U.G. SYLLABUS

ECONOMICS

UNDER

NATIONAL CURRICULUM AND CREDIT FRAMEWORK

(NCCF)

KAZI NAZRUL UNIVERSITY ASANSOL, WEST BENGAL

With effect from 2023-2024 Academic Session

Semester- I

Course Name: Introduction to Economic Theory

Course Code*:* BSCECOMJ101

<table>
<tr><td>Course Type: Major</td><td colspan="2">Course Details: MJC-1</td><td colspan="2">L-T-P:4-1-0</td></tr>
<tr><td rowspan="3">Credit: 5</td><td rowspan="3">Full Marks:
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<tr><td></td><td>30</td><td></td><td>70</td></tr>
</table>

Group A: Course Learning Outcomes

(After the completion of the course the students will be able to)

1. **To compare Economic and Non-Economic activities, microeconomics and macroeconomics, Economic issues and problems. To illustrate demand supply framework with determinants and shifts.**
2. **To analyse different theories of demand.**
3. **To examine neo classical theories of production and cost.**

Group B: Course Learning Outcomes

(After the completion of the course the students will be able to)

1. **To identify macroeconomic issues and relate different macroeconomic accounting methods.**
2. **To explain and analyse the classical system.**
3. **To compare the classical system with the simple Keynesian system.**

Content/ Syllabus: Unit wise course content distribution

Group A: Microeconomic Theory

Unit -1. Introduction to Economic Theory

- Economic and non-economic activities, Basic Economic Issues and Problems, Distinction between Microeconomics and Macroeconomics, Concept of Equilibrium.
- Concept of Demand. Law of Demand and Demand Curve. Exceptions to the law of Demand. Concept of Supply Curve.
- The market mechanism. Changes in market equilibrium.
- Elasticity of demand – price, income and cross elasticities – relation between price elasticity of demand, price and marginal revenue – relation between price elasticity and total expenditure.

Unit-2. Theory of Demand

- Utility: Concept and Measurement Issues. Cardinal and Ordinal Utility.
- The Marshallian Approach: Equilibrium of the consumer – Derivation of demand curve. Concept of consumer's surplus.
- Indifference curve approach: indifference curve and its properties.
- The pathological cases, the equilibrium of the consumer – Price consumption curve and income consumption curve – Price effect – Income effect – Substitution effect – Slutsky's equation – Derivation of demand curve. Giffen's Paradox. Bandwagon effect – Snob effect – Veblen effect.
- Relationship between Compensated demand curve and ordinary demand curve.

Unit -3. Theory of Production and Cost.

- Production function: the neo-classical production function – relation between total, average and marginal productivities – law of variable proportions – the fixed coefficient production function and variable coefficient production function.

- Iso- quant and Iso-cost line, definition and properties, economic region of production, marginal rate of technical substitution, elasticity of substitution, equilibrium of the producer - constrained output maximization and constrained cost minimization, expansion path, returns to scale.

- Cost function: different concepts of costs, short run cost analysis and long run cost analysis – relation between the expansion path and cost function – total, average and marginal cost curves – long run cost curves as envelope of short run cost curves.

Group B: Macroeconomic Theory

Unit -1. Basic Macroeconomic Issues and Accounts

- Scope and nature of Macro Economics with emphasis on macroeconomic problems and policies – Targets & Instruments of macroeconomic policies. Closed economy and open economy.

- Definition, Concepts and Measurement of GNP, NNP, GDP, NDP, NI, DI – The flow of product method and the flow of expenditure method; Concept of GNP deflator.

- Interrelation between measures of National Income in the absence and presence of Governmental sector and International Transactions. The Accounting Identity of Saving and Investment. Scope of using National Income as a measure of Economic Welfare.

Unit -2. The Classical System

- The Classical view of Macro Economics in respect of the determination of Employment, Output and Prices.
- The classical quantity theory of money and its criticism; The Classical Theory of Rate of Interest - Loanable fund theory.
- Say's Law and Walras' law - The Dichotomy between the real and monetary sectors Neutrality of money.

Unit -3 The Simple Keynesian Model of Income Determination

- Keynesian Consumption Function and its properties – Factors affecting Consumption Expenditure – Saving Function & its properties
- Determination of National Income – nature of equilibrium – unemployment, full employment and inflation – stability of equilibrium
- Comparative static analysis – the Multiplier analysis with and without government sector – Investment Multiplier, Government Expenditure Multiplier, Balanced Budget Multiplier; Limitations of the multiplier analysis. The Paradox of Thrift.

Group A: References/ Suggested Readings

1. Ryan, William James Louden, and David William Pearce. "Price theory." (1977). Macmillan India Limited.
2. Richard G. Lipsey: An Introduction to Positive Economics (6th Edition). ELBS.
3. A Koutsoyianiss: Modern Microeconomics, 2nd Edition, Macmillan Press Ltd. Hound mills/ Palgrave Macmillan (India).
4. Gould and Lazear: Microeconomic Theory (6th Edition), AITBS, New Delhi.
5. H.L Ahuja: Advance Economic Theory-Microeconomics Analysis, 21st Edition, S Chand & Co Ltd.
6. R. S. Pin Dyck and D. N. Rubinfeld: Microeconomics, 8th Edition, Pearson India.
7. Henderson and Quandt: Microeconomic theory: A mathematical approach, Tata McGraw-Hill.
8. Anindya Sen: Microeconomics (Second Edition). Oxford University Press.
9. Satya R. Chakravarty: Microeconomics, 1ST Edition, Allied Publishers Ltd.
10. Hal R. Varian: Intermediate Microeconomics: A Modern Approach, 8th edition, W.W. Norton and Company/Affiliated East-West Press (India).
11. C. Snyder and W. Nicholson, Microeconomic Theory: Basic Principles and Extensions, 12th Edition, Cengage Learning (India).

Group B: References/ Suggested Readings

1. Soumyen Sikdar: Principles of Macroeconomics, OUP.
2. Dornbusch, Fischer and Startz: Macroeconomics, 12th Edition. McGraw Hill Education India.
3. William H. Branson: Macroeconomic Theory and Policy, 2nd Edition, Universal Book Stall, New Delhi.
4. G, Ackley: Macroeconomic Theory. The MacMillian Company.
5. N. Gregory Mankiw and Mark P. Taylor: Macroeconomics, 4th Edition, Cengage Learning (India).
6. Richard T. Froyen: Macroeconomics Theories and Policies, 12th Edition, Pearson Education
India.
7. Abel, Bernanke and Croushore: Macroeconomics, 8th Edition, Pearson.
8. Olivier Blanchard: Macroeconomics, 7th Edition, Pearson Education India.
9. R. Jha – Macroeconomics for Developing Countries (2nd edition), Routledge.
10. L, Harris: Monetary Theory: McGraw-Hill
11. Errol D'Souza: Macroeconomics, Pearson Education

Semester- I

Course Name: Introduction to Economic Theory

Course Code: BSCECOMN101

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(After the completion of the course the students will be able to)

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2. **To analyse different theories of demand.**
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Group B: Course Learning Outcomes

(After the completion of the course the students will be able to)

1. **To identify macroeconomic issues and relate different macroeconomic accounting methods.**
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Content/ Syllabus: Unit wise course content distribution

Group A: Microeconomic Theory

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- The market mechanism. Changes in market equilibrium.
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Unit-2. Theory of Demand

- Utility: Concept and Measurement Issues. Cardinal and Ordinal Utility.
- The Marshallian Approach: Equilibrium of the consumer – Derivation of demand curve. Concept of consumer's surplus.
- Indifference curve approach: indifference curve and its properties,
- The pathological cases, the equilibrium of the consumer – Price consumption curve and income consumption curve – Price effect – Income effect – Substitution effect – Slutsky's equation – Derivation of demand curve. Giffen's Paradox. Bandwagon effect – Snob effect – Veblen effect.
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- Production function: the neo-classical production function – relation between total, average and marginal productivities – law of variable proportions – the fixed coefficient production function and variable coefficient production function.
- Iso- quant and Iso-cost line, definition and properties, economic region of production, marginal rate of technical substitution, elasticity of substitution, equilibrium of the producer - constrained output maximization and constrained cost minimization, expansion path, returns to scale.
- Cost function: different concepts of costs, short run cost analysis and long run cost analysis – relation between the expansion path and cost function – total, average and marginal cost curves – long run cost curves as envelope of short run cost curves.

Group B: Macroeconomic Theory

Unit -1. Basic Macroeconomic Issues and Accounts

- Scope and nature of Macro Economics with emphasis on macroeconomic problems and policies,
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- Definition, Concepts and Measurement of GNP, NNP, GDP, NDP, NI, DI – The flow of product method and the flow of expenditure method; Concept of GNP deflator.
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1. Soumyen Sikdar: Principles of Macroeconomics, OUP.
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8. Olivier Blanchard: Macroeconomics, 7th Edition, Pearson Education India.
9. R. Jha – Macroeconomics for Developing Countries (2^{nd} edition), Routledge.
10. L, Harris: Monetary Theory: McGraw-Hill
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Semester- I
Course Name: Basic Computer Applications

Course Code: BSCECOSE101

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Course Learning Outcomes:

(After the completion of the course the students will be able)

1.To illustrate the basic knowledge regarding use of Excel for sorting and filtering data to prepare various chart.
2.To examine how to carry out statistical analysis using Excel.
3. To choose a Project based on techniques taught in this paper which will be helpful to them in further research.

Content/ Syllabus: Unit wise course content distribution

Unit -1. Introduction to Excel

- Sort: Sorting data on one column or multiple columns, in ascending or descending order
- Filter: Filter data to display records that meet certain criteria.
- Conditional Formatting: Highlight cells with a certain colour, depending on the cell's value.
- Charts: Line charts, column charts, pie charts, area charts and surface charts

Unit-2. Excel Basics needed for Statistical Analysis of the Data

- Pivot Tables: To extract the significance from a large, detailed data set.
- Tables: Create tables to analyze data in Excel
- Solver: Use Excel tool called solver to use techniques from the operations research to find optimal solutions for all kind of decision problems.
  Creating a top-ten list with values or percentages
  Setting up subtotals
  Counting the number of unique items in a list
- Using SUMIF and COUNTIF functions

References/ Suggested Readings

1. Levine, Stephan, Krehbiel, Berenson: Statistics for Managers Using Microsoft Excel, 8th Edition, Pearson India.
2. Gary Koop: Analysis of Economic Data, 4th Edition, John Wiley & Sons Ltd.
3. C R Kothari and Gaurav Garg: Research Methodology: Methods and Techniques, 4th Edition, New Age International

Semester- I
Course Name: Money and Banking

Course Code: MDC111

<table>
<tr><td>Course Type: MD</td><td colspan="2">Course Details: MDC-1</td><td colspan="2">L-T-P:2-1-0</td></tr>
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</table>

Course Learning Outcomes:

(After the completion of the course the students will be able)

1.To explain some basic ideas relating to the concept and types of money.

2.To gain knowledge about the measures of the supply of money.

3 To develop idea regarding concept, functions and reforms of the banking system of India.

Content/ Syllabus: Unit wise course content distribution

Unit I: Money.

- Evolution of Money, Concept, functions and types of Money. Measures of Money Supply (M1, M2, M3 etc).

Unit 2. Banking

- Commercial Bank: Definition and functions of Commercial Banks. Credit creation by Commercial banks. Major Developments in Commercial banking in India since independence. Performance of Commercial banks in India.
- Central Bank: Functions of Central Bank. Quantitative and Qualitative Credit Control Methods.
- Functions of Reserve Bank of India.

Unit 3. Banking Sector Reforms in India.

- Banking Sector Reforms in India since 1991.

References/ Suggested Readings

1.S.B Gupta: Monetary Economics: Institutions, Theory and Policy, 4th edition, S. Chand Publishing.
2.M. Y. Khan, Indian Financial System, Tata McGraw Hill, 7th edition.
3.L. M. Bhole and J. Mahukud, Financial Institutions and Markets, Tata McGraw Hill, 5th edition.
4.Cauvery, Kruparani, Sudha and Manimekalai: Monetary Economics, 2nd Edition S. Chand Publishing.
5.Sujatra Bhattacharyya: Indian Financial System, 2^{nd} Edition, Oxford University Press.

Semester- II

Course Name*:* Development Economics and Indian Economy

Course Code: BSCECOMJ201

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<tr><td>Course Type: Major</td><td colspan="3">Course Details: MJC-2</td><td colspan="2">L-T-P:4-1-0</td></tr>
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Group A: Course Learning Outcomes:

(After the completion of the course the students will be able)

1. To illustrate the concept of development, distinction between economic growth and economic development and also the contemporary concepts of sustainable development, inclusive development, human development etc.

2. To identify the issues of underdevelopment and to acquire theoretical knowledge about the poor economic status of the developing countries.

3. To make use of development strategies needed for a labour surplus economy.

Group B: Course Learning Outcomes:

(After the completion of the course the students will be able)

1. To explain the situations of the Indian economy in the post- independence regime.

2. To make a survey of different policies, relating to agriculture, industry etc. undertaken after independence to build up a self-reliant economy.

