

RKDF UNIVERSITY

RANCHI



FYUGP

ECONOMICS HONOURS/RESEARCH

FOR UNDER GRADUATE COURSES UNDER RKDF UNIVERSITY RANCHI

NEP 2020

Implemented from
Academic Session 2023-27

RKDF UNIVERSITY RANCHI

B.A. ECONOMICS

PROGRAMME OVERVIEW/ SCHEME OF THE PROGRAMME

- The Full-time, Regular UG programme for a regular student shall be for a period of four years with multiple entry and multiple exit options.
- Undergraduate degree programmes of either 3 or 4-year duration, with multiple entries and exit points and re-entry options within this period, with appropriate certifications such as:
 - a Certificate after completing 1 year (2 semesters) of study in the chosen fields of study,
 - a Diploma after 2 years (4 semesters) of study,
 - a Bachelor after a 3-year (6 semesters) programme of study,
 - a Bachelor (with Hons. / Research) after a 4-year (8 semesters) programme of study

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AIMS OF BACHELOR'S DEGREE PROGRAMME IN ECONOMICS

1. Get an understanding of basic economic theory;
2. Learn the mathematical and statistical techniques necessary for a proper
3. understanding of the discipline;
4. Get an introduction to real world economic issues and problems facing the
5. country and the world;
6. Gain an understanding of proper policy responses to economic problems;
7. Get trained to collect primary data and learn sampling techniques;
8. Learn to use scientific empirical methods to arrive at conclusions about the
9. validity of economic theories;
10. Get trained in the art of economic modelling.

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B.A. ECONOMICS
SEMESTER - I

| Subject Code | Paper Name | Credit |
|---------------------|------------------------------|---------------|
| MJ01ECO | INTRODUCTORY MICRO ECONOMICS | 4 |

Course Objectives:

1. This course aims to train students in the basic economic theory.
2. It will also enable them to discuss real world economic issues & problems related to Consumer's Behavior, Production, Market, and Distribution & Welfare.

Course Learning Outcomes:

3. The student will be able to understand the Basic Economic Theory.
4. It will also enable them to learn to use empirical methods to derive conclusions about the validity of Economic Theories.

Exploring the subject matter of Economics

Why do we study economics? Scope and method of economics: the economic problem: Scarcity and choice; the question of what to produce, how to produce and to distribute output; science of economics; reading and working with graphs.

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; shift in the demand/supply curve, demand and supply together; how do prices allocate resources; elasticity and its application; control on prices; taxes and the costs of taxation; consumer surplus; producer surplus.

3. The Households

The consumption decision – budget constraint, consumption and income/price change, demand for all other goods and price changes; description of preference (representing preferences with indifference curves)

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5. The firm and market Structure

Behavior of Profit maximizing firm (under perfect competition & monopoly) short run costs and output decisions; Costs and Output in the long run; Concept of Revenue in different Markets

6. Input market land Labor Market

Labor markets-basic concepts (derived demand, productivity of an input marginal revenue product); demand for labor; input demand curves; shift in input demand curves; competitive labor markets, land markets, characteristics.

Reference Books:

1. एच० एल० आहुजा, व्यष्टि अर्थशास्त्र, एस० चॉद एण्ड कंपनी (Both Eng & Hindi)
2. एम० एल० झिगन, व्यष्टि अर्थशास्त्र, वृंदा प्रकाशन (Both Eng & Hindi)
3. एम. एल. सेठ, व्यष्टि अर्थशास्त्र, भारती भवन (Both Eng & Hindi)
4. डा० सुमन, व्यष्टि अर्थशास्त्र, आलोक प्रकाशन (Both Eng & Hindi)

RKDF UNIVERSITY RANCHI
B.A. ECONOMICS
SEMESTER II

| Subject Code | Paper Name | Credit |
|---------------------|-------------------------------------|---------------|
| MJ02ECO | INTRODUCTORY MACRO ECONOMICS | 4 |

Course Objectives:

1. The course aims to introduce the students to the basic concepts of Macro Economics which deals with the economy as a whole.

Course Learning Outcomes:

2. After completing this course, the students will be able to explain the basic concepts of GDP, National Income, Money, Inflation, Functions of Central bank, Credit Creation and Credit Control, Trade Cycle and its different phases.

Course Content:

UNIT- I Introduction to Macroeconomics

1. Macroeconomics, Meaning and Scope;
2. Concept and Measurement of GDP, GNP, NDP and NNP at market price and factor cost;
3. Methods of measuring National Income (Product Method, Expenditure, Income Method);
4. Circular Flow of Income in a Two Sector, Three Sector and Four Sector Model; Real and Nominal GDP.

UNIT- II Money

5. Functions of money.
6. Determinants of Demand for Money and Supply of Money.
7. Quantity Theory of Money – Cash Transaction and Cash Balance Approach; Keynesian
8. Theory of Money and Prices.

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UNIT- III Inflation

- 1 Definition and types of inflation.
- 2 Demand Pull and Cost Push Inflation.
- 3 Measures to control inflation- Fiscal and Monetary policy;
- 4 Phillips Curve.

UNIT- IV Theories of Employment and Income

- 5 Classical theory of Employment; Keynesian theory of Effective Demand.
- 6 Consumption Function, Saving Function – MPC and MPS; Factor affecting Consumption Function; Investment Function- Autonomous and Induced Investment.
- 7 Marginal Efficiency of Capital (MEC) and Factors affecting MEC;
- 8 Keynesian Multiplier.

Reference Books:

- 1 Dornbusch, Fischer, Startz, Macro Economics, Mc Graw Hill, 11th edition, 2010.
- 2 N. Gregory Mankiw, Macro Economics, Worth Publishers, 11th edition, 2021.
- 3 Seth, M.L., Macro Economics, Laxmi Narayan Publications (Both in English & Hindi).
- 4 Ahuja, H.L., Advanced Macro Economics, S.Chand Publications.(Both in English & Hindi). एम0 एल0 झिगन, समष्टि अर्थशास्त्र, वृंदा प्रकाशन

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B.A. ECONOMICS
SEMESTER - II

| Subject Code | Paper Name | Credit |
|---------------------|-----------------------------|---------------|
| MJ03ECO | THEORY OF STATISTICS | 4 |

Course Objectives:

1. The Course aims to Introduce the Students to the basic concepts of Statistics and its application in realworld.

Course Learning Outcomes:

1. After completing this course, the students will be able to explain basic concepts of data and its measurement, univariate and bivariate analysis, time series analysis, index number, probability.
2. Learn data analysis & interpretation that are widely used to solve the economic and business problems.

Course Content:

UNIT- I Introduction to Statistics

- 1 Definition and scope of Statistics
- 3 Types of Data – Primary and Secondary Data
- 4 Methods of Collection of Data - Census and Sampling methods
- 5 Classification and Presentation of Data- Tabular; Diagrammatic and Graphic

UNI-II Univariate Analysis

- 6 Measures of Central Tendency: Mathematical average –Arithmetic Mean, Geometric Mean and Harmonic Mean, Positional Average- Median and Mode.
- 7 Measures of Dispersion: Absolute measure of Dispersion, Range, Inter Quartile Range, Quartile Deviation, Mean Deviation, Standard Deviation, Relative measure of Dispersion, Co- efficient of Range, Quartile Deviation, , Mean Deviation and Standard Deviation (co-efficient of variation).

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UNIT-III Bivariate Analysis

- 1 Co- relation Definition: Type; Karl Pearson and Rank Correlation
- 2 Regression Equations, Lines of Regression; Least Square Method.

UNIT-IV Time Series and Index Number

- 3 Time Series Analysis – Concept; Component; Trend Line and Trend Value by Least Square Method
- 4 Index Number – Concept; Price relative; quantity relative; weighted Index Number; Problem in the construction of Index Number and Limitation of Index Number
- 5 Methods of Construction of Index Number – Laspeyre’s, Pasche’s , Fisher’s, Marshall’s, Edgeworth’s and Consumer Price Index.

Reference Books:

- 1 Sah, N.M., Statistics for Economics, Arya Publication.
- 2 Schaum Outline of Theory and Problem of Statistics, Murray R. Spiegel, Larry J. Stephens, Tata McGraw-Hill.
- 3 Agrawal, V.L. Basic Statistics, New Age International Publishers.
- 4 Gupta, V.N., Quantitative Technique (Hindi Edition), SPBD Publication.
- 5 Sinha, V.C. and Gupta Alok, Business Statistics, SPBD Publication.
- 6 Gupta, S.C., Fundamental of Statistics Himalaya Publishing House.
- 7 Singh A, C., Sankhayaki, S Chand Publications.

