

**SYLLABUS**  
**OF**  
**BACHELORS OF ARTS**  
**DEPARTMENT OF ECONOMICS**

Session 2019-2022

**FIRST SEMESTER**

<b>SEMESTER</b>	<b>I</b>
<b>PAPER CODE</b>	<b>ECC101</b>
<b>TITLE</b>	<b>Micro Economics 1</b>

**UNIT 1: Introduction**

Introduction to microeconomics, Scope and method of economics; the economic problem - scarcity and choice; the concept of opportunity cost; the question of what to produce, how to produce and how much to produce; science of economics; institutions for allocating resources; the basic competitive model; prices, property rights and profits; incentives and information; rationing; positive versus normative analysis The scientific method; the role of assumptions; models and mathematics; why economists sometimes disagree Interdependence and gains from trade; specialization and trade; absolute advantage; comparative advantage and trade

**UNIT 2: Supply and demand**

How markets work, markets and welfare Markets and competition; determinants of individual demand/supply; demand/supply schedule and demand/supply curve; market versus individual demand/supply; shifts in the demand/supply curve, demand and supply together; how prices allocate resources; elasticity and its application; controls on prices; taxes and the costs of taxation; consumer surplus; producer surplus and the efficiency of the markets Application to international trade; comparison of equilibria with and without trade, the winners and losers from trade; effects of tariffs and quotas; benefits of international trade; some arguments for restricting trade

**UNIT 3: Households**

The consumption decision - budget constraint, consumption and income/price changes, demand for all other goods and price changes; description of preferences (representing preferences with indifference curves); properties of indifference curves; consumer's optimum choice; income and substitution effects; labour supply and savings decision; choice between leisure and consumption

**UNIT 4: The firm and perfect market structure**

Behaviour of profit maximizing firms and the production process; short-run costs and output decisions; costs and output in the long-run

**UNIT 5: Imperfect Market Structure**

Monopoly and anti-trust policy; government policies towards competition; imperfect

## competition

### UNIT 6: Input Markets

Labour and land markets: Basic concepts (derived demand, productivity of an input, marginal productivity of labour, marginal revenue product); demand for labour; input demand curves; shifts in input demand curves; competitive labour markets; labour markets and public policy

#### References:

1. Principles of Microeconomics by H.I. Ahuja
2. Bernheim, B., Whinston, M. (2009). Microeconomics. Tata McGraw-Hill.
3. 2. Mankiw, N. (2007). Economics: Principles and applications, 4th ed. Cengage Learning

<b>SEMESTER</b>	<b>I</b>
<b>PAPER CODE</b>	<b>ECC102</b>
<b>TITLE</b>	<b>Macro Economics 1</b>

### UNIT 1 - NATIONAL INCOME AND RELATED AGGREGATES

Basic concepts in macroeconomics: consumption goods, capital goods, final goods, intermediate goods; stocks and flows; gross investment and depreciation.

Circular flow of income; Methods of calculating National Income - Value Added or Product method, Expenditure method, Income method. Aggregates related to National Income: Gross National Product (GNP), Net National Product (NNP), Gross and Net Domestic Product (GDP and NDP)

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### UNIT 2 - MONEY AND BANKING

Money - meaning and supply of money - Functions of Money, Kinds of Money, Interest Rates and Return. Money creation by the commercial banking system.

Commercial Banks- Functions and Importance, Process of Credit Creation; The Reserve Banking of India: Functions and Instruments of credit control, Recent Monetary Policy of RBI.

### UNIT 3 - FINANCIAL SECTOR

Money and Capital Markets in India: Structure, Functions and Significance; SEBI: Powers and Functions; Non-Bank Financial Intermediaries- Role and Significance; Recent Financial Sector Reforms in India.

### UNIT 4 - BALANCE OF PAYMENTS

Balance of payments account - meaning and components; balance of payments deficit- meaning. Foreign exchange rate - meaning of fixed and flexible rates and managed floating. Determination of exchange rate in a free market.

#### References:

1. Bailey Roy (2005) The Economics of Financial Markets
2. D.M. Mithani: Money, Banking and Public Finance
3. A.D. Bain (1992) Economics of the Financial System 11
4. Suraj.B.Gupta: Monetary Economics - Institutions, Theory & Policy; S Chand publications
5. Suraj.B.Gupta: Monetary Planning for India
6. Khan, MY: Indian Financial System; Tata-McGrawhill
7. M.K. Lewis (2000), Monetary Economics, OUP
8. M.R. Baye, D.W. Jansen (1996), Money Banking and Financial Markets, AITBS, (Indian Edition)
9. Maurice Levi (1999), International Finance, Tata McGraw Hill
10. L.M. Bhole (1999), Financial Institutions and Markets, Tata McGraw Hill
11. R.R. Paul "Monetary Economics"
12. R.B.I. Bulletin, Annual Report; Report on Currency and Finance

<b>PAPER CODE</b>	<b>AECC-1</b>
<b>TITLE</b>	<b>English Communication</b>

### **UNIT 1: WRITING SKILLS**

Essay/Paragraph Writing: Narrative, Descriptive & Expository, Journalistic Report Writing/Feature Writing/Writing Reviews/Columns, Expansion of an Idea, Dialogue Writing/Writing based on a Situation, Formal/Business Letters, Job Applications, Biodata/Resume/Curriculum Vitae

### **UNIT 2: ORAL SKILLS**

(Public Speaking, Viva Voce, Interview, Group Discussion& Presentation)  
 Oral Communication: Definition, Types, Advantages & Limitations, Effective Public Speaking,  
 Viva Voce; Definition, Scope and Purpose, Interview Types of Interview, Effective Interviewing; Group Discussion: Definition, Rules, Scope and Objective; Presentation Skills, Types of Presentation Skill, Techniques of Presentation, Effective Presentation.

### **References:**

1. Terry O'Brien. Modern Writing Skills,
2. Rupa Publications PushpLata&
3. Sanjay Kumar, Communicate or Collapse: A Handbook of Effective Public
4. Group Discussion and Interviews, Prentice Hall.

<b>SEMESTER</b>	<b>I</b>
<b>PAPER CODE</b>	<b>GE-I</b>
<b>TITLE</b>	<b>History of India-I</b>

### **UNIT I**

Survey of sources: Archaeological Sources, Literary Sources, Travellers Accounts; Epigraphical Sources.  
 Prehistory: Paleolithic, Mesolithic and Neolithic Cultures in India.

### **UNIT II**

Harappan Civilization: Origin, Extent, Urban Planning, Nature of Political and Economic Organization, Religion and Decline.

