# COURSES OF STUDIES

## M.A. (ECONOMICS), 2022-24
### Choice Based Credit System
*(Passed in the BoS meeting October 2022)*



## P.G. DEPARTMENT OF ECONOMICS
### Colleges under
### SAMBALPUR UNIVERSITY
### JYOTI VIHAR, SAMBALPUR
### ODISHA
### 768019

# MISSION

| | |
|---|---|
| **M1** | Educate society for generations by providing transformative education with deep disciplinary knowledge and concern for environment |
| **M2** | Develop problem solving, leadership and communication skill in student participants to serve the organisation of today and tomorrow |
| **M3** | Aim for the holistic development of the students by giving them value based ethical education with concern for society |
| **M4** | Foster entrepreneurial skills and mindset in the students by giving life-long learning to make the them responsible citizens |

## Programme Education Objectives

| | |
|---|---|
| **PEO1** | Understand the nature and basic concepts of **Economics.** |
| **PEO2** | Analyse the relationships among different concepts |
| **PEO3** | Perform procedures as laid down in the areas of study |
| **PEO4** | Apply the Basic Concepts learned to execute them |

## Programme Outcomes

| | |
|---|---|
| **PO-1** | **Critical Thinking:** Take informed actions after identifying the assumptions that frame our thinking and actions |
| **PO-2** | **Effective Communication:** Will be able to speak, read, write and listen clearly in person and through electronic media in English and in one Indian Language |
| **PO-3** | **Social Interaction (Interpersonal Relation):** Elicit views of others, mediate disagreements and prepared to work in team |
| **PO-4** | Entrepreneurship Capability: Demonstrate qualities to be prepared to become an entrepreneurship |
| **PO-5** | Ethics: Recognize different value systems including your own, understand the moral dimensions and accept responsibility for them |
| **PO-6** | Environment and Sustainability: Understand the issues of environmental contexts and sustainable development |
| **PO-7** | Life-Long Learning: Acquire the ability to engage in independent and life-long learning in the context of socio-technological changes |

| For P.G. ECONOMICS | | | |
|---|---|---|---|
| Semester | From the Dept credit | | credit |
| First | 20 | Entrepreneurship Development | 2 |
| Second | 20 | Inter Dept. course (IDC) or Open Elective | 3 |
| Third | 20 | Env. Studies & Disaster Management | 2 |
| Fourth (including Project of 4 credit) | 20 | | |
| Total | 80 | MOOCs one paper (in $2^{nd}$ or $3^{rd}$ Sem) | 3 |
| Total credit for 2 year course    =    90 credits | | | |
| Furthermore, the following non-credit course will be taken by the student | | | |
| 1. Yuva Sanskar | 2. N.C.C./ N.S.S./Sports/ Performing Arts/Yoga (of which one has to be opted) | | |

- In each Semester, the Department can offer either 5 papers of 4 credits(i.e.,5x4=20credits)
- The results of $1^{st}$, $2^{nd}$ and $3^{rd}$ Semester will be published on the basis of 20 credits core course only. The results of fourth and final semester results will incorporate taking into consideration 80 credits core course offered by the Department and 10 credit courses comprising (i) Env. Studies & Disaster Management (2 credit), (ii) Inter Dept. Course (IDC) or Open elective (3 credit), (iii) Entrepreneurship Development (2 credit) (iv) MOOCs (3 credit).
- The students will take one MOOCs Course according to his/her preference in consultation with HOD and submit the document in support of undertaking the MOOCs course to the respective Department.
- Students will apply in prescribed form their preference for NCC/NSS/Sports/ Performing Art/Yoga at the beginning of the session. The consolidated list of the same will be forwarded by the HODs to the office of the Chairman, PG Council. Depending upon the number of application, maximum capacity and preference, the students will be allotted one of the above non-credit courses.

1. Distribution of Marks in % for the theory Papers

| Theory Papers offered by the own Department | | Theory Paper offered by other Department | |
|---|---|---|---|
| End Term | Mid Term | End Term | Mid Term |
| 80% | 20% | 60% | 40% |
| Mid- term will consist of (10% for 2 class tests, 5% for assignment, 5% for case study in case of mid-term of 20%; 20% for 2 class tests, 10% for assignment, 10% for case study in case of mid-term of 40%) | | | |

2. Project work of $4^{th}$ Semester will be assigned to the students (jointly or individually) at the beginning of the III Semester and will be completed in the IV semester. The distribution of the work/marks will be as follows:

| Semester wise work and distribution of marks in % for Project | | | |
|---|---|---|---|
| III Semester (20%) Evaluation of Interim Report of the Project Work | | | |
| Background of the Problem (5%) | Review of Literature (5%) | Objectives (5%) | Methodology (5%) |
| IV Semester (80%) Evaluation of Final Report of the Project Work | | | |
| Project work          (50%) | | Viva          (30%) | |

3. Question Pattern and Mark Distribution of the Theory Paper
   a. For End-Term Examination of Total Marks 80 (Four Units Course)
      Q.1 Twenty Questions of 1 mark each (Questions patterns should be of MCQ, Fill in the Blanks, True/False, Definition etc.)                    (20 x 1 = 20)

      For Unit-I, Unit-II, Unit-III and Unit-IV
      Each question will be of 15 marks, and it should have alternative in each unit. The distribution of 15 marks will be decided by the paper setter.
      [Suggested patterns distribution of 15 marks are 15; 8+7; 7.5+7.5; 5+10,2+3+10, 5+5+5 etc.]
   b. For End-Term Examination of Total Marks 60 (Four Units Course)
      Q.1 Twelve Questions of 1 mark each (Questions patterns should be of MCQ, Fill in the Blanks, True/False, Definition etc.)                    (12 x 1 = 12)

      For Unit-I, Unit-II, Unit-III and Unit-IV
      Each question will be of 12 marks and there should have alternative in each unit. The distribution of 12 marks will be decided by the paper setter.
      [Suggested patterns distribution of 12 marks are 12; 8+4; 6+6; 2+3+7, 4+4+4 etc.]
4. Pass percentage
   For each paper pass percentage is 30% (Credit 4). For clearing the semester Overall Grade Point should be 4.5 (40%).

   For IDC, Environmental Studies and Disaster Management and Entrepreneurship Development Programme  the  pass percentage is 30% (Credit 4).

   For MOOC course the pass percentage is as per the programme guideline

## COURSE STRUCTURE FOR M.A. ECONOMICS (AUTONOMOUS)

| COURSE NO. | TITLE of the COURSE | End Term Marks | Internal Marks | Credit Hour |
|---|---|---|---|---|
| **First Semester** | | | | |
| ECO-411 | MICRO ECONOMIC THEORY-I | 80 | 20 | 4 |
| ECO-412 | MACRO ECONOMIC THEORY-I | 80 | 20 | 4 |
| ECO-413 | STATISTICAL METHODS | 80 | 20 | 4 |
| ECO-414 | ENVIRONMENTAL ECONOMICS | 80 | 20 | 4 |
| ECO-415 | INTERNATIONAL TRADE & FINANCE-I | 80 | 20 | 4 |
| Total Credit Hours for First Semester | | 400 | 100 | 20 |
| | | | | |
| **Second Semester** | | | | |
| ECO-421 | MICRO ECONOMIC THEORY-II | 80 | 20 | 4 |
| ECO-422 | MACRO ECONOMIC THEORY-II | 80 | 20 | 4 |
| ECO-423 | QUANTITATIVE METHODS | 80 | 20 | 4 |
| ECO-424 | INDIAN ECONOMY | 80 | 20 | 4 |
| ECO-425 | INTERNATIONAL TRADE & FINANCE-II | 80 | 20 | 4 |
| Total Credit Hours for Second Semester | | 400 | 100 | 20 |
| | | | | |
| **Third Semester** | | | | |
| ECO-511 | PUBLIC ECONOMICS-I | 80 | 20 | 4 |
| ECO-512 | GROWTH & DEVELOPMENT THEORY-I | 80 | 20 | 4 |
| ECO-513 | MATHEMATICAL ECONOMICS-I/AGRICULTURAL ECONOMICS-I | 80 | 20 | 4 |
| ECO-514 | ELEMENTARY ECONOMETRICS/ HEALTH ECONOMICS | 80 | 20 | 4 |
| ECO-515 | FINANCIAL INSTITUTIONS & MARKET /HISTORY OF MODERN ECONOMIC ANALYSIS (CONTRIBUTIONS OF NOBEL LAUREATES)/ RURAL ECONOMICS/ NEW INSTITUTIONAL ECONOMICS | 80 | 20 | 4 |
| Total Credit Hours for Third Semester | | 400 | 100 | 20 |
| | | | | |
| **Fourth Semester** | | | | |
| ECO-521 | PUBLIC ECONOMICS-II | 80 | 20 | 4 |
| ECO-522 | GROWTH & DEVELOPMENT THEORY-II | 80 | 20 | 4 |
| ECO-523 | MATHEMATICAL ECONOMICS-II/AGRICULTURAL ECONOMICS-II | 80 | 20 | 4 |
| ECO-524 | ADVANCED ECONOMETRICS/ CLIMATE CHANGE ECONOMICS/ DEMOGRAPHY | 80 | 20 | 4 |
| ECO-525 | PROJECT AND VIVA | 20+50 | 30 | 4 |
| Total Credit Hours for Fourth Semester | | 400 | 100 | 20 |
| TOTAL CREDIT HOURS OF THE COURSE | | 1600 | 400 | 80 |

| Course | Credit |
|---|---|
| Entrepreneurship Development | 2 |
| Inter Dept. course (IDC) or Open Elective | 3 |
| Env. Studies & Disaster Management | 2 |
| MOOCs one paper (in 2$^{nd}$ or 3$^{rd}$ Sem) | 3 |

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# Distribution of Marks

| AP | Assignment and Presentation | 5 Marks |
|---|---|---|
| CT-1 | Class test-1 | 5 Marks |
| CT-2 | Class test-2 | 5 Marks |
| PF | Project/Field Work | 5 marks |
| IA | INTERNAL ASSESSMENT | 20 Marks |
| EE | External Evaluation | 80 Marks |

**SEMESTER-I**

**ECO-411:    MICROECONOMIC THEORY-I**

**Course Outcomes**

| CO-1 | Remember and understand the basic concepts/Principles of **Micro Economics-I** |
|---|---|
| CO-2 | Analyse the Various Concepts to understand them through case studies |
| CO-3 | Apply the knowledge in understanding practical problems |
| CO-4 | Execute/create the Project or field assignment as per the knowledge gained in the course |

*Objective: This paper analyses the economic behaviour of individuals, firms and markets. It is mainly concerned with the objective of equipping the students in a rigorous and comprehensive manner with the various aspects of consumer behaviour and demand analysis, production theory and behaviour of costs, the theory of traditional markets and equilibrium of firm in modern non-profit maximizing framework.*

*Expected outcome: Students will know the application of Economic Theory in to practice.*

1. **Theories of demand**
   1.1 Utility, indifference curve
   1.2 Income and Substitution effects: Slutsky theorem, compensated demand curve and their applications
   1.3 Revealed Preference Theory: Revision of demand theory by Hicks: Characteristics of goods approach, Consumers' choice involving risk.

