Money; Techniques of Capital budgeting: Payback, Discounted Payback Period, discounting and present value; internal rate of return; Profitability Index, Modified Internal Rate of Return; evaluation criteria.

Unit – III

Financial instruments: Equity shares, Preference shares, Right issues; Debts: Bonds, Debentures, Types of bond; Four types of credit market instruments; Insurance: meaning, need, types, goals and principles; adverse selection and moral hazards.

Unit – IV

Financial Services and Regulations: Financial services: meaning, evolution, types, goals: Mutual Funds; Investment Banking; Venture Capital; Factoring Services; Forfaiting; Leasing and Hire Purchase; Financial Regulators in India**;** SEBI and RBI; SEBI and capital market reforms in India.

Suggested Readings:

Ahuja, N.L., Dawar.V., Arrawalia. R. (2016). *Corporate Finance*. PHI Learning Pvt Ltd, New Delhi.
Bhole, L.M (2017). *Financial Institutions & Markets*, 6e, Tata McGraw-Hill Publishing Co., New Delhi.
Khan, M.Y (2008). *Indian Financial System* (5th Edition). Tata McGraw Hill.
Miskin. F. (2015). *Economics of Money, Banking and Financial Markets*, 11e, Pearson, New Delhi.
Tripathy, Nalini Prava (2007) *Financial Services*. PHI Learning Pvt Ltd, New Delhi.

SIXTH SEMESTER
Course Code: ECO-353A
Course Title: ECONOMICS OF EDUCATION AND HEALTH
Total Contact Hours 60/ Total credit 4/ Total Marks 100

Course Objectives:
The course aims to introduce to the students the core concepts of economics of health and education. It also provides a theoretical background to explain the importance of education and health in human capital formation. The course provides a brief introduction to public policy challenges in health and education in India.

Learning Outcomes: On completion of the course the student will:

1. Comprehend the basic concepts of Economics of Education and Health.
2. Understand market failures and the scope of public intervention in the health and education sector.
3. Familiarize themselves with public policy challenges in education and health sector in India.

Unit -I
Education and Economics- An Introduction: Education in Economic Theory: Developments in the theory of human capital; Human Capital and the Rate of Returns; Cost-Benefit Analysis; Private versus Social Rate of Return; Policy Implications of Rate of Return Approach to Education.

Unit-II
Education as a Public Good and Market Failure in Education: Revisiting the Concept of Public Good: Merit Good, Public Good, Mixed Good, Non-merit Good, Global Private Goods: Commodification of Education; Knowledge and the Failure of the Market: State and the Market Interface; Incompatibility between the Market and Equity. Policy Discourse: Public and Private Financing of Education.

Unit-III
The Economics of Health Care: Introduction: definition of health and health care, life expectancy and mortality rates, morbidity; Health measurement, determinants, and long-run trends; Demand for health care: Grossman's model of demand for health, information asymmetry in healthcare demand, and the health insurance market, adverse selection and moral hazard in health insurance; Supply of Health Care: Hospitals in the market place.

Unit-IV
Economic Evaluation of Health Care: Cost-effectiveness and Cost-benefit analysis of Health Care; Public policy in the Health Sector; Externalities in Health and Health care; Rationale for government intervention in the Health Sector; Role of Public and Private healthcare institutions in the provision of health care; India's Health care System: Challenges and Constraints.

Suggested Readings:
Bhattacharya, J., Hyde, T., Tu, P. (2014). *Health Economics*, Palgrave Macmillan.
Chattopadhyay, S. (2012). Education and Economics: Disciplinary Evolution and Policy Discourse. *OUP Catalogue*.
Deaton, Angus. 2003. "Health, Inequality, and Economic Development," *Journal of Economic Literature* 41(1), 113-158.
Henderson, J. W. (2012): *Health Economics & Policy*, (5e), Thomson South-Western, U.K.
World Bank (1993): 'Investing in Health', *World Development Report,* Oxford University Press/World Bank, Washington D.C.

SIXTH SEMESTER
Course Code: ECO-353B
Course Title: INTRODUCTORY ECONOMETRICS
Total Contact Hours 60/ Total credit 4/ Total Marks 100

Course Objectives:
This course is designed to expose the students to the basic concepts of econometrics and the classical linear regression model.