3. To inspect issues of poverty, unemployment in the Indian Economy.

Content/ Syllabus: Unit wise course content distribution

Group A: Development Economics

Unit -1. Concept of Economic Development

Meaning of Development, different concepts of development –Sustainable development, Participatory development, Inclusive development, Human development, Growth and Development – Broad Indicators of Economic Development – Per capita Income – PQLI– Basic needs approach – Human Development Index – Gender Development Index –Gender Empowerment Measure - Human Poverty Index- Global Hunger Index.

Unit-2. Underdevelopment and Theories

- Characteristics of underdevelopment – Obstacles to development
- Trap Models – Critical minimum effort thesis – Low level equilibrium trap – Process of cumulative causation
- Concept of surplus labour – Surplus labour as potential saving – Economic development with unlimited supplies of labour (Lewis Model).

Group B: Indian Economy

Unit-1. Structural Changes in Indian Economy

Trends in national income, per capita income - Changes in occupational pattern- Sectoral distribution of national income during the post-independence period.

Unit-2. Agricultural Sector

- Land reforms
- Farm size and Productivity
- Green revolution-causes and impacts.
- Agricultural marketing, concepts of food security and public distribution system in India.

Unit -3. Industrial Sector

Industrial policy resolution (1948, 1956) - licensing policy; New industrial policy, 1991; the EXIT policy; present problems of SSIs and large-scale industries in India and its remedies.

Unit -4. Poverty and Unemployment

- Poverty-Concept and measurement issues
- Nature and types of unemployment in India - Problem of measurement of unemployment
- Unorganized labour market-Issues related to female and child labour.

Group A: References/ Suggested Readings

1. Michael P. Todaro and Stephen C. Smith: Economic Development, 12th Edition, Pearson Education India.
2. A.P Thirlwall: Growth&Development,8th Edition, Palgrave MacMillian
3. Kaushik Basu: Analytic Development Economics: The Less Developed Economy Revisited, 1st Edition, Oxford University Press.
4. Debraj Ray: Development Economics, 23rd Edition, Oxford University Press.
5. A.P Thirlwall and Penélope Pacheco-López: Economics of Development-Theory and Evidence,10th Edition, Bloomsbury Academic.

Group B: References/ Suggested Readings

1. Misra D. and Puri K.: Indian Economy, 38th Edition, Himalaya Publishing House.
2. Datt and Sundharam (Revised by G. Datt and A. Mahajan), Indian Economy, 72nd Edition, S. Chand company Pvt Ltd (New Delhi)
3. Arun Kumar: Indian Economy since Independence: Persisting Colonial Disruption, 1st Edition, Vision Books
4. Uma Kapila: Indian Economy Since Independence, 31st Edition, Academic Foundation.
5. Bimal Jalan: India’s Economic Policy, Penguin Publisher
6. Bimal Jalan (Ed.): Indian Economy: Problems and Prospects, Penguin Publishers

Semester- II

Course Name: Development Economics and Indian Economy

Course Code: BSCECOMN201

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Group A: Course Learning Outcomes:

(After the completion of the course the students will be able)

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2. To identify the issues of underdevelopment and to acquire theoretical knowledge about the poor economic status of the developing countries.

3. To make use of development strategies needed for a labour surplus economy.

Group B: Course Learning Outcomes:

(After the completion of the course the students will be able)

1. To explain the situations of the Indian economy in the post- independence regime.

2. To make a survey of different policies, relating to agriculture, industry etc. undertaken after independence to build up a self-reliant economy.

3. To inspect issues of poverty, unemployment in the Indian Economy.

Content/ Syllabus: Unit wise course content distribution

Group A: Development Economics

Unit -1. Concept of Economic Development

Meaning of Development, different concepts of development –Sustainable development, Participatory development, Inclusive development, Human development, Growth and Development – Broad Indicators of Economic Development – Per capita Income – PQLI– Basic needs approach – Human Development Index – Gender Development Index –Gender Empowerment Measure - Human Poverty Index- Global Hunger Index.

Unit-2. Underdevelopment and Theories

- Characteristics of underdevelopment – Obstacles to underdevelopment
- Trap Models – Critical minimum effort thesis – Low level equilibrium trap – Process of cumulative causation
- Concept of surplus labour – Surplus labour as potential saving – Economic development with unlimited supplies of labour (Lewis Model).

Group B: Indian Economy

Unit -1. Structural Changes in Indian Economy

Trends in national income, per capita income - Changes in occupational pattern-Sectoral distribution of national income during the post-independence period.

Unit-2. Agricultural Sector

- Land reforms
- Farm size and Productivity
- Green revolution-causes and impacts.
- Agricultural marketing, concepts of food security and public distribution system in India.

Unit -3. Industrial Sector

Industrial policy resolution (1948, 1956) - licensing policy; New industrial policy, 1991; the EXIT policy; present problems of SSIs and large-scale industries in India and its remedies.

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1. Misra D. and Puri K.: Indian Economy, 38th Edition, Himalaya Publishing House.
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4. Uma Kapila: Indian Economy Since Independence, 31st Edition, Academic Foundation.
5. Bimal Jalan: India's Economic Policy, Penguin Publisher
6. Bimal Jalan (Ed.): Indian Economy: Problems and Prospects, Penguin Publishers

Semester- II

Course Name: Data Analysis

Course Code: BSCECOSE201

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Course Learning Outcomes:

(After the completion of the course the students will be able)

1.To elaborate the methods of presentation of data in textual, tabular and diagrammatic form.

2.To identify the steps and problems associated with data processing and the analysis of various forms of data (quantitative, qualitative; cross section, time series).

3.To interpret a Project based on techniques taught in this paper which will be helpful to them in further research.

Content/ Syllabus: Unit wise course content distribution

Unit -1. Presentation of Data

Introduction, methods of presentation of data, textual presentation of data, tabular presentation of data, diagrammatic representation of data.

Unit-2. Data Processing

Introduction to Data Processing – Steps of Data Processing – Problems associated with Data Processing

Unit -3. Analysis of Data

Various Types of Data Analysis (quantitative, qualitative; cross section, time series) – Introduction of Statistical Tools used in Data Analysis

References/ Suggested Readings

1. R.S.N Pillai Bhagavathi: Statistics Theory and Practice, 8th Edition, S. Chand & Sons Private Limited.
2. Gary Koop: Analysis of Economic Data, 4th Edition, John Wiley & Sons Ltd.
3. C R Kothari and Gaurav Garg: Research Methodology: Methods and Techniques,4th Edition, New Age International.
4. D. Bhattacharya and S. Roy Chowdhury: Statistics Theory and Practice, 3rd Edition, U.N Dhar & Son Pvt. Ltd.
5. Santosh Gupta: Research Methodology and Statistical Techniques, Deep and Deep Publication Pvt.

Semester- III

Course Name: Microeconomics
Course Code: BSCECOMJ301

<table>
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Course Learning Outcomes

(After the completion of the course the students will be able to)

1.Realize the operation of the markets, the distinction between real world market and the concept of market in economics. The ideas of perfect market, the nature and causes of market imperfection will help the students to judge the mechanisms of market economy and to take judicious decision.

2.To understand, the decision-making process in different forms of market structure such as monopolistic competition, oligopoly and monopoly markets.

3.To deal with the theoretical aspect and issues in the factor pricing theories.

4. To understand the framework of General equilibrium and Pareto criteria of optimality.

Content/ Syllabus: Unit wise course content distribution

Unit -1. Theory of Perfect Competition
Perfect competition and pure competition—Short run and long run equilibrium of a competitive firm – Short run and long run supply curves—Long run equilibrium of the competitive industry – price determination in a competitive industry – existence, uniqueness and stability of equilibrium –long run supply curves of the industry- effects of external economies and diseconomies – effect of change in cost – effect of imposition of tax – effect of price control.

Unit -2. Theories of Imperfect Competition
• Theory of monopoly: Characteristics- AR and MR curves under monopoly – Relation among AR, MR and Elasticity of demand – Equilibrium under monopoly – major features of monopoly- index of monopoly power – price discrimination – when possible? – when desirable? – Degree of price discrimination – equilibrium under price discrimination – Is price discrimination desirable? – Equilibrium under Multiple Plant monopoly – Monopsony - Equilibrium under bilateral monopoly
• Monopolistic competition: short run and long run equilibrium, Chamberlin large group model. Excess capacity and Selling Cost.
• Theory of Oligopoly: Characteristics of oligopoly - non-collusive oligopoly models of Cournot, Bertrand and Stackelberg – collusive oligopoly – price leadership – market sharing model – price rigidity under oligopoly.

Unit-3. Theories of Factor Pricing

• Demand for factors of production – Determinants of price elasticity of demand for a factor – marginal productivity theory and its limitations

• Theory of wage - Choice between work and leisure – derivation of individual labour supply curve – total labour supply curve – demand for labour – determination of equilibrium in a competitive labour market- collective bargaining and wage rate.

• Theory of rent – Concept of Rent- Ricardian Theory of Rent. Modern Theory of Rent. Concept of quasi rent – Rent and Price.

• Theory of Interest- Real and Money Interest- Loanable Fund Theory and Liquidity Preference Theory of Interest

• Theory of profit - Gross and net profit- elements of profit- Risk bearing theory of Profit-Uncertainty Bearing Theory- theory, Innovation theory of profit- Dynamic Theory of Profit.

Unit -4. General Equilibrium

Interdependence in the Economic System- Partial and general equilibrium – The Walrasian System (2x2x2 Model)- Existence uniqueness and Stability of an Equilibrium. Static properties of a General Equilibrium State- Equilibrium of production, consumption and simultaneous equilibrium of Production and Consumption- General Equilibrium and Resource Allocation.

Unit -5. Welfare Economics

Criteria of Social Welfare- The Pareto optimality Criterion- The Kaldor- Hicks Compensation Criterion. Maximization of Social Welfare-Derivation of the Grand Utility possibility Frontier- Determination of the Welfare Maximization State. Welfare Maximization and Perfect Competition.

References/ Suggested Readings

1. Ryan, William James Louden, and David William Pearce. "Price theory." (1977). Macmillan India Limited.
2. Richard G. Lipsey: An Introduction to Positive Economics (6th Edition). ELBS.
3. A Koutsoyiannis: Modern Microeconomics, 2nd Edition, Macmillan Press Ltd. Hound mills/ Palgrave Macmillan (India).
4. Gould and Lazear: Microeconomic Theory (6th Edition), AITBS, New Delhi.
5. H.L Ahuja: Advance Economic Theory-Microeconomics Analysis, 21st Edition, S Chand & Co Ltd.
6. R. S. Pin Dyck and D. N. Rubinfeld: Microeconomics, 8th Edition, Pearson India.
7. Henderson and Quandt: Microeconomic theory: A mathematical approach, Tata McGraw-Hill.
8. Anindya Sen: Microeconomics (Second Edition). Oxford University Press.
9. Satya R. Chakravarty: Microeconomics, 1ST Edition, Allied Publishers Ltd.
10. Hal R. Varian: Intermediate Microeconomics: A Modern Approach, 8th edition, W.W. Norton and Company/Affiliated East-West Press (India).
11. C. Snyder and W. Nicholson, Microeconomic Theory: Basic Principles and Extensions, 12th Edition, Cengage Learning (India).

Semester III

Course Name: Indian Economic Problems

Course Code: BSCECOMJ302

<table>
<tr><td>Course Type: Major</td><td>Course Details: MJC-4</td><td colspan="2">L-T-P:4-1-0</td></tr>
<tr><td rowspan="3">Credit: 5</td><td rowspan="3">Full Marks: 100</td><td colspan="2">CA Marks</td><td colspan="2">ESE Marks</td></tr>
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<tr><td></td><td>30</td><td></td><td>70</td></tr>
</table>

Course Learning Outcomes

(After the completion of the course the students will be able to)

1. To understand about the history of planning process in India and the role of planning in the overall development of the economy and also the role of new institutions in furthering this progress.
2. Understand regarding growth experience of the Indian economy amidst huge population pressure and the ways to move the economy in the growth trajectory.
3. understand the issues of black economy and the policies needed to tackle this problem
4. To be acquainted with the problems and policies with regard to public sector, tax structure in India, reforms in tax structure.
5. To gain insights regarding India's foreign trade, the problems there off and the policies to be undertaken to mitigate trade deficit

Content/ Syllabus: Unit wise course content distribution

Unit -1. Population
Trend of Population Growth in India in recent years-Problems associated with population growth-National population policy - Demographic dividend

Unit -2. Economic Planning
Concept of Planning- Objectives of five-year planning- Planning in a mixed economy – The Indian experience – Pre 1991 and Post 1991 plans – Overall success and failures- Critical Evaluation of functioning pattern of Planning Commission.
Niti Aayog- Structure and Functioning- Objectives behind the formation of Niti Aayog.

Unit -3. Public Sector in India
Role of public sector in India during the plan period
Problems of PSUs in India. Disinvestment policies.

Unit -4. Indian Tax Structure
Composition of Govt. revenue and expenditure. Sources of Revenue and Expenditure of Central Government and the State Governments of India.
Trends, problems, reforms in tax structure. GST.
Centre – State financial relation

Unit -5. The Parallel Economy in India
Concept of black money – estimates – Sources – impacts – measures to tackle black money. Demonetization.

Unit -6. India's Balance of Payment
India's Balance of Payments Crisis- Balance of Payments since 1991.
India's foreign policy since 1991.
An analysis of trends in exports and imports since new economic reforms of 1991.

Unit -7. Special Economic Zones

Special economic zones – An overview- Critique of SEZ Policy. Recent Developments with respect to India's SEZ policy.