2. **Theory of Production and Cost**
   2.1 Production function- short period and long period
   2.2 law of variable proportions and returns to scale, Isoquants, Least Cost combination of inputs : Returns to factors ; Economies of scale
   2.3 Elasticity of substitution
   2.4 Euler's Theorem
   2.5 Traditional and modern theories of Costs- Empirical evidence, Derivation of Cost functions from production functions.

3. **Price and Output Determination-I**

      3.1 Perfect competition- short run and long run equilibrium of the firm and industry, price and output determination, supply curve

      3.2 Monopoly- short run and long run equilibrium, price determination, welfare aspects, monopoly control and regulation

      3.3 Monopolistic competition- general and Chamberlin approaches to equilibrium, equilibrium of the firm and the group with product differentiation and selling costs, excess capacity under monopolistic and imperfect competition, criticism of monopolistic competition.

## 4. Price and Output Determination-II

      4.1 Oligopoly- Non –collusive (Cournot, Bertrand, Edgeworth, Chamberlin, Kinked demand curve and Stackelberg's solution)

      4.2 collusive (Cartels and mergers, Price leadership and basing point price system) models

      4.3 Price and output determination under monopsony and bilateral monopoly.

### Reading List:

1. Kreps, David M. (1990) A Course in Microeconomic Theory, Princeton University Press, Princeton.
2. Koutsoyiannis, A (1979), Modern Micro Economics, Mac Millan Press, London
3. Layard, P.R.G. and A.W. Walters (1978), Mircoeconomic Theory, Mc Graw Hill, New York.
4. Varian, H (2000) Microeconomic Analysis, W.W. Norton, New York.
5. Baumol, W.J. (1982) Economic theory and Operation analysis, Prentice Hall of India, New Delhi.
6. Gree, H.A.G (1971) Consumer Theory, Penguin, Harmondsworth.
7. Hirshleifer J. and A. Glazer, (1997) Price Theory and Applications, Prentice Hall of India, New Delhi.
8. Da Costa, G.C (1980) Production, Prices and Distribution, Tata Mc Graw Hill, New Delhi.

## ECO-412:    MACRO ECONOMIC THEORY-I

## Course Outcomes

| | |
|---|---|
| CO-1 | Remember and understand the basic concepts/Principles of **Macro Economics-I** |
| CO-2 | Analyse the Various Concepts to understand them through case studies |
| CO-3 | Apply the knowledge in understanding practical problems |
| CO-4 | Execute/create the Project or field assignment as per the knowledge gained in the course |

*Objective: Macroeconomics analyses and establishes the functional relationship among the large aggregates. This paper is designed to make the students aware of the basic theoretical framework underlying in the field of macroeconomics. It also gives emphasis on the impact of different macroeconomic policies on the economy.*

*Expected outcome: After completing this course the students will be able to know the basic theoretical framework of the aggregate economy. As emphasis has been given in the theories relating to the supply of money, demand for money, inflation, business cycle, neo- classical and Keynesian synthesis, role of fiscal policy and monetary policy; the students can analyse and relate these theories to the real world situation*

**UNIT-1**     **NATIONAL INCOME AND ACCOUNTS CONSUMPTION FUNCTION**
      1.1   Circular flow of income in two, three and four sector economy
      1.2   Different forms of national income accounting- social accounting, input output accounting, flow of funds accounting and balance of payments accounting, Green Accounting.
      1.3   Keynes's psychological law of consumption- implications of the law
      1.4   Short run and long run consumption function, Empirical evidence on consumption function
      1.5   Income-consumption relationship- absolute income, relative income, life cycle and permanent income hypotheses

**UNIT-2**     **SUPPLY OF MONEY**
      2.1   Financial intermediation- a mechanistic model of bank deposit determination
      2.2   A behavioural model of money supply determination, a demand determined money supply process
      2.3   RBI approach to money supply; High powered money and money multiplier; control of money supply

**UNIT-3**     **NEO-CLASSICAL AND KEYNESIAN SYNTHESIS**
      3.1   One sector Neo-classical and Keynesian models
      3.2   The IS-LM models
      3.3   Extension of IS-LM model with Government sector
      3.4   Relative effectiveness of monetary and fiscal policies

**UNIT-4**     **EXTENSION OF IS-LM MODELS**
      4.1   Extension of IS-LM models with labour market and flexible prices
      4.2   The three sector Macro Model: Neo-classical and Keynesian
      4.3   Policy implications of the neo-classical and Keynesian synthesis

### Reading List:

1. Branson W.A. (1989), Macroeconomic Theory and Policy, Harper and Row, New York.
2. Dornbusch, R and F. Stanley (1997), Macroeconomics, McGraw Hill, Inc. New York.
3. Hall, R.E and J.B Taylor (1986), Macroeconomics, W.W. Norton, New York.
4. Jha, R. (1991), Contemporary Macroeconomic Theory and Policy, Wiley Eastern Ltd. New Delhi.
5. Levacic, R. and Rebmann, A. (1982), Macro Economics- An introduction to Keynesian –Neo-classical controversies, Macmillan, London.
6. Mankiw, N. G. (2010), Macroeconomics, Worth Publishers, 7th edition.
7. Romer, D.L. (1996), Advanced Macroeconomics, McGraw Hill Company Ltd. New York.
8. Shapiro E. (1996), Macroeconomic Analysis, Galgotia Publications, New Delhi.

**ECO-413**     **STATISTICAL METHODS**
**Course Outcomes**

| | |
|---|---|
| **CO-1** | Remember and understand the basic concepts/Principles of **Statistical Method-I** |
| **CO-2** | Analyse the Various Concepts to understand them through case studies |
| **CO-3** | Apply the knowledge in understanding practical problems |
| **CO-4** | Execute/create the Project or field assignment as per the knowledge gained in the course |

*Objective:* The objective of the paper "**STATISTICAL METHODS**" is to teach the students about various types of secondary and primary data related to economic problems and enable the students for data analysis through computer software.

*Expected outcome:* After the completion of the paper, the students are expected to know applications of statistics in economics and use of statistics through computer.

1. **AN INTRODUCTION TO STATISTICAL METHOD:**
    1.1 Measures of Central tendency,
    1.2 Measures of dispersion,
    1.3 Skewness, Moments and Kurtosis.
    1.4 Index Numbers
2. **CORRELATION AND REGRESSION ANALYSIS**
    2.1 Meaning, assumptions and limitations of simple correlation and regression analysis
    2.2 Spearman's rank correlation coefficients and their properties
    2.3 Method of least squares and the Gauss Markov Theorem; estimated variance in two variable linear model
    2.4 partial and multiple correlation and regression
3. **THEORY OF PROBABILITY**
    3.1 Classical and empirical definitions of probability; Laws of addition and multiplication; Conditional probability and concept of interdependence
    3.2 Mathematical Expectation

4. **THEORETICAL DISTRIBUTION, THEORY OF ESTIMATION AND TEST OF HYPOTHESES**
    4.1 Properties of Binomial, Poisson, and Normal distributions
    4.2 Concept of an estimator and its sampling distribution
    4.3 Desirable properties of an estimator
    4.4 Formulation of statistical hypotheses- Null and Alternative
    4.5 Type I and Type II error, Goodness of fit; Confidence intervals and levels of significance
    4.6 Hypothesis testing based on Z, t, Chi-square, F

**Reading List:**

1. Chiang A.C (1986) Fundamental methods of Mathematical Economics, Mc Graw Hill, New York.
2. Allen, R.G.D (1974) Mathematical Analysis for Economists, Macmillan Press and ELBS London.
3. Yamane, Taro (1975) Mathematics for Economists, Prentice Hall of India, New Delhi.
4. Handry A.T (1999) Operations Research, Prentice Hall of India, New Delhi
5. Baumol, W.J (1984) Economic Theory and Operational Analysis, Englewood Cliffs, New Jersey.
6. Monga, G.S (1972) Mathematics and Statistics for Economists, Vikas Publishing House, New Delhi.

**ECO-414          ENVIRONMENTAL ECONOMICS**

**Course Outcomes**

| | |
|---|---|
| **CO-1** | Remember and understand the basic concepts/Principles of **Environmental Economics** |
| **CO-2** | Analyse the Various Concepts to understand them through case studies |
| **CO-3** | Apply the knowledge in understanding practical problems |
| **CO-4** | Execute/create the Project or field assignment as per the knowledge gained in the course |

*Objectives: The objective of this course is to acquaint the students of economics the various environmental issues and to provide some insights into the application of economic theory in the design and implementation of public policy related to the management of environment.*

*Expected outcomes: The students will learn the valuation of environment, the importance of institutions for the management of environment, and issues relating to sustainable development.*

I.   **An introduction to Environmental Economics**
   1.1 Concepts: Natural resources (renewable and non-renewable), Pollutants (biodegradable and non-biodegradable), Threshold level value of pollution, Environmental Economics and Natural Resource Economics.
   1.2 Environment Economy inter-linkage,
   1.3 Economics of non-renewable resources and Hotelling model,
   1.4 Carrying capacity of renewable resource, Efficiency and sustainability issues in the management of renewable resources.
   1.5 Common pool resources and their management

II.   **Market  Failure and Solutions**

   2.1 Environmental quality as a public good, Pollution as a public bad
   2.2 The problems of environmental externalities (local, trans-boundary and global)
   2.3 Policies for Optimal Pollution: (i) Pigovian measures,  (ii) Coase' bargaining solution (iii)  Tradable Pollution Rights, (iv) Command and Control measures (v) International treaties and Conventions

III.   **Valuation of Environment**
   3.1 Meaning and the need for environmental valuation, Direct and Indirect method of valuation, Willingness to pay and willingness to accept,
   3.2 Revealed Preference method: Hedonic Price theory, Averting expenditure method, and Travel cost method
   3.3   Contingent valuation method.

IV.   **Sustainable Development**

   4.1 Limits to growth hypothesis
   4.2 Irreversibility and uncertainty issues relating to  environment
   4.3 Environment and development trade-off and the concept of sustainable development
   4.4 Sustainability Rules and Indicators of sustainable development,
   4.5 Integrated environmental and economic accounting.