**UNIT III**

Vedic Cultures: Society, Polity,  
Economy and Religion.

**UNIT IV**

Rise of Religious Movements in India:  
Material Background; Teachings of  
Buddhism and Jainism.

**UNIT V**

Factors leading to the rise of  
Mahajanapadas; the Rise of Magadha.  
Maurya Empire: Ashoka's Dhamma,  
Administration, Economy, Art and  
Architecture, Decline.

## References:

1. B. Allchin, and F.R Allchin, Rise of civilization in India and Pakistan
2. B. Allchin, and F.R Allchin R, Origin of a Civilization
3. Romila Thapar, A history of India Vol. I
4. Romila Thapar, From lineage to state
5. Irfan Habib, Pre History
6. Satish Chandra, Medieval India, Vol.
7. Kulke, H, and D. Rothermund , History of India
8. Burton Stein, Peasant State and Society in Medieval south India
9. A.L.Basham, The Wonder That Was India
10. B.K. Thapar, Recent Archaeological Discoveries in India
11. R.S.Sharma, Aspects of political Ideas and Institutions in Ancient India
12. P.N.Chopra & Co., A comprehensive History of Ancient India.
13. A.B.Pandey , Early Medieval India.
14. J.L. Mehta ,Advanced Study in the History of Medieval India Vol.1(1000-1526)
15. S.C.Raychoudhury, Social Cultural and Economic History of India.
16. Sir Mortimer Wheeler, The Indus Civilization

**SEMESTER II**

<b>SEMESTER</b>	<b>II</b>
<b>PAPER CODE</b>	<b>ECC201</b>
<b>TITLE</b>	<b>Introductory Macroeconomics</b>

**UNIT 1: Introduction**

Macroeconomics and national income accounting

Basic issues studied in macroeconomics: Measurement of gross domestic product; income, expenditure and the circular flow; real versus nominal GDP; price indices; national income accounting for an open economy; balance of payments: current and capital accounts

**UNIT 2: Money**

Functions of money; quantity theory of money; determination of money supply and demand; credit creation; tools of monetary policy

**UNIT 3: Inflation**

Inflation and its social costs; hyperinflation

**UNIT 4: The closed economy in the short run**

Classical and Keynesian systems; simple Keynesian model of income determination; IS-LM model; fiscal and monetary multipliers

## References:

1. Macroeconomics – Theory and Policy by H.I Ahuja
2. Abel, A., Bernanke, B. (2016). Macroeconomics, 9th ed. Pearson Education.
3. Blanchard, O. (2018). Macroeconomics, 7th ed. Pearson Education.
4. Dornbusch, R., Fischer, S., Startz, R. (2018). Macroeconomics, 12th ed. McGraw-Hill.
5. Jones, C. (2016). Macroeconomics, 4th ed. W. W. Norton.
6. Mankiw, N. (2016). Macroeconomics, 9th ed. worth Publishers.

<b>SEMESTER</b>	<b>II</b>
<b>PAPER CODE</b>	<b>ECC202</b>
<b>TITLE</b>	<b>Elementary Mathematical Methods in Economics</b>

**UNIT 1: Preliminaries**

Sets and set operations; relation; functions and their properties; number systems.

**UNIT 2: Functions of one real variable**

Graphs; elementary types of function: quadratic, polynomial, power, exponential, logarithmic; sequences and series; continuous functions: properties with respect to various operations and applications; differentiable functions: characterizations, properties with respect to various operation and applications; second order derivatives: properties and applications. Concept of MR, MC, relationship between Total, Average, Marginal (Rev. & Cost).

**UNIT 3: Single – variable optimization**

Geometric properties of function: local and global optima: geometric characterizations, characterizations using calculus and applications Profit maximization models.

**UNIT 4: Exponential and Logarithmic functions and Logarithmic Derivation**

Exponential functions, Logarithmic functions, compound interest, Present values and capital values, derivatives of exponential and Logarithmic functions, Problem of capital and interest, Elasticity of a function, Elasticity of demand, Cost elasticity and Normal cost conditions.

### **UNIT 5: Integration**

Definite integrals, Indefinite integrals and inverse differentiation, technique of integration, Relation between average and marginal concepts, application in consumer's surplus.

#### **References:**

1. Mathematics for Economists by Mehta-Madnani
2. K. Sydsaeter and P. Hammond, Mathematics for Economic Analysis, Pearson Edu. Asia: Delhi, 2002
3. Chiang, Alpha C and Wainright Kevin Fundamental Methods of Mathematical Economics, Mc Graw
4. Yamane, Taro (1975) mathematics Prentice Hall of India, New Delhi
5. Koutsoyianis, A (1977) Theory of Econometrics (2nd Ed.) The Macmillan Press Ltd., London

<b>SEMESTER</b>	<b>II</b>
<b>PAPER CODE</b>	<b>AECC – II</b>
<b>TITLE</b>	<b>ENVIRONMENTAL SCIENCE</b>

### **UNIT1: Ecosystems and how they work**

Structure and function of an ecosystem, Types of Eco-Systems, Producers, Consumers and Decomposers, Food chains, food webs and ecological pyramids, Energy flow in the ecosystem.

Introduction, Types, Characteristic features, Structure and Function of Forest ecosystem, Desert ecosystem, Aquatic ecosystems

Lithosphere, Biosphere and Hydrosphere, Major issues of Biodiversity, Biosphere reserves, National Parks and sanctuaries.

### **UNIT 2: Concept of sustainability and international efforts for environmental protection:**

Concept of Sustainable Development, Emergence of Environmental Issues, International Agreement on Environmental Management.

Human Population Growth and its effects on the environment: Problem of Population growth, poverty and environment, Population Explosion, Family Welfare Programme

### **UNIT 3: Renewable and non-renewable resources**

Defining resources, classification of resources, soil and land degradation, economic development and resources use, natural resources accounting.

Energy needs, renewable and non renewable energy resources, Solar energy and its availability, wind power and its potential, hydropower as a clean source of energy, coal, oil, natural gas etc., bio fuel.

### **UNIT 4: Pollution and public policy**

Water Pollution: Water resources of India, Hydrological Cycle, methods of water conservation and management, ground and surface water pollution.

Recycling and management of water and wastewater (domestic and industrial). Water borne diseases and health related issues.

Air Pollution: Air pollution and air pollutants, sources of air pollution, its effect on human health and vegetations. Green house effect, global warming and climate change.

Ambient air quality standards, steps taken by Government to control air pollution.