References/ Suggested Readings

1.Misra D. and Puri K.: Indian Economy, 38th Edition, Himalaya Publishing House.
2.Datt and Sundharam (Revised by G. Datt and A. Mahajan), Indian Economy, 72nd Edition, S. Chand company Pvt Ltd (New Delhi)
3.Arun Kumar: Indian Economy since Independence: Persisting Colonial Disruption, 1st Edition, Vision Books
4.Arun Kumar: The Black Economy in India, Revised and updated Edition 2017, Penguin Random House India
5.Uma Kapila: Indian Economy Since Independence, 31st Edition, Academic Foundation.
6.Bimal Jalan: India's Economic Policy, Penguin Publisher
7.Bimal Jalan (Ed.): Indian Economy: Problems and Prospects, Penguin Publishers.
8. Ramesh Singh: Indian Economy, 13th Edition, McGraw Hill

Semester III

Course Name: Financial Markets of India

Course Code: BSCECOMN301

Course Type: **Minor**	**Course Details: MNC-3**			**L-T-P:4-1-0**	
Credit: 5	**Full Marks: 100**	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			30		**70**

Course Learning Outcomes

(After the completion of the course the students will be able to)

1. To understand the role of financial markets and financial institutions in the overall development of an economy.
2. To understand about the structure and functions of money markets and capital markets in India.
3. To understand the workings of the banking system of the country and the key roles played by RBI in effective supervision and control of the monetary system in India.

Content/ Syllabus: Unit wise course content distribution

Unit -1. Financial System

Concept of Financial system- Importance of Financial System in Economic development- Components of the Indian Financial System- Reforms in the Indian Financial System.

Unit -2. Money
Concept of Money- Functions of Money- Types of Money. Money Supply- Components of money supply.
Unit -3. Indian Banking System
Concept of Bank- Definition, functions and importance of commercial banks- Structure of Indian banking System- Credit creation of the Commercial banks. Central bank-functions of central bank- Credit control policies of central bank. RBI- Role of RBI in India's economic development- Functions of RBI. Banking Sector reforms in India.
Unit -4. NBFCs
Concept of NBFCs- Functions of NBFCs- Role of NBFCs in economic development and financial inclusion- Distinction between banks and NBFCs.
Unit -5. Financial Markets
The Money Market-Concept of money market-Functions of money market- Composition of Indian money market-Features and defects of the Indian Money market-The money market reforms in India. The Capital Market- Concept of capital market-Functions of a capital Market-Composition of the Indian capital market-Concept, features and functions of primary market-Concept and functions of Secondary market- Capital Market Reforms in India.

References/ Suggested Readings

1. S.B Gupta: Monetary Economics: Institutions, Theory and Policy, 4th Edition, S. Chand Publishing.
2. L.M Bhole and Jitendra Mahakud: Financial Institutions and Markets - Structure, Growth & Innovations, 6th Edition, McGraw Hill.
3. M.Y Khan: Indian Financial System, 10th Edition, McGraw Hill.
4. Miskin and Eakins: Financial Markets and Institutions, 6th Edition, Pearson.
5. Cauvery, Kruparani, Sudha and Manimekalai: Monetary Economics, 1st Edition Revised, S. Chand Publishing.
6. Pathak Bharti: Indian Financial System, 5th Edition, Pearson Education India.
7. Siddhartha Sankar Saha: Indian Financial System: Financial Markets, Institutions and Services, 2nd Edition, McGraw Hill.

Semester- IV

Course Name: Macroeconomics

Course Code: BSCECOMJ401

<table>
<tr><td>Course Type: Major</td><td colspan="2">Course Details: MJC-5</td><td colspan="3">L-T-P:4-1-0</td></tr>
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<tr><td></td><td>30</td><td></td><td>70</td></tr>
</table>

Course Learning Outcomes

(After the completion of the course the students will be able to)

1. Understand about the neoclassical interpretation of the Keynesian theory and also about the complete Keynesian model of income and Employment.

2. To grasp knowledge of theories of consumption, investment and the importance of these theories in analyzing aggregate behaviour.
3.To understand theoretical aspects of demand for and supply of money.
4. To understand the concepts of and impact of inflation in an economy

Content/ Syllabus: Unit wise course content distribution

Unit -1. Consumption Function
Empirical findings regarding Consumption Function – Alternative Theories regarding its behaviour – Keynes, Smithies, Dusenbery, Friedman, Ando-Modigliani.

Unit-2. The Investment Function
The Keynesian analysis of Investment – The Marginal Efficiency of Investment, and its relation with the amount of Investment – Shortcomings of Keynesian analysis
• Net Present Value criterion and Marginal Efficiency criterion of Investment
• The Fixed Accelerator Principle of Investment – its Implications and Limitations.
• The Flexible Accelerator Principle of Investment – its Implications and Limitations, (Multiplier accelerator theory).
Unit -3. Money Market
• Three motives of holding money – Transaction, Precautionary and Speculative demand for money. the liquidity trap analysis.
• Keynesian liquidity preference theory.
• The inventory theoretic approach to transaction demand for money –Baumol and Tobin. Portfolio Balance approach.
• Supply of money – credit creation by commercial banks – money multiplier – interest sensitivity of money supply

Unit -4. Complete Keynesian System

• Commodity market equilibrium (IS) – Money market equilibrium (LM) – IS-LM equilibrium - the Aggregate Demand and Aggregate Supply.

• Introduction of the Labour Market — the interaction between Commodity Market, Money Market and Labour Market – Determination of Equilibrium – Effects of changes in Money Supply and other factors – Comparison with the Classical system –Price Flexibility – Real Balance Effect and Full Employment.

Unit -5. Theories of Inflation

• The Quantity Theory approach to Inflation
• Demand Pull Inflation and Inflationary Gap analysis; Its shortcomings
• Concepts of Cost Push & Mark Up inflation
• Consequences of inflation – Measures to control Inflation.
• The Philips Curve and the trade-off between Inflation and Unemployment – short-run and long-run Philips Curve

References/ Suggested Readings

1.Soumyen Sikdar: Principles of Macroeconomics, OUP.
2.Dornbusch, Fischer and Startz: Macroeconomics, 12th Edition. McGraw Hill Education India.
3.William H. Branson: Macroeconomic Theory and Policy, 2nd Edition, Universal Book Stall, New Delhi.
4.G, Ackley: Macroeconomic Theory. The MacMillian Company.
5.N. Gregory Mankiw and Mark P. Taylor: Macroeconomics, 4th Edition, Cengage Learning (India).
6.Richard T. Froyen: Macroeconomics Theories and Policies, 12th Edition, Pearson Education India.
7.Abel, Bernanke and Croushore: Macroeconomics, 8th Edition, Pearson.
8.Olivier Blanchard: Macroeconomics, 7th Edition, Pearson Education India.
9.R. Jha – Macroeconomics for Developing Countries (2nd edition), Routledge.
10.L, Harris: Monetary Theory: McGraw-Hill
11. M.J.C Surrey (Edited): Macroeconomic Themes: Edited Readings in Macroeconomics with Commentaries: Oxford University Press
12. R. Froyen: Macroeconomics; Theories and Policies. Pearson Education

Semester IV

Course Name: Statistical Methods-I

Course Code: BSCECOMJ402

<table>
<tr><td>Course Type: Major</td><td colspan="3">Course Details: MJC-6</td><td colspan="2">L-T-P:4-1-0</td></tr>
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<tr><td></td><td>30</td><td></td><td>70</td></tr>
</table>

Course Learning Outcomes

(After the completion of the course the students will be able to)

1. ***To understand basic knowledge of data presentation, measures of central tendency, dispersion, skewness and kurtosis.***
2. ***To grasp knowledge of correlation, simple regression analysis and Index numbers.***
3. To develop skills in the field of economic analysis and reasoning.

Content/ Syllabus: Unit wise course content distribution

Unit -1. Tabular and Diagrammatic Presentation of Data
Meaning of statistics. Statistical Data – classification and presentation – methods of collection of data – difference between variable and attributes – frequency distribution and its diagrammatic presentation – choice of class interval – diagrammatic representation of frequency distribution – frequency curve – cumulative frequency distribution (more than and less than) Ogive - (simple numerical exercise).
Unit-2. Measures of Central Tendency
Arithmetic mean, median and mode (for both grouped and ungrouped data) – comparison of mean, median and mode – geometric mean and harmonic mean (for both grouped and ungrouped data) – composite mean (average from combined data) – properties for all these measures- (simple numerical exercise).
Unit -3. Measures of Dispersion
Absolute measures – Range, mean deviation and Standard deviation and Quartile Deviation – Relative measures – curve of concentration - (simple numerical exercise)
Measurement of economic inequality: nature of distribution of income and wealth graduating from income distribution – Lorenz Curve representation of income distribution – Gini Coefficient and Lorenz Curve- (simple numerical exercise)
Moments and measures of skewness and Kurtosis: moments, skewness and kurtosis – definition – relationship between central and non-central moment – Sheppard's correction - (simple numerical exercise).
Unit -4. Correlation and Regression Analysis: Bivariate, Multiple and Partial
Scatter diagram – simple correlation coefficient and its properties, its calculation from grouped and ungrouped data, limitations of correlation coefficient. Simple regression analysis – properties of regression line – relationship between correlation coefficient and regression coefficient. Spearman's rank correlation coefficient (without tie) – Kendall's rank correlation coefficient- (simple numerical exercise).

Unit 5. Index Numbers

Purpose and uses of index number, problems of construction, different formulae for price and quantity index numbers, tests for index numbers, chain index, and cost of living index- (simple numerical exercise).

References/ Suggested Readings

1. Gun, Gupta and Dasgupta: Fundamental of Statistics: – Vol. I, 8th Edition & Vol. II 9th Edition, The World Press Private Limited.
2. S.P Gupta: Statistical Methods, 43rd Edition, S. Chand & Sons Private Limited.
3. S.C Gupta and V. K. Kapoor: Fundamentals of Mathematical Statistics, 12TH Edition, S. Chand & Sons Private Limited.
4. N. G. Das: Statistical Method (Volume I & II), 1st Edition, Tata McGraw Hill Education India.
5. Irwin Miller and Marylees Miller: John E. Freund's Mathematical Statistics with Applications, 8th Edition, Pearson.

Semester IV
Course Name: Contemporary Economic Issues
Course Code: BSCECOMN401

<table>
<tr><td>Course Type: Minor</td><td colspan="3">Course Details: MNC-4</td><td colspan="2">L-T-P:4-1-0</td></tr>
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<tr><td></td><td>30</td><td></td><td>70</td></tr>
</table>

Course Learning Outcomes:
(After the completion of the course the students will be able)

1.To gain idea about key global Economic issues and challenges in the contemporary world
2.To develop ideas about various concepts hunger and food security
3.To become aware about unemployment and poverty as challenges to economic development
4.To learn about the issues in public finance and international trade

Content/ Syllabus: Unit wise course content distribution
Unit 1: Introduction
Key Global Economic Issues and Challenges in the contemporary world - economic issues in the underdeveloped economies versus the developed nations

Unit 2: Hunger and food security
Drivers of hunger, Meaning of Food security, the four dimensions of food security, Food security in a developing country like India

Unit 3: Unemployment and Poverty
Types of unemployment in the world, Causes and consequences of unemployment
Poverty as a multi-dimensional problem, Poverty trap, Solution to overcome poverty trap, Abhijit Vinayak Banerjee's approach to poverty reduction.

Unit 4: Public Finance
Externalities and taxation policies, budget deficits and national debt
Growing challenges of external and public debt, PPP Model, Effects of Public debt

Unit 5: International Trade
Meaning of international trade, terms of trade, growing threats to global trade, Effects of unfavourable balance of payments on the country's economy, globalization, WTO.

References

- Todaro, M. P., & Smith, S. C. *Economic development*. Pearson education.
- Ray, D. (1998). *Development economics*. Princeton University Press.
- Banerjee, A. V., Benabou, R., & Mookherjee, D. (Eds.). *Understanding poverty*. Oxford University Press.
- Mithani, D. M. *Money, Banking, International Trade and Public Finance*. Vani Educational Books.
- Jhingan, M. L. (1994). *Money, Banking, International Trade & Public Finance*. Konark.
- Mishra, S. K., & Puri, V. K. Indian Economics. *Vikash Publication, New Delhi*.
- Jhingan M. L. (2017), The Economics of Development and Planning, Vrinda Publications (P) Ltd
- Karla Hoff, Samuel Bowles, Steven N. Durlauf (2011) Poverty Traps, Princeton Press

Semester IV
Course Name: Computer Application in Economics
Course Code: BSCECOSE401

<table>
<tr><td>Course Type: SE</td><td colspan="3">Course Details: SEC-3</td><td colspan="2">L-T-P:0-0-6</td></tr>
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</table>

Course Learning Outcomes

(After the completion of the course the students will be able)

1. To understand different types of data and their presentation using spreadsheet/Excel.
2. To understand how to carry out statistical analysis using Excel.
3. To do Project based on techniques taught in this paper which will be helpful to them in further research.

Content/ Syllabus: Unit wise course content distribution

Unit -1. The Nature and Sources of Data for Economic Analysis
Types of Data – Time Series, Cross Section – Basic Data Presentation; Introduction to Excel/Spreadsheet, Excel Basic, Formulas and Functions, Sort and Filter.