   **Reading List:**

1. Kolstad, C. D (1999) *Environmental economics*, Oxford University Press, New Delhi
2. Sankar, U (Ed.) (2001) *Environmental Economics*, Oxford University Press, New Delhi
3. Hanley N (1997) *Environmental Economics in Theory and Practice*, Macmillan, London.
4. Tietenberg T. (1994) *Environmental Economics & Policy*, Harper Collins, New York.
5. Bromley D W, (ed.) (1995) *Handbook of Environmental Economics*, Blackwell, London
6. Bhattacharya, R.N. (2001) Environmental Economics an Indian Perspective, Oxford University Press, New Delhi
7. Hussen, AM (1999) Principles of Environmental Economics, Routledge, London

**ECO-415**     **INTERNATIONAL TRADE & FINANCE-I**

**Course Outcomes**

| | |
|---|---|
| **CO-1** | Remember and understand the basic concepts/Principles of **International Trade & Finance-I** |
| **CO-2** | Analyse the Various Concepts to understand them through case studies |
| **CO-3** | Apply the knowledge in understanding practical problems |
| **CO-4** | Execute/create the Project or field assignment as per the knowledge gained in the course |

**Objective:** *This course has become relatively more relevant from the policy point of view under the present waves of globalization and liberalization both in the North and in the South. It aims to provide a deep understanding about the broad principles and theories, which tend to govern the free flow of trade in goods, services and capital at the global level.*

*Expected outcome: The students will not only be acquainted with the trade theories and policies but also will be able to analyse the impact of the relevant policies on the economy.*

1. **Theories of International Trade**
   1.1 Classical Theories of trade, Opportunity costs and trade theories
   1.2 Empirical testing of theory of comparative cost.
   1.3 Heckscher-Ohlin theory, Leontieff's paradox
   1.4 Theorem of factor price equalization Gains from trade and their distribution.

2. **Trade Theories with Economies of Scale and Imperfect Competition**
   2.1 Imitation gap theory, Technological gap and Product cycle theory.
   2.2 Economies of scale and International trade
   2.3 Linder –Kravis model
   2.4 Product differentiation and intra-industry trade Krugman model and Lancaster model.

3. **Theory of interventions and Welfare implications**:
   3.1 Trade protection measures- Tariffs, Quotas and voluntary export restraints
   3.2 Tariff and rewards to the factors of production in the short, medium and long run
   3.3 Stolper-Samuelson theorem on welfare implications of tariff,
   3.4 Metzler's paradox, nominal, effective and optimum tariff

3.5 The political economy of non-tariff barriers and their implications.

**4.     The Theory of Regional Blocs**
   4.1 Forms of economic cooperation
   4.2  Reforms for the emergence of trading blocs at the global level
   4.3 Static and dynamic effects of a customs union, EU, NAFTA
   4.4 Rationale and economic progress of SAARC/SAPTA and ASEAN regions.

**Reading List:**
1.     Salvatore, D (2014) *International Economics: Trade and Finance*, Wiley Students' Edition, 11th Edition.
2.     Soderstein, Bo. And G. Reed,( 1994) *International Economics*, The Palgrave Macmillan, London, 3rd (revised) edition.
3.     Cherunilam, Francis (2017), Mc Graw Hill,  Education
4.     Carbough, R.J. (1999) *International Econ*omics, International Thomson Publishing, New York.
5.     Chacoliades, M. (1990) *International Trade : Theory and P*olicy, Mc Graw Hill, Kogakusha, Japan
6.     Acharya, Rajat ( 2013) International *Economics An Introduction to Theory and Policy*,Oxford University Press, New Delhi

**ECO-421:          MICROECONOMIC THEORY-II**

**Course Outcomes**

| CO-1 | Remember and understand the basic concepts/Principles of **Micro Economic Theory-II** |
|------|---------------------------------------------------------------------------------------|
| CO-2 | Analyse the Various Concepts to understand them through case studies |
| CO-3 | Apply the knowledge in understanding practical problems |
| CO-4 | Execute/create the Project or field assignment as per the knowledge gained in the course |

*Objective: This paper is mainly concerned with the objective of equipping the students in a rigorous and comprehensive manner with the various aspects of production theory and behaviour of costs, the theory of traditional markets and equilibrium of firm in modern non-profit maximizing framework. The paper also deals with the micro and macro theories of distribution, welfare economics, general equilibrium in closed and open systems and analysis of economic behaviour under uncertainty.*

*Expected outcome: Students will know the application of Economic Theory in to practice.*

1.  **Alternative Theories of the Firm I**
    1.1 Critical evaluation of marginal analysis
    1.2 Baumol's sales revenue maximization model
    1.3  Williamson's model of managerial discretion,
    1.4 Full cost pricing rule.

2.  **Alternative Theories of the Firm II**
    2.1 Marris model of managerial enterprises
    2.2  Bain's limit pricing theory and its recent developments including Sylos-Labinis model
    2.3  Behavioural model of the firm ; game theoretic models.

3.  **Distribution**
    3.1 Neo-classical approach- Marginal productivity theory
    3.2  Product exhaustion theorem
    3.3 Theory of distribution in imperfect product and factor markets
    3.4 determination of rent, wages, interest and profit, Ricradian, Marxian, Kalecki and Kaldor's.

4.  **Welfare Economics and Economics of information**
    4.1 Pigovian welfare economics, Pareto optimal conditions, Value judgment; Social welfare function.
    4.2 Theory of Second Best and General Equilibrium- Compensation principle; Inability to obtain optimum welfare- Imperfections, market failure, decreasing costs
    4.3  Walrasian excess demand. The Economics of information.

    **Reading List:**

1.  Kreps, David M. (1990) A Course in Microeconomic Theory, Princeton University Press, Princeton.
2.  Koutsoyiannis, A (1979), Modern Micro Economics, Mac Millan Press, London

3. Layard, P.R.G. and A.W. Walters (1978), Mircoeconomic Theory, Mc Graw Hill, New York.
4. Varian, H (2000) Microeconomic Analysis, W.W. Norton, New York.
5. Baumol, W.J. (1982) Economic theory and Operation analysis, Prentice Hall of India, New Delhi.
6. Gree, H.A.G (1971) Consumer Theory, Penguin, Harmondsworth.
7. Hirshleifer J. and A. Glazer, (1997) Price Theory and Applications, Prentice Hall of India, New Delhi.
8. Da Costa, G.C (1980) Production, Prices and Distribution, Tata Mc Graw Hill, New Delhi.

**ECO-422:             MACROECONOMIC THEORY-II**

**Course Outcomes**

| | |
|---|---|
| **CO-1** | Remember and understand the basic concepts/Principles of **Macro Economic Theory-II** |
| **CO-2** | Analyse the Various Concepts to understand them through case studies |
| **CO-3** | Apply the knowledge in understanding practical problems |
| **CO-4** | Execute/create the Project or field assignment as per the knowledge gained in the course |

*Objective: Macroeconomics analyses and establishes the functional relationship among the large aggregates. This paper is designed to make the students aware of the basic theoretical framework underlying in the field of macroeconomics. It also gives emphasis on the impact of different macroeconomic policies on the economy.*

*Expected outcome: After completing this course the students will be able to know the basic theoretical framework of the aggregate economy. As emphasis has been given in the theories relating to the supply of money, demand for money, inflation, business cycle, neo- classical and Keynesian synthesis, role of fiscal policy and monetary policy; the students can analyse and relate these theories to the real world situation*

1. **POST KEYNESIAN APPROACHES TO DEMAND FOR MONEY**
   1.1 Regressive expectation model
   1.2 Portfolio balance approach
   1.3 Patinkin and the real balance effect
   1.4 Friedman and the modern quantity theory
   1.5 Crisis in Keynesian economics and the revival of monetarism.

2. **MACROECONOMICS IN AN OPEN ECONOMY**
   2.1 Income determination in an open economy
   2.2 Internal and external equilibrium-The Mundell-Fleming Keynesian model
   2.3 Foreign trade multiplier

3. **THEORY OF INFLATION**
   3.1 Keynesian and Monetarist approaches to inflation
   3.2 Structuralists' theory of inflation
   3.3 Phillips curve analysis- Short run and long run Phillips curve
   3.4 Samuelson and Solow- the Natural rate of unemployment hypothesis
   3.5 Tobin's modified Phillip's curve
   3.6 Adaptive expectations and rational expectations

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## 4. BUSINESS CYCLES AND THE NEW CLASSICAL CRITIQUE OF KEYNESIAN MICRO FOUNDATIONS

4.1 Meaning and features of Business Cycle

4.2 Theories of Business cycle: Schumpeter, Kaldor, Samuelson and Hicks, Goodwin

4.3 Control of business cycles- relative efficiency of monetary and fiscal policies

4.5 The new classical approach

4.6 Policy implications of new classical approach

4.7 New Keynesian Counter critics

### Reading List:

1. Branson W.A. (1989), Macroeconomic Theory and Policy, Harper and Row, New York.
2. Dornbusch, R and F. Stanley (1997), Macroeconomics, McGraw Hill, Inc. New York.
3. Hall, R.E and J.B Taylor (1986), Macroeconomics, W.W. Norton, New York.
4. Jha, R. (1991), Contemporary Macroeconomic Theory and Policy, Wiley Eastern Ltd. New Delhi.
5. Levacic, R. and Rebmann, A. (1982), Macro Economics- An introduction to Keynesian –Neo-classical controversies, Macmillan, London.
6. Mankiw, N. G. (2010), Macroeconomics, Worth Publishers, 7th edition.
7. Romer, D.L. (1996), Advanced Macroeconomics, McGraw Hill Company Ltd. New York.
8. Shapiro E. (1996), Macroeconomic Analysis, Galgotia Publications, New Delhi.

**ECO-423:** **QUANTITATIVE METHODS**

*Objective: The main objective of this paper is to train the students to use the techniques of mathematical and statistical analysis which are commonly applied to understand and analyse economic concepts. Economics being an empirical science, computers have emerged as the pivotal instruments of economic analysis, research and forecasting.*

*Expected outcome: This paper can develop the mathematical, statistical and computer skills of the students which they can apply to economics for better understanding of the subject matter.*

**Course Outcomes**

| CO-1 | Remember and understand the basic concepts/Principles of **quantitative methods for Economics** |
|------|-----------------------------------------------------------------------------|
| CO-2 | Analyse the Various Concepts to understand them through case studies |
| CO-3 | Apply the knowledge in understanding practical problems |
| CO-4 | Execute/create the Project or field assignment as per the knowledge gained in the course |

### 1. CALCULUS

1.1 Concepts of function, Limit and Continuity

1.2 Differentiation: rules of differentiation

1.3 Functions of several variables: partial derivatives, differentials, total differentials, second and higher order differentials, total derivative, implicit functions, Euler's theorem

2. **MAXIMA AND MINIMA OF FUNCTIONS, CONCEPT OF INTEGRATION**
    2.1  Maxima and minima in single and multivariable functions
    2.2  Simple rules of integration.
    2.3  Application of derivatives and integration in Economics

3. **DIFFERENCE EQUATIONS, DIFFERENTIAL EQUATIONS**

    3.1  Solution of non-linear differential equation and linear differential equation
    3.2  Solution of first order and second order difference equations
    3.3  Economic applications of Difference and Differential equations

4. **MATRIX ALGEBRA**

    4.1  Concept of Matrix- their types, simple operations on matrices
    4.2  Determinants and their basic properties
    4.3  Solution of Simultaneous equations through Crammers rule
    4.4  Matrix inversion and rank of a matrix, Concept of vector- its properties; Matrices and vectors, Concept of Quadratic forms- Eigen roots and Eigen vectors

**Reading List:**

1. Chiang A.C. (1986), Fundamental methods of Mathematical Economics, McGraw Hill, New York.
2. Allen, R.G.D. (1974), Mathematical Analysis for Economists, Macmillan Press and ELBS London.
3. Yamane, Taro (1975), Mathematics for Economists, Prentice Hall of India, New Delhi.
4. K. Sydsaeter and P. Hammond (2002), *Mathematics for Economic Analysis*, Pearson Educational Asia: Delhi.