Noise pollution and its impacts on human health.

Solid Waste: Municipal Solid Waste Management, segregation, disposal methods, composting, land fill sites etc. Hazardous waste management, biomedical waste management.

### **UNIT 5: Environmental impact assessment (EIA) and environmental management system (EMS)**

Introduction to EIA, its impact and case study, environmental information system(EIS), role of information technology in environment.

### **UNIT 6: Indian environmental laws:**

Legal framework: Constitutional provisions, the Indian Penal

Code, Role of Judiciary in Environmental Protection, Wild Life (Protection) Act, 1972,

Water (Prevention and Control of Pollution) Act, 1974, Environment (Protection) Act, 1986,

Air (Prevention & Control of Pollution) Act, 1981, Forest Conservation Act.

<b>SEMESTER</b>	<b>II</b>
<b>PAPER CODE</b>	<b>GE-II</b>
<b>TITLE</b>	<b>History of India-II</b>

### **UNIT I**

Development in the post Mauryas times with special reference to the Kushans, Satavahanas and Harsha.

### **UNIT II**

The Gupta Empire: Administrations, Economy, Society, Literature, Development in Science, Art and Architecture.

### **UNIT III**

Sangam Literature; Chola Empire: Local Self-Government and Cultural Life; the Pallavas; Tripartite Struggle.

### **UNIT IV**

Bhakti and Sufi movements: Origin, Doctrines, Spread, Impact on Indian Society

### **UNIT V**



Delhi sultanate:

Administrative and Economic Reforms of  
the Khaljis and Tughlaqs Decline

References:

1. Romila Thapar, A History of India Vol. I
2. Romila Thapar, From Lineage to State
3. Satish Chandra, Medieval India, Vol.
4. Kulke, H, and D .Rothermund, History of India
5. Burton Stein, Peasant State and Society in Medieval South India
6. A.L. Basham, The Wonder That Was India
7. K.A. Nikanta Sastri, History of South India from Pre-historic times to the fall of
8. Vijayanagar R.S. Sharma, Aspects of political Ideas and Institutions in Ancient India
9. P.N. Chopra & Co., A comprehensive History of Ancient India.
10. A.B. Pandey ,Early Medieval India.
11. J.L. Mehta, Advanced Study in the History of Medieval India Vol.II (1000-1526)
12. S.C. Raychoudhury, Social, Cultural and Economic History of India.
13. R.P. Tripathi, Some aspects of Muslim Administration

### **SEMESTER III**

<b>SEMESTER</b>	<b>III</b>
<b>PAPER CODE</b>	<b>ECC301</b>
<b>TITLE</b>	<b>Intermediate Microeconomics – I</b>

#### **UNIT 1: Consumer's Equilibrium**

Utility (Marshall and Hicks approach); Substitution effects (Hicks and Slutsky): Consumer's surplus (Marshall and Hicks approach).

#### **UNIT 2: Theory of Production and Costs**

Production function; Isoquants; law of variable proportion; returns to scale; Different concepts of costs and cost curves under traditional theory; Equilibrium of the firm; Expansion path.

#### **UNIT 3: Market Structure**

Market firms – perfect and imperfect markets; Equilibrium of a firm – perfect competition; monopoly and price discrimination; Measure of monopoly power; Monopolistic competition; Duopoly; oligopoly.

#### **UNIT 4: Factor Pricing**

Marginal productivity theory of distribution; Adding up problem; Rent – concepts, Ricardian and Modern theory of rent; Interest – Classical and Keynesian theories; Profits – innovation, risk and uncertainty theories.

**Text: H.L. Abuja; Advanced Economic Theory**

**References:**

1. Hal R. Varian, Intermediate Microeconomics, a Modern Approach, W.W. Norton and company / Affiliated
2. East-West Press (India), 8th edition, 2010. The workbook by Varian and Bergstrom may be used for problems. C. Snyder and W. Nicholson, Fundamentals of Microeconomics, engage Learning (India), 2010.
3. B. Douglas Bernheim and Michael D. Whinston, Microeconomics, Tata McGraw-Hill (India), 2009.

<b>SEMESTER</b>	<b>III</b>
<b>PAPER CODE</b>	<b>ECC302</b>
<b>TITLE</b>	<b>Intermediate Macroeconomics – I</b>

### **UNIT 1: Theories Output and Employment**

Say's Law' of markets and the classical theory of employment; Keynes objection to the classical theory; aggregate demand and aggregate supply function, the principle of effective demand.

### **UNIT 2: Consumption function**

Average and marginal propensity to consume; factors influencing consumption spending

### **UNIT 3: Investment function**

Autonomous and induced Investment; marginal efficiency of capital and marginal efficiency of investment, determining factors

### **UNIT 4: Simple income determination models:**

In a closed economy, Keynesian and classical models, ISLM income and interest determination

### **UNIT 5: Unemployment**

Types and causes, inflation and unemployment

### **Textbook**

1. Macroeconomics – Theory and Policy by H.I Ahuja

### **Reference**

2. Dornbusch, Fischer and Startz, macroeconomics, McGraw Hill, 11th edition, 2010.
- N. Gregory Mankiw, macroeconomics, Worth publishers, 7th edition, 2010.
3. Olivier Blanchard, macroeconomics, Pearson Education, Inc., 5th edition, 2009.
4. Steven M. Sheffrin, Rational expectations, Cambridge University Press, 2nd edition, 1996.
5. Andrew B. Abel and Ben S. Bernanke, Macroeconomics, Pearson Education, Inc., 7th edition, 2011
6. Errol D'Souza, Macroeconomics, Pearson Education 2009.
7. Paul R. Krugman, Maurice Obstfeld and Marc Melitz, International Economics, Pearson Education Asia, 9<sup>th</sup> edition, 2012.

<b>SEMESTER</b>	<b>III</b>
<b>PAPER CODE</b>	<b>ECC303</b>
<b>TITLE</b>	<b>Public Finance</b>

### **UNIT 1: Nature and Scope of Public finance**

Meaning and Scope of public finance; Distinction between private and public finance; Public good vs. private goods; The principle of Maximum Social advantage; market failure; Role of the government.

### **UNIT 2: Public Expenditure**

Meaning, classification and principle of public expenditure; Canons and effects of public expenditure; Trends in public expenditure and causes of growth of public expenditure in India.