Unit-2. Graphical Representation of Data Sets
Pie Chart, Bar Chart, Histogram frequency Polygon, Ogive, Bivariate Scatter Diagram.

Unit-3. Using Spreadsheet / Excel for Statistical Analysis Estimation of Descriptive Statistics

Mean, Median, Mode, Standard Deviation, Simple Correlation, Regression.

References/ Suggested Readings
1.Dhanasekaran, K: Computer Application in Economics, Brinda Publication.
2.Gary Koop: Analysis of Economic Data, 4th Edition, John Wiley & Sons Ltd.
3.C R Kothari and Gaurav Garg: Research Methodology: Methods and Techniques, 4th Edition, New Age International.

Semester IV

Course Name: Sustainable Development: Issues and Challenges
Course Code: VAC-405

<table>
<tr><td>Course Type: VA</td><td colspan="3">Course Details: VAC-2</td><td colspan="2">L-T-P:4-0-0</td></tr>
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<tr><td></td><td>15</td><td></td><td>35</td></tr>
</table>

Course Learning Outcomes:
(After the completion of the course the students will be able)

1.To gain idea about economic development and the importance of sustainability in development
2.To acquire knowledge about Sustainable Development Goals
3.To become aware about the rules and framework and challenges to sustainable development
4.To learn about the strategies that exist for sustainable development

Content/ Syllabus: Unit wise course content distribution

Unit 1: Introduction
- Economic Development and Sustainability- concept of environmentalism
- Stockholm Conference 1972, development of international environmental policy, Earth Summit 1992 and the formulation of the concept of Sustainable Development
- Agenda 21 and SDGs
- Components of sustainable development, environment-economy interaction, the circular economy

Unit 2: Challenges to Sustainable Development
- Rules and framework for Sustaining Development, MDGs
- Exhaustible resources and Renewable resources, Natural resources- Natural Capital Stock, the meaning of constant capital stock
- Externality, environmental pollution as an externality, optimal level of pollution, common property resources, Coase theorem
- Trans-boundary environmental problem, Climate Change, Kyoto Protocol

Unit 3: Practices and Strategies for Sustainable Development
- Environmental standards, Taxes and Subsidies
- Pollution Charges and Abatement Costs, Marketable Pollution Permits
- Role of inclusive and participatory management in sustainable development, Sustainable practices in agricultural, industrial, rural and urban development
- Environmental Education and environmental ethics, Environmental conservation policies and Discounting for the future

References/Suggested Readings

1.Our Common Journey: A Transition Toward Sustainability. National Academy Press, Washington D.C. Soubbotina, T. P. 2004.
2.Elliott, Jennifer. 2012. An Introduction to Sustainable Development. 4th Ed. Routledge, London.
3.Rogers, Peter P., Kazi F. Jalal, and John A. Boyd. "An introduction to sustainable development." (2012).
4.Sachs, J. D. 2015. The Age of Sustainable Development. Columbia University Press, New York
5.David W. Pearce and R. Kerry Turner, (1990) Economics of Natural Resources and the Environment, Johns Hopkins University Press.

Semester- V
Course Name: Mathematical Economics-I
Course Code: BSCECOMJ501

<table>
<tr><td>Course Type: Major</td><td colspan="2">Course Details: MJC-7</td><td colspan="2">L-T-P:4-1-0</td></tr>
<tr><td rowspan="3">Credit: 5</td><td rowspan="3">Full Marks: 100</td><td colspan="2">CA Marks</td><td colspan="2">ESE Marks</td></tr>
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<tr><td></td><td>30</td><td></td><td>70</td></tr>
</table>

Course Learning Outcomes

(After the completion of the course the students will be able to)

1. To understand basic concepts, procedures and techniques of mathematical analysis.
2. To Explain how these mathematical concepts can be applied in economics.
3. To develop analytical ability to express economic ideas using mathematics techniques.

Content/ Syllabus: Unit wise course content distribution

Unit 1: Some Basic Mathematical Concepts with Economic Illustrations

- Role of Mathematics in Economics Analysis. Concepts of Variables, Constants and Parameters. The real-number system, A.P. and G.P.
- Concept of Set: Set different types. Set Operations. Cartesian Products of sets, convex sets.
- Relations and Functions. Concept of Functions: Domain and Range of functions. Constant functions, Polynomial Functions, Rational functions and non-algebraic functions. Inverse function. Functions with more than one independent variables.
- Limit and Continuity of a Function. Different Limit Theorems (without proofs)
- Concepts of first and second order derivatives, rules of differentiation. Concept of partial derivatives. Maclaurin and Taylor Series of a Polynomial Function.
- Homogeneous function: Properties of Homogeneous function. Cobb-Douglas and CES production functions. Homothetic function. Notions of concavity and convexity of functions.
- Concept of Matrix: Matrix- Different types. Matrix Operations, Determinant and Inverse of a square matrix, Solution of a system of linear equations using Cramer's rule. Application to market and national income models. Leontief Input Output Model.
- Applications in Economics: Marginal and Average functions, Utility function. Marginal Utility, Indifference curves; Demand function. various elasticities of demand; Production function: Elasticities, utility-production-cost-revenue-profit functions.

Unit 2: Optimization with and without Constraint

- Concept of optimisation. Structure of an optimisation problem: Choice variables. Objective function and the feasible Set. Solutions to optimisation problems: Local and global solutions.
- Unconstrained optimization: necessary and sufficient conditions. Case of single and more than one choice variables. Quadratic forms.
- Optimisation with equality Constraint. Lagrange Multiplier Method. Concept of Bordered Hessian Determinant.
- Application in Economics: Utility maximization problem. Income consumption curve, Derivation of demand curves.
- Concept of Duality. Indirect utility function, Roy's identity. Derivation of compensated

demand function, Shephard's Lemma, Slutsky's equation.
- Cost minimisation and Profit maximisation problem. Derivation of factor demand function for a cost-minimising firm, cost function, expansion path.

Unit 3: Linear Optimization

Linear programming Problem: General formulation of linear programming. Duality. Rules Economic interpretation of a Dual. Graphical Method of Solution of LPP. Concept of Basic solution and basic feasible solution. Simplex Method.

References/ Suggested Readings:

1. A.C. Chiang and K. Wainwright- Fundamental Methods of Mathematical Economics; 4th Edition- McGraw Hill Education
2. A. Henderson and R. Quandt – Microeconomic Theory, McGraw Hill, International Edition.
3. Hal R. Varian- Intermediate Microeconomics: A Modern Approach, fourth edition, W. Norton.
4. Taro Yamane: Mathematics for Economists, Prentice Hall of India, New Delhi (1975).
5. Badal Mukherji and V. Pandit – Mathematical Methods for Economic Analysis, Allied Publishers, Second edition.
6. Knut Sydsaeter and Peter J. Hammond: Mathematics for Economic Analysis
7. Carl Simon and Lawrence Blume: Mathematics for Economics, Norton (edition)
8. G. Archibald and R. Lipsey: An Introduction to Mathematical Treatment of Economics. AITBS
9. H. Gravelle and R. Rees- Microeconomics, Pearson.

Semester- V
Course Name: Statistical Methods-II
Course Code: BSCECOMJ502

<table>
<tr><td>Course Type: Major</td><td colspan="2">Course Details: MJC-8</td><td colspan="2">L-T-P:4-1-0</td></tr>
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<tr><td></td><td>30</td><td></td><td>70</td></tr>
</table>

Course Learning Outcomes

(After the completion of the course the students will be able to)

1. To work on time series data to extract meaningful statistics and other characteristics of the data.

2. To understand the concept of random variables and also some commonly used discrete and continuous distributions of random variables. Students will learn how to estimate population parameters based on random samples and test hypotheses about these parameters.

3. To gather knowledge of descriptive and inferential statistical concepts for the analysis of economic data.

Unit wise course content distribution

Unit -1. Time Series Analysis
Nature and decomposition of time series – analysis of trend—polynomial trend – exponential trend – non-linear growth curves – moving average method – seasonal component- (simple numerical exercise)

Unit-2. Probability Theory
Random Experiments – Mutually Exclusive, Equally Likely and Collectively Exhaustive Events – Probability: Classical and Axiomatic Definition – Complementary Event – Theorem of Total Probability – Conditional Probability – Theorem of Compound Probability – Independent Events, Bayes' Theorem.

Unit -3. Random Variables and Mathematical Expectation
Definition of random variables – probability function and distribution function– mass and density function – expectation and variance of random variables.

Unit -4. Univariate Probability Distributions
Binomial, Poisson, Normal Distributions – Mean, Variance. Moment Generating Functions**.**

Unit -5. Sampling Theory and Sampling Distributions
Population and Sample – Parameter and Statistic – Random Sampling – Practical Methods of Drawing Random samples – Random sampling Numbers – Sampling Distribution – Standard Error.
Sampling Distributions associated with Normal Population, Expectation and Standard Error of Sample Mean.

Unit -6. Estimation and Testing of Hypothesis

Desirable Properties of estimators – Unbiasedness, Minimum Variance, Efficiency, Consistency – Simple Methods of Point Estimation – Maximum Likelihood Estimators and their properties.

Null hypothesis & Alternative Hypothesis – Confidence Intervals – Testing of Hypothesis – p-value – Type-I and Type-II Errors – Simple applications of tests for the Mean and Variance of a Univariate Normal Population.

References/ Suggested Readings

1. Goon, Gupta and Dasgupta: Fundamental of Statistics: – Vol. I, 8th Edition & Vol. II 9th Edition, The World Press Private Limited.
2. S.P Gupta: Statistical Methods, 43rd Edition, S. Chand & Sons Private Limited.
3. S.C Gupta and V. K. Kapoor: Fundamentals of Mathematical Statistics, 12TH Edition, S. Chand & Sons Private Limited.
4. Sheldon Ross: A First Course in Probability, 9th Edition, Pearson Education India.
6. N. G. Das: Statistical Method (Volume I & II), 1st Edition, Tata McGraw Hill Education India.
7. Irwin Miller and Marylees Miller: John E. Freund's Mathematical Statistics with Applications, 8th Edition, Pearson.

Semester- V
Course Name: Economics of Development
Course Code: BSCECOMJ503

<table>
<tr><td>Course Type: Major</td><td colspan="3">Course Details: MJC-9</td><td colspan="2">L-T-P:4-1-0</td></tr>
<tr><td rowspan="3">Credit: 5</td><td rowspan="3">Full Marks: 100</td><td colspan="2">CA Marks</td><td colspan="2">ESE Marks</td></tr>
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<tr><td></td><td>30</td><td></td><td>70</td></tr>
</table>

Course Learning Outcomes:
(On successful completion of the course students will be able)

1.To gain a comprehensive understanding of the economics of underdevelopment
2.To analyze various theories and models explaining underdevelopment.
3.To examine the role of institutions, policies, and global factors in shaping development outcomes.
4.To integrate theoretical perspectives with practical insights

Unit 1: Economic Development and Economic Growth
- Solow Growth Model (Basic Idea)
- Characteristics of Modern Economic Growth – human resource and rise in productivity, high rate of structural transformation, urbanization, outward expansion of developed countries, international flow of factors of production and products.
- Patterns of development of LDCs in the post second world war period - Chenery's patterns of structural change.
- Marx's stages of growth and Rostow's Stages of growth – a comparison.
- Dependency theory: Theory of Paul Baran, Frank's Theory of Colonial exploitation, Theory of Unequal Exchange.

Unit 2: Dual Economy and Economic Development
- Process of development of a dual economy with unlimited supply of labour- The Lewis Model.
- Harris-Todaro's Model of Migration and Unemployment
- Fei-Ranis Theory
- Jorgenson's Neo-Classical Model of a Dual Economy

Unit 3: Balanced Growth Theory versus Unbalanced Growth Theory
- Nurkse's Theory of Balanced growth, Theory of Big Push.
- Hirschman's theory of unbalanced growth
- Comparison of the balanced and unbalanced growth approaches

Unit 4: Institutions, Development Policies and Globalization
- Role of Institutions in Economic Development
- Globalization and its Impact on Developing Economies
- IMF, IBRD
- WTO and Developing Countries

References and Suggested Readings:

1. Todaro, M.P. & Smith, S.C. (2015). *Economic Development* (12th ed.). Pearson.
2. Ray, D. (1998). *Development Economics*. Oxford University Press.
3. Meier, G.M., & Rauch, J.E. (2005). *Leading Issues in Economic Development* (8th ed.). Oxford University Press.
4. Hirschman, A.O. (1958). *The Strategy of Economic Development*. Yale University Press.
5. Lewis, W.A. (1954). *Economic Development with Unlimited Supplies of Labour*. Manchester School.
6. Thirlwall A.P., (2022), Economics of Development, Bloomsbury.
7. Kaushik Basu: Analytic Development Economics: The Less Developed Economy Revisited, 1st Edition, Oxford University Press.
8. Jhingan M. L. (2017), The Economics of Development and Planning, Vrinda Publications (P) Ltd.