**ECO-424:**                     **INDIAN ECONOMY**

**Course Outcomes**

| | |
|---|---|
| **CO-1** | Remember and understand the basic concepts/Principles of **Indian Economy** |
| **CO-2** | Analyse the Various Concepts to understand them through case studies |
| **CO-3** | Apply the knowledge in understanding practical problems |
| **CO-4** | Execute/create the Project or field assignment as per the knowledge gained in the course |

*The objective of the paper "**Indian Economy**" is to teach the students about different economic issues such as agriculture, industry, privitisation and parallel economy etc empirically.*

***Expected outcome**: After completions of the course, the students are expected to important economic issues of Indian economy.*

**1: Development and Planning** –
  1.1: Approaches to economic development
  1.2: goal of self-reliance based on import substitution and protection,

15

1.3: the post-1991 globalisation strategies based on stabilization and structural adjustment packages: fiscal reforms, financial sector reforms and trade reforms,

1.4: NITI Ayog: role & functions.

2. **Poverty, Inequality and Unemployment :**

2.1:Estimates of poverty  measures for India: appraisal of Government measures, Global Hunger Index

2.2: Estimates of inequality, regional imbalances and regional disparity in India

2.3: Employment, unemployment and underemployment, industrial relations and labour welfare— strategies for employment generation—Urban labour market and informal sector employment.

3. **Sectoral Growth:**

3.1 Agriculture- Economic Liberalisation and Indian Agriculture.

3.2 Strategy of industrial development— Industrial Policy Reform; Reservation Policy relating to small scale industries. Competition policy, Sources of industrial finances. Bank, share market, insurance companies, pension funds, non-banking sources and foreign direct investment, role of foreign capital for direct investment and portfolio investment, Public sector reform, privatisation and disinvestment.

3.3 Service sector- Indian experience of Services-led growth – Services growth- Output, Employment and Exports – Understanding 'Services Revolution' in India.

4. **Current Economic Issues in India:**

4.1Current issues as highlighted in latest Economic Survey,

4.2 Union Budget, other contemporary issues on Indian economy having important ramifications,

4.3 Infrastructure Development in India: energy, transport, health, education

**Reading List:**

1. Ahluwalia I.J. and I.M.D Littles (Eds.) (1999) India's Economic Reforms and Development , Oxford University Press, New Delhi
2. Bardhan, P.K. (1999) The Political Economy of Development in Inda, Oxford University Press, New Delhi.
3. Bawa R.S and P.S. Raikhy (Ed.) (1997) Structural Changes in Indian Economy, Guru Nanak Dev University Press, Amritsar.
4. Chakravarty, S. (1987) Development Planning: The Indian Experience, Oxford University Press, New Delhi.
5. Dantwala, M.L. (1996) Dilemmas of Growth : The Indian Experinece, Sage Publications, New Delhi.
6. Jalan, A.K. (1986) Economic Planning in Inda, Ashish Publishing House, New Delhi
7. Jalan, B. (1992) India's Economic Policy- Preparing for the Twenty First Century, Viking New Delhi.
8. Sen R.K. and B. Chatterjee (2001) Indian Economy: Agenda for 21st Century, Deep and Deep Publications, New Delhi.
9. Byres T.J. (Ed.) (1997) The State, Development Planning and Liberalization in India, Oxford University Press, New delhi.
10. Dhameeja, N. and K.S. sastry (1998) Privatisation: Theory and Practice, A.H. Wheeler, New Delhi
11. Recent Economic Survey.
12. Gupta, S.P (1998) Post-Reform India: Emerging trends, Allied Publishers, New Delhi.
13. Srinivasan, T.N. (Ed) (2000) Eight Lectures on India's Economic Reforms, Oxford University Press, Oxford.

**ECO-425          INTERNATIONAL TRADE & FINANCE-II**

**Course Outcomes**

| | |
|---|---|
| **CO-1** | Remember and understand the basic concepts/Principles of **International Trade & Finance-II** |
| **CO-2** | Analyse the Various Concepts to understand them through case studies |
| **CO-3** | Apply the knowledge in understanding practical problems |
| **CO-4** | Execute/create the Project or field assignment as per the knowledge gained in the course |

**Objective:** *This course has become relatively more relevant from the policy point of view under the present waves of globalization and liberalization both in the North and in the South. It aims to provide a deep understanding about the foreign exchange market, Balance of Payments, regionalism and multilateralism in trade and finance and trade policies of India.*

*Expected outcome: The students will not only be acquainted with the concepts, theories and policy interventions relating to exchange rate, BOP, regionalism but also will be able to analyse the impact of the relevant policies and external shocks on the economy.*

1.  **Foreign exchange Market**
    1.1 Demand and supply of foreign exchange
    1.2 Marshall-Lerner Stability condition, Spot and forward rate, Fixed vs Flexible exchange rate
    1.3 Mint parity theory, Purchasing power parity Theory
    1.4 Monetary approach to balance of payments and exchange rate
    1.5 Asset market model and exchange rate, exchange rate over shooting.

2.  **Balance of payments**
    2.1 Meaning and components of balance of payments ; Equilibrium and dis-equilibrium in the balance of payments ; The process of adjustment in BOP under systems of gold standard
    2.2 Devaluation and its effectiveness- Elasticity and Absorption approach
    2.3 Expenditure-reducing and expenditure switching policies and direct controls of adjustment; policies for achieving internal and external equilibrium simultaneously under alternative exchange rate regimes
    2.4 Foreign trade multiplier with and without foreign repercussions.

3.  **International Monetary Systems**
    3.1 Gold Standard; Rules and operation, failure of the gold standard
    3.2 The Bretton Woods System; Evolution and collapse of the Bretton Woods System the Rise and fall of Bretton-woods system
    3.3 International reserves; meaning, need, determinants and adequacy and international reserves;
    3.4 International crises; East Asian crisis, Global financial crisis, Euro zone crisis,
    Current Operation of IMF, International trade and GATT/WTO and UNCTAD.

## 4. Trade policies in India

4.1 Trade problems and trade policies in India during the last five decade; Recent changes in the direction and composition of trade and their implications; rationale and impact of trade reforms since 1991 on balance of payments

4.2 Problems of India's international debt

4.3 Working and regulations of MNC in India

4.4 Instruments of export promotion and recent import and export policies and the agenda for future.

### Reading List:

1. Salvatore, D (2014) *International Economics: Trade and Finance*, Wiley Students' Edition, 11th Edition.
2. Soderstein, Bo. And G. Reed,( 1994) *International Economics*, The Palgrave Macmillan, London, 3rd (revised) edition.
3. Cherunilam, Francis (2017), Mc Graw Hill, Education
4. Carbough, R.J. (1999) *International Econ*omics, International Thomson Publishing, New York.
5. Chacoliades, M. (1990) *International Trade : Theory and P*olicy, Mc Graw Hill, Kogakusha, Japan
6. Acharya, Rajat ( 2013) International *Economics An Introduction to Theory and Policy*,Oxford University Press, New Delhi

**SEMESTER-III**

**ECO-511:** **PUBLIC ECONOMICS-I**

**Course Outcomes**

| | |
|---|---|
| **CO-1** | Remember and understand the basic concepts/Principles of **Public Economics-I** |
| **CO-2** | Analyse the Various Concepts to understand them through case studies |
| **CO-3** | Apply the knowledge in understanding practical problems |
| **CO-4** | Execute/create the Project or field assignment as per the knowledge gained in the course |

*Objective: Role and functions of the Government in an economy have been changing with the passage of time. This paper covers the theoretical aspects of Public Economics and Public Finance.*

*Expected outcome: Students will know the application of Public Economics and its application to facts.*

1. **Functions of Government**
   1.1 Role and Functions of Govt.: Allocation, Distribution and Stabilisation
   1.2 Functions of Govt. Private goods, Public goods, Club good.
   1.3 Externalities and Merit Goods. Allocation of resources, provision of public goods.

2. **Public expenditure**
   2.1 Wagner's law of increasing state activities ; Wiseman-Peacock hypothesis
   2.2 Voluntary Exchange models, Pure theory of public expenditure
   2.3 Reforms in expenditure budgeting : Programme budgeting and zero base budgeting.

3. **Taxation**
   3.1 Benefit and ability to pay approaches, Theory of optimal taxation
   3.2 Theory of incidence ; Alternative concepts of incidence- Allocative and equity aspects of individual taxes
   3.3 Excess burden of taxes, Trade-off between equity and efficiency
   3.4 Theory of measurement of dead weight losses ; The problem of double taxation.

4. **Public choice and Budget Determination**
   4.1 Voting systems: majority rule, plurality rule, point voting,
   4.2 Median Voter model, Arrow Impossibility theorem. Down's Theory of Democracy.
   4.3 Politico-eco-bureaucracy; rent seeking and directly unproductive profit seeking (DUP) activities.

   **Reading List:**

1. Atkinson, A.B. and J.E. Siglitz (1980) Lectures on Public Economics, Tata McGraw Hill, New York
2. Auerbach, A.J. and M. Feldstern (Eds) (1985) Handbook of Public Economics, Vol.I, North Holland, Amsterdam.
3. Jha, R (1998) Modern Public Economics, Routledge, London

4. Musgrave, R.A. (1959) The Theory of Public Finance, McGraw Hill, Kogakhusa, Tokyo
5. Shoup, C.S (1970) Public Finance, Aldine, Chicago
6. Peacock. A and G.K. Shaw (1976) The Economic Theory of Fiscal Policy, George Allen and Unwin, London.
7. American Economic Association (1955) Readings in Fiscal Policy, George Allen and Unwin, London.

**ECO-512**                         **GROWTH & DEVELOPMENT-I**

**Course Outcomes**

| CO-1 | Remember and understand the basic concepts/Principles of **Growth & Development-I** |
|------|-------------|
| CO-2 | Analyse the Various Concepts to understand them through case studies |
| CO-3 | Apply the knowledge in understanding practical problems |
| CO-4 | Execute/create the Project or field assignment as per the knowledge gained in the course |

*Objective: The study of economic development has gained importance because of sustained interest of the developing countries in uplifting their economic conditions by restructuring their economies to acquire greater diversity, efficiency and equity in consonance with their priorities. There have been many approaches to economic development and the objective of the paper is to make the students understand the various approaches to economic development and growth.*

*Expected outcome: Modules incorporated in this paper are devoted to the theories of growth and development, institutional aspects of development, role of international trade, investment criteria, social cost benefit analysis, relevance of planning in the context of development. After completing this course the students will be able to know the different aspects of economic development and can use these things in their future research as well as in qualifying the various national level tests.*

1. **Theories of development**:
   1.1 Classical theory of development, contributions of Adam Smith, Ricardo, Malthus, Karl Marx
   1.2 Capitalist crisis- Schumpeter and capitalistic development; Innovation- role of credit, profit and degeneration of capitalism, Structural analysis of development.
   1.3 Rostow's stages of Economic growth.