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SEMESTER III

| Subject Code | Paper Name | Credit |
|--------------|-----------------------------|--------|
| MJ04ECO | INTERMEDIATE MICROECONOMICS | 4 |

Course Description

The course is designed to provide a sound training in microeconomic theory to formally analyze the behavior of individual agents. Since students are already familiar with the quantitative techniques in the previous semesters, mathematical tools should be used to facilitate understanding of the basic concepts. This course looks at the behavior of the consumer and the producer and also covers the understanding of the micro distribution theories.

Course Outline

1. Consumer's Equilibrium

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

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.

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.

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.

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5- Equilibrium, Efficiency and Welfare

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

6. Market failure

Externalities; public goods; Pigovian welfare economics

7. Imperfect Market Structure

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

Basic Readings:

1. Hal R. Varian, Intermediate Microeconomics, a Modern Approach, W.W. Norton and company / Affiliated East-West Press (India), 8th edition, 2010. The workbook by Varian and Bergstrom may be used for problems.
2. 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.
4. एच० एल० आहुजा, व्यक्ति अर्थशास्त्र, एस० चॉद एण्ड कंपनी (Both Eng & Hindi)
5. एम० एल० झिगन, व्यक्ति अर्थशास्त्र, वृंदा प्रकाशन (Both Eng & Hindi)
6. एम. एल. सेट, व्यक्ति अर्थशास्त्र, भारती भवन (Both Eng & Hindi)
7. डा० सुमन, व्यक्ति अर्थशास्त्र, आलोक प्रकाशन (Both Eng & Hindi)

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| Subject Code | Paper Name | Credit |
|--------------|-------------------|--------|
| MJ05ECO | JHARKHAND ECONOMY | 4 |

Course Objectives:

- 1 The course intends to expose the students to the evolution, structure and sectoral growth of Jharkhand.
- 2 The major demographic features of the state with special focus on poverty and unemployment, migration, urbanization, education and health have been included. Minerals, forests and environmental issues have been included in the course.

Course Learning Outcomes:

- 3 At the end of the course, the students be able to understand different aspects of demography and the problems associated with it like poverty, unemployment, malnutrition, migration, to name a few.
- 4 Students will comprehend the mineral, forest and environmental issues in the state. Lastly, they will learn about the important policies for development.

Course Content:

Unit I Characteristics of Jharkhand Economy

Chapter 1: State Income

State Domestic Product a
Measures to redress regional imbalances

Chapter 2: Human and Natural Resources

Population
Human Development Index
Poverty and Unemployment– Anti-Poverty and Employment generation
Programmes
Functioning of Panchayat Raj Institutions

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Chapter 3: Natural Resources in Jharkhand

Land, Water, Forest and mineral resources in Jharkhand

Jharkhand Sustainable Development Goals

Jharkhand environmental Policy

Unit II Agriculture and Industries in Jharkhand

Chapter 4: Agriculture in Jharkhand

Importance of Agriculture

Problems in Agriculture

Land Reforms

Cropping Pattern

Irrigation

Watershed Development

Dry Land Farming

Farmers Suicide – causes and solutions

Chapter 5: Rural Development

Public Distribution System

Rural Development Programmes

Chapter 6: Industries in Jharkhand

Major Industries in Jharkhand - Problems and Prospects

MSMEs - Problems and Measures

IT Industries in Jharkhand

Industrial Finance in Jharkhand

Industrial Policy of Jharkhand

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UNIT III Infrastructure and Finances

Chapter 7: Infrastructure in Jharkhand

Transportation: Road, Rail, Water and Air Transport
Information and Communication Technology facilities;

Chapter 8: Social Infrastructure

Drinking Water, Sanitation
Housing
Health and Education
Social Security in Jharkhand
Aspirational District Programme in Jharkhand

Chapter 9: State Finance

Sources of Revenue: Direct and Indirect Taxes
GST – Impact and Collections
Sharing of Central Taxes and Grand-in-Aid
Expenditure Sources
States Indebtedness
State Finance Commission
State Budget

Reference Books:

- 1 Ranjan, Manish, Jharkhand Samanya gyan
- 2 Sahu, Dileep. Jharkhand Economy. Disha International Publishing House
- 3 Kunal Vikram Micro Planning of Jharkhand; Kunal Vikram
- 4 Kumar. Raj. and Ram, S. Jharkhand-Land and People, Arjun publication
- 5 Bhat, S. C. Jharkhand – A State Study Guide, Neeraj Kumar Jha, Jeevonsons Publications DistrictGazetteer of Jharkhand, Gyan Publishing House
- 6 Kumar, Sharat, Jha, Pravin Kumar. Development of Bihar and Jharkhand, Shipra Publications

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B.A. ECONOMICS
SEMESTER - IV

| Subject Code | Paper Name | Credit |
|---------------------|------------------------------------|---------------|
| MJ06ECO | INTERMEDIATE MACROECONOMICS | 4 |

Course Description

This course introduces the students to elementary theories of output and employment determination, concept of Consumption and investment functions, as well as simple income determination model in a closed economy including IS-LM curves. It also introduces the concept of unemployment.

Course outline

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.

2. Consumption function –

Average and marginal propensity to consume; factors influencing consumption spending

3. Investment –

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

4. Simple income determination models

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

5. Inflation

Inflation types and causes, inflation and unemployment

6. Quantity theory of money

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

7. Fiscal and Monetary Policy

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

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8. Some recent Schools of Macroeconomics Thoughts

New-Classical and New-Keynesians.

Basic Readings:

1. Dornbusch, Fischer and Startz, macroeconomics, McGraw Hill, 11th edition, 2010.
2. N. Gregory Mankiw, macroeconomics, Woorth 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, 9th edition, 2012.
8. Seth, M.L., Macro Economics, Laxmi Narayan Publications (Both in English & Hindi).
9. Ahuja, H.L., Advanced Macro Economics, S.Chand Publications.(Both in English & Hindi).
10. एम० एल० झिगन, समष्टि अर्थशास्त्र, वृंदा प्रकाशन

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| Subject Code | Paper Name | Credit |
|--------------|-------------------------|--------|
| MJ07ECO | Theories of Development | 4 |

Course Objectives:

1. The course begins with a discussion of issues of growth and development, their measures and indicators. Human Development and international comparisons with India. Basic growth models and theories of development have been included.
2. Issues of poverty, inequality and population growth linking them to economic growth are explored.
3. Role of macroeconomic policies as well as foreign investments in economic development of a nation are included.

Course Learning Outcomes:

4. This course is designed to enable students to have an understanding of the basics of economics of growth and development along with theories and models.
5. An understanding of macro policies and global linkages in context of economic development of a nation will give a direction to minds of students to take a wholistic view on growth and development.

Course Content:

UNIT- I Economic Development:

1. Meaning and Measurement of Economic Development, Indicators of Economic Development
2. Main obstacles to Economic Development;
3. Sustainable Development
4. Indices of Development: HDI, GDI, GEM, PQLI; International variations in these measures; Comparisons with India.

UNIT-II Theories of Economic Development

1. Ricardian Theory
2. Marxian Theory
3. Rostow's stages of Growth
4. Balanced Growth Theory

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UNIT-III Inequality and Development

1. Concept of Economic Inequality; Measurement of Inequality: The Lorenz Curve; GINI Coefficient; Inequality and Economic Development
2. Population and Economic Development: Population as a drag on development in underdeveloped countries; Human Resource Development-Role of Health and Education

Reference Books:

1. Gullybaba IGNOU, MEC-004 Economics of Growth and Development.
2. Ahuja, H L, (2016) Development Economics. S Chand Publishing.
3. Sinha, U P, Economic Development and Growth Models. Bharti Publications.
4. Higgins, B (1959) Economic Development, WW Norton, New York.
5. Lekhi, R K, Joginder Singh, The Economics of Development and Planning, Kalyani publishers.
6. Mishra J P. (2022 revised Ed.) Samvridhi evam Vikas ka Arthshastra, Sahitya Bhawan Publications.

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| Subject Code | Paper Name | Credit |
|--------------|--------------------|--------|
| MJ08ECO | THEORIES OF GROWTH | 4 |

Course Objectives:

1. The course begins with a discussion of issues of growth and development, their measures and indicators. Human Development and international comparisons with India. Basic growth models and theories of development have been included.
2. Issues of poverty, inequality and population growth linking them to economic growth are explored.
3. Role of macroeconomic policies as well as foreign investments in economic development of a nation are included.

Course Learning Outcomes:

1. This course is designed to enable students to have an understanding of the basics of economics of growth and development along with theories and models.
2. An understanding of macro policies and global linkages in context of economic development of a nation will give a direction to minds of students to take a wholistic view on growth and development.