Semester V
Course Name: Rural Development
Course Code: BSCECOMN501

<table>
<tr><td>Course Type: Minor</td><td colspan="3">Course Details: MNC-5</td><td colspan="2">L-T-P:4-1-0</td></tr>
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</table>

Course Learning Outcomes:
(On **successful completion of the course students will be able to)**

1. **Grasp the concept of rural development, acquire knowledge about new emerging concepts**
2. **Learn about the defining features of the rural economy in India**
3. **Become aware about the different approaches to rural development**
4. **Understand the different sources of livelihood in rural economy**
5. **Learn about unemployment and poverty, sources of credit and microfinance in the rural sector.**
6. **Appreciate the different policies and programmes for rural development in India**

Unit 1: Concepts and Approaches

- Meaning of rural development, Objectives of rural development, Need for rural development, Inter-disciplinary research in rural development
- Nature and characteristics of rural economy with reference to a developing economy like India, Causes and Consequences of rural backwardness in India.
- New Emerging Concepts – Smart villages, urban clusters and urbanity, diversification in rural development, Rural livelihood vulnerability, Social Safety Net.
- Approaches to Rural Development – Gandhian Approach, Traditional Approach, Top-down and Blue-print Approach, Community-Driven Development Approach, Decentralized and Participatory Approach, Inclusive Growth Approach and Sustainable Development.

Unit 2: Sectors of the Rural Economy

- Agriculture and the farm sector as a source of livelihood, fishery, animal husbandry, watershed development and peoples' livelihood
- Non-Farm sources of livelihoods; importance of development of non-farm sector; rural industrialization programme, problems of agro-based industries, development of MSMEs in rural areas.
- Resources and the environment: Common property resources

Unit 3: Unemployment and Poverty

- Structure of Unemployment; Disguised Unemployment; Under Employment; Seasonal Unemployment; Estimates of Unemployment; Nature and causes of unemployment in rural areas
- Rural Indebtedness, Incidence of rural poverty, Causes and Consequences of Rural Poverty

Unit 4: Rural credit and Microfinance

- Formal sources of credit, RRBs, NABARD, Land Development Banks and Cooperatives.
- Informal sources of credit: Land owners and Money lenders
- Credit for vulnerable and marginalised groups: microfinance and Self-Help Groups (SHGs), Role of NGOs and the issue of empowerment of rural women

Unit 5: Policies and Programmes for Rural Development in India

- Poverty alleviation Programmes
- Role of Panchayats

References/ Suggested Readings

1. K. Singh, 2009, Rural Development: Principles, Policies and Management, Sage Publications
2. U. M. Jha, 1995, Rural Development in India: Problems and Prospects, Anmol Publications
3. M.J. Moseley, 2003, Rural Development: Principles and Practice, Sage Publications
4. S. N. Tripathy, 2000, Rural Development, Discovery Publishing
5. Gupta. K .R. (Ed) (2003): Rural Development in India, Atlantic Publishers and Distributors, New Delhi.
6. Singh, Katar (1986): Rural Development: Principles, Policies and Management, Sage Publications, New Delhi, (Second Edition).
7. Dandekar, V.M. and N. Rath (1971): Poverty in India, GIPE, Pune
8. A Thomas William & A J Christopher (2018), Rural Development – Concept and Recent Approaches, Rawat Publicaions
9. Tahir Hussain, Mary Tahir, Riya Tahir (2018), Fundamentals of Rural Development, I.K. International Publishing House Pvt. Ltd., New Delhi.
10. Satya Sundaram, I. (1997): Rural Development, Himalaya Publishing House, Delhi
11. Tyagi, B. P. (1998): Agricultural Economics and Rural Development, Jai Prakash Math and Co., Meerut.
12. Dutt R. and K.P.M. Sundharam (Latest ed.), Indian Economy, 25, S.Chand and company, New Delhi

13.Kaustubh Jain & Sanjeev Dubey, (2015), Microfinance in India, Himalaya Publishing House

14. Krishna Sridhar (2012), Rural Credit- An Introduction, ICFAI Books

15. https://dmeo.gov.in/sites/default/files/2021-07/5_Sector_Report_Rural_Development.pdf

16. https://rural.gov.in/en/scheme-websites

Semester- VI
Course Name: International Economics
Course Code: BSCECOMJ601

<table>
<tr><td>Course Type: Major</td><td colspan="3">Course Details: MJC-10</td><td colspan="2">L-T-P:4-1-0</td></tr>
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<tr><td></td><td>30</td><td></td><td>70</td></tr>
</table>

Course Learning Outcomes:
(On successful completion of the course students will be able to)

1. Explain fundamental concepts and models in international economics, including opportunity cost, gains from trade, community indifference curves, and production possibility frontiers under different cost conditions.

2. Evaluate classical and neoclassical trade theories, including Adam Smith's absolute advantage, Ricardian comparative advantage (with extensions), and the Heckscher-Ohlin model, with reference to assumptions, outcomes, and empirical critiques like the Leontief Paradox.

3. Analyze trade equilibrium using offer curves and trade indifference curves, and assess the determinants and implications of international terms of trade and gains from trade.

4. Assess the effects of trade policy instruments such as tariffs, quotas, and trade protection measures on income distribution, terms of trade, and economic welfare in both small and large countries.

5. Demonstrate understanding of the balance of payments structure, including current and capital account components, and apply different models to analyze exchange rate regimes and BOP adjustments.

6. Apply relevant economic models, such as the Stolper-Samuelson Theorem, Rybczynski Theorem, Factor Price Equalization, and the Mundell-Fleming Model, to interpret real-world trade and macroeconomic scenarios.

Content/ Syllabus: Unit wise course content distribution

Unit 1. Introduction

- International Economics as a subject. An overview of world trade patterns. Concept of opportunity cost. Concept of gains from trade.
- Concept of Community indifference Curve; Properties of community indifference Curve
- Production Possibility Curve; Shape of Production possibility curve under different cost conditions.

Unit 2. Theories of International Trade: Classical Theory.

- Adam Smith's Theory of absolute advantage.
- Ricardian Theory of Comparative Advantage.
- Comparative advantage in case of more than two countries and more than two commodities.
- Ricardian Theory of comparative advantage in terms of Opportunity cost approach, Determination of intermediate TOT, Complete vs Incomplete specialization, Complete specialization and gains from trade.

Unit 3. Trade and Factor Endowment (Heckscher-Ohlin Theorem).

- Price and Physical definition of relative factor abundance. Heckscher-Ohlin Theorem-Assumptions- Proof of H-O theorem in terms of price and physical definition.
- Factor intensity reversal and validity of the H-O theorem.
- Stolper-Samuelson Theorem and Rybczynski theorem
- Factor Price Equalisation Theorem; Factor price equalisation with the presence of factor intensity reversals.
- Empirical verification of the H-O theorem- The Leontief Paradox.

Unit 4: Trade Indifference Curve and Offer Curve

- Necessity of Trade Indifference Curve (TIC). Derivation of TIC; Properties of TIC. Offer Curve: Properties of offer curve; Elasticity of offer curve; Elasticity of demand for imports and supply of exports. Mill's Theory of Reciprocal demand. Offer curve and international equilibrium. Terms of Trade. Stability of International Equilibrium.
- Gains from Trade: Decomposition of Gains from Trade.
- Concept and Types of Terms of Trade. Terms of Trade

Unit 5: Trade Policy Instruments and Trade Intervention

- Concept of Tariff: Different Types of Tariffs; Effects of Tariff-A Partial Equilibrium analysis. Tariff and terms of Trade.
- Tariff and Income Distribution: The Stolper Samuelson Theorem'
- Effects of Tariff: Small and large Country Case. Concept of optimum tariff. The effective rate of protection
- Quota: Equivalence of Tariff and Quota under static market condition – Tariff v/s Quota under changing Market Condition.
- Trade protection: Arguments for and against protection. A comparison between free trade policy and protective trade policy.

Unit 6: Exchange rate and the Balance of Payments

- Balance of payments: Concept. The balance of trade, the balance of current account and balance of payments
- Exchange rate determination under fixed and flexible exchange rate regime.
- Capital flows: FDI and FII. Autonomous and accommodating capital flows.
- Equilibrium and disequilibrium in the BOP;
- Measures to correct disequilibrium in the BOP: Expenditure Reducing policies and Expenditure Switching Policies.
- Mundell- Flemming Model

References:

1. Krugman, Obstfeld and Melitz: International Economics: Theory and Policy, 10th Edition, Pearson
2. Salvatore: International Economics: Trade and Finance, 11th Edition, Wiley India Pvt. Ltd.
3. Giancarlo Gandolfo: International Trade Theory and Policy with contributions by Federico Trionfetti, 2nd Edition, Springer.
4. Feenstra, R., Taylor, A. (2014). International Trade, 3rd Edition. Worth Publishers.
5. D.M Mithani: International Economics, 8th Edition, Himalaya Publishing House.
6. Soderstein and Reed: International Economics, 3rd Edition, Palgrave Macmillan.
7. H.G.Mannur, International Economics, 2nd Edition, Vikas Publishing House (P) Ltd.
8. M.L Jhingan: International Economics, 7th Edition, Vrinda Publications Pvt. Ltd

Semester- VI
Course Name: Public Finance
Course Code: BSCECOMJ602

<table>
<tr><td>Course Type: Major</td><td colspan="3">Course Details: MJC-11</td><td colspan="2">L-T-P:4-1-0</td></tr>
<tr><td rowspan="3">Credit: 5</td><td rowspan="3">Full Marks: 100</td><td colspan="2">CA Marks</td><td colspan="2">ESE Marks</td></tr>
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<tr><td></td><td>30</td><td></td><td>70</td></tr>
</table>

Course Learning Outcomes:

(After the completion of the course the students will be able to)

1. Explain the core fiscal functions of government—allocation, distribution, and stabilization—and analyze foundational concepts in welfare economics such as Pareto efficiency, social welfare, and general equilibrium.

2. Evaluate the sources of market failure, including externalities and public goods, and assess the effectiveness of corrective measures such as Pigouvian taxes, Coase theorem, and optimal public good provision.

3. Describe the structure and principles of taxation, including benefit and ability-to-pay approaches, the canons of taxation, and the concept of optimal taxation, especially in the context of developing economies.

4. Analyze the incidence and economic effects of taxation, including tax shifting under different market structures, tax elasticities, and impacts on income distribution, labor supply, savings, and the Laffer curve.

5. Examine the role of public and private actors in green finance, identify major challenges to its implementation, and assess its importance in sustainable economic development.

6. Assess the structure of India's public finances, including public debt management, fiscal deficits, intergovernmental fiscal relations, and the impact of fiscal rules such as the FRBM Act on macroeconomic stability.

Content/ Syllabus: Unit wise course content distribution

Unit1: Introduction to Public Economic Theory

- An overview of fiscal functions – allocation function, distribution function and stabilization function
- Tools of Normative Analysis: Basic Concept of General Equilibrium and Welfare Theorems. Pareto Efficiency, Equity and the Social Welfare.
- Problem of Externality, Market Solutions -Property rights and the Coase theorem. Divergence between private and social costs and benefits, Pigouvian Taxes.
- Concept of Public goods and private goods – characteristics of public goods, free riding. Market Failure in case of Pure Public Good,
- Optimal provision of Public Goods, Private Provision and Public Provision of Public Goods.

Unit2: Taxation

- Concept of Tax. Classification of taxes.
- Principles of Taxation: Benefit Principle, Ability to Pay Principle; The Principle of Maximum Social Advantage. Principle of Taxation in a developing economy.
- Concept of Tax structure, Requirements of a good tax structure. Progressive, proportional and regressive taxes.
- Cannons of taxation. Optimal Taxation.
- Shifting and incidence of taxation. A measure of tax incidence. Tax incidence under different market Structures.
- Tax elasticities.
- Effects of taxation on income distribution, work efforts, and on savings; The Laffer curve;
- Goods and Services Tax (GST) and its basic features.

Unit 3: Green Finance

- Meaning of Green Finance
- Public and Private approaches
- Challenges to Green Finance

Unit 4: Public Debt

- Concept and Types of Public Debt. Burden of Public Debt. Management of Public Debt.
- Economic Effects of Public Debt.

Unit 5: India's Public Finances

- Analysis of Budget and Deficits. FRBM Act: Objectives, Impacts and Challenges.
- Fiscal Federalism in India, Centre state financial relation

References/ Suggested Readings

1. Richard Musgrave and Peggy Musgrave: Public Finance in Theory and Practice, 5th Edition, McGraw Hill.
2. J. Hindriks, G. Myles: Intermediate Public Economics, MIT Press, 2006.
3. H. Rosen, T. Gayer: Public Finance, 9th ed., McGraw-Hill/Irwin, 2009.
4. Sampat, Amitava and Ranjanendra: Analytical Public Finance (Ricardo to Musgrave), New Central Book Agency
5. Subrata Ganguly: Public Finance A Normative Approach, 10th Edition, The World Press Pvt. Ltd.
6. S.K Singh: Public Finance in Theory & Practice, 2nd Edition, S. Chand Publishing.
7. H.L Bhatia: Public Finance, 30th Edition, Vikas Publishing House.
8. Alam, S. (2016). GST and the states: sharing tax administrations. Economic and Political Weekly, 51(31).
9. Stiglitz, J., Economics of the Public Sector, 3rd ed. W. W. Norton (2009).
10. J. F. Due and A. F. Friedlander. Government Finance- Economics of Public Sector, AITBS Publishers and Distributors, 1994
11. A Ghosh and C Ghosh. Public Finance. Prentice and Hall India Learning Private Limited, 2nd Revised Edition (2014).
12. Thompson S, Green and Sustainable Finance: Principles and Practice, Kogan Page (2021)
13. Rocca R. L. and Shlyakhtenko A., Green Infrastructure Finance: Framework Report (World Bank Study), World Bank Publications 30 June 2012
14. Chakrabarti G. and Sen C., Green Investing: The Case of India, Springer, 9 September 2014

Semester- VI
Course Name: Indian Economic History
Course Code: BSCECOMJ603

<table>
<tr><td>Course Type: Major</td><td colspan="3">Course Details: MJC-12</td><td colspan="2">L-T-P:4-1-0</td></tr>
<tr><td rowspan="3">Credit: 5</td><td rowspan="3">Full Marks: 100</td><td colspan="2">CA Marks</td><td colspan="2">ESE Marks</td></tr>
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<tr><td></td><td>30</td><td></td><td>70</td></tr>
</table>

Course Learning Outcomes:
(After the completion of the course the students will be able to)

1. Describe the structure and evolution of India's colonial economy, with emphasis on the policies of the East India Company and post-1857 British rule.