### **UNIT 3: Taxation**

Sources of public revenue; Taxation – Meaning, canon and classification of taxes; Division of tax burden – the Benefit and ability-to-Pay approaches; Impact and incidence of taxes; Taxable capacity; Effects of taxation; Characteristics of a good tax system; major trends in tax revenue of the central and state governments in India. GST and VAT

### **UNIT 4: Public Debt and Financial Administration**

Sources of public borrowing; Effects of public debt; methods of debt redemption; the public budget – kinds of budget; Economic and functional classification of the budget.

### **UNIT 5. Financial decentralization in India**

Centre State Financial Relationship, Role of Finance Commission, and baic Features of 14th Finance Communication

**Textbook: H.L.Bhatia**

#### **Reference**

1. J. Hindriks , G. Myles: Intermediate Public Economics, MIT Press, 2006
2. H. Rosen, T. Gayer: Public Finance, 9th ed., Mcgraw Hill/ Irwin, 2009
3. Joseph E. stiglitz, Economics of the Public Sector, W.W. Norton & Company, 3rd edition, 2000.
4. R.A. Musgrave and P.B. Musgrave, public Finance in theory• & Practice, McGraw Hill Publications, 5th edition, 1989.
5. Harvey Rosen, Public Finance McGraw Hill Publications, 7th edition, 2005
6. Mahesh Purohit, Value Added Tax : Experiences f India and Other countries 2007.

<b>SEMESTER</b>	<b>III</b>
<b>PAPER CODE</b>	<b>SEC I</b>
<b>TITLE</b>	<b>Computer Application</b>

### **UNIT 1:**

Introduction to computer system

### **UNIT 2:**

Microsoft office 2007 and latest versions

### UNIT 3:

Ms-word lab assignment

1. Write down the following Paragraph OR any one provided by your teacher; Without a doubt, the Internet is one of the most important inventions of modern times. The Internet is a global interconnected computer networks which allow each connected computer to share and exchange information with each other. The origins of the Internet can be traced to the creation of Advanced Research Projects Agency Network (ARPANET) as a network of computers under the auspices of the U.S. Department of Defense in 1969.

Apply following effects on the paragraph:

- i. Paragraph font-size and font-type must be 12 Verdana.
- ii. Paragraph alignment must be justified and double line spacing.
- iii. Highlight the “(ARPANET)” with green color.
- iv. Make the “Internet” keywords Bold and Italic.
- v. Insert any “WordArt” and a symbol to your document.
- vi. Insert a clipart to your document.
- vii. Add following lines to your document: Internet, Intranet, Extranet, URL, WWW, Networking, Protocols, HTTP, TCP/IP

2. Create a Table of following fields:

Name, Surname, Age, Gender, Job and apply the following effects

- i. Insert 10 records
- ii. Font size should be 12
- iii. Title size should be 14
- iv. Font type should be Times new Roman
- v. Title color should be blue
- vi. Text color should be black
- vii. Table border should be 2 3. Write a letter on ‘Road Safety’ and send to ‘Multiple Recipients’ using mail merge.

### UNIT 4: Microsoft Excel Lab Assignment

Basic Formatting and Spreadsheet Manipulation

1. Add rows and columns to an existing spreadsheet
2. Reformat data (center, comma and currency styles, bold, text color)
3. Work with a simple formula (product) and function (sum)

<b>SEMESTER</b>	<b>III</b>
<b>PAPER CODE</b>	<b>GE – III</b>
<b>TITLE</b>	<b>History of India-III</b>

#### Unit I:

Advent of the Mughals:

Growth of Mughal Empire AD 1526-1556

Expansion and Consolidation AD1556-1707  
Decline of the Mughal Empire

**Unit II:**

Mughal polity, economy and society:  
Mansabdari and Jagirdari system;  
Sher Shah's Administration; Economy,  
Religion and Architecture.

**Unit III:**

Advent of European powers:  
Portuguese, Dutch, French and English  
British Expansion and Consolidations  
under Clive; Warren Hastings; Cornwallis;  
Wellesley; Dalhousie.

**Unit IV:**

Colonial Economy:  
Commercial Policies; Land Revenue  
Systems and its Impact; De- industrialization; Drain of Wealth and  
Growth of Modern Industries; Foreign  
Trade.

**Unit V:**

Social and cultural changes:  
Spread of Western Education  
Growth of Intelligentsia and Press  
Socio-Religious Movements: Rammohan  
Roy; Ramakrishna and Vivekananda;  
Swamy Dayanand and the Arya Samaj; Sir  
Syed Ahmad Khan and the Aligarh  
Movement.

**References:**

1. H. Kulke and D. Rothermund, History of India
2. Satish Chandra, Medieval India
3. R.P. Tripathi, Rise and fall of the Mughal Empire
4. Bipan Chandra, India's struggle for independence, 1857-1947
5. Bipan Chandra, History of Modern India
6. Bipan Chandra, Nationalism and Colonialism in Modern India.

**SEMESTER IV**

<b>SEMESTER</b>	<b>IV</b>
<b>PAPER CODE</b>	<b>ECC401</b>
<b>TITLE</b>	<b>Intermediate</b>

	<b>Microeconomics - II</b>
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### **UNIT 1: Equilibrium, Efficiency and Welfare**

Equilibrium and efficiency under pure exchange and production; Pareto efficiency & limitations, Pigou, Pareto & Social welfare function

### **UNIT 2: Market failure**

Externalities; public goods; Pigovian welfare economics

### **UNIT 3: Imperfect Market Structure**

Monopoly power, price discrimination, monopolistic competition, classical approach, oligopoly; meaning, types, models, classical & kinked demand curves, price leadership models

#### References:

1. Hal R. Varian, Intermediate Microeconomics, a Modern 8th edition, W.W. Norton and Company/Affiliated East-West Press (India), 2010. The Workbook by Varian and Bergstrom could be used for problems.
2. C. Snyder and W. Nicholson, Fundamentals of Microeconomics, Cengage Learning (India). 2010.

<b>SEMESTER</b>	<b>IV</b>
<b>PAPER CODE</b>	<b>ECC402</b>
<b>TITLE</b>	<b>Intermediate Macroeconomics - II</b>

### **UNIT 1: Quantity theory of money**

Fisher, Cambridge & Keynesian theory of Price and Friedman's Restatement of the quantity theory

### **UNIT 2: Fiscal and Monetary Policy**

Fiscal Policy target & instruments; monetary policy objectives, targets & instruments; the government budget constraint; government debt.

### **UNIT 3: Some recent Schools of Macroeconomics Thoughts**

New-Classical and New-Keynesians.