Course Content:

UNIT- I Economic Growth and Development:

Meaning and Measurement of Economic Growth; Distinction between Economic Growth and Development

Factors affecting

Indices of Development Economic Growth

UNIT-II Growth Models- I

- 1 The Harrod - Domar Model
- 2 Mrs Joan Robinson Model
- 3 Solow Model
- 4 Endogenous Growth Models
- 5 The Mahalanobis Model

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6 A. K. Sen Growth Model

UNIT-III Economic Growth – II

1. Technological progress-embodied and disembodied; Production function approach to economic growth
2. Growth models of Hicks and Golden Rule of accumulation; intellectual capital;
3. Explanation of cross country differentials in economic growth.

UNIT III Global Issues in Development:

4. Globalization in historical perspective; The economics and politics of multilateral agreements
5. Trade, production patterns and world inequality
6. Financial instability in a globalised world

Reference Books:

- 1 Gullybaba IGNOU, MEC-004 Economics of Growth and Development.
- 2 Ahuja, H L, (2016) Development Economics. S Chand Publishing.
- 3 Sinha, U P, Economic Development and Growth Models. Bharti Publications.
- 4 Human Development Report. Relevant years.
- 5 Todaro, M., Smith, S. (2015). Economic Development. Pearson.
- 6 Higgins, B (1959) Economic Development, WW Norton, New York.
- 7 Lekhi, R K, Joginder Singh, The Economics of Development and Planning, Kalyani publishers.
- 8 Mishra J P. (2022 revised Ed.) Samvridhi evam Vikas ka Arthshastra, Sahitya Bhawan Publications.

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B.A. ECONOMICS
SEMESTER V

| Subject Code | Paper Name | Credit |
|--------------|-------------------------|--------|
| MJ09ECO | International Economics | 4 |

Course Objectives:

1. This course is designed to expose the students to the theory and practice of international trade and of trade-related policies.
2. It focuses on analysing the gains from trade, the changing patterns of trade, the income distributional consequences of liberalising foreign trade, the relationship between trade, investment, and economic growth, and the reasons for and consequences of trade policies.

Course Learning Outcomes:

1. On successful completion of this course students will be able to understand different theories of international trade and their economic implications, international trade policies, foreign exchange and Balance of Payment.
2. They will be familiar with the major recent developments in the world trading system, and be able to critically analyse key international issues.

Course Content:

UNIT- I Scope and Theories of International Trade

- 1 International Economics: Definition, Nature and Importance.
- 2 Absolute Cost Advantage.
- 3 Ricardian Comparative Cost Advantage.
- 4 Heckscher-Ohlin Theory of International Trade

UNIT-II International Trade and Factor Prices

1. Trade, Factor movement and Factor prices.
2. Factor Price – Equalisation Theorem.
3. Stolper-Samuelson Theorem.

UNIT-III International Trade Policy

1. Free Trade vs. Protection; Case for and against Free Trade and Protection.
2. Methods of Trade Restriction: Tariff-Types, Optimum Tariff, Impact of Tariff in partial equilibrium analysis.

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3. Quotas-Types, Their impact in partial equilibrium analysis.

UNIT IV Foreign Exchange

1. Exchange Rate Determination: Gold Standard (Mint Parity); Purchasing Power Parity Theory.
2. Devaluation and Appreciation of Currency & impact on International Trade.

UNIT V Balance of trade and Balance of Payment

1. Balance of Trade and Balance of Payment: Concept and Components.
2. Equilibrium and Dis-equilibrium in Balance of Payment; Consequences of Disequilibrium in Balance of Payment.
3. Measures to Correct Deficit in the Balance of Payments.

UNIT VI International Financial Institutions and India

4. Functions of IMF; World Bank; WTO with reference to India.
5. Need and Importance of Foreign Capital in Developing Economies.
6. Multinational Corporations: Meaning; Advantages and Disadvantages.

Reference Books:

1. I Bhagwati, J. International Trade, Cambridge Uni. Press
2. Verma, M.L. International Trade, Vikas Publication
3. Singh, S. K. International Monetary System-Trends & Issues, Indus Publishing Company
4. Mannur, H.G. International Economics, Vikas publication
5. Sachdeva, International Economics, Vikas Bharati Publication
6. Vaishya & Sachdeva Singh-Antarashtriya Arthshastra, Oxford & IBH Com.
7. M.L. Jhingan -Antarashtriya Arthshastra, Viranda Publication.
8. M.L. Seth -Antarashtriya Arthshastra,

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B.A. ECONOMICS
SEMESTER - V

| Subject Code | Paper Name | Credit |
|---------------------|------------------------------------|---------------|
| MJ10ECO | HISTORY OF ECONOMIC THOUGHT | 4 |

Course Objectives:

1. The course will seek to achieve the following objectives
2. The course comprises of a study of the main schools of economic thought starting from early views of Mercantilists and Physiocrats.
3. The Classical, Neo-Classical and the Marginalist Revolution, Economic thought of Socialists like Sismondi and Marx have been covered.
4. The syllabus also includes the valuable contributions of Indian economic thinkers like Kautilya, DadaBhai Naoroji, B.R. Ambedkar, M.K. Gandhi and A.K. Sen.

Course Learning Outcomes:

- 1 The students will analytically learn how the economic thought has evolved over time.
- 2 They will critically and analytically study the main contributions of great economists who have influenced economic thought over time.

Course Content:

Unit 1: Early Period

- 1.1: Mercantilism.
- 1.2: Physiocracy.

Unit 2: Development of Classical Economics

- 2.1: Adam Smith: Division of Labour, Theory of Value, Capital Accumulation, Distribution, Views on Trade, Economic Progress.
- 2.2: David Ricardo: Value, Theory of Rent, Distribution, Ideas on Economic Development and International Trade.
- 2.3: T.R.Malthus: Theory of Population, Theory of Gluts.
- 2.4: Karl Marx: Dynamics of Social Change, Theory of Value, Surplus Value, Profit and Crisis of Capitalism.
- 2.5: J.B.Say: Economic Ideas.

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Unit 3: The Marginalist Revolution

3.1: Jevons and Walrus.

3.2: Neo-Classical Thought: Alfred Marshall.

Unit 4: the Keynesian Revolution

4.1: Economic Ideas of J. M. Keynes.

Unit 5: Indian Economic Thought

5.1: Economic Ideas of Mahatma Gandhi.

5.2: Economic Ideas of Amartya Sen.

Reference Books:

1. Keynes J.M. General Theory of Employment, Interest and Money., Atlantic Publishers and Distributors,(any edition).
 2. Bhatia, H.L., History of Economic Thought, (English, Hindi) Vikash Publishing House.
 3. Ganguli, B.N(1977): Indian Economic Thought: A 19th Century Perspective, Tata Mcgraw Hill.
 4. Hajela,T.N (2011) : History Of Economic Thought (English, Hindi) , Ane Books.
 5. Jhingan, M.L (2008): Aarthik Vicharon Ka Itihas, Vrinda Publications, New Delhi.
 6. Loknathan, V (2009): History of Economic Thought, S.Chand & Company.
 7. Roll,Eric: History of Economic Thaught, Faber.
- Sinha, V.C (2011): Aarthik Vicharon Ka Itihas, Mayur Publications.

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B.A. ECONOMICS

| Subject Code | Paper Name | Credit |
|--------------|------------------------|--------|
| MJ11ECO | AGRICULTURAL ECONOMICS | 4 |

Course Objectives

- 1 This course is designed to expose the students to the nature, scope and Principles of agricultural Economics.
- 2 The emphasis of this course is on concepts and introduction of various tools required for analysis in agricultural economics.
- 3 In particular, the course aims to deepen students' understanding of how economic theory can be applied to analyse policy problems of agricultural sectors.
- 4 It also focuses on analysing the Principles of Agricultural production, costs and prices.

Course Learning Outcomes:

1. On completion of the course, the students will be able to understand the role of agriculture in economic growth and development, analyse the progress and changing nature of agricultural sector and its contribution to the economy as a whole.
2. The students can develop understanding of economic theories applicable in analysing the problems of agricultural production, costs and prices

Course Content:

UNIT-I Overview of Agricultural Economics

1. Nature and scope of agriculture: Traditional agriculture and its modernization;
2. Role of Agriculture in economic development;
3. Interdependence of Agriculture and Industry

UNIT II Principles of Agricultural Economics

- 1 Farm Management
- 2 Farm size and productivity
- 3 Intensive and extensive cultivation

UNIT III Principles of Agricultural Production

- 1 Production and Production Functions: Short Run and Long Run Production Function.