2. **Approaches to development:**
   2.1 Partial theories of growth and development, vicious circle of poverty, circular causation, unlimited supply of labour,
   2.2  Big push, balanced growth, unbalanced growth
   2.3 Critical minimum effort thesis, low income equilibrium trap.

3. **Economic Growth-I**:
   3.1 Growth models- Harrod and Domar, instability of equilibrium
   3.2 Neo-classical growth models- Solow model,
   3.3 Technological progress- embodied and disembodies technical progress, Exogenous and endogenous technical progress,

**Economic Growth-II:**
    4.1 A-K Model of Growth
    4.2 Cambridge criticism of Neo-classical analysis of growth, The Capital controversy-general ideas,
    4.3 Kaldor's growth model,

### Reading List:

1. H.G. Jones (1976), "An Introduction to Modern Theories of Economic Growth"
2. Charles I Jones (2013), "Introduction to Economic Growth"
3. Ghatak, S (1986) An Introduction to development Economics, Allen and Unwin, London
4. Higgins,B. (1959) Economic Development, WW Norton, New York.
5. Meier G.M.(1986) Leading Issues in Economic Development, Oxford University Press, New York
6. Basu, Kaushik (2000) Analytical Development Economics: The less developed Economy Revisited, Oxford University Press, India.
7. Ray Debraj (2000) Development Economics, Oxford University Press, India.
8. Chenery H and T.N. Srinivasan (Eds) (1989) Handbook of Development Economics, Vols. 1&2, Elsevier, Amsterdem.
9. Todaro, M.P (1996) Economic Development, Longman, London
10. Thirlwal, A.P (1999) Growth and Development, Macmillan, UK.
11. Hayami, Y. (1997) Development Economics, Oxford University Press, New York
12. Sen, A.K. (Ed) (1990) Growth Economics, Penguin, Harmondsworth

**ECO-513**                 **MATHEMATICAL ECONOMICS-I**
**Course Outcomes**

| CO-1 | Remember and understand the basic concepts/Principles of **Mathematical Economics-I** |
|------|------|
| CO-2 | Analyse the Various Concepts to understand them through case studies |
| CO-3 | Apply the knowledge in understanding practical problems |
| CO-4 | Execute/create the Project or field assignment as per the knowledge gained in the course |

*Objective:* *A student of economics can make much headway in understanding the subject with basic mathematical logic. Mathematical economics has been accordingly designed to include various mathematical techniques/ methods/ models related to the different parts of economic theory. This course is designed to equip students to understand the micro economic concepts and theories which use mathematical tools and techniques to refine the verbal logic.*

*Expected outcome*: *Students will know the integration of Mathematics and Economic Theory.*

1. **Theory of Consumer Behaviour**
   1.1 Cardinal and ordinal utility maximization; Slutsky equation, compensated demand functions, income, substitution and price effects
   1.2 Concept of elasticities- generalizations to n variable case. Separate and additive utility functions; homogeneous and homothetic utility functions
   1.3 constant elasticity of substitution (CES) and transcendental logarithmic utility functions ; duality theorem
   1.4 consumers surplus ; Theory of revealed preference and index numbers ; Linear expenditure systems.

## 2. Theory of production

    2.1 Production function- homogeneous and non-homogeneous, Properties of production function; CES, VEX and trans-log production function.

    2.2 Simple derivation of short run and long run cost functions ; Modern approach to theory of costs; Cost function, constrained optimization of a producer ; Generalisation to n variable case ;

    2.3 Input demand functions ;

    2.4 Adding up theorem, Technical progress through production function.

## 3. Price determination in various markets

    3.1 Price determination in perfect competition,

    3.2 monopoly, monopolistic competition, duopoly,

    3.3 oligopoly, and monopsony

    3.4 Pricing of factors of production; Bilateral monopoly.

## 4. Market equilibrium

    4.1 Marshallian and Walrasian equilibrium conditions, lagged market equilibrium

    4.2 Multi-market equilibrium- general equilibrium

    4.3 systems of Walras and Debreau ; Conditions of stability for equilibrium.

### Reading List:

1. Allen RGD (1974) Mathematical Analysis for Economists, Macmillan Press and ELBS, London.
2. Chiang, A.C (1986), Fundamental Methods of Mathematical Economics, Mac Graw Hill, New York.
3. Henderson & Quandt, Micro Economic Theory, A mathematical approach, Mac Gaw Hill, New Delhi.
4. Allen, RHD, (1976) Mathematical Economics, Macmillan, London
5. Arrow K.J., and M. Intrilligator, (Eds) (1982), handbook of Mathematical Economics, Volumes, I, II, III, North Holland, Amsterdam.
6. Hadley, G (1962) Linear Programming, Addison Wesley Publishing Co., Massachusetts.

<div align="center">OR</div>

**ECO-513**     **AGRICULTURAL ECONOMICS-I**
**Course Outcomes**

| | |
|---|---|
| **CO-1** | Remember and understand the basic concepts/Principles of **Agricultural Economics-I** |
| **CO-2** | Analyse the Various Concepts to understand them through case studies |
| **CO-3** | Apply the knowledge in understanding practical problems |
| **CO-4** | Execute/create the Project or field assignment as per the knowledge gained in the course |

**Objective:** *The objective of this course is to provide a detailed treatment of issues in agricultural economics to those intending to specialise in this area.*

**Expected outcome:** *It will familiarise students with the policy issues that are relevant to Indian agricultural economics and enable them to analyse these issues.*

1. **Agriculture and Economic Development-**

1.1 Nature and scope of agricultural and rural economics; Traditional agriculture and its modernization; Role of agriculture in economic development ;

1.2 Models of interaction between agriculture and the rest of the economy (Schultz Model, Lewis Model, Fei- Ranis Model, Jorgenson's Model, Mellor's Theory);

2. **Agricultural production and productivity-**
   2.1 Agricultural production- Resource use and efficiency; production function analysis in agriculture, factor combination and resource substitution
   2.2 Cost and supply curves; Size of firm and laws of returns. Theoretical and empirical findings
   2.3 Farm budgeting and cost concepts; Supply response of individual crops and aggregate supply, Resource use efficiency in traditional agriculture; Technical change.

3. **Land reforms and land policy-**
   3.1 principles of land utilization: Land distribution- Structure and trends: land values and rent
   3.2 Land tenures and farming systems- Peasant, capitalist, collective and state farming, Tenancy and crop sharing- Forms, incidence and effects
   3.3 Land reforms measures and performance.

4. **Rural labour market** –
   4.1 Rural labour supply, interlocking of factor markets; Mobility of labour and segmentation in labour market;
   4.2 Marginalization of rural labour; nature, extent and trends in rural unemployment; labour absorption and gender issues in agricultural services.
   4.3 Agricultural wages in India; male-female wage differences, Non-agricultural rural employment- Trends and determinants.

**Reading List:**

1. Bhaduri A. (1984) The Economic Structure of Backward Agriculture, Macmillan, Delhi
2. Bilgrami SAR, (1996) Agricultural economics, Himalaya Publishing House, Delhi
3. Gulati , A & T. Kelly (1999), Trade Liberalisation and Indian Agriculture, Oxford University Press, New Delhi.
4. Rudra A. (1982), Indian Agricultural Economics: Myths and Reality, Allied Publishers, New Delhi.
5. Bardhan P. (1984) Land, Labour and Rural Poverty, Oxford University Press, New Delhi.
6. Soni, R.N (1995) Leading issues in Agricultural Economics, Arihant Press, Jalandhar.
7. Dantwala M.L, (1996) Dilemmas of Growth: the Indian Experience, sage Publications, New Delhi.
8. Vaidyanathan, A (1995) The Indian economy : Crisis, response and Prospects, Orient Longmans, New Delhi
9. Bhalla G. S (1994) Economic Liberalisation and Indian Agriculture, Institute for Studies in Industrial development, New Delhi.

**ECO-514**                **ELEMETARY ECONOMETRICS**

**Course Outcomes**

| | |
|---|---|
| **CO-1** | Remember and understand the basic concepts/Principles of **Econometrics** |
| **CO-2** | Analyse the Various Concepts to understand them through case studies |
| **CO-3** | Apply the knowledge in understanding practical problems |
| **CO-4** | Execute/create the Project or field assignment as per the knowledge gained in the course |

*Objective: Econometrics is mainly concerned with the empirical verification of economic theory. It requires a reasonable understanding of economic relationships and relevant statistical methods. Thus, the econometric theory becomes a powerful tool for understanding of applied economic relationships and for meaningful research in economics. This paper is devoted to equip the students with basic as well as advanced theory of econometrics and relevant applications of the methods.*

*Expected outcome: The topics covered in the course include various problems faced in estimation of both single equations and simultaneous equations models. The course also covers various econometric methods applicable to different topics in economics and those needed for applied economic research. Students are expected to know the basic concepts and applications of econometrics, adding rigour to the understanding of economic problems*

1. **BASIC ECONOMTERICS**
   1.1 Nature, meaning and scope of econometrics
   1.2 Simple and general linear regression model- Assumptions, Estimation (through OLS approach) and properties of estimators
   1.3 Gauss Markov theorem
   1.4 Concepts and derivation of $R^2$ and Adjusted $R^2$

2. **GENERALISED LEAST SQUARES (GLS)**
   2.1 Generalised Least Square estimation (GLS)
   2.2 Functional Forms of Regression models: The log-linear model, Semi-log model, Reciprocal model and the logarithmic reciprocal model

3. **PROBLEMS OF REGRESSION ANALYSIS**
   3.1 Heteroscedasticity: nature, test, consequences and remedial steps of problems of heteroscedasticity
   3.2 Multicollinearity: problem, types, causes, consequences, detection and remedial measures
   3.3 Autocorrelation: problem, causes, AR scheme, consequences, detection and remedies

4. **REGRESSIONS WITH QUALITATIVE INDEPENDENT VARIABLES AND DUMMY DEPENDENT VARIABLES**
   4.1 Dummy variable technique
   4.2 Testing structural stability of regression models comparing to regressions,
   4.3 Interaction effects, seasonal analysis
   4.4 Piece-wise linear regression
   4.5 The LPM Model

4.6     The Logit Model
4.6     The Probit Model

**Reading List:**
1. Jhonston J. (1991), Econometric Methods , McGraw Hill Book Co. London
2. Asteriou Dimitrious, (2006), Applied Econometrics, Palgrave Macmillan, New York
3. Gujrati D.N. (1995), Basic Econometrics, (2nd edition) McGraw Hill, New Delhi
4. Kmenta, J. (1977), Elements of Econometrics, (reprint edition) University of Michigan Press, New York.
5. Koutsoyiannis A. (1977), Theory of Econometrics (2nd ed.) The Macmillan Press Ltd. London.
6. Madalla G.S. (1997), Econometrics, McGraw Hill, New York.
7. Intrilligator, M.D. (1978), Econometric Methods, Techniques and Applications, Prentice Hall, Englewood Cliffs, New Jersey.
8. Pindyck, Robert S. and Daniel L. Rubinfeld,(1976), Econometric Models and Economic Forecasts, International Student edition, McGraw-Hill

OR

**ECO-514**                    **HEALTH ECONOMICS**
**Course Outcomes**

| CO-1 | Remember and understand the basic concepts/Principles of **Health Economics** |
|------|-------------------------------------------------------------------------------|
| CO-2 | Analyse the Various Concepts to understand them through case studies |
| CO-3 | Apply the knowledge in understanding practical problems |
| CO-4 | Execute/create the Project or field assignment as per the knowledge gained in the course |

Objectives: The main aim of the paper is to enable a student to teach basic economic issues and aspects of health economics and to know about health cost, efficiency and health care system.