2. Analyze macroeconomic trends in colonial India, including patterns of national income, demographic changes, population growth, and their implications for poverty and development.

3. Evaluate the transformation of Indian agriculture under colonial rule, focusing on commercialization, land tenure systems, agrarian structures, famines, and institutional developments in markets and irrigation.

4. Assess the impact of colonial policies on Indian industry and infrastructure, including deindustrialization, the emergence of modern industries, the development of railways, and constraints to industrial growth.

5. Explain the role of imperial economic priorities in shaping India's economic trajectory, with a focus on the economic drain theory, foreign trade, capital flows, and fiscal policy.

6. Critically examine the long-term economic consequences of colonial rule in India, integrating historical data, theoretical perspectives, and contemporary interpretations.

Content/ Syllabus: Unit wise course content distribution

Unit -1 India: Its Colonial Structure

- Colonial Economy: A brief overview of the East India Company phase and the Post Sepoy Mutiny Phase

Unit-2 Macro Trends

- National Income: Pattern and trend during 1857-1947. Occupational distribution of Population.
- Demographic Transition, Population growth, Over Population controversy. Over population and Indian Poverty.

Unit -3. Agriculture

- An Overview of Indian Agriculture during the British Regime. Commercialisation of Agriculture. Categories of agricultural labour. Economic condition of agricultural labour.
- Agrarian structure. Land Tenure system: Zamindari, Ryotwari and Mahalwari System.
- Agricultural markets and institutions – credit, commerce and technology; Trends in performance and productivity.
- Development of Irrigation in India.
- Famines during the British rule.

Unit -4. Industry and Railways

- De-industrialization of India.
- Evolution of entrepreneurial and industrial structure; Managing Agency System
- Development of Indian Railways
- Nature of industrialization in the interwar period
- Constraints to industrial breakthrough; labour relations.
- India's Major Industries: Cotton Textiles, Jute, Iron and Steel, Sugar, Coal and Tea: Progress and Development till Independence.

Unit -5. Economy and State in the Imperial Context

- The Imperial priorities and the Indian economy;
- Economic Drain from India: Concept, extent, Constituents and Consequences.
- India's Foreign trade, capital flows and the colonial economy – changes and continuities
- India's fiscal policy during the British era.

References/ Suggested Readings

1. Lakshmi Subramanian: History of India 1707-1857, 1st Edition, Chapter-4, Orient Blackswan.
2. Tirthankar Roy: The Economic History of India 1857-1947, Oxford University Press, 3rd edition.
3. J. Krishnamurthy: Occupational Structure, Chapter-6, Dharma Kumar and Tapan Raychaudhuri (General editor), The Cambridge Economic History of India, Vol. 2: 1757-1970.
4. Irfan Habib: Indian Economy 1858-1914, A People 's History of India, Vol.28, Tulika.
5. Klein, I. (1984): When the rains failed: famine, relief, and mortality in British India. *The Indian Economic & Social History Review*, *21*(2), 185–214. https://doi.org/10.1177/001946468402100203
6. Drèze, Jean (1991): "1. Famine Prevention in India." The Political Economy of Hunger: Volume 2: Famine Prevention. : Oxford University Press, 01.

7. John Hurd: Railways, Chapter 8, pages.737-761, The Cambridge Economic History of India.
8. Rajat Ray (ed.): Entrepreneurship and Industry in India, 1994.
9. AK Bagchi: “Deindustrialization in India in the Nineteenth century: Some Theoretical Implications”- 1976, Journal of Development Studies.
10. MD Morris: Emergence of an Industrial Labour Force in India, Chapter 11, Summary and Conclusions, Oxford University Press, 1965.
11. K.N. Chaudhuri: Foreign Trade and Balance of Payments, Chapter 10, The Cambridge Economic History of India.
12. B.R. Tomlison: India and the British Empire 1880-1935, IESHR 1975, Vol.XII.
13. Dharma Kumar: The Fiscal System, Chapter 12, The Cambridge Economic History of India.
14. Basudev Chatterjee: Trade, Tariffs and Empire, Oxford University Press, 1992, Epilogue.
15. L. Visaria and P. Visaria: Population, Chapter 5, The Cambridge Economic History of India.

Semester- VI
Course Name: Mathematical Economics-II
Course Code: BSCECOMJ604

<table>
<tr><td>Course Type: Major</td><td colspan="2">Course Details: MJC-13</td><td colspan="2">L-T-P:4-1-0</td></tr>
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</table>

Course Learning Outcomes:

(After the completion of the course the students will be able)

1. To understand basics of game theory as a tool in arriving decisions in markets where the sellers have mutual interdependence.
2. To know the concept of integration and its application in Economics
3. To analyse the concept of differential and their application in the domain of Economics.
4. To understand the concept of difference equations and their application in the domain of Economics.

Content/ Syllabus: Unit wise course content distribution

Unit 1: Game Theory

- Game Theory: Definition. Dominant Strategies: The Prisoner's Dilemma. Iterated Dominance. Nash Equilibrium: The Battle of the Sexes and Pure Coordination,
- The Normal and extensive forms of a Game.
- Mixed Strategies: the Welfare Game.
- Continuous Strategies: the Cournot Game.
- Dynamic Games with Symmetric Information: Subgame Perfect Equilibrium
- Example of dynamic games: (A) game of entry (B) Repeated Oligopoly
- Brief concept of games of asymmetric information: Moral hazard and adverse selection

Unit 2: Integral Calculus

- Integration of functions: Indefinite and Definite Integrals.
- Techniques of Integration: Integration by parts and substitution
- Fundamental theory of calculus

- Economic Application of Integrals: From Marginal Functions to Total function, Investment and capital Formation, Present Value Calculation, Domar Growth Model.

Unit 3: Differential Equations and its applications

- First order linear differential equations with constant coefficient and constant term, Variable coefficient and variable term.
- Nonlinear differential equation of the first order and first degree.
- Second order linear differential equations with constant coefficient and constant term.
- Applications in Economics: Market Price Dynamics, Solow growth Model. Market Model with price expectations, Interaction between inflation and Unemployment.

Unit 4: Difference Equations and its applications

- First order linear Difference equations and its solution. Dynamic Stability of Equilibrium
- Second order linear difference equation with constant coefficient and constant term.
- Economic Applications: The Cobweb Model, Samuelson Multiplier-Acceleration Interaction model.

Reference/ Suggested Readings

1. Eric Rasmusen- Games and Information; Basil Backwell, Inc.
2. A.C. Chiang and K. Wainwright- Fundamental Methods of Mathematical Economics; 4th Edition- McGraw Hill Education
3. Hal R. Varian- Intermediate Microeconomics: A Modern Approach, fourth edition, W. Norton.
4. Taro Yamane: Mathematics for Economists, Prentice Hall of India, New Delhi (1975).
5. Badal Mukherji and V. Pandit – Mathematical Methods for Economic Analysis, Allied Publishers, Second edition.
6. Knut Sydsaeter and Peter J. Hammond: Mathematics for Economic Analysis
7. Carl Simon and Lawrence Blume: Mathematics for Economics, Norton (edition)

Semester- VI
Course Name: Summer Internship
Course Code: SI601

<table>
<tr><td>Course Type: SI</td><td colspan="3">Course Details: SIMC-I</td><td colspan="2">L-T-P:0-0-4</td></tr>
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</table>

As per the guidelines provided by the University, Internship in Economics may be conducted on the following domains

1. Field Survey on Socio Economic Issues
2. Apprentice in any media organization
3. Participating in NGO Activities
4. Working with Local Bodies (example - Panchayat and Municipalities)
5. Working with Industry or Financial Institutions
6. Internship with research institutions

Semester- VII
Course Name: Econometrics-I
(4year UG Degree with Honours & Honours with Research)
Course Code: BSCECOMJ701

Course Type: **Major**	**Course Details: MJC-14**			**L-T-P:4-1-0**	
Credit: 5	**Full Marks: 100**	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			30		**70**

Course Learning Outcomes:
(After the completion of the course the students will be able to)

1.Understand the role of econometrics in empirical economic analysis and distinguish between theoretical and empirical models.

2. Formulate and estimate linear regression models using cross-sectional and time-series data, and interpret the results meaningfully.

3. Evaluate the assumptions of the Classical Linear Regression Model (CLRM) and identify the consequences of their violations, including heteroscedasticity, autocorrelation, and multicollinearity.

4. Apply statistical techniques for hypothesis testing, including t-tests and F-tests, and compute and interpret confidence intervals.

5. Incorporate dummy variables into regression models to analyze qualitative data and learn about interaction effects

6. Use statistical software (Excel/R) to perform basic econometric analysis on real-world datasets.

Content/ Syllabus: Unit wise course content distribution

Unit I: Introduction to Econometrics

- Definition and scope of econometrics
- Economic vs. econometric models
- Types of data: Cross-sectional, Time series, Panel
- Steps in an empirical study

Unit II: The Classical Linear Regression Model (CLRM)

- Two-variable regression model
- Assumptions of the CLRM
- Estimation of parameters using Ordinary Least Squares (OLS)
- Interpretation of coefficients
- Goodness of fit: R^2 and Adjusted R^2
- Hypothesis testing: t-test and F-test
- Confidence intervals
- Three Variable regression model

Unit III: Violation of the assumptions of CLRM

- Heteroscedasticity: Causes, consequences, and detection (e.g., Breusch-Pagan test)
- Autocorrelation: Causes, consequences, and detection (e.g., Durbin-Watson test)
- Multicollinearity: Meaning, detection, and consequences
- Omitted Variable Bias and Model Specification Errors

Unit IV: Dummy Variables and Qualitative Response Models

- Use of dummy variables in regression
- Interaction effects: Intercept and Slope Dummy

Unit V: Applications and Use of Software

- Introduction to econometric software (e.g., Excel, R – demonstration only)

Suggested Readings

1. Gujarati, Porter and Gunasekar. Basic Econometrics (Fifth Ed). McGraw Hill Education (India) Private Limited.
2. Das, P. Econometrics in theory and practice. Springer,
3. Wooldridge, J. M. Introductory Econometrics: A Modern Approach 6rd ed. Cengage learning.
4. Studenmund, A. H. *Using econometrics a practical guide*. Pearson education limited.

Semester- VII
Course Name: Environmental Economics
(4year UG Degree with Honours &Honours with Research)
Course Code: BSCECOMJ702

<table>
<tr><td>Course Type: Major</td><td colspan="3">Course Details: MJC-15</td><td colspan="2">L-T-P:4-1-0</td></tr>
<tr><td rowspan="3">Credit: 5</td><td rowspan="3">Full Marks: 100</td><td colspan="2">CA Marks</td><td colspan="2">ESE Marks</td></tr>
<tr><td>Practical</td><td>Theoretical</td><td>Practical</td><td>Theoretical</td></tr>
<tr><td></td><td>30</td><td></td><td>70</td></tr>
</table>

Course Learning Outcomes:
(After the completion of the course the students will be able)

1. **To understand the core principles of Environmental Economics**
2. **To analyse the causes and implications of market failures and externalities**
3. **To evaluate and assess the effectiveness of various environmental policy instruments**
4. **To apply environmental valuation techniques and cost-benefit analysis**
5. **To examine global and local environmental challenges, focusing on sustainable development**
6. **To identify the environmental issues in India**

Content/ Syllabus: Unit wise course content distribution

Unit 1: Introduction to Environmental Economics
- Definition and scope of Environmental Economics
- Interlinkages between the economy and environment
- Basic economic concepts relevant to environmental issues

Unit 2: Market Failures and Externalities
- Pareto optimality and market failure
- Externalities: positive and negative
- Public goods and common-pool resources
- Coase theorem and property rights

Unit 3: Environmental Policy Instruments
- Pigouvian taxes and subsidies
- Tradable pollution permits
- Command and control regulations
- Voluntary agreements and eco-labeling

Unit 4: Environmental Valuation

- Non-market valuation techniques: contingent valuation, hedonic pricing, travel cost method
- Cost-benefit analysis in environmental policy
- Discounting and time preference in environmental decisions

Unit 5: Sustainable Development

- Concepts and definitions of sustainable development
- Indicators of sustainability
- Policies for sustainable resource management
- Role of institutions in promoting sustainability

Unit 6: Global Environmental Issues

- Climate change economics
- Biodiversity loss and ecosystem services
- Transboundary pollution and international agreements
- Global environmental governance

Unit 7: Environmental Issues of India

- Environmental challenges in India
- Policy responses and institutional frameworks

Suggested Readings and References:

1. Perman, R., Ma, Y., Common, M., Maddison, D., & McGilvray, J. (2011). Natural Resource and Environmental Economics (4th ed.). Pearson Education/Addison Wesley.
2. Tom Titenberg. Environmental Economics and Policy (2nd Edition).Addision-Wesley
3. Kolstad, C. D. (2010). Intermediate Environmental Economics (2nd ed.). Oxford University Press.
4. Stavins, R. N. (Ed.). (2012). Economics of the Environment: Selected Readings (6th ed.). W.W. Norton.
5. Solow, R. (1992). An Almost Practical Step toward Sustainability. Resources for the Future.
6. Arrow, K. et al. (2004). Are We Consuming Too Much? Journal of Economic Perspectives, 18(3), 147-172
7. Hanley N., Shogren J. F. and White B., (2006), Environmental Economics in Theory and Practice, Palgrave Macmillan
8. Rabindranath Bhattacharya: Environmental Economics: An Indian Perspective, Oxford University Press.
9. Pearce and Turner: Environmental and Natural Resource Economics, John Hopkins University Press, 1991
10. IPCC (Intergovernmental Panel on Climate Change), Fifth Assessment Report, 2014.