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- 2 Relationship between TPP, APP and MPP.
- 3 Factor-Product Relationship
- 4 Factor-Factor Relationship: Isoquant, Iso Cost line, least cost combination.
- 5 Laws of Returns: Law of Increasing Returns, Law of Constant Returns and Law of Diminishing Returns.
- 6 Product-Product Relations: Production Possibility Curve, Iso Revenue line, Optimum Product combination.

UNIT IV Principles of Agricultural Cost and Pricing

1. Cost relationships and Profit maximization.
2. Marketing Costs and Margins.
3. Supply behaviour in Agriculture.

Reference Books:

1. Andrew Barkley, Principles of Agricultural Economics, Routledge Taylor and Francies, London and New York.
2. Sadhu, A. N. and Singh Amarjeet: Fundamental of Agricultural Economics, Himalaya Publishing House, New delhi
3. Lekhi, R. K. & Singh, Joginder: Agricultural Economics-An Indian Perspective, Kalyani Publishers, New Delhi.
4. S. Subba Reddy, P. Raghu Ram, T.V. Neelakanta Sastry, I. Bhavani Devi: Agricultural Economics, Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi.
5. Arun Katyan: Krishi Vigyan ke Sidhant, Kitab Mahal Publishers, New Delhi

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B.A. ECONOMICS
SEMESTER VI

| Subject Code | Paper Name | Credit |
|--------------|------------|--------|
| MJ12ECO | DEMOGRAPHY | 4 |

Course Objectives:

- 1 The course aims to orient the students with the positive aspects of population and how it can help in the Economic Development of the nation.
- 2 It exposes the students to the important theories of demography.
- 3 The concepts of fertility, mortality and Nuptiality have a direct bearing on growth of population, hence have been taken up. Various population indices have been included.
- 4 The course also focuses on demographics of India and the Population Policy in India.

Course Learning Outcomes:

1. At the end of the course, the students will be oriented towards appreciating the link between demography and development of an economy.
2. They will understand the subject with the help various theoretical aspects of demography.
3. They will have a grasp of quantitative and qualitative aspects of population study and various demographic concepts and indices.

Course Content:

UNIT- I Meaning of Demography

1. Meaning and Scope of Demography.
2. Meaning of Population Growth;
3. Theories of Population-Malthus theory; Optimum theory; Theory of Demographic Transition.

UNIT-III Migration Urbanisation

- 1 Migration: Meaning; Types; Factors promoting migration
- 2 Effects of Out-Migration; Effects of In-Migration

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UNIT-III Urbanisation

1. Urbanisation: Meaning; Characteristics of Urban and Rural areas
2. Status and Trend of Urbanisation in India; Reasons for increasing urbanisation in India

UNIT-IV Population Indices

- 1 Meaning of Life table; Basic concepts of Life Table,
- 2 Population Pyramid- Concept; Significance; Construction of Population Pyramid;
- 3 Population Projection: stable and stationary population.

UNIT-VI Population Policy in India

- 1 Meaning of Population Policy
- 2 The new population policy 2000.

Reference Books:

- 1 Desai, J. N. Jhingan M. L. and Bhatt B. K. (2003), Demography, Vrinda Publications.
- 2 Mishra J, (2016), Demography, Sahitya Bhawan Publications.
- 3 Sinha, V. C. and Sinha, P, (2018) (English and Hindi), Demography, SBPD Publication.
- 4 Weinstein, Jay and Pillai, Vijayan K. (2000), Demography: The Science of Population, Rowman and Littlefield Publications (2015).
- 5 Mishra, J. P., Jananki (Hindi), (Revised edition 2021) Sahitya Bhawan Publications.

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B.A. ECONOMICS

| Subject Code | Paper Name | Credit |
|--------------|------------------|--------|
| MJ13ECO | LABOUR ECONOMICS | 4 |

Course Objectives:

- 1 The syllabus is designed to enable the students to have an understanding of the basics of labour economics.
- 2 Different aspects of Labour Economics have been introduced before exploring the labour market, labour legislations and wage boards in India.
- 3 The course ends with composition of labour force,

Course Learning Outcomes:

1. The course has been so designed that it will equip the students to have a thorough grasp of different aspects of Industrial and Labour Economics with focus on India.

Course Content:

UNIT-I Labour Economics and Labour market

- 1 Meaning and Definition of Labour Economics; Scope and Importance of Labour Economics
- 2 Major Labour Problems in India
- 3 Concept of Labour Market; Analysis of Demand and Supply of labour; Factors affecting demand and Supply of labour
- 4 Characteristics of labour Market in India.

UNIT-II Wages

1. Theories of Wage determination: Classical; Neo-Classical; Bargaining Theory
2. Types of wages in India; Wage Policies in India- Payment of Wages Act 1936, Minimum wages Act 1948, Equal Remuneration Act 1976, Payment of Bonus Act 1965 Wage Board: Meaning and Objectives; Wage Board in India.

UNIT- III Labour in India and Social Security Measures

- 1 Working age population and labour force participation rate; Labour Force Participation Rate in India

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- 2 Meaning of Industrial Disputes; Causes and effects of Industrial Disputes; Machinery of settling the Industrial Disputes in India
- 3 Social Security: Meaning; Scope; Objectives; Importance; Category of Social Security Measures; Social Security Schemes in India

Reference Books:

- 1 George, J. Borjas, (2013 6th edition) Labour Economics, McGraw Hill.
- 2 Tyagi, B.P. (2009), Economics and social welfare-Revised Edition, Sage Publication, New Delhi.
- 3 Gupta, S.B., (2022), Audyogik Arthshastra, SBPD Publications.
- 4 Sinha, V.C., Shram Arthashastra, SBPD Publications.
- 5 Yadav, Ravi Prakash (2015) Social Security in India, Avishkar Publishers.

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B.A. ECONOMICS

| Subject Code | Paper Name | Credit |
|--------------|----------------------|--------|
| MJ14ECO | INDUSTRIAL ECONOMICS | 4 |

Course Objectives:

1. The syllabus is designed to enable the students to have an understanding of the basics of industrial economics economics.
2. It covers the nature, scope and importance of industrial economics. Important topics like Industrial Revolution, Business organisations, Industrial productivity, and Industrial finance are included. Industrial growth pattern in India along MSME sector has been covered.

Course Learning Outcomes:

1. The course has been so designed that it will equip the students to have a thorough grasp of different aspects of Industrial and Labour Economics with focus on India.

Course Content:

UNIT- I Industrial Economics: An Introductory Framework

- 1 Meaning and Definition of Industrial Economics; Subject Matter of Industrial Economics; Nature of Industrial Economics Importance of the study of Industrial Economics;
- 2 Industrial Revolution; Industrialisation in India; Index of Industrial Production (IIP)
- 3 Need for rapid industrialisation; Obstacles to Industrialisation
- 4 Business Organisation: Definition; Types (Proprietorship, Partnership, Corporations and Limited Liability Companies); Firms: Meaning; Ownership; Objectives

UNIT-II Industrial Productivity and Finance

- 1 Meaning of Industrial Productivity
- 2 Factors affecting Industrial Productivity, Indicators of Industrial Productivity
- 3 Internal and External Sources of Industrial finance; Debt versus Equity
- 4 Major funding agencies -IDBI, IFCI, SFCs, SIDBI and Commercial Banks.

UNIT-III Industrial Growth Pattern

- 1 New Industrial Policy in India
- 2 Role of Public and Private Sector; Performance of Private and Public Sector in India

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B.A. ECONOMICS

- 3 Large Scale Industries: Meaning; Advantages
- 4 Medium Small and Micro Enterprises (MSME)- Classification; Importance; Features

Reference Books:

1. Hay, D. and Morris, D J (1979) Industrial Economics: Theory and Evidences, Oxford University Press, New Delhi.
2. Burthwal, R.R. (1985), Industrial economics, Wiley Eastern Ltd., New Delhi.
3. Singh, A. and Sadhu, A.N. (1988), Industrial Economics, Himalaya Publishing House.
4. Tyagi, B.P. (2009), Economics and social welfare-Revised Edition, Sage Publication, New Delhi.
5. Gupta, S.B., (2022), Audyogik Arthshastra, SBPD Publications
6. Yadav, Ravi Prakash (2015) Social Security in India, Avishkar Publishers.

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B.A. ECONOMICS

| Subject Code | Paper Name | Credit |
|--------------|----------------|--------|
| MJ15ECO | INDIAN ECONOMY | 4 |

Course Objectives:

- 1 On completion of the course, students will be able to develop an understanding of the basic structure of the Indian economy.
- 2 They will understand the importance, causes and impact of population growth and relate them with economic development.
- 3 The course also enables the students to understand the agricultural and industrial structure, their problems and contributions to the economy.
- 4 Lastly, it deals with foreign trade of the economy.