#### References:

1. Dornbusch, Fischer and Startz, Macroeconomics, McGraw Hill, 11th edition, 2010.
2. N. Gregory Mankiw. Macroeconomics, Worth Publishers, 7th edition, 2010.
3. Olivier Blanchard, Macroeconomics, Pearson Education, Inc., 5th edition, 2009
4. Charles I. Jones, Introduction to Economic Growth, W.W. north• & Company, 2nd edition, 2002

5. Andrew B. Abel and Ben S. Bernanke, Macroeconomics, Pearson Education, Inc., 7th edition, 2011
6. Errol D'Souza, Macroeconomics, Pearson Education 2009.
7. Robert J. Gordon, Macroeconomics, Prentice-Hall India Limited, 2011.

<b>SEMESTER</b>	<b>IV</b>
<b>PAPER CODE</b>	<b>ECC403</b>
<b>TITLE</b>	<b>International Trade</b>

### **UNIT 1: Importance of Trade and Trade theories**

Importance of the study of international economics; **Inter-regional and international trade;**  
Theories of absolute advantage, comparative and opportunity cost; Heckscher – Ohlin  
**Theory of trade – its main features, assumptions and limitations**

### **UNIT 2: Gains from Trade**

**Gain from Trade – their measurement and distribution: Trade as an engine of economic growth; Concept of terms of trade and their importance in the theory of trade;**

### **UNIT 3: Tariffs and Quotas**

Types of tariffs and quotas; their impact in partial equilibrium analysis; Free trade and policy of tariffs in relation to economic growth with special reference to India; Concept of optimum tariff.

**UNIT 4: Balance of trade and Balance Payments and multilateral agencies** Concepts and components of balance of trade and Balance of Payments; Equilibrium and disequilibrium in Balance of Payments; Consequences of disequilibrium in Balance of Payments; **Various measures to correct deficit in the Balance of Payments; Relative merits, demerits and limitations of devaluation; Concept and implication of foreign trade multiplier, Functions of IMF, World Bank and GATT/WTO**

### **References:**

1. Baghwati.J.N.(ed); International Trade, Selected Readings ,Cambridge University Press.
2. Kirdleberger; International Business
3. Paul R krugman, Maurice Obsfeld: International Economics ,Theory& Practice ,(Peason)

<b>SEMESTER</b>	<b>IV</b>
<b>PAPER CODE</b>	<b>SEC-II</b>
<b>TITLE</b>	<b>Research Methodology</b>

### **UNIT 1: Introduction to Research**

**The concept of research, characteristics of good research, Application of Research, Meaning**

and sources of Research problem, characteristics of good Research problem, Research process, outcomes, application of Research, Meaning and types of Research hypothesis, Importance of Review of Literature, Organizing the Review of Literature.

## **UNIT 2: Types of Research**

Types of research, pure (basic, fundamental) and applied research, qualitative and quantitative. Research Design : Meaning, need, types of research design – Exploratory, Descriptive, Casual research Design, Components of research design, and Features of good Research design. Experiments, surveys and case study Research design.

## **UNIT 3: Sampling, Data Collection and analysis**

Types and sources of data – Primary and secondary, Methods of collecting data, Concept of sampling and sampling methods – sampling frame, sample, characteristics of good sample, simple random sampling, purposive sampling, convenience sampling, snowball sampling, classification and tabulation of data, graphical representation of data, graphs and charts – Histograms, frequency polygon and frequency curves, bell shaped curve and its properties. Statistical Methods for Data Analysis : Applications of Statistics in Research, measures of central tendency and dispersion.

## **UNIT 4: Research Report**

Research report and its structure, journal articles – Components of journal article. Explanation of various components. Structure of an abstract and keywords. Thesis and dissertations . components of thesis and dissertations. Referencing styles and bibliography.

## **UNIT 5: Ethics in Research**

Plagiarism - Definition, different forms, consequences, unintentional plagiarism, copyright infringement, collaborative work. Qualities of good Researcher.

## **UNIT 6: ICT Tools for Research**

Role of computers in research, maintenance of data using software such as Mendeley, Endnote, Tabulation and graphical presentation of research data and software tools. Web search : Introduction to Internet, use of Internet and WWW, using search engines and advanced search tools.

### **References:**

1. Donald Cooper and PS Schindler (2009) Business Research Methods, 9th edition, Tata McGraw Hill.
2. Kothari C. R Research Methodology
3. Uma Sekaran (2010) Research Methods for Business, 4th edition, Wiley.
4. Ranjit Kumar (2009) Research Methodology, 2nd edition, Pearson Education
5. Naresh Malhotra and S Dash (2009) Marketing Research, 5th edition, Pearson Prentice Hall.
6. Michael V. P Research Methodology.
7. Fred N. Kerlinger : Foundations of Behavioral Research.

<b>SEMESTER</b>	<b>IV</b>
<b>PAPER CODE</b>	<b>GE-IV</b>
<b>TITLE</b>	<b>History of India-IV</b>



**Unit I:**

Popular resistance to colonial rule:  
Peasant and Tribal Movements-Indigo  
Workers; Santhal ; Revolt of 1857

**Unit II:**

Rise of Nationalism: Emergence of Nationalism;  
Origin of Indian National Congress (INC);  
Moderates; Extremist; Partition of Bengal;  
Swadeshi Movement; Home Rule League.

**Unit III:**

Constitutional development:  
Government of India Acts-1909, 1919,1935.

**Unit IV:**

National movement:  
Rise of Gandhi; Non-cooperation  
Movement; Civil Disobedience Movement;  
Quit India; Indian National Army (INA).

**Unit V:**

Towards Independence:  
Communalism; Partition; Transfer of  
Power; Integration of the Indian States;  
Making of the Indian Constitution.

**Reference:**

1. Bipan Chandra, India struggle for independence, 1851-1947
2. Bipan Chandra, History of modern India
3. Bipan Chandra, Nationalism and colonialism in modern India.
4. Sekhat Bandopandhya, Plassey to Partition.
5. Yogendra Singh, Modernisation of Indian Tradition.
6. C.A Bayly, Indian Society and the Making of the British Empire.
7. A.R. Desai, Social Background of Indian Nationalism
8. Dhama Kumar & Tapan Raychaudhuri ,ed., Cambridge Economic History of India, Vol. I

**SEMESTER V**

<b>SEMESTER</b>	<b>V</b>
<b>PAPER CODE</b>	<b>ECC501</b>
<b>TITLE</b>	<b>Indian Economy</b>

**UNIT 1: Economic Development since Independence**

Major feature of the economy at independence; growth and development under different policy regimes – goals, constraints, institution and policy framework; an assessment of performance – sustainability and regional contrasts; structural change, savings and investment.