Semester VII
Course Name: Classical Political Economy
(4year UG Degree with Honours & Honours with Research)
Course Code: BSCECOMJ703

Course Type: **Major**	**Course Details: MJC-16**			**L-T-P:4-1-0**	
Credit: 5	**Full Marks: 100**	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			30		**70**

Course Learning Outcomes:
(On successful completion of the course students will be able)

1. To gain insight regarding the development of economic thoughts starting from English Classical School.
2. To understand the Marxian Methodology and Marxian theory of the Stages of Development.
3. To gain understanding about classical and Marxian Theories of Value.
4. To understand the functioning of the capitalist system from the Marxian perspective and the theories of crises.
5. To gain a perspective about the challenges posed by Neo-classical School

Content/ Syllabus: Unit wise course content distribution

Unit -1 Introduction

- Identification of Classical School of Thought. Who are the Classical Economists?
- Classical Questions.
- Chief features of the classical system.

Unit-2. Classical Theories of Value, Distribution and Growth

- Adam Smith's Theory of value and growth
- Ricardian Theory of value and distribution

Unit-3. Marxian Theory

- Historical Materialism
- Commodity fetishism
- Marxian Theory of Value
- Surplus Value. constant and variable capital
- Simple and Extended reproduction

- Circuits of capital
- Industrial reserve army
- Falling tendency of rate of profit

Unit -4. Marxian Theory of Crises

- Crisis associated with falling rate of profit
- Realisation Crisis; Disproportionality Crisis and Underconsumption crisis.
- Comparison of Marxian and Ricardian ideas of falling rate of profit.

Unit -5. Critique of Classical Theory: The Neoclassical Challenge

- Characteristics of Neoclassical Economics
- Neoclassical Theory of value and distribution

References/ Suggested Readings

1. A.K. Dasgupta: Epochs of Economic Theory, Oxford University Press.
2. Oskar Lange: Political Economy, vol. 1, Chapters 1 and 2, 1963, Elsevier Science.
3. Paul M. Sweezy: The Theory of Capitalist Development: Principles of Marxist Political Economy, Aakar Books.
4. Hunt and Lautzenheiser: History of Economic Thought: A Critical Perspective, 3rd Edition, Taylor & Francis.
5. Habib, I. (1995). Capitalism in History. Social Scientist, 23(7/9), 15–31.
6. Desai, M: Marxian Economics, Basil Blackwell, Oxford.
7. Dobb, M: Studies in the Development of Capitalism, Routledge &Kegan Paul, London.
8. Mandel, E: Marxist Economic Theory, Merlin Press, London
9. Morishima, M: Marx's Economics, C.U.P. Cambridge.

Semester VII
Course Name: Entrepreneurial Economics
(4year UG Degree with Honours & Honours with Research)
Course Code: BSCECOMJ704

Course Type: **Major**	**Course Details: MJC-17**			**L-T-P:4-1-0**	
Credit: 5	**Full Marks: 100**	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			30		**70**

Course Learning Outcomes:
(On successful completion of the course students will be able)

1. To understand the role of the entrepreneur and their interaction with the wider economy.
2. To gain knowledge about the concepts and basic characteristics of entrepreneurship, role of entrepreneurship in economic development, rural entrepreneurship,
3. To gain knowledge about project identification and selection, theories of entrepreneurship, sources of finance for new ventures and expansion strategies.
4. To gain an understanding about the position of small enterprises in the business world

Content/ Syllabus: Unit wise course content distribution

Unit -1 Concept and types of Entrepreneurs

- Concepts and basic characteristics of Entrepreneur
- Functions and types of entrepreneurs
- Entrepreneur and Manager, Entrepreneur and Intrapreneur
- Growth of Entrepreneurship in India
- Role of entrepreneurship in economic development
- Rural entrepreneurship – meaning, needs and problems
- NGOs and Rural Entrepreneurship
- Economic and non-economic factors affecting Entrepreneurial growth

Unit -2. Theories of Motivation

- Concept of Motivation
- Motivation Theories: Need Hierarchy Theory and Acquired Needs Theory.
- Factors affecting motivation.

Unit -3. Project

- Concept of Project: Project Identification and Selection.
- Project Report: Meaning, significance, Contents and Formulation of a project report.

- Planning commission's guidelines for formulation of a project report.
- Concept and methods of project appraisal.

Unit -4. Financing of Enterprise

- Sources of Finance of an enterprise
- Capital Structure
- Venture Capital
- Institutional Finance to Entrepreneurs
- Institutional support to Entrepreneurs: National small industries board; state small industries development corporation, District industries centre, industrial estates-Indian Experience

Unit -5. Expansion Strategies

Growth strategies in small business

Support infrastructure and operational environment for successful entrepreneurship

Unit -6. Position of Small Enterprises in the Business world

- Export performance of small enterprises; Constraints before export performance
- E Commerce: Meaning, Growth and evolution
- Small enterprises in E-Commerce: Prospects and Challenges. Indian Experience.

References/Suggested Readings

1. Khanka, S.S. Entrepreneurial Development, S. Chand and Company

2. Bolton, Bill and John Thompson, Entrepreneur: Talent, Temperament and Technique, Butterworth and Heinenmann

3. Szirmai, Adam, Dynamics of Socio-economic Development, CUP

4. Karmakar, K.G., Rural Credit and Self-Help Groups, Sage Publications

5. Sau, S. Rural Industrialization – Development Trajectory in India, Farma KLM

Semester VII
Course Name: Demographic Economics
(4year UG Degree with Honours & Honours with Research)
Course Code: BSCECOMN701

<table>
<tr><td>Course Type: Minor</td><td colspan="3">Course Details: MNC-6</td><td colspan="2">L-T-P:4-1-0</td></tr>
<tr><td rowspan="3">Credit: 5</td><td rowspan="3">Full Marks: 100</td><td colspan="2">CA Marks</td><td colspan="2">ESE Marks</td></tr>
<tr><td>Practical</td><td>Theoretical</td><td>Practical</td><td>Theoretical</td></tr>
<tr><td></td><td>30</td><td></td><td>70</td></tr>
</table>

Course Learning Outcomes:
(On successful completion of the course students will be able)

1. Gain a comprehensive knowledge about the meaning and scope of demographic economics.
2. Have a clear understanding about the methods of population enumeration and theories of population
3. Understand the different measures used in assessing population growth
4. Grasp the concept of migration, types of migration and urban development
5. Explore the trends in population growth, challenges to economic development and different policies

Content/ Syllabus: Unit wise course content distribution

Unit 1: Concepts and Theories

- Demographic Economics – Meaning and Scope
- Population enumeration: Meaning and Methods of population enumeration - Population Census, Vital Registration system, Sample Registration System, Large-scale Demographic Surveys, National Population Register.
- Population Theories– Malthusian Theory of Population, Theory of Demographic Transition, Demographic Dividend, trend of population growth: India and the world

Unit 2: Measures in Population Growth

- Total Fertility Ratio, indicators of fertility, Crude Birth rate, Morbidity, Life Expectancy and Mortality rate, Crude Death Rate, population explosion
- Dependency ratio, the current dependency ratio scenario in India and the world and its long-term implication

Unit 3: Migration and Urban development

- Meaning of migration, types of migration – internal migration, external migration, emigration, immigration and reverse migration
- Rural Urban Migration, Trends and causes of internal migration in India

Unit 4: Population Growth and Development

- Occupational Structure of the Population
- Population growth and challenges to economic development in third world countries.
- National Population Policy

Suggested Readings and References:

1. Rajendra Kumar Sharma, (2022), 'Demography and Population Problems'- Atlantic Publishers and Distributors (P) Ltd
2. Bhende A.A. and Tara Kanitkar (2019)- 'Principles of Population Studies'- Himalaya Publishing House, Bombay
3. J.N. Desai, M.L. Jhingan, B.K. Bhatt (2016), 'Demography', Vrinda Publications (P) Ltd.
4. Isher Judge Ahluwalia, Ravi Kanbur, P. K. Mohanty, (2014), 'Urbanisation in India: Challenges, Opportunities and the Way Forward'.
5. P. K. Majumdar (2013), 'India's Demography: Changing Demographic Scenario in India', Rawat Publications.
6. Phadke V.S. & Swapna Banerjee Guha (Ed) (2007) - 'Urbanisation, Development and Environment' – Rawat Publication, New Delhi.
7. Agarwal S.S. (1985) - 'India's Population Problem' – Tata McGraw Hill Publication, Bombay.
8. https://ncert.nic.in/textbook/pdf/iess204.pdf
9. https://censusindia.gov.in/
10. https://main.mohfw.gov.in/sites/default/files/9147562941489753121.pdf
11. https://main.mohfw.gov.in/sites/default/files/5632445632156323214.pdf
12. https://www.prb.org/wp-content/uploads/2023/11/population-bulletin-75-no1-an-introduction-to-demography.pdf

Semester VIII
(4year UG Degree with Honours)
Course Name: Econometrics-II
Course Code: BSCECOMJ801

<table>
<tr><td>Course Type: Major</td><td colspan="3">Course Details: MJC-18</td><td colspan="2">L-T-P:4-1-0</td></tr>
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<tr><td></td><td>30</td><td></td><td>70</td></tr>
</table>

Course Learning Outcomes:
On successful completion of the course students will be able to:

1. Diagnose and address violations of the Classical Linear Regression Model (CLRM) assumptions, particularly multicollinearity and autocorrelation, using appropriate econometric techniques.

2. Apply Maximum Likelihood Estimation (MLE) to model limited dependent variables, and interpret the results of Logit and Probit models in real-world economic contexts.

3. Analyze time series data by identifying trends, seasonality, and stationarity, and apply simple autoregressive models (e.g., AR(1)) for forecasting.

4. Understand the structure and advantages of panel data, and estimate and interpret models using Pooled OLS, Fixed Effects, and Random Effects frameworks.

5. Evaluate the appropriateness of different econometric models (Logit, Probit, Panel Models) in empirical research by comparing their assumptions, estimation methods, and applications.

6. Use statistical software (R) to perform applied econometric analysis, including estimation and interpretation of panel data models and binary outcome models.

Content/ Syllabus: Unit wise course content distribution

Unit I: Solution to the Problems of the violations of CLRM assumptions
- Multicollinearity
- Autocorrelation

Unit II: Limited Dependant Variable
- Maximum Likelihood Estimation
- Logistic Regression
- Logit and Probit

Unit III: Basics of Time Series
- What makes time series data different
- Understanding trends and seasonality
- Stationarity of time series data
- Simple models like AR (1)
- Basic forecasting ideas

Unit IV: Introduction to Panel Data
- Concept of Panel Data
- Simple models: Pooled OLS, Fixed Effects (FE) and Random Effects (RE)

- Usefulness of Fixed Effects and Random Effect Models
- Basic interpretation of FE and RE results

Unit V: Applications and Software Practice

Using software (using R) for Panel data analysis and Logit/Probit models

Suggested Textbooks

1. Gujarati, Porter and Gunasekar. Basic Econometrics (Fifth Ed). McGraw Hill Education (India) Private Limited.
2. Das, P. Econometrics in theory and practice. Springer
3. Wooldridge, J. M. Introductory Econometrics: A Modern Approach 6rd ed. Cengage learning.
4. Studenmund, A. H. *Using econometrics a practical guide*. Pearson education limited.
5. Shrestha, M. B., & Bhatta, G. R. (2018). Selecting appropriate methodological framework for time series data analysis. *The Journal of Finance and Data Science*, *4*(2), 71-89.