Course Learning Outcomes:

1. At the end of the course student will be able to pinpoint and understand the past and present economic conditions of the country in various sectors.
2. They will also be able to forecast the future course of development through their knowledge of policies and programmes set by the Government and other development agencies.

Course Content:

UNIT- I Structure of the Indian Economy

- 1 Major economic features of the Indian economy at the eve of independence
- 2- Sectors and Sub-sectors of the Indian Economy:

UNIT- II Planning and Development

- 1 Economic Planning in India – Historical background up to NITI Aayog.
- 2 Objectives of Indian Planning.
- 3 New Economic Policy, 2nd phase of Economic Reform, 3rd Phase of Economic Reform.
- 4 Recent initiatives for development – MGNREGA; NRLM; Make in India Program Start Up India Scheme; Pradhan Mantri Kaushal Vikas Yojana.

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UNIT- III Problems of Indian Economy

- 1 Problems of Indian Population:
- 2 Malnutrition,
- 3 Poverty and Unemployment- Meaning, Status and Government measures to eradicate.

Reference Books:

- 1 Puri V.K and Mishra S.K, Indian Economy, (English and Hindi) (January 2022), Himalaya Pub. House.
- 2 Dutt, Gaurav and Sundaram, Indian Economy, (English and Hindi) (Latest edition), S Chand & Co Ltd.
- 3 Kapila, Uma, Indian Economy: Performance and Policies, (22nd edition 2021), Academic Foundation Publications.
- 4 Jalan Bimal, India's Economic Policy (2000), Penguin India Publication.
- 5 Sinha V.C, Indian Economy Performance and Policies (2019), SBPD Publications
- 6 Verma Sanjeev, The Indian Economy (2020), Unique Publishers.
- 7 Mishra J.P, Bharat ki Arthik Nitiyan (2019), Sahitya Bhavan Publications.
- 8 Singh, Ramesh, Bharitiya Arthavyavastha (14th edition), McGraw Hills.

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B.A. ECONOMICS
SEMESTER VII

| Subject Code | Paper Name | Credit |
|--------------|--------------------------------------|--------|
| MJ16ECO | FOUNDATION OF QUANTITATIVE ECONOMICS | 4 |

Course Objectives:

- 1 The course aims to transmit the body of basic mathematics and its application to the study of economic theory at the Undergraduate level.
- 2 It starts from the basic concepts of set theory, functions and equations.
- 3 Thereafter it deals with the techniques of differentiation and their applications in economics.
- 4 The concept of matrix, determinants and their basic applications in solution of equation, linear programming and game theory.

Course Learning Outcomes:

- 1 The course provides the mathematical foundations necessary for further study of a variety of disciplines including most of the theoretical papers of post-graduate economics, statistics, econometrics and data analysis that is essential for higher studies in economics as well as getting employment in corporate world/ banking/civil services by enhancing their skills in the field of data analysis.

Course Content:

UNIT-I Basic Concepts

1. Set Theory: Types; Set operation; Use of Venn Diagram
- 2 Functions: Concept; Types of Function and graphical presentation; Homogeneous and homothetic function.
- 3 Equations: System of equations; Economic application of equations
- 4 Coordinate Geometry and Economic Applications: Straight line (Keynesian Saving Function and Consumption Function; Parabola (Average Cost Curve and Total Product Curve); Hyperbola (Unit Elastic Demand Curve and Average Fixed Cost Curve).

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UNIT-II Limit and Differentiation

- 1 Limit: Concept; Rules.
2. Differentiation of functions of one independent variable [$y=f(x)$]: Concept; 1st order and 2nd order derivatives.

UNIT-III Application of Differentiation to Economics

Total and Marginal utilities; Total cost] Average cost and Marginal cost; Total revenue and Marginal revenue, Relationship between Average revenue and Marginal revenue.

Elasticity: Income elasticity of demand; Price elasticity of demand; Supply elasticity; Cross elasticity of demand; Relationship of elasticity with Average revenue and Marginal revenue;

UNIT 4 Integration, Difference and Differential Equation

- 1 Integration: concepts; Definite Integrals, Indefinite Integrals
- 2 Economic applications: Obtaining total functions from Marginal cost; Marginal revenue; MPS; MPC

UNIT V Matrix and Determinants

- 1 Matrix: Meaning and Types of matrices
- 2 Determinants operations

Reference Books:

- 1 Allen, R.G.D., Mathematical Analysis for Economists; All India publishers and distributors
- 2 Chiang, A.C., Fundamental Methods of Mathematical Economics; McGraw Hill Publication
- 3 Taro Yamane, Mathematics for Economists; Printing Hall of India
- 4 Mehta, B.C. and Madhani, G.M.K. (English and Hindi); Mathematics for Economists; Sultan Chand and sons.

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B.A. ECONOMICS

| Subject Code | Paper Name | Credit |
|--------------|------------------|--------|
| MJ17ECO | Health Economics | 4 |

Module I: Economics of Health

Health dimensions of development determinants of health, poverty, malnutrition and environmental issues,

Module II: economic dimension of health

economic dimension of health care – demand and supply of health care, Financing of health care and resource constraints in health care and its delivery, Inequalities in health: class and gender perspectives, institutional issues in health care delivery, public expenditure on health in India,

Module III : Health status of women

Health status of women in India, mortality and morbidity factors influencing health and nutrition. Health status of women in India – Mortality and morbidity factors influencing health and nutrition.

Globalization and Women in India.

Basic Reading List

1. Arya P.P. and B.B. Tandon (Ed) 2004 : Human Resource Development, Deep & Deep Pub. New Delhi.
 2. Goel, S.L. and P.N. Gautam (2005) : Human Resource Development in the 21 st century, Concept and
 3. case studies, Deep & Deep Pub. New Delhi.
 4. Meier, Gerald M. and James' E. Rauch (2010) : Leading issues in economic development, Oxford
 5. Univ. Press, New York.
 6. Todaro, Michael P and Stephen C. Smith (2003) : Economic Development, Pearson Education Ltd.
 7. World Development Report (World Bank)
- Human Development Report (UNDP)

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B.A. ECONOMICS

| Subject Code | Paper Name | Credit |
|--------------|---------------------|--------|
| MJ18ECO | Education Economics | 4 |

Module I: Education, Health and Development

Capability & Empowerment Approaches, Education as public goods, Education as an instrument of economic growth, Women's Education, Recent trends in Women Education, Committees and Commission on Education, Adult Literacy and Non Formal Education for economic development.

Module II: Economics of Education Human Capital Vs Physical Capital

Demand for Education – Private Demand and Social Demand, determinants of demand for education, costs of education, private costs and social costs, Wastage and Stagnation in education, Benefits of education : Private and Social benefits, Cost benefit analysis of education.

Module III: Resource Mobilisation in Education:

Pricing problem in education, role of grants and subsidies, effects of education, ability and family background on earnings, poverty and income distribution effects of educational pricing and subsidies on income distribution and employment, public expenditure on education in India, Educational planning in developing countries with special emphasis in India.

Basic Reading List

1. Arya P.P. and B.B. Tandon (Ed) 2004 : Human Resource Development, Deep & Deep Pub. New Delhi.
2. Goel, S.L. and P.N. Gautam (2005) : Human Resource Development in the 21st century, Concept and case studies, Deep & Deep Pub. New Delhi.
3. Meier, Gerald M. and James' E. Rauch (2010) : Leading issues in economic development, Oxford Univ. Press, New York.
4. Todaro, Michael P and Stephen C. Smith (2003) : Economic Development, Pearson Education Ltd.
5. World Development Report (World Bank)
6. Human Development Report (UNDP)

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B.A. ECONOMICS

| Subject Code | Paper Name | Credit |
|--------------|------------------|--------|
| MJ19 | PUBLIC ECONOMICS | 4 |

Course Objectives:

- 1 Public Economics is a study of government activities from the point of view of efficiency and equity.
- 2 The course aims to introduce students to the importance of government intervention by exposing the students to a host of topics including public goods, market failures and externalities.
- 3 It covers the main theoretical and empirical concepts in public economics mainly relating to public expenditure, taxation and public debt.
- 4 It aims to equip students with understanding the role of fiscal policy in achieving the desired macro-economic goals. The centre-state financial relations in a federal system have also been included.

Course Learning Outcomes:

1. At the end of the module the students should be able to demonstrate their understanding of the theory of three tools of public economics, namely, public expenditure, taxation and public debt.
2. Extensive use of diagrams will enhance their comprehension of the concepts.
3. Study of functioning of fiscal policy and Centre- State financial relations will enhance their knowledge on public economics

Course Content:

UNIT-I Nature and Scope of Public Finance

1. Meaning and Scope of Public Finance.
2. Distinction between Private and Public Finance; Public goods and Private goods; Merit goods.
3. Principle of Maximum Social Advantage.
4. Market Failure; Role of the government.