**UNIT 2: Population and Human Development**

Demographic trends and issues; health and malnutrition.

**UNIT 3: Growth and Distribution**

Trends and policies in poverty, inequality and unemployment.

**UNIT 4: India's foreign trade**

Composition, direction trends, balance of payment situation

**UNIT 5: Policies and Performance in Agriculture**

Growth; productivity; agrarian structure and technology; capital formation; trade, pricing and procurement.

**UNIT 6: Policies and Performance in Industry**

Growth; productivity diversification; small scale industries; public sector; competition policy; foreign investment.

**UNIT 7: Some recent initiative for inclusive development**

Make in India, Skill India Mission, Jan Dhan Yojana, National Rural Livelihood Mission, and MNREGA etc.

**UNIT 8: Introduction to Jharkhand Economy**

Structure, trends, Demography

## References:

1. Jean Dreze and Amartya Sen 2013. An Uncertain Glory: India and its Contradictions, Princeton University Press.
2. Pulapre Bankrishnan, 2007, the Recovery of India: Economic Growth in the Nehru Era, Economic and Political Weekly, November.

<b>SEMESTER</b>	<b>V</b>
<b>PAPER CODE</b>	<b>ECC502</b>
<b>TITLE</b>	<b>Development Economics</b>

**UNIT 1: Conceptions of development**

Alternative measures of development, HDI, GDI, GEM international comparisons

**UNIT 2: Growth models and Empirics**

The Harrod-Domar model, the Solow and its variants, endogenous models and evidence on the determinations of growth

**UNIT 3: Poverty and Inequality**

Definitions, Measures and Mechanisms Inequality axioms; a comparison of commonly used inequality measure; connections between inequality and development; poverty measurement; characteristics of the poor; mechanisms that generate poverty traps and path dependence of growth processes.

## UNIT 4: Role of Planning Commission, NITI Aayog and future of Planning

### References:

1. Debraj Raj, Development Economics, Oxford University Press, 2009.
2. Partha Dasgupta, Economics, A Very Short Introduction, Oxford University Press, 2007.
3. Abhijit Banerjee, Roland Benabou and Dilip Mookerjee, Understanding Poverty, Oxford University Press 2006.
4. Kaushik Basu, The Oxford Companion to Economics in India, OUP, 2007.
5. Amartya Sen, Development as Freedom, OUP, 2000.
6. Daron Acemoglu and James Robinson, Economic Origins of Dictatorship and Democracy, Cambridge University Press, 2006
7. Robert Putnam, Making Democracy Work; Civic Traditions in Modern Italy Princeton University Press, 1994

<b>SEMESTER</b>	<b>V</b>
<b>PAPER CODE</b>	<b>ECCDSE1501A</b>
<b>TITLE</b>	<b>Advanced Mathematical Economics</b>

### UNIT 1: Functions of two and more than two variables

Diagrammatic representation of plane sections of surfaces; Functions of several variable in economic theory; Production function and iso product curves; Utility function and indifference curves.

### UNIT 2: Constrained Maximum and Minimum Values

Consumer's equilibrium, Producer's equilibrium, Expansion path

### UNIT 3: Partial Derivatives and Total Differentials

Technique of Partial differentiation; Economic applications of partial derivatives – homogeneous functions, Euler's theory and other properties of homogeneous production function; Linear and homogeneous production function – Cobb-Douglas production function; Concept and technique of total differentiation; Economic application of total differentiation – marginal rate of substitution and elasticity of substitution.

### UNIT 4: Integral calculus and Differential Equations

Definite integrals, Indefinite integrals and inverse differentiation, Relation between average and marginal concepts, Linear differential equation and their integration, Simultaneous linear differential equations, Orthogonal curves and surface systems; Other differential equations; Dynamic forms of demand supply function.

### UNIT 5: Market Structure/Pricing

Concept of equilibrium of the firm under perfect competition; Monopoly; Price

discrimination; Monopolistic Competition; subsidies and taxes; economies of scale; market equilibrium.

### UNIT 6: Matrix Algebra

Types of Matrices; Determinants – Inverse, rank, Cremer's rule; Simultaneous equations – homogeneous, non – homogeneous;

### UNIT 7: Input –output Analysis, Linear Programming

Input- output analysis; the simple closed and open model; Simon-Hawkins condition; Linear Programming – basic concepts, primal and dual, basic theorems of Linear Programming; graphical method.

### UNIT 8: Game Theory

Introduction and concepts – simple and mixed strategy; saddle point solution; prisoners dilemma; pay-off matrix of a game – two-person-two commodity and zero-sum game.

#### References:

1. A.C.Chiang- Fundamentals of Mathematical Economics, Mc Graw Hill. New York
2. R.G.D Allen- Mathematics for Economics, Mc Milan Press.
3. Taro Yamane- Mathematics for Economics- An Elementary Survey Prentice Hall of India, Pvt.Ltd.New Delhi.

<b>SEMESTER</b>	<b>V</b>
<b>PAPER CODE</b>	<b>ECCDSE1501B</b>
<b>TITLE</b>	<b>Economics of Agriculture</b>

### UNIT 1: Rural Economy of India

Structure of Indian economy; place of agriculture in rural economy; composition of the Indian rural economy; Farm sector and non-farm sector; diversification of agriculture; agriculture and allied activities ( Fisheries, horticulture, floriculture); in India; its growth, problems and state policies, cattle wealth of India and dairying; rural industrialization : food processing and agro based industries; development of rural infrastructure.

### UNIT 2: Development of Agriculture

Role and important of agriculture in economic development; linkages between the agriculture sector and the non agriculture sector, changing nature of linkages; agricultural recourses in India: land utilization cropping pattern; irrigation in India, command area development and flood control; trends in agriculture growth and agriculture productivity; pattern of agricultural development: regional variation Agrarian relations, Land reforms and Agricultural Labor in India Agrarian relations, historical evolution. Land reforms program during post independence in India; Agricultural labor, characteristics and problems.

### UNIT 3: Technological Changes in Agriculture

Technological in agriculture; traditional techniques and practices; HYV seeds – fertilizer, water technology (green revolution); sustainable agriculture; emerging trends in agricultural technology; dry land farming; use of bio-technology techniques.

### UNIT 4: State and Agriculture

Agriculture finance in India; importance; types of requirements; sources; non-institutional and institutional; existing rural credit delivery system (multiagency approach); agricultural marketing in India; markets and marketing functions, channels of distribution of various commodities, regulated market and warehousing; role of cooperatives in agriculture.