*Expected outcome: After completions of the course, the students are expected to estimate the* health cost, efficiency and health care system.

1: **Introduction to Health Economics**
   1.1  Definition and Dimensions of Health – Morbidity – Mortality and Life Expectancy
   1.2  Occupational Health Hazards; Determinants of Health –Mal-Nutrition
   1.3   Demand for Health Services, Health Indicators and their Correlation with the Level of Economic Development. Infant Mortality Rate, MMR BMI, CMR, TFR.
2 : **Economic Evaluation of Health**
   2.1 Need for Economic Evaluation – Theoretical bases of Economic Evaluation. Practical steps in Economic Evaluation
   2.2 Cost Analysis (CA) – Cost Benefit Analysis (CBA) – Cost Effective Analysis (CEA) and Cost Utility Analysis (CUA)
   2.3 Issues in the Measurement of Costs– Hospital cost inflation; Measuring Benefits in Economic Evaluation – Valuing of Health Outputs.
3:  **Health Care Markets**
   3.1   Contracting – Transaction Cost – Health Sector contracting. Laissez-faire approach to healthcare industry,
   3.2 Market Structures – Imperfect Competition – Provider Competition in Health Care – Monopoly – Oligopoly and Contestability; Main Problems in the Market for Health Care
   3.3 Demand-Side Considerations: Demand for Health and Health Care, Market for Health Insurance.

3.4 Supply-Side Considerations: Managed Care, Health Care Professionals, Hospital Services, Confounding Factors Hospital and Health provider Behaviour and Motivation – Profit Maximization

**4: India's Health Care System**

    4.1 Health Care System – Public and Private Health Systems; Health Care Delivery in India

    4.2 Health Care Financing – Trends in Public Expenditure; Social Security schemes.

    4.3 Health Sector Reforms: NFHS; Indian National Health Policy, NRHM. Public Policy in Medical Care: Policies to Enhance Access, Policies to Contain Costs, Medical Care Systems Worldwide

    4.4 Role of WHO; Health Policy of India

**References**

1. Alistari McGuire, John Henderson and Gavin Money (1998) Economics of Health Care: An Introductory Text, Routledge and Kegan Paul, New York.
2. Culyer, A.J. and J.P. Newhouse(eds), *Handbook of Health Economics*, Amrestdam, North-Holland Publishers.
3. David Daren (1975) National Health Insurance: Benefits, Costs and Consequences, Brookings Institutions.
4. James W. Henderson(2005)*, Health Economics and Policy*; Thomson-South-Western.
5. Pearce D and P Dasgupta (1982) Social Benefit Cost Analysis, Macmilan, London.
6. Pranay G. Lal and Byword (2005), *Report of The National Commission on Macroeconomics and Health***.** Ministry of Health & Family Welfare. Government of India, New Delhi
7. Sachs Jeffrey and Brundtland Gro Harlem (2001), *Macroeconomics and Health: Investing in Health for Economic Development, Geneva,* Geneva, The World Health Organization (WHO).
8. William Jack (1999) Principles of Health Economics for Developing countries, WBI
9. Development Studies, The World Bank, Washington, D.C.
10. World Bank (2002) David H. Peters, et. al. Better Health Systems for India's Poor:Findings, Analysis and Options, Human Development Network, Health, Nutrition and Population Series (The World Bank, Washington.

| ECO-515 | FINANCIAL INSTITUTIONS & MARKETS |
|---------|----------------------------------|

**Course Outcomes**

| CO-1 | Remember and understand the basic concepts/Principles of **Financial Institutions and Market** |
|------|--------------------------------------------------------------------------------------------------|
| CO-2 | Analyse the Various Concepts to understand them through case studies |
| CO-3 | Apply the knowledge in understanding practical problems |
| CO-4 | Execute/create the Project or field assignment as per the knowledge gained in the course |

***Objective:*** *The present course is designed to acquaint the students the theory and practice of different financial institutions, financial assets, and markets. It is also aimed at to acquaint them with the Government policies and, the role of financial sector over time.*

***Expected outcome****: After completing this course the students will be well conversant with the important concepts relating to finance, will understand and be able to analyse the interconnection between the monetary forces and real forces, their developmental role and limitations in shaping and influencing the monetary and related policies both at the national and international levels.*

1. **Introduction to Financial system**
   1.1 Meaning and structure of the financial system
   1.2 Important Concepts: Money and Finance; Money and near money; Equities and debt; Annuity and Perpetuity, Money market and capital market; Primary and secondary market; Primary and secondary securities.
   1.3 Financial system and Economic development.
   1.4 Returns in Financial market: Expected rate of return, required rate of return, current return and yield to maturity
   1.5 Risks : Types; Portfolio risk; risk-return trade-off
   1.6: Valuation of Securities
   1.7 Indicators of financial development
2. **Banks, and Non-bank Financial Intermediaries**
   2.1 Role of commercial banks, Need for the regulation of the banking sector, efficiency of banks, NPA, Risk management in Banks
   2.2 Development banks- role and functions,
   2.3 Important Non-banking financial Institutions: Mutual Funds, Insurance Companies, Credit rating institutions, Merchant Banks, Venture Capital Fund

3. **Financial Markets in India**
   3.1 Money market: Call money market, Treasury bill market, Commercial bill market including commercial paper and certificate of deposits
   3.2 Bond Market: Bond features, Government security market and corporate bond market
   3.3 Stock Market in India: IPO, Stock Exchanges, Stock market indices
   3.4 Derivative market: Types of derivatives, Pricing of Future, Options and Swaps
   3.5 Foreign exchange market: Structure and type

4. **Regulatory Financial Institutions**
   4.1 Need for Financial Regulation: Maintaining Systemic Stability, Protecting the interest of the retail customers
   4.2 Sources of Financial instability: Credit market (Banking and Non-Banking Sector), Financial market, External Sector and Payment System; RBI's policy responses; RBI's Supervision and prudential measures for financial stability.
   4.2 SEBI- Objectives and roles in capital market development and regulation,
   4.3 IRDA- Objectives and Functions.

**Reading List:**

1. L. M. Bhole and J. Mahukud, *Financial Institutions and Markets,* Tata McGraw Hill, 5th edition, 2011.
2. Prasanna Chandra, *Financial Management, Theory and Practice,* Tata McGraw Hill, 6th edition, 2006.
3. John C., Hull, *Options, Futures and Other Derivatives*, Pearson Education, 6th edition, 2005.
4. Dominick Salvatore, *International Economics: Trade and Finance*, John Wiley International Student Edition, 10th edition, 2011
5. Edminister, R.O, *Financial Institutions, markets and Management*, Mc Graw Hill, New York.1986.
6. R.I Robonson, and D. Wrightman, *Financial Markets*, Mc Graw Hill, London.1981.
7. Speeches and Memorial Lectures from RBI websites

**OR**

## ECO-515    HISTORY OF MODERN ECONOMIC ANALYSIS (Contribution of Nobel laureates in Economics)-I

**Course Outcomes**

| | |
|---|---|
| **CO-1** | Remember and understand the basic concepts/Principles of **History of Modern Economic Analysis(Contribution of Nobel laureates in Economics)** |
| **CO-2** | Analyse the Various Concepts to understand them through case studies |
| **CO-3** | Apply the knowledge in understanding practical problems |
| **CO-4** | Execute/create the Project or field assignment as per the knowledge gained in the course |

*Objective : The present course is designed to teach the students about the Theory of value, General Equilibrium, games theory; Macroeconomics, Monetary Economics and Financial Economics; Economic Development and Economic Growth based on the contributions of different Nobel Laureates.*

*Expected outcome: After completing this course the students expected to know the recent development on theory of value, welfare economics, macro economics and economic development..*

**UNIT-I: Growth and   Development**
1.1 **G. Myrdal**, "Circular cumulative causation and problem of development
1.2  **Simon Kuznets** :  Economic Growth and inequality
1.3  **Robert. M. Solow**: A contribution to the theory of Economic Growth
1.4 **Paul Romer**: integration of technological innovations into long-run macroeconomic analysis"

**UNIT-II: welfare Economics**
**2.1 K.J Arrow**, The choice of a Social welfare function and the Impossibility Theorem
**2.2 Amartya Sen**: The impossibility of a Paretian Liberal and capability approach
**2.3 A. Deaton:** Analysis of consumption, poverty and welfare
**2.4 A. Banerjee:** Experimental approach to alleviating global poverty

**UNIT-III: Markets with asymmetric information**
**3.1 G**. **Akerlof:** the market for Lemons
**3.2 J.E. Stiglitz:** The theory of Moral hazard
**3.3 M. Spence:** Job market signalling
**3.4 P. Diamond & D Mortensen**: Markets with search costs

**UNIT-IV: Public Choice and New Institutional Economics**
**4.1 J.M. Buchanan,** public-choice theory
**4.2 D.C. North**,: Institutions, institutional change and economic performance
**4.3 M. Olson:**  The logic of collective action and the theory of groups
**4.4 E. Ostrom:**  Governing the commons

**Reading List**
1-  "An American Dilemma: The Negro Problem and Modern Democracy". Gunnar Myrdal (1944) New York harper and brother
2-  Gunnar Myrdal's theory of cumulative causation revisited  by Nanako Fujita  (2004) economic research center

3- Kuznets, S, (1955) Economic Growth and Income Inequality. The American Economic Review,45,     pp. 1 -28

4- Aadil Ahmad Gannie (1956) Kuznets Inverted U Hypothesis of Income Inequality: Looking Inside the Available Economic     Literature. Journal of Poverty, Investment  and Development, vol. 9, (2015)

5- A Contribution to the Theory of Economic Growth. Robert M. Solow  The Quarterly Journal of Economics, Vol. 70, No. 1, pp. 65-94

6- Romar P.M. (1986), "Increasing Returns & Long run growth", Journal of Political economy, vol. 94, No.5, pp. 1002 -1037.