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B.A. ECONOMICS

Unit-II Public Expenditure

- 1 Meaning, Classification and Principles of Public Expenditure.
- 2 Cannons of Public Expenditure; Effects of Public Expenditure.
- 3 Causes of Growth of Public Expenditure; Wiseman Peacock Hypothesis.
- 4 Trends in Public Expenditure in India.

Unit 3: Taxation

1. Taxation: Meaning, Cannons of Taxation; Classification of Taxes; Characteristics of a good Tax System.
2. Division of tax burden—The Benefit Approach; Ability-to-Pay Approach.
3. Impact and Incidence of Taxes.
4. Taxable Capacity.
5. Effects of Taxation on production and distribution.
6. Tax reforms; VAT and GST

Unit 4: Public Debt and Financial Administration

1. Public Debt: Meaning, Types, Sources and Need.
2. Effects of Public Debt; Burden of Public Debt.
3. Methods of Debt Redemption.
4. The Public Budget—Kinds of budget; Economic and Functional Classification of Budget.

Unit 5: Fiscal Policy

1. Meaning and objectives of fiscal policy.
2. Function of fiscal policy
3. Instruments of fiscal policy
4. Fiscal policy during inflation and depression

Unit 6: Financial Decentralization in India

1. Centre-State Financial Relationship.
2. Role of Finance Commission.
3. Features of current Finance Commission.

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Reference Books:

1. Musgrave R. A. & Musgrave P. B.– Public Finance in Theory and Practice, McGraw Hill.
2. Singh, S. K., Public Finance in Theory and Practice, S. Chand Publications.
3. Singh, S. K., Lok Vitt (Hindi), S. Chand Publications.
4. Bhatia, H. L., Public Finance, Vikas Publishing House.
5. Bhatia, H.L., Lok Vitt, (Hindi), Vikas Publishing House.
6. Sundaram, K. P. M. and Andley, K. K., Public Finance, S. Chand Publications.
7. Tyagi, B. P.– Public Finance, Jai Prakash Nath &Co.

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B.A. ECONOMICS
SEMESTER VIII

| Subject Code | Paper Name | Credit |
|--------------|--------------------|--------|
| MJ20ECO | Basic Econometrics | 4 |

Course Objectives:

- 1 The course is designed to introduce the students to the basic concepts of econometrics and its application.
- 2 The students will learn how to conduct empirical studies by using statistical techniques to analyse and interpret empirical results.
- 3 The course includes basic concepts of econometrics, methodology of studying econometrics, Two Variable Linear Regression Model, Interval Estimation and hypothesis testing, Multiple Linear Regression Analysis and problems in regression analysis

Course Learning Outcomes:

- 1 After completing the course successfully, the students will be able to understand the use of various statistical techniques to analyse the data and interpret the results.
- 2 Through this course you will get a broad knowledge to make use of econometric models in your academic work.
- 3 Moreover, job of data scientists, financial analysts require knowledge of econometrics.

Course Content:

UNIT- I Introduction

1. What is Econometrics?
2. Relationship between Econometrics, Mathematical Economics and Statistics

UNIT-II Methodology of Econometrics

1. Specification of the model
2. Collection of data and estimation of the model
3. Evaluation of the coefficients of the model and Hypothesis testing

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B.A. ECONOMICS

UNIT-III Two Variable Regression Model

- 1 The Classical Linear Regression Model and its assumptions
- 2 Ordinary Least Square Method – estimation of parameters
- 3 Properties of Least Square Estimates – The Gauss Markow Theorem
- 4 The Coefficient of Determination R^2 – A measure of Goodness of Fit

UNIT-IV Two Variable Regression: Interval Estimation and Hypothesis Testing

- 1 Interval Estimation: Some basic ideas
- 2 Confidence Interval for regression Coefficients
- 3 Hypothesis Testing: The confidence interval approach (two tail test and one tail test)
- 4 Hypothesis Testing: The test of significance approach (standard error test, t-test, Z-test)
- 5 Regression Analysis and Analysis of Variance

Reference Books:

1. Koutsoyiannis A (1977) Theory of Econometrics, 2nd Edition, the Mc Milan Press Ltd, London
2. Gujarati, D.N; (1995) Basic Econometrics, 2nd Edition, Mc Graw Hill, New Delhi
3. Gujarati, D.N., C Porter and Sangeetha Gunasekar (2012) Basic Econometrics, 5th Edition, Tata Mc Graw Hill Eduaction Pvt. Ltd, New Delhi
4. Maddala G.S. (Ed) 1993, Econometric Methods and Application, Aldershot, UK
5. Shyamala, Navdeep Kaur and T.Arul Pragasam (2008) A Textbook on Econometrics Theory and Application, 16th Edition, Vishal Publishing Co., New Delhi

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B.A. ECONOMICS

| Subject Code | Paper Name | Credit |
|--------------|---|--------|
| AMJ01ECO | MATHEMATICAL ECONOMICS & OPERATION RESEARCH | 4 |

Course Objectives:

1. This course techniques optimisation of functions in one and more variables using the tools of first and second order differentiation in one and more explanatory variables.
2. The use of total differentials and Hessians have been incorporated. Course includes the technique and use of integration in economics.
3. Dynamic analysis has been explained with the help of difference and differential equations.
4. Finally, the application of Matrix algebra in solving system of linear equations and in the fields of Linear Programming, Game Theory and Input-Output have been covered.

Course Learning Outcomes:

1. The course will enable the students to have an understanding of economics with the help of mathematics.
2. Study of Mathematical Economics equips the students to develop models. It is useful in problem-solving and decision-making in organisations.

Course Content:

UNIT- I Optimisation of Functions

1. Optimisation of function with one independent variable- Relative versus Absolute extreme value; First and Second order conditions for Relative maxima and minima; Inflection point; Economic applications of optimisations - Maximisation of Total Utility, Total Revenue and Profit; Minimisation of Costs
2. Functions of two or more independent variables; Production function and Isoquants; Utility function and Indifference Curves
3. First and second order partial differentiation; Young's theorem

UNIT II Total Differentials and Applications of Partial and Total Derivatives in Economics

1. Total Differentials- Meaning and Technique; Maxima and Minima of functions using two or more independent variables (with the help of Total Differentials or Hessian determinants)
2. Homogeneous production function and properties; Properties of Cobb Douglas production function

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3. Slope of demand curve; Income and Price elasticity of demand (when demand is function of price and income)
4. Marginal utility in case of consumption of more than one commodity

UNIT III Constrained Optimisation in Case of More Than One Independent Variable

1. Technique of Optimisation in case of two independent variables - Necessary Condition (using Lagrangian multiplier) and Sufficient condition (Using Total differential or bordered Hessian)
2. Consumer's equilibrium- Maximisation of utility subject to budget constraint
3. Producers equilibrium- Maximisation of output subject to cost constraint; Minimisation of cost subject to output constraint

UNIT IV Integration and It's Applications

1. Integration: Indefinite and Definite Integrals
2. Economic Applications of Indefinite Integrals- MC, MR, MPS, MPC, Investment
3. Economic Applications of Definite Integrals- Consumer's Surplus; Consumer's Surplus under Monopoly; Consumer's and Producer's Surplus under Perfect Competition

UNIT V Difference and Differential Equations

1. Difference Equations- Concept; Solution of Linear Non-Homogeneous First Order Difference Equation- General and Particular Solutions
2. Application of First Order Difference Equations to Market- Simple Cobweb Model
3. Differential Equations- Concept and Types; Solution of Linear Non-Homogeneous First Order Differential Equations - General and Particular Solutions

UNIT VI Matrix Operations and Their Applications

1. Singular and Non-Singular Matrix; Matrix Inversion; Rank of Matrix
2. Solution of Linear Non-Homogeneous Equation System using Matrix Method
3. Linear Programming- Concepts; Assumptions and Limitations; Formulating a Linear Programming problem; Graphic Solution to a Linear Programming problem; Dual of LLP problem
4. Game Theory- Concepts of Zero sum and Constant Sum game, Saddle point; Graphic Solution of Game Involving Pure and Mixed Strategies
5. Input-Output Analysis- Meaning and Assumptions; Transaction Matrix and

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Technology Matrix; Solution of Open- Static Input-Output model

Reference Books:

1. Allen, R D G, Mathematical Analysis for Economists, All India Publishers and Distributors
2. Allen, R D G, Mathematical Economics, All India Publishers and Distributors
3. Chiang, A C, Fundamental Methods of Mathematical Economics, McGraw Hill Publications
4. Srivastava, R, A Textbook on Advanced Mathematical Economics, Disha International Pub. House
5. Mehta, B C and Madnani G M K (Hindi) Mathematics for Economists, Sultan Chand and Sons Beginning Theory- Peter Barry

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B.A. ECONOMICS

| Subject Code | Paper Name | Credit |
|--------------|-----------------------------------|--------|
| AMJ02ECO | ADVANCED MATHEMATICAL ECONOMICS-I | 4 |

Course Objectives

1. This course techniques optimization of functions in one and more variables using the tools of first and second order differentiation in one and more explanatory variables.
2. The use of total differentials and Hessians have been incorporated. Course includes the technique and use of integration in economics.
3. Dynamic analysis has been explained with the help of difference and differential equations.
4. Finally, the application of Matrix algebra in solving system of linear equations and in the fields of Linear Programming, Game Theory and Input-Output have been covered.