Agriculture planning in India: decentralized planning and indicative planning; incentives in agriculture; price and non-price incentives; input subsidies; agriculture Price policies (APP), Nature of demand and supply of agricultural products, need for state intervention; objectives of APP instruments and evaluation; food security in India and public distribution system.

#### References:

1. Dutt, R. KPM Sundharam: Indian Economy
2. Mishra, S.K.& V.K. Puri: Indian Economy
3. Govt. of India: Economic Survey
4. Mishra & Puri: Bhartiya Arthashastra

<b>SEMESTER</b>	<b>V</b>
<b>PAPER CODE</b>	<b>ECCDSE2502A</b>
<b>TITLE</b>	<b>Economics of Health &amp; Education</b>

#### **UNIT 1: Role of Health and Education in Human Development**

Importance in poverty alleviation; health and education outcomes and their relationship with macroeconomic performance.

#### **UNIT 2: Microeconomic Foundations of Health Economics**

Demand for health; uncertainty and health insurance market; alternative insurance mechanisms; market failure and rationale for public intervention; equity and inequality.

#### **UNIT 3: Evaluation of Health Programs**

Costing, cost effectiveness and cost-benefit analysis; burden of disease.

#### **UNIT 4: Health Sector in India**

An Overview Health outcomes; Health systems; health financing.

#### **UNIT 5: Education**

Investment in Human Capital Rate of return to education: private and social; quality of education; significance of human capital; theories of discrimination; gender and caste discrimination in India.

#### **UNIT 6: Education Sector in India**

An Overview Literacy rates, school participation, school quality measures.

#### References:

1. William, Jack Principles of Health Economics for Developing Countries, World Bank Institute Development Studies, 1999.

2. World Development Report, Investing in Health, The World Bank, 1993.●
3. Ronald G., Ehrenberg and Robert S., Smith, Modern Labor Economics: Theory and Public Policy, Addison Wesley, 2005.

<b>SEMESTER</b>	<b>V</b>
<b>PAPER CODE</b>	<b>ECCDSE2502B</b>
<b>TITLE</b>	<b>Demography</b>

### **UNIT 1: Introduction**

Population study and demography; its relation with other disciplines; Theories of population— Malthus, Optimum Theory of population and Theory of demographic transition; Historical Evidence of population growth in developed and developing countries, Demographic Characteristics of Developed and Under Developed countries.

### **UNIT 2: Sources of Demographic Data in India**

Sources of Demographic data in India; Census - civil registration system and demographic surveys, National Family Health Survey I and II — their relative merits and demerits.

### **UNIT 3: Health Survey Techniques of Analysis**

Crude birth and death rates, age Specific birth and death rates; standardized birth and death rates - study of fertility; total fertility rate, gross reproduction rate and net reproduction rate; study of marital status — life table; meaning of its columns and its uses; reproductive and child health in India — temporal and spatial variation in sex ratios.

### **UNIT 4: Population Projection**

Techniques of population projection — concept of stationary, stable and quasi- stationary population; ageing of population in India — changes in family structure and old age security.

### **UNIT 5: Population Policy**

Salient feature of population census of 1971,1981,1991,2001 and 2011; evolution of population policy in India; shift in policy focus from population control to family welfare and to women empowerment; demographic status and household behavior — education, women's autonomy and fertility - Population, health, poverty and environment linkage in India; the new population policy.

#### **References:**

1. I Agrawal U.D. (1999), Population Projections and Their Accuracy, B.R. Publishing Corporation, New Delhi
2. Bhende, A.A. and T.R. Kanitkar: Principles of Population Studies, Himalaya Publishing House Bombay.
5. Bogue, D.G.: Principles of Demography

## **SEMESTER VI**

<b>SEMESTER</b>	<b>VI</b>
<b>PAPER CODE</b>	<b>ECC601</b>
<b>TITLE</b>	<b>History of Economic Thought</b>

### **UNIT 1: Early period**

Mercantilism – Main Characteristics, Thomas Munn – Physiocracy, Natural order, Primacy of Agriculture, Social classes, Tableau Economique, Taxation, Turgot – Economic ideas of Petty, Locke and Hume.

### **UNIT 2: Classical period**

Adam Smith – Division of labour, Theory of value, Capital accumulation, Distribution, Views on Trade Economic Progress; David Ricardo – Value, Theory of Rent, Distribution, Ideas on Economic Development and International Trade; Thomas R. Malthus – Theory of Population, Sismondi, Karl Marx – Dynamic ideas of J.B. Say, J. S. Mill, Historical School – Senior, List.

### **UNIT 3: Marginalists**

The precursors of marginalism – Cournot, Thunen, Gossen; The Marginalist revolution, Jevons, Wlaras and Manger; Bohm-Bawark, Wicksell and Fisher; the rate of interest Wickstead and Weiser; Distribution-Marshall as a great synthesizer, role of time in price determination, economics methods, ideas on consumer's surplus, elasticities, prime and supplementary costs, representative firm, external and internal economics, quasi-rent, organisation as a factors of production, nature of profits; Pigou; Welfare Economics; Schumpeter; Role of entrepreneur and innovations.

### **UNIT 4: Indian economic thought**

Modern Economic ideas; Naoraoji, Ranade; Economic ideas of Gandhi; Village, Swadeshi, place of machine and labour, cottage industries, trusteeship.

References:

1. Bhatia H.L. History of Economic Thought, Vikas Publishing House.
2. Blaug, M. (1997), Economic Theory in Retrospect: A History of Economics
3. Gide, C and G. Rist (1956), A History of Economic Doctrine (2nd Ed.), George Harrod and Co. London.
4. Gide, A. and A.E. Thomson (1980), The Development of Economic Doctrine (2nd Ed.), Longman Group, London.

<b>SEMESTER</b>	<b>VI</b>
<b>PAPER CODE</b>	<b>ECC602</b>
<b>TITLE</b>	<b>Money Banking &amp; Financial Market</b>

**UNIT 1: Money**

Concept, functions, measurement; theories of money supply determination.

**UNIT 2: Financial Institutions, Markets, Instruments and Financial Innovations**

- a) Role of financial markets and institutions; problem of asymmetric information – adverse selection and moral hazard; financial crises
- b) Money and capital markets: organization, structure and reforms in India; role of financial derivatives and other innovations.

**UNIT 3: Banking System**

- (a) Balance sheet and portfolio management.
- (b) Indian banking system: Changing role and structure; banking sector reforms.