7- Romar P.M. (1990) "Endogenous Technical Change",  Journal of Political Economy, vol. 98, No. 5, pp. s71-s102.

8- K.J. Arrow 1951 (1963), "Social Choice and Individual Values", New York Wiley, 2nd Ed, 1963.

9- Arrow's Theorem, Standford Encyclopaedia of Philosophy, Palto Standford Education.

10- Sen. A (1970) "The Impossibility of a Paretian Liberal" Journal of Political Economy, Vol-78, No-1 pp.152 -157, University of Chicago.

11- Sen. A (1985) "Commodities and Capabilities" North Holland.

12- A. Sen (1989) "Development as Capability Expansion", Journal of development Planning Vol-19, pp. 41 -58.

13- The Capability Approach, Vol-14, 2011 Dec-2020 Plato Standford Education.

14- A. Deaton (2003), "Health, Inequality and Economic Development", Journal of Economic Literature, Vol-41 No-1, pp.-113-158.

15- Price Index, Inequality and Measurement of World Poverty, American Economic Research, Vol-100, No-1, pp. 5-34, 2010.

16- Deaton. A and J. Muellbauer (1986) "On measuring Child Cost with application to poor countries" Journal of Political Economy, Vol-94, No-4, pp. 720-744.

17- Banerjee. A and Esther Duflo (2007) "The Economic Life of Poors", Journal of Economic Prospectus, Vol-21, No-1, pp. 141-167.

18- Banerjee. A and Esther Duflo (2009) "The Experimental Approach to Development Economy", Annual Review of Economics, Vol-1, pp.151-178.

19- Banerjee. A and Esther Duflo (2011) "Poor Economics-A Critical Rethinking of the way to fight global poverty" New York Publication.

20- G.A. Akerlof (1970) " The Market for Lemmon" Quality Uncertainty and the Market Mechanism , The Quarterly Journal of Economy, Vol.84, No.3,pp.488-500, Oxford University Press.

21- R.J. Arnatt and J.E. Stiglitz(1988) The basis analysis of moral Hazard ,The Scandinavian journal of Economy vol.90, no.3, pp.383-413

22- Spence M (1973) "Job Market Signalling" Quarterly Journal of Economy

23- Diamond P(1981) Mobility cost Frictional Unemployment and efficiency Journal of Political Economy,vol.89, pp.798-813

24- Mortensen. D (1970 b) Job Search the Duration of Unemployment and The Phillips curve American Economic Research, vol.60,pp.847-862

25- What is Public Choice theory (2003) economic educational bulletin , vol. XLIII,No.5

26- Douglas C North (1991) The Journal of Economic Perspective, vol.5, No.1, pp.97-112.

27- Institutional and Economic Growth and Historical Introduction World Development (1989), vol.17, No.9, pp.1319-1332.

28- M Olson (1965) The Logic of Collective Action, Harvard University press.

29- E Ostrom (1990) Governing the Commons, Cambridge University Press.
   General References to the entire chapter – https://www.nobelprize.0rg

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**ECO-515**                         **RURAL ECONOMICS**

**Course Outcomes**

| | |
|---|---|
| **CO-1** | Remember and understand the basic concepts/Principles of **Rural Economics** |
| **CO-2** | Analyse the Various Concepts to understand them through case studies |
| **CO-3** | Apply the knowledge in understanding practical problems |
| **CO-4** | Execute/create the Project or field assignment as per the knowledge gained in the course |

*Objective*: *The main objective of this paper is to acquaint fundamental issues and concepts of rural economy and development. The paper also enlightens the student to understand rural economy under standard theoretical framework and analyse market failure, challenges of rural economy as well as government intervention. Further, the students will be able to critically analyse rural economy policies on labour markets, education & natural resources.*

*Expected outcome*: *After completing this course the students expected to know fundamental issues and concepts of rural economy and development.*

**1: Rural Economy and Theories of Rural Development**
1.1 Rural economy, Human resource scarcity, Need for developing physical and human resources.
1.2 The dependency theory of Underdevelopment; Mydrals; theory of spread and back wash effect; trickle-down theory
1.2 Harris-Todaro Model, Jorgenson Model, Lewis Model and Fei-Ranis Model
**2:  Rural Development Policies & Strategies**
 2.1 Rural Poverty and Poverty alleviation programmes; Regional Development Programs
 2.2 Rural Literacy, causes for Low Literacy Rate, Remedial measures to increase the literacy in rural area.
 2.3 Dimensions of Rural unemployment and under employment, Policies to increase rural employment.
**3:  Rural Markets and Rural Marketing System**
3.1 Rural Markets and rural marketing system, Types, functions and market place, trade and origins. Strategic Issues (product and pricing) in Rural Marketing, Marketing of Rural Products.
3.2 Rural Markets in India – Periodic markets and rural development; development of rural markets and rural marketing system, Marketing policies

3.3 Rural Marketing revolution- the increasing importance of rural markets and role of corporate sector. Strategies for the development of Rural Markets.
**4: Rural Finance and Budget:**
4.1 SGSY as micro enterprise programme; Salient features of SHG, Bank Linkage and schemes,
4.2 Role of NABARD in rural development.
4.3 Budgetary Allocation, Role of Public Sector in rural development, Public Private Partnerships in Rural development.

**Reference Books**
30

1. Karla Hoff, Avishay Braverman, and Joseph E. Stiglitz, ed.,
2. Economics of Rural Organization: Theory, Practice and Policy, World Bank Book
3. Thomas N. Carver, Principles of Rural Economics, Ginn Publication
4. Periodic Markets and rural development in India Concept – Wanamali Sudhir
5. Market Distribution Systems – Gormsen Edrdmann
6. Rural Marketing – T.P Gopal Swamy
7. Rural Marketing – Rajgopal

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**OR**

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**ECO-515**           **NEW INSTITUTIONAL ECONOMICS**

**Course Outcomes**

| | |
|---|---|
| **CO-1** | Remember and understand the basic concepts/Principles of **New Institutional Economics** |
| **CO-2** | Analyse the Various Concepts to understand them through case studies |
| **CO-3** | Apply the knowledge in understanding practical problems |
| **CO-4** | Execute/create the Project or field assignment as per the knowledge gained in the course |

*Objective*: *The main objective of this paper is to acquaint fundamental theories, issues, and concepts of new institutional Economics.*

*Expected outcome*: *After completing this course the students expected to know the concepts, theories and policy interventions put forward.*

**1:  Introduction to New Institutional Economics**
1.1 New Institutional Economics as a departure from Walrasian Economics, Methodological Individualism, Formal vs. Informal institutions
1.2 Core issues in New Institutional Economics: property rights, transaction costs, contracts, Path Dependency
1.3 Anarchy vs. State, Prisoner's dilemma, economic theory of State, Democracy, Dictatorship and Development.
**2: Property Rights Issues**
 2.1 Concepts of Property Rights, Problems of ill-defined Property rights,
 2.2 Externalities and Market failure, Coase Theorem and its Problems,
 2.3 Common Property Resources, Tragedy of Commons, Ostrom's approach of governing the commons,
 2.4 Analytics of the institutions of informal cooperation; Trust, beliefs, Norms, Culture, Assurance game, chicken game and Collective Action.
**3: Firm as an Institution**
3.1 Ronald Coase and the Nature of the Firm,
3.2 Williamson's transaction costs approach, Bounded Rationality and opportunism, asset specificity and uncertainty,
3.3 A cognitive map of contract, Governance costs and economic organization, The vertical integration of production
**4: Political Institutions**
 4.1 Median voter model, Down's theory of democracy, Special interest group,
 4.2 Rent seeking, Full-Rent dissipation theorem, role of institutions in checking Rent-seeking behaviour,

4.3 Niskanen's Theory of Bureaucracy, Role of committee in monitoring Bureau size, Bureaucracy and the size of government.

## READING LIST

1. Neelakandan, S. (1992). *New Institutional Economics and Agrarian Change - A primer.* Indian Economic Association Trust for Research and Development, New Delhi.

2. Furburton, E. G. and Richter, R. (1998)*. Institutions & Economic Theory: The Contribution of the New Institutional Economics*. University of Michigan Press, Second edition.

3. Eggertson, Thrainn. (1990). *Economic Behaviour and Institutions: Principles of New Institutional Economics.* Cambridge University Press.

4. Měnard, C. and Shirley, M. M. (ed.) (2008). *Hand book of New Institutional Economics.* Springer.

5. North, D. C. (2004). *Institutions, Institutional Change and Economic Performance*. Cambridge University Press.

6. Williamson, O. E. (2000). "The New Institutional Economics: Taking Stock, Looking Ahead," *Journal of Economic Literature.* 38(3). pp. 595-613

7. Coase, R. H. (1937). "The Nature of the Firm". *Economica.* 4 (16). pp. 386–405.

8. Coase, R. H. (1960). "The Problem of Social Cost". *Journal of Law and Economics.* 3 (1). pp. 1–44.

9. Bardhan P. (1993). "Analytics of the Institutions of informal co-operation in Rural Development". *World Development.* vol.21, No.4; P: 633-639

10. Hardin R. (1997). *Economic theories of the state In perspectives an public choice*. (ed.) by D.C.Mueller. chapter 2. Cambridge university press

11. Downs, A. (1957). *An Economic theory of Democracy.* Harper & Row, New York.

12. Olson, M. (1993). "Dictatorship, Democracy and Development". *The American Political Science Review.* vol. 87, Issue 3; pp. 567-76.

13. Williamson, O. E. (1985). *The Economic Institutions of Capitalism.* Macmillan, New York.

14. Miller, G.J. and Moe, T.M. (1983). "Bureaucrats, Legislators and the size of Government". *American Political Science Review.* 77; pp. 297-322.

15. Tullock, G. (1967). "The welfare cost of Tariffs, Monopolies and Theft". *Western Economic Journal.* 5; pp. 224-32.

16. Tullock, G. (1980). "Efficient Rent-seeking" in Buchanan, J.M., Tollison, R.D. and Tullock, G. (ed.). *Towards a Theory of Rent-seeking Society.* Texas; A & M University Press. pp. 16-36.

17. Krueger, A. O. (1974). "The Political Economy of the Rent-seeking Society". *American Economic Review.* 64. pp. 291-303.

18. Niskanen, W. A. Jr. (1968). "Non-market Decision Making, The Peculiar Economics of Bureaucracy". *American Economic Review.* 58. pp. 293-305

19. Niskanen, W. A. Jr. (1975). "Bureaucrats and Politicians". *Journal of Law and Economics.* Dec. No.18. pp. 617-43

20. Furubotn, E.G. and Pejovich, S. (1972). "Property Rights and Economic Theory: A survey of Recent literature". *Journal of Economic Literature.* Vol.10, No.4

21. Ostrom, E. (1990). *Governing the commons; The Evolution of Institutions for Collective Action.* Cambridge University Press.