Learning Outcomes: On completion of the course the student will be able to:

1. Estimate simple econometric models.
2. Interpret those models.
3. Apply various tests of significance.
4. Detect violations of classical assumptions.

Unit – I
Nature and Scope of Econometrics and CLRM: Nature and Concept of Econometrics; Distinction between Economic Model and Econometric model; Concept of stochastic relation, Role of random disturbance in econometric model; Types of data; Classical Linear Regression Model (Simple linear regression and multiple linear regression) – the classical assumptions.

Unit – II
Estimation of Classical Linear Regression Model: Estimation of model by method of ordinary least squares (Derivation in simple linear model (SLRM) and multiple linear model (MLRM) with two regressors only); Simple correlation, partial correlation and multiple correlation (Definition, and interpretation in the context of SLRM and MLRM); Economic interpretations of the estimated model; Properties of the Least Squares Estimators (BLUE) in SLRM- Gauss-Markov theorem; Qualitative (dummy) independent variables – interpretation of slope dummy and intercept dummy.

Unit – III
Statistical Inference: Use of standard normal, χ^2, t, and F distributions in linear regression model; hypothesis testing- basic concepts of null hypothesis, alternative hypothesis, type I and type II errors, power of a test, p-value; Confidence interval and level of significance; Single test (t test and χ^2 test); Joint test (F test); Goodness of fit (in terms of R^2, adjusted R^2 and F statistic), Analysis of Variance (ANOVA).

Unit – IV
Violations of Classical Assumptions: Multicollinearity - Consequences, Detection (Variance Inflationary Factor (VIF)) and Remedies; Heteroskedasticity - Consequences, Detection (Lagrange Multiplier test) and Remedies; Autocorrelation - Consequences, Detection (Durbin-Watson test) and Remedies.

Suggested Readings:
Dougherty, C. (1992), *Introduction to Econometrics*, Oxford University Press, New York.
Gujarati, D. and S. Sangeetha (2007), *Basic Econometrics, 4th Edition*, McGraw Hill International.
Studenmund, A. H. (2016). *Using Econometrics: A Practical Guide*; 7th edition, Pearson.
Wooldridge, J.M. (2013), *Introductory Econometrics*, 5th Edition, South-Western CENGAGE learning.

THIRD SEMESTER
Course Code: SEC-235*
Course Title: FINANCIAL LITERACY
Total Contact Hours 60/ Total credit 4/ Total Marks 100

Course Objectives:
This is a Skill Enhancement Course. It is designed to make students familiar with different dimensions of financial literacy such as savings, investment, taxation, and insurance. It will enable them to explore the relevance and process of financial planning and to enhance financial well-being.

Learning Outcomes: On completion of the course the student will be able to:
1. Develop aptitude and expertise for personal and family financial planning.
2. Understand, analyse and use the concept of investment planning, banking and insurance products.
3. Manage personal tax planning.

Unit - I
Management of Personal Finances: Time value of Money; Power of Compounding; Financial Planning and Budgeting; Savings and Borrowings products; Pension and retirement planning; Government schemes for various savings and investment options.

Unit – II
Investment in Securities market: Stocks and Mutual funds: Opening of DEMAT account, Mutual funds: meaning, evolution, and SIPs.

Unit – III
Insurance related products: Meaning and Types of insurance - Life and Non-life including Medical Insurance; Ponzi schemes and online frauds; grievance redressal mechanism and agencies.

Suggested Readings:
Bhole, L.M (2017). *Financial Institutions & Markets*, 6e, Tata McGraw-Hill Publishing Co., New Delhi.
Indian Institute of Banking & Finance (2017). *Introduction to Financial Planning.*
Securities and Exchange Board of India, *Financial Education Booklet.* SEBI, Mumbai.
Sinha, Madhu. (2017). *Financial Planning: A Ready Reckoner*, McGraw Hill.
Suraj B. Gupta. (2010). *Monetary Economics*, S. Chand and Co., New Delhi.

https://www.rbi.org.in/financialeducation/SchoolChildren.aspx
https://www.rbi.org.in/financialeducation/FinancialLiteracyGuide.aspx

Note: *Course code will be finalised by the appropriate authority.