Course Learning Outcomes:

- 1 The course will enable the students to have an understanding of economics with the help of mathematics.
- 2 Study of Mathematical Economics equips the students to develop models. It is useful in problem-solving and decision-making in organisations.

Course Content:

UNIT- I Optimisation of Functions

1. Optimisation of function with one independent variable- Relative versus Absolute extreme value; First and Second order conditions for Relative maxima and minima; Inflexion point; Economic applications of optimisations - Maximisation of Total Utility, Total Revenue and Profit; Minimisation of Costs
2. Functions of two or more independent variables; Production function and Isoquants; Utility function and Indifference Curves
3. First and second order partial differentiation; Young's theorem

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B.A. ECONOMICS

UNIT II Total Differentials and Applications of Partial and Total Derivatives in Economics

- 1 Total Differentials- Meaning and Technique; Maxima and Minima of functions using two or more independent variables (with the help of Total Differentials or Hessian determinants)
- 2 Homogeneous production function and properties; Properties of Cobb Douglas production function
- 3 Slope of demand curve; Income and Price elasticity of demand (when demand is function of price and income)
- 4 Marginal utility in case of consumption of more than one commodity

UNIT III Constrained Optimisation in Case of More Than One Independent Variable

- 1 Technique of Optimisation in case of two independent variables - Necessary Condition (using Lagrangian multiplier) and Sufficient condition (Using Total differential or bordered Hessian)
- 2 Consumer's equilibrium- Maximisation of utility subject to budget constraint
- 3 Producers equilibrium- Maximisation of output subject to cost constraint; Minimisation of cost subject to output constraint

UNIT IV Integration and It's Applications

1. Integration: Indefinite and Definite Integrals
2. Economic Applications of Indefinite Integrals- MC, MR, MPS, MPC, Investment
3. Economic Applications of Definite Integrals- Consumer's Surplus; Consumer's Surplus under Monopoly; Consumer's and Producer's Surplus under Perfect Competition

UNIT V Difference and Differential Equations

1. Difference Equations- Concept; Solution of Linear Non-Homogeneous First Order Difference Equation- General and Particular Solutions
2. Application of First Order Difference Equations to Market- Simple Cobweb Model
3. Differential Equations- Concept and Types; Solution of Linear Non-Homogeneous First Order Differential Equations - General and Particular Solutions

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B.A. ECONOMICS

UNIT VI Matrix Operations and Their Applications

- 1 Singular and Non-Singular Matrix; Matrix Inversion; Rank of Matrix
- 2 Solution of Linear Non-Homogeneous Equation System using Matrix Method
- 3 Linear Programming- Concepts; Assumptions and Limitations; Formulating a Linear Programming problem; Graphic Solution to a Linear Programming problem; Dual of LLP problem
- 4 Game Theory- Concepts of Zero sum and Constant Sum game, Saddle point; Graphic Solution of Game Involving Pure and Mixed Strategies
- 5 Input-Output Analysis- Meaning and Assumptions; Transaction Matrix and Technology Matrix; Solution of Open- Static Input-Output model

Reference Books:

1. Allen, R D G, Mathematical Analysis for Economists, All India Publishers and Distributors
2. Allen, R D G, Mathematical Economics, All India Publishers and Distributors
3. Chiang, A C, Fundamental Methods of Mathematical Economics, McGraw Hill Publications
4. Srivastava, R, A Textbook on Advanced Mathematical Economics, Disha International Pub. House
5. Mehta, B C and Madnani G M K (Hindi) Mathematics for Economists, Sultan Chand and Sons Beginning Theory- Peter Barry

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B.A. ECONOMICS

| Subject Code | Paper Name | Credit |
|--------------|-------------------|--------|
| AMJ03ECO | ECONOMETRICS -III | 4 |

Course Objectives:

1. The course is designed to introduce the students to the basic concepts of econometrics and its application.
2. The students will learn how to conduct empirical studies by using statistical techniques to analyse and interpret empirical results.
3. The course includes basic concepts of econometrics, methodology of studying econometrics, Two Variable Linear Regression Model, Interval Estimation and hypothesis testing, Multiple Linear Regression Analysis and problems in regression analysis

Course Learning Outcomes:

1. After completing the course successfully, the students will be able to understand the use of various statistical techniques to analyse the data and interpret the results.
2. Through this course you will get a broad knowledge to make use of econometric models in your academic work.
3. Moreover, job of data scientists, financial analysts require knowledge of econometrics.

Course Content:

UNIT- I Introduction

1. What is Econometrics?
2. Why a separate discipline? (Importance of studying econometrics)
3. Relationship between Econometrics, Mathematical Economics and Statistics
4. Types of Econometrics
5. Limitations

UNIT-II Methodology of Econometrics

1. Stage 1: Specification of the model
2. Stage 2: Collection of data and estimation of the model
3. Stage 3: Evaluation of the coefficients of the model and Hypothesis testing
4. Stage 4: Prediction or Forecasting of the model

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UNIT-III Two Variable Regression Model

1. Stochastic and Non- Stochastic Relations
2. Reasons for the inclusion of random or stochastic variable
3. The Classical Linear Regression Model and its assumptions
4. Ordinary Least Square Method – estimation of parameters
5. Properties of Least Square Estimates – The Gauss Markow Theorem
6. The Coefficient of Determination R^2 – A measure of Goodness of Fit

UNIT-IV Two Variable Regression: Interval Estimation and Hypothesis Testing

1. Interval Estimation: Some basic ideas
2. Confidence Interval for regression Coefficients
3. Hypothesis Testing: The confidence interval approach (two tail test and one tail test)
4. Hypothesis Testing: The test of significance approach (standard error test, t-test, Z-test)
5. Regression Analysis and Analysis of Variance
6. Application of Regression Analysis: The problem of Prediction

UNIT-V Multiple Linear Regression Analysis: The problem of Estimation

1. The Three Variable Model – Notation and Assumptions
2. Interpretation of Multiple Linear Equation _ Partial Regression Coefficients
3. OLS and ML Estimation of Partial Regression Coefficients
4. The Multiple Coefficient of Determination – R^2 and Multiple Coefficient of Correlation R ; R^2 and Adjusted R^2

UNIT-VI Relaxing the Assumptions of the Classical Model

- 1 Problems in regression analysis – Autocorrelation, Heteroscedasticity and Multicollinearity – nature, tests, consequences and remedial steps

Reference Books:

- 1 Koutsoyiannis A (1977) Theory of Econometrics, 2nd Edition, the Mc Milan Press Ltd, London
- 2 Gujarati, D.N; (1995) Basic Econometrics, 2nd Edition, Mc Graw Hill, New Delhi
- 3 Gujarati, D.N., C Porter and Sangeetha Gunasekar (2012) Basic Econometrics, 5th Edition, Tata Mc Graw Hill Eduaction Pvt. Ltd, New Delhi

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| Subject Code | Paper Name | Credit |
|--------------|-------------------------------|--------|
| RC01ECO | RESEARCH METHODS IN ECONOMICS | 4 |

Course Description:

This course introduces the student to collection and presentation of data. It also discusses how data can be summarized and analysed for drawing statistical inferences. The students will be introduced to important data sources that are available and will also be trained in the use of free statistical software to analyse data.

Course Outline:

Module I: Concept of Research

Types of Research – Theoretical and Applied, Descriptive and Explanatory, Quantitative & Qualitative, other types of Research; Steps in Research.

Module II: Research Process

Formulation of Research Problems, Hypothesis & Research questions.

Module III: Research Design

Concept and importance; Features of a good research design, Concept of independent and dependent variables, concomitant variables, extraneous variables, Treatment and Central group.

Module IV: Data for Research

Quantitative and Qualitative, Cross section time series and panel data, sources of data; Primary and Secondary, Techniques of Primary data collection, questionnaire and Interview, observation and case study.