**UNIT 4: Central Banking and Monetary Policy**

Functions, balance sheet; goals, indicators and instruments of monetary control; monetary management in an open economy; current monetary policy of India.

## References:

1. F.S. Mishkin and S. G. Eakins, Financial Markets and institution, Pearson Education, 6th edition, 2009.
2. F. J. Fabozzi, F. Modigliani, F. J. Jones, M. G. Ferri, Foundations of Financial markets and Institutions, Pearson Education, 3rd edition, 2009.
3. L.M. Bhole and J. Mahukud, financial Institutions and Markets, Tata McGraw Hill, 5th edition, 2011.
4. M.Y. Khan, Indian Financial System, Tata McGraw Hill, 7th edition, 2011

<b>SEMESTER</b>	<b>VI</b>
<b>PAPER CODE</b>	<b>ECCDSE3601C</b>
<b>TITLE</b>	<b>Elementary Econometrics</b>

**UNIT 1: Nature and Scope of Econometrics****UNIT 2: Statistical Concepts**

Normal Distribution; ( $\chi^2$ ) chi-sq, t- and F – distribution; estimation of parameters; properties of estimators; testing of hypotheses: defining statistical hypotheses; distributions of test statistics; testing hypotheses related to population parameters; type I and II errors; power of a test; tests for comparing parameters from two samples.

**UNIT 3: Simple Linear Regression Model**



Two Variable Case Estimation of model by method of ordinary least squares; properties of estimators; goodness of fit; tests of hypotheses; scaling and units and units of measurement; confidence intervals; Gaussmarkov theorem; forecasting.

#### **UNIT 4: Multiple Linear Regression Model**

Estimation of parameters; properties of OLS estimators; goodness of fit – ( $R^2$  and adjusted  $R^2$ ) partial regression coefficients; testing hypotheses-individual and joint; functional form of regression models; qualitative (dummy) independent variables

#### **UNIT 5: Violation of Classical Assumptions; Consequences, Detection and Remedies**

Multicollinearity; heteroscedasticity; serial correlation.

#### **UNIT 6: Specification Analysis**

Omission of a relevant variable; inclusion of irrelevant variable; tests of specification errors.

#### **References:**

1. Jay L. Devore, probability and Statistics for Engineers. Cengage Learning, 2010.
2. John. E freund, Mathematical Statistics, Prentice Hall, 1992
3. Richard J. Larsen and Morris L. Marx, an Introduction to Mathematical Statistics and its Applications, Prentice Hall, 2011.
4. D.N. Gujarati and D.C. Porter, Essentials of Econometrics, McGraw Hill 4th edition, International Edition, 2009.
5. Christopher Dougherty, Introduction to Econometrics, Oxford University Press, 3rd edition, Indian edition, 2007

<b>SEMESTER</b>	<b>VI</b>
<b>PAPER CODE</b>	<b>ECCDSE3601D</b>
<b>TITLE</b>	<b>Agricultural Problems in India</b>

#### **UNIT 1: Rural Economy of India**

Structure of Indian economy; place of agriculture in rural economy; composition of the Indian rural economy; Farm sector and non-farm sector; diversification of agriculture; agriculture and allied activities ( Fisheries, horticulture, floriculture); in India; its growth, problems and state policies, cattle wealth of India and dairying; rural industrialization : food processing and agro based industries; development of rural infrastructure.

#### **UNIT 2: Development of Agriculture**

Role and important of agriculture in economic development: linkages between the agriculture sector and the non agriculture sector, changing nature of linkages; agricultural recourses in India: land utilization cropping pattern; irrigation in India, command area development and flood control; trends in agriculture growth and agriculture productivity; pattern of agricultural development: regional variation Agrarian relations, Land reforms and Agricultural Labor in India Agrarian relations, historical evolution. Land reforms program during post independence in India; Agricultural labor, characteristics and problems.

**UNIT 3: Technological Changes in Agriculture**

Technological in agriculture; traditional techniques and practices; HYV seeds – fertilizer, water technology (green revolution); sustainable agriculture; emerging trends in agricultural technology; dry land farming; use of bio-technology techniques.

**UNIT 4: State and Agriculture**

Agriculture finance in India; importance; types of requirements; sources; non-institutional and institutional; existing rural credit delivery system (multiagency approach); agricultural marketing in India; markets and marketing functions, channels of distribution of various commodities, regulated market and warehousing; role of cooperatives in agriculture.

Agriculture planning in India: decentralized planning and indicative planning; incentives in agriculture; price and non-price incentives; input subsidies; agriculture Price policies (APP), Nature of demand and supply of agricultural products, need for state intervention; objectives of APP instruments and evaluation; food security in India and public distribution system.

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2. Mishra, S.K.& V.K. Puri: Indian Economy
3. Govt. of India: Economic Survey
4. Mishra & Puri: Bhartiya Arthashastra

<b>SEMESTER</b>	<b>VI</b>
<b>PAPER CODE</b>	<b>ECCDSE4602D</b>
<b>TITLE</b>	<b>Environmental Economics</b>

**UNIT 1: Introduction**

Key environmental issues and problems, economic way of thinking about these problems, basic concepts from economics; Pareto optimality and market failure in the presence of externalities; property rights and other approaches.

**UNIT 2: The Design and Implementation of Environmental Policy**

Overview, Pigouvian taxes and effluent fees, tradable permits, implementation of environmental policies in India and international experience; transboundary environmental problems; economics of climate change.

**UNIT 3: Environmental Valuation Methods and Applications**

Valuation of non-market goods and services-theory and practice; measurement methods; costbenefit analysis of environmental policies and regulations.

**UNIT 4: Sustainable Development**

Concepts; measurement; perspectives from Indian experience

References:

1. Roger Perman, Yue Ma, Michael Common, David Maddison and James McGilvaray

- “Natural Resource and Environmental Economics”, Pearson Education/Addison Wesley, 4th edition, 2011
2. Charles Kolstad, “Intermediate Environmental Economics”, Oxford University Press, 2nd edition, 2010.
  3. Robert N. Stavins (ed.), “Economics of the Environment : Selected reading”, W.W. Norton, 6th edition, 2012
  4. Robert Solow, “An Almost Practical Step toward Sustainability,” Resources for the Future 40th anniversary lecture, 1992.
  5. Kenneth Arrow et al., “Are We Consuming Too Much?” Journal of Economic Perspectives, 18(3): 147-172, 2004.
  6. IPCC (Intergovernmental Panel on Climate Change), Fifth Assessment Report (forthcoming 2014)