Semester VIII
(4year UG Degree with Honours)
Course Name: Financial Economics
Course Code: BSCECOMJ802

<table>
<tr><td>Course Type: Major</td><td colspan="3">Course Details: MJC-19</td><td colspan="2">L-T-P:3-1-0</td></tr>
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<tr><td></td><td>30</td><td></td><td>70</td></tr>
</table>

Course Learning Outcomes:
On successful completion of the course students will be able:

1. **to evaluate the relationship between interest rates, risk, and return by applying the concepts of Net Present Value, Yield to Maturity, and the Term Structure of Interest Rates.**

2. **to describe the structure and function of money markets and analyze the role and usage of various money market instruments in short-term financing.**

3. **to explain the functioning of the bond market, identify different types of bonds, and assess bond creditworthiness using rating systems.**

4. **to analyze how stocks are traded and valued using methods such as the Dividend Valuation Model and Price-Earnings Ratio, and interpret stock market indices.**

5. **to construct and evaluate investment portfolios using mean-variance optimization and diversification principles to identify the efficient frontier.**

6. **to apply the Capital Asset Pricing Model (CAPM) and related concepts like the Security Market Line to determine the expected return on risky assets in equilibrium**

Content/ Syllabus: Unit-wise Course Content Distribution

Unit 1: Interest Rates, Risk and Return
- Concept of Net Present Value of an asset
- Types of Credit Market Instruments: Simple Loan, Fixed Payment Loan, Coupon Bonds, Zero Coupon Bonds, Perpetuities
- Yield to Maturity
- Default Risk and Interest Rate Risk
- Demand and Supply of Asset and Equilibrium Rate of Interest
- Term Structure of Interest Rates: Expectations Theory, Liquidity Premium Theory, Market Segmentation Theory

Unit 2: Money Market

- Definition of Money Markets
- Purpose of Money Markets
- Who participates in Money Markets
- Money Market Instruments and their uses: (a) Treasury Bills, (b) Repurchase agreements (Repos) (c) Certificates of Deposits (d) Commercial Paper

Unit 3: The Bond Market

- Definition of the Bond/Capital Market
- Capital Market participants
- Bond Market Instruments: Treasury Bonds, Agency or PSU (GSE) Bonds, Corporate Bonds
- Bond Ratings

Unit 4: The Stock Market

- How stocks are traded
- Valuation of Common Stocks
- The Dividend Valuation Method
- The PE Ratio Approach
- Stock Market Indices

Unit 5: Mean-Variance Portfolio Theory

- Financial Assets with uncertain returns
- Portfolio of assets
- Mean and Variance of a Portfolio
- Diversification
- The Efficient Frontier
- Markowitz Model and minimum variance Portfolio
- Two fund and One Fund Theorems

Unit 6: The Capital Asset Pricing Model

- Market Equilibrium
- The Capital Market Line
- The Capital Asset Pricing Model
- The Security Market Line

References/ Suggested Readings

1. Frederic S Mishkin and Stanley G Eakins: Financial Markets and Institutions, Prentice Hall (7th edition, 2007)
2. Richard A Brealey, Stewart c Myers, Franklin Allen, Principles of Corporate Finance (12th Edition 2017)
3. David J Luenberger, Investment Science, Oxford University Press, 1998
4. Bodie, Z., Kane, A., & Marcus, A. J. (2021). *Investments* (12th Edition). McGraw-Hill Education.

5. Saunders, A., & Cornett, M. M. (2019). *Financial Markets and Institutions* (7th Edition). McGraw-Hill Education.
6. Khan, M. Y., & Jain, P. K. (2018). *Financial Management: Text, Problems and Cases* (8th Edition). McGraw-Hill Education (India).
7. Madura, J. (2021). *Financial Markets and Institutions* (13th Edition). Cengage Learning.
8. Fabozzi, F. J. (2021). *Bond Markets, Analysis, and Strategies* (10th Edition). Pearson.
9. Elton, E. J., Gruber, M. J., Brown, S. J., & Goetzmann, W. N. (2014). *Modern Portfolio Theory and Investment Analysis* (9th Edition). Wiley.
10. Francis, J. C., & Kim, D. (2013). *Modern Portfolio Theory: Foundations, Analysis, and New Developments* (2nd Edition). Wiley.
11. Sharpe, W. F., Alexander, G. J., & Bailey, J. V. (1999). *Investments* (6th Edition). Prentice Hall.
12. Brealey, R. A., Myers, S. C., & Allen, F. (2020). *Principles of Corporate Finance* (13th Edition). McGraw-Hill Education.

Semester VIII
(4year UG Degree with Honours)
Course Name: Agricultural Economics
Course Code: BSCECOMJ803

<table>
<tr><td>Course Type: Major</td><td colspan="3">Course Details: MJC-20</td><td colspan="2">L-T-P:3-1-0</td></tr>
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<tr><td></td><td>30</td><td></td><td>70</td></tr>
</table>

Course Learning Outcomes:
On successful completion of the course students will be able:

1.To gain idea regarding Agricultural Economics and get interested in agriculture which is the backbone of Indian economy
2.To develop ideas about various concepts like production and farm organization
3.To develop ideas about agricultural marketing and finance and agricultural policy
4.To learn about the vast unharnessed potentials in Indian agriculture

Content/ Syllabus: Unit wise course content distribution

Unit 1: Introduction

- Definition, Nature, Scope of Agricultural Economics - Role of agriculture in the process of economic development, Complementarity between agriculture and industry
- Basic concepts- subsistence farming, sustainable agriculture, cropping pattern and cropping intensity, livestock, small and marginal farmers, agricultural labourers, precision agriculture, food subsidies, food safety net, food quality, fair price shop

Unit 2: Production and Farm Organization:

- Schultz's theory on traditional agricultural- Use of Technology in agricultural production - Mellor's theory of agricultural development
- Types of farm organization- measurement of efficiency in agricultural production – Concept of Yield gap

Unit 3: Agricultural Marketing

- Meaning and characteristics of Agricultural Marketing - Marketable & Marketed surplus - Problems in Agricultural Marketing - Need for market regulation, Minimum support price and remunerative price.
- Contract farming and supply chain management- warehouse and other government agencies

Unit 4: Agricultural Finance

- Agricultural Finance – role and importance-credit widening and credit deepening – Types of financial institutions – Cooperatives, NABARD, Commercial Banks, RRBs agricultural sector lending under District Credit Plan- MFI's
- Risks and uncertainty in agriculture - insurance programmes

Unit 5: Agricultural Policy

- Problems of agricultural development in LDCs- Significance of agricultural policies in India-National Agricultural Policy
- CACP – Minimum Support Price – Agricultural Price Policy

References

1. Chakaravathi RM, 1986, Under Development and Choices in Agriculture. Heritage Publ., New Delhi.
2. Dantwala, M.L. et.al (1991), Indian Agricultural Development since Independence, Oxford & IBH, New Delhi.
3. Gardner BL & Rausser GC. 2001. Handbook of Agricultural Economics. Vol. I. Agricultural Production. Elsevier.
4. Hakkim, V. M. Abdul, Joseph E. Abhilash, Gokul A. J. Ajay and Mufeedha, K. Precision Farming: The Future of Indian Agriculture. Journal of Applied Biology & Biotechnology. 2016; 4 (06): 068-072.
5. Heady E.O. Economics of Agricultural Production and Resource Use, Prentice-Hall.
6. Lekhi R.K. & Singh J, 2015, Agricultural Economics: An Indian Perspective, Kalyani Publishers
7. Penson John B., Capps Oral, Rosson C. Parr Woodward Richard.T , 2019, Introduction to Agricultural Economics, Sixth Edition, Pearson Education
8. Purecell WD & Koontz, SR. 1999. Agricultural Futures and Options: Principles and Strategies. 2nd Ed. Prentice-Hall.
9. Reddy SS, Raghu Ram P, Neelakanta Sastry T V, Devi Bhavani, I, 2019 Agricultural Economics Second Edition, Oxford.
10. Sadhu AN, Singh Amarjit and Singh Jasbir, Fundamentals of Agricultural Economics, Himalaya Publishing House, Delhi
11. Sankayan PL. 1983. Introduction to Farm Management. Tata Mc Graw Hill.
12. Singh G, Jain TR, Trehan M, 2019, Agricultural Economics, V K Global Publications Pvt. Ltd.
13. Soni R.N. & Malhotra S., 2015, Leading issues in agricultural economics, Vishal Publishing Co.

Semester VIII
(4year UG Degree with Honours)
Course Name: Growth Economics
Course Code: BSCECOMJ804

Course Type: Major	Course Details: MJC-21			L-T-P:3-1-0	
Credit: 4	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			30		70

Course Learning Outcomes
(After completion of Course Students will be able to)

1. Define and measure economic growth, and explain its historical trends, sources, challenges, and policy implications for national and global development.

2. Explain the Harrod-Domar growth models, their assumptions, implications, and differences in explaining economic dynamics.

3. Describe the Solow Growth Model, including the role of technical progress and the concepts of conditional and unconditional convergence.

4. Analyze the AK Model of Endogenous Growth Theory, and compare it with Harrod and Solow models in terms of savings, capital accumulation, and human capital.

5. Evaluate the relationship between trade and economic growth, including key theoretical perspectives and critical arguments.

6. Compare import substitution and export promotion strategies, and assess their effectiveness in promoting long-term economic development.

Content/ Syllabus: Unit wise course content distribution

Unit 1: Introduction

Definition and measurement of economic growth - Importance and implications of economic growth for nations - Historical overview of global economic growth patterns. – Sources of Economic Growth – Pattern of Economic Growth – Challenges to Sustained Economic Growth – Policies for Promoting Economic Growth - Stylized Facts.

Unit 2. Harrod Domar and Solow Models

- Harrod Model of Growth
- The Domar Model of Growth
- Comparison between Harrod Model and Domar Model
- Solow Growth Model.
- Role of technical progress in Solow Model.
- Conditional and unconditional convergence.

Unit 3. Endogenous Growth Theory

- Introduction to Endogenous Growth Theory– AK Model
- Comparison between Harrod, Solow and AK Model – Role of Saving, Capital accumulation and Human capital in determining Economic Growth.

Unit 4. Trade and Economic Growth

- Trade as an engine of Growth: Different Perspectives and Critical Evaluation.
- Terms of trade and Economic Development; Prebisch-Singer Thesis.
- Imports substitution Vs export promotion

References/ Suggested Readings

1. Amartya Sen. Growth Economics (Edited); Penguine.
2. Ray, D. (1998). *Development Economics*. Oxford University Press.
3. Barro, Robert and Xavier Sala-i-Martin: Economic Growth, 2nd Edition, MIT Press.
4. Charles I. Jones: Introduction to Economic Growth, 2nd Edition, Viva-Norton Student Edition, Viva Books
5. Blanchard, O. and Johnson, D. Macroeconomics, 6th Edition, Chapter 10, section 10.4 onwards (pp. 217 – 221) Chapter 11, sections 11.1 – 11.3 Chapter 12, section 12.1, Pearson.
6. N. Gregory Mankiw: Macroeconomics, 7th Edition, Chapter-7, Economic Growth I: Capital Accumulation and Population Growth and Chapter-8, Economic Growth II: Technology, Empirics, and Policy, Pages 191-254, Worth Publishers.

Semester VIII
(4year UG Degree with Honours)
Course Name: Gender Economics
Course Code: BSCECOMN801

<table>
<tr><td>Course Type: Minor</td><td colspan="3">Course Details: MNC-7</td><td colspan="2">L-T-P:4-1-0</td></tr>
<tr><td rowspan="3">Credit: 5</td><td rowspan="3">Full Marks: 100</td><td colspan="2">CA Marks</td><td colspan="2">ESE Marks</td></tr>
<tr><td>Practical</td><td>Theoretical</td><td>Practical</td><td>Theoretical</td></tr>
<tr><td></td><td>30</td><td></td><td>70</td></tr>
</table>

Course Learning Outcomes
(After completion of Course Students will be able to)

1. Gain a comprehensive knowledge about the meaning and different concepts in Gender Economics
2. Have a clear understanding about gender and economic development
3. Understand the role of gender factor in the household and labour market
4. Appreciate the policies formulated for the well-being of the women

Content/ Syllabus: Unit wise course content distribution

Unit 1: Introduction:
- Meaning, subject matter and scope of Gender Economics
- Gendered division of labour, Gender Discrimination, Gender Inequality, Dimensions of Gender Inequality, Gender Gap
- Methods of Gender Analysis

Unit 2: Gender and Economic Development
- Gender Equality and Economic Development – the GAD approach
- Indices –Gender Development Index (GDI), Gender Inequality Index (GII), Gender Empowerment Measure (GEM), Global Gender Gap Index

Unit 3: Gender factor in the Household and Labour Market
- Household and role of gender in decision making- gender stereotyping and gender bias in Indian households and in the world
- Meaning of Unpaid Care Work, disproportionality in unpaid care work based on gender - Causes and Consequences of the disproportionality
- Gender Earning Gap, Causes of gender gap in the labour market

Unit 4: Policies and Women's well-being
- Financial literacy of women and women's empowerment
- Policies towards women's education, health and family planning in India

References

1. Sunil Chaudhary, 2018, Gender and Development- Concepts, Approaches and Strategies, Global Vision Publishing House
2. Joyce P. Jacobsen (1994, 3e)*The Economics of Gender, books.google.com*
3. Mukesh Eswaran 2020Why Gender Matters in Economics Princeton University Press
4. World Bank (2012). *World Development Report: Gender Equality and Development.*

5. ILO (International Labour Organization). (2018). *Care Work and Care Jobs for the Future of Decent Work.*
6. Jones Linda (edited) & Bramm Adam(edited), 2019, *Women's Economic Empowerment: Transforming Systems Through Development*, Practical Action Publishing
7. Visaria Leela & R. Ved Rajani, (2018), India's Family Planning Programme Policies, practices and challenges, Routledge India