Module V: Statistical Methods

Descriptive statistics and its uses. Interpretation of data: editing, coding, tabulation and presentation. Inferential statistics – its use. Properties of a good estimator, Use of chi-square, t z and F test. least square estimates of the parameters, testing significance of the estimated parameters, confidence limits, ANOVA

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Module VII: Layout of Research Paper

Report writing, Bibliography and Reference writing

Basic Readings List

Kothari : Research Methodology

Deepak Chawla & N. Sondha: Research Methodology, Concept & Case, Vikas Publishing House Pvt. Ltd.

Ranjit Kumar: Resaerch Methodology for Beginners, Pearson Publication.

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| Subject Code | Paper Name | Credit |
|---------------------|------------------------|---------------|
| RC02ECO | RESEARCH REPORT | 4 |

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| Subject Code | Paper Name | Credit |
|--------------|------------------|--------|
| RC03ECO | RESEARCH PROJECT | 4 |

Guidelines to Examiners for

End Semester Examination (ESE):

Evaluation of project dissertation work may be as per the following guidelines:

Project model (if any) and the Project record notebook = 70 marks

Project presentation and viva-voce = 30 marks

(Jointly conducted by One External & One Internal Examiners)

Overall project dissertation may be evaluated under the following heads:

- 1. Motivation for the choice of topic*
- 2. Project dissertation design*
- 3. Methodology and Content depth*
- 4. Results and Discussion*
- 5. Future Scope & References*
- 6. Presentation style*
- 7. Viva-voce*

DISSERTATION/ PAPER PRESENTATION

- 1. Student alone or in a group of not more than five, shall undertake one Project approved by the*
- 2. Subject Teacher/H.O.D. of the Department/College concerned. The progress of the Project*
- 3. shall be monitored by the faculty members at regular intervals.*

OR

- 1. Dissertation on 'Topic Provided*

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MINOR
SEMESTER I

| Subject Code | Paper Name | Credit |
|--------------|--------------------|--------|
| MN01ECO | BASIC ECONOMICS- I | 4 |

Course Description

This Course intends to expose the student to the basic principles in Microeconomic Theory and illustrate with applications.

Course Outline

1. Introduction

- a) Problem of scarcity and choice: scarcity, choice and opportunity cost; Production possibility frontier; economic systems.
- b) Demand and supply: law of demand, determinants of demand, shifts of Demand versus movements along a demand curve, market demand, and law of supply, Determinants of supply, shifts of supply versus movements along a supply Curve, market supply, and market equilibrium.
- c) Consumer surplus and producer surplus.
- d) Elasticity: price elasticity of demand, calculation of elasticity, determinants of price elasticity and other elasticity's.

2. Consumer Theory

- a) Budget constraint, concept of utility, diminishing marginal utility, Diamond Water paradox, income and substitution effects; consumer choice: indifference Curves, derivation of demand curve from indifference curve and budget constraint.

3. Production and Costs

- a) Production: behavior of profit maximizing firms, production process, Production functions, law of variable proportions, choice of technology, isoquant and isocost lines, cost minimizing equilibrium condition.

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b) Cost: costs in the short run, costs in the long run, revenue and Profit maximizations, minimizing losses, short run industry supply curve, Economies and diseconomies of scale, long run adjustments.

4. Perfect Competition —

a) Assumptions: theory of a firm under perfect competition, demand and Revenue; equilibrium of the firm in the short run and long run; long Run industry supply curve: increasing, decreasing and constant cost Industries.

Basic Readings:

1. Case Karl E. & Ray C. Fair, Principles of Economics, Pearson Education, inc., 8th edition, and 2007.
2. Hal R. Varian, Intermediate Microeconomics, a Modern 8th edition, W.W. Norton and company/Affiliated
3. East-West Press (India), 2010. The Workbook by Varian and Bergstrom could be used for problems.
4. C.Snyder and W. Nicholson, Fundamentals of Microeconomics, engage Learning (India). 2010.
5. एच० एल० आहुजा, व्यक्ति अर्थशास्त्र, एस० चॉद एण्ड कंपनी (Both Eng & Hindi)
6. एम० एल० झिगन, व्यक्ति अर्थशास्त्र, वृंदा प्रकाशन (Both Eng & Hindi)
7. एम. एल. सेठ, व्यक्ति अर्थशास्त्र, भारती भवन (Both Eng & Hindi)
8. डा० सुमन, व्यक्ति अर्थशास्त्र, आलोक प्रकाशन (Both Eng & Hindi)

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| Subject Code | Paper Name | Credit |
|--------------|---------------------|--------|
| MN02ECO | BASIC ECONOMICS -II | 4 |

Course Description

This course introduces the students of the basic concepts in Macroeconomics. Macroeconomics deals with the aggregate economy. In this course, the students are introduced the definition, measurement of the macroeconomic variables like GDP, consumption savings, investment and balance of payments. The course also discusses various theories of determining GDP in the short run.

Course Outline

1. Introduction

What is macroeconomics? Macroeconomic issues in an economy.

2. National Income Accounting

Concepts of GDP, GNP, NDP and NNP: Measurement of national income, its limitation, nominal and real income.

3. Keynesian theory of consumption and investment.

Consumption function- meaning factors influencing consumption spending, concept of MPC, APC, MPS and APS, Investment function-meaning and factors affecting investment, Marginal efficiency of capital autonomous and induced investment, concept of multiplier.

4. Money in Modern Economy

Concept of money in modern economy and its functions; quantity theory money, cash transaction and cash balance approach, credit creation.

Basic Readings:

1. Richard T.Froyen, Macroeconomics Theories and Policies, Published by Dorling Kindersley (India) 8th Ed. N. Gregory Mankiw, Macroeconomics, Worth publishers, 7th edition, 2010.
2. Olivier Blanchard, Macroeconomics, Pearson Education, Inc., 5th edition, 2009.
3. Steven M. Sheffrin, Rational expectations, Cambridge University Press, 2nd edition
4. Seth, M.L., Macro Economics, Laxmi Narayan Publications (Both in English &

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Hindi).

5. Ahuja, H.L., Advanced Macro Economics, S.Chand Publications.(Both in English & Hindi).

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B.A. ECONOMICS

| Subject Code | Paper Name | Credit |
|--------------|----------------|--------|
| MN05ECO | Indian Economy | 4 |

Course Outline

1. Economic Development since Independence

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

2. Population and Human Development

Demographic trends and issues; education; health and malnutrition

3. Growth and Distribution

Trends and policies in poverty; inequality and unemployment

4. Agriculture (Policies and Performance)

Growth, Productivity, agrarian structure and technology, capital formation, pricing and procurement.

5. Industry (Policies and Performance)

Growth, productivity, diversification, small scale Industries, competition policy, foreign investment, Industrial Policy.

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Basic Readings

1. Hlimanshu, 2010-Towards New Poverty Lines for India, Economics and Political Weekly, January.
2. Jean Dreze and Angus Deaton, 2009, - Food and Nutrition in India : Facts and Interpretations, Economic and Political Weekly, February.
3. Himanshu, 2011-Employment Trends in India; A Re-examinations, Economic and Political Weekly September.
4. Geeta G. Kingdon, 2007, - The Progress of School Education in India, Oxford Review of Economic Policy.
5. J.B.G.Tilak 2007;; Post Elementary Education, Poverty and Development in India, International Journal of Educational Development .
6. T. Dyson, 2008, - India's Demographic Transition and its Consequences for Development in Uma Kapila, editor, Indian Economic since Independence,
7. Mishra & puri , Indian Economics (Both Hindi and English)
8. Rudra Dutt and Sundram , Indian Economics (Both Hindi and English)

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B.A. ECONOMICS

| Subject Code | Paper Name | Credit |
|--------------|-----------------|--------|
| MN07ECO | Money & Banking | 4 |

Course Description

This course exposes students to the theory and functioning of the monetary and financial sectors of the economy. It highlights the organization, structure and role of financial markets and institutions. It also discusses interest rates, monetary management and instruments of monetary control. Financial and banking sector reforms and monetary policy with special reference to India are also covered.

Course Outline

I. Money

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

2. Financial Institutions, Markets, Instruments and Financial Innovations

(a) Role of financial markets and institutions; financial crisis.

(b) Money and capital markets: organization, structure and reforms in India;

3. Interest Rates

Determination; source of interest rate differentials

4. Indian banking system

Changing role and structure; banking sector reforms.

5. Central Banking and Monetary Policy

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

6. Monetary and Fiscal policies,

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Basic Readings:

1. F.S. Mishkin and S.G. Eakins, Financial Markets and Institutions, 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.

Various latest issues of RBI Bulletins, Annual reports, Reports on Currency and Finance and reports of the working group, IMF Staff papers.