22. Buchanan, J. and Tullock, G. (1962). *The Calculus of Consent*. University of Michigan Press.

23. Cheung, S. N. (1983). "The contractual Nature of Firm". *Journal of Law and Economics*. Volume XXVI.

24. Hardin. G. (1968). "The Tragedy of the Commons". *Science*. 162. pp. 1243-48.

25. Mueller, Dennis. C. (1989). *Public Choice II: A Revised Edition of Public Choice.* Cambridge University Press, 2nd edition.

**ECO-521**          **PUBLIC ECONOMICS-II**

*Objective: Role and functions of the Government in an economy have been changing with the passage of time. There are vast array of fiscal institutions — tax systems, expenditure programmes, budgetary procedures, stabilization instruments, debt issues, levels of government, etc., which raise a spectrum of issues arising from the operation of these institutions This paper combines a thorough understanding of fiscal institutions with a careful analysis of the issues which underline budgetary policies in general and Indian experience in particular.*

*Expected outcome: Students will know the application of Public Economics and its application to facts.*

**Course Outcomes**

| | |
|---|---|
| **CO-1** | Remember and understand the basic concepts/Principles of **Public Economics-II** |
| **CO-2** | Analyse the Various Concepts to understand them through case studies |
| **CO-3** | Apply the knowledge in understanding practical problems |
| **CO-4** | Execute/create the Project or field assignment as per the knowledge gained in the course |

1. **Public debt**
   1.1 Classical view of public debt ; Compensatory aspect of debt policy ; Burden of public debt ; Sources of public debt ; Debt through created money
   1.2 Public borrowings and price level ; Crowding out of private investment and activity ; Principles of debt management and repayment.
2. **Fiscal policy**
   2.1 Budgetary deficits (Primary deficit, Revenue deficit and fiscal deficit) and their implications,
   2.2 Fiscal multipliers (tax multiplier, expenditure multiplier, Budget multiplier).
   2.3 Fiscal policy for stabilization- automatic vs. discretionary stabilization, Fiscal policy for economic growth, and equity.

3. **Fiscal federalism**
   3.1 Principles of multi-unit finance; Vertical and horizontal imbalances ; Assignment of function and sources of revenue
   3.2 Fiscal federalism in India: Constitutional provisions ; Finance commission and Planning commission/NITI Aayog
   3.3 Devolution of resources and grants: Resource transfer from union to states- Criteria for transfer of resources ; Centre- state financial relations in India
   3.4 Problems state's resources and indebtedness ; Transfer of resources from Union and States to local bodies.

4. **Indian Public Finances**
   4.1 Revenues of the Union, States and local bodies ; Major taxes in India, base of taxes
   4.2 Direct and Indirect taxes, taxation of agriculture, reforms in direct and indirect taxes, Goods and Service Tax (GST), Non-tax revenue of centre, States and local bodies,
   4.3 Reports of Finance commissions in India, analysis of central government budgets for the last two years.
   4.4 Trends in public expenditure and public debt of India.

**Reading List:**

1. Atkinson, A.B. and J.E. Siglitz (1980) Lectures on Public Economics, Tata McGraw Hill, New York
2. Auerbach, A.J. and M. Feldstern (Eds) (1985) Handbook of Public Economics, Vol.I, North Holland, Amsterdam.
3. Jha, R (1998) Modern Public Economics, Routledge, London
4. Musgrave, R.A. (1959) The Theory of Public Finance, McGraw Hill, Kogakhusa, Tokyo
5. Shoup, C.S (1970) Public Finance, Aldine, Chicago
6. Peacock . A and G.K. shaw (1976) The Economic Theory of Fiscal Policy, George Allen and Unwin, London.
7. American Economic Association (1955) Readings in Fiscal Policy, George Allen and Unwin, London.

## ECO-522        GROWTH & DEVELOPMENT-II

**Course Outcomes**

| | |
|---|---|
| **CO-1** | Remember and understand the basic concepts/Principles of **Growth & Development-II** |
| **CO-2** | Analyse the Various Concepts to understand them through case studies |
| **CO-3** | Apply the knowledge in understanding practical problems |
| **CO-4** | Execute/create the Project or field assignment as per the knowledge gained in the course |

*Objective: The study of economic development has gained importance because of sustained interest of the developing countries in uplifting their economic conditions by restructuring their economies to acquire greater diversity, efficiency and equity in consonance with their priorities. There have been many approaches to economic development and the objective of the paper is to make the students understand the various approaches to economic development and growth.*

*Expected outcome: Modules incorporated in this paper are devoted to the theories of growth and development, institutional aspects of development, role of international trade, investment criteria, social cost benefit analysis, relevance of planning in the context of development. After completing this course the students will be able to know the different aspects of economic development and can use these things in their future research as well as in qualifying the various national level tests.*

1. **Sectoral aspects of development**-
   1.1 Role of agriculture in economic development; Efficiency and productivity in agriculture,
   1.2 New technology and sustainable agriculture;
   1.3 Globalisation and agricultural growth,
   1.4 rationale and pattern of industrialization in developing countries;
2. **Trade and economic development**-
   2.1 International trade as engine of growth; Static and dynamic gains from trade, Prebisch, Singer and Myrdal thesis vs. Free trade
   2.2 Export-led growth, Dual gap analysis
   2.3 International Monetary Assistance and Development- FDI, FII, technology inflow, MNC activity in developing countries

2.4 Burden of borrowing- IMF and World bank policies in developing countries.

3. **Allocation of resources**-
   3.1 Need for investment criteria in developing countries- present vs future, Alternative investment criteria
   3.2 Cost-benefit analysis; shadow prices, project evaluation and UNIDO guidelines
   3.3 The choice of techniques and appropriate technology and employment
4. **Planning and development in India**-
   4.1 Need for planning- democratic, decentralized and indicative planning
   4.2 Review of Indian plan models and planning: Mahalanobis Model

**Reading List:**

1. Ghatak, S (1986) An Introduction to development Economics, Allen and Unwin, London
2. Higgins,B. (1959) Economic Development, WW Norton, New York.
3. Meier G.M.(1986) Leading Issues in Economic Development, Oxford University Press, New York
4. Basu, Kaushik (2000) Analytical Development Economics: The less developed Economy Revisited, Oxford University Press, India.
5. Ray Debraj (2000) Development Economics, Oxford University Press, India.
6. Chenery H and T.N. Srinivasan (Eds) (1989) Handbook of Development Economics, Vols. 1&2, Elsevier, Amsterdem.
7. Todaro, M.P (1996) Economic Development, Longman, London
8. Thirlwal, A.P (1999) Growth and Development, Macmillan, UK.
9. Hayami, Y. (1997) Development Economics, Oxford University Press, New York
10. Sen, A.K. (Ed) (1990) Growth Economics, Penguin, Harmondsworth

## ECO-523        MATHEMATICAL ECONOMICS-II

**Course Outcomes**

| | |
|---|---|
| **CO-1** | Remember and understand the basic concepts/Principles of **Mathematical Economics-II** |
| **CO-2** | Analyse the Various Concepts to understand them through case studies |
| **CO-3** | Apply the knowledge in understanding practical problems |
| **CO-4** | Execute/create the Project or field assignment as per the knowledge gained in the course |

*Objective: A student of economics can make much headway in understanding the subject with basic mathematical logic. Mathematical economics has been accordingly designed to include various mathematical techniques/ methods/ models related to the different parts of economic theory. The paper covers important aspects of macroeconomic theories Growth theories based on mathematics and operational research.*

*Expected outcome: Students will know the integration of Mathematics and Economic Theory.*

1. **Macro-economic Models**
   1.1 Determination of income and fluctuations in income- Classical and Keynes macro system
   1.2 Static and dynamic multiplier.
   1.3 Determinants of investment, accelerator

1.4 Trade cycle model of development of Samuelson and Hicks.

2. **Growth models**
   2.1 Harrod problem; Neoclassical model of growth
   2.2 Solow and Meade growth models with technical progress
   2.3 Optimal growth, and golden rule of accumulation.

3. **Game theory**
   Concept of game- Two person zero-sum game, Payoff matrix, pure and mixed strategies. Maximin and Minimax solutions ; Saddle point solution ; Non-constant sum game ; Prisoners' dilemma ; Linear programming- Primal and dual problem ; Simplex method.

4. **Linear Programming application and Input-output analysis**
   4.1 Transport and storage problems and other applications of linear programming in economics
   4.2 Input-output analysis- Open and closed systems
   4.3 Hawkins-Simon conditions, Leontief's dynamic system
   4.4 Testing consistency of planning models.

   **Reading List:**

1. Allen RGD (1974) Mathematical Analysis for Economists, Macmillan Press and ELBS, London.
2. Chiang, A.C (1986), Fundamental Methods of Mathematical Economics, Mac Graw Hill, New York.
3. Henderson & Quandt, Micro Economic Theory, A mathematical approach, Mac Gaw Hill, New Delhi.
4. Allen, RHD, (1976) Mathematical Economics, Macmillan, London
5. Arrow K.J., and M. Intrilligator, (Eds) (1982), handbook of Mathematical Economics, Volumes, I, II, III, North Holland, Amsterdam.
6. Hadley, G (1962) Linear Programming, Addison Wesley Publishing Co., Massachusetts.

<div align="center">OR</div>

**ECO-523          AGRICULTURAL ECONOMICS-II**

**Course Outcomes**

| CO-1 | Remember and understand the basic concepts/Principles of **Agricultural Economics-II** |
|------|----------------------------------------------------------------------------------------|
| CO-2 | Analyse the Various Concepts to understand them through case studies |
| CO-3 | Apply the knowledge in understanding practical problems |
| CO-4 | Execute/create the Project or field assignment as per the knowledge gained in the course |

*Objective: The objective of this course is to provide a detailed treatment of issues in agricultural economics to those intending to specialise in this area. Its objective is to familiarise students with policy issues that are relevant to Indian agricultural economics and enable them to analyse these issues.*

*Expected outcome*: *After the completion of this course students will be able to comprehend and critically appraise the Indian agricultural sector.*

1. **Rural finance**-
   1.1 Role of capital and rural credit; Organised and unorganized capital market ; Rural savings and capital formation ; characteristics and sources of rural credit-institutional and non-institutional
   1.2 Reorganization of rural credit- cooperatives, commercial banks, regional rural banks, Role of NABARD.
   1.3 Cooperation in India- Cooperative movement; genesis and growth of cooperative sector, Agricultural cooperation in India; problems and prospects of cooperative institutions.

2. **Agricultural prices-**
   2.1 Marketing and state policy; Agricultural markets and market efficiency- Marketing functions and costs; Market structure and imperfections; regulated markets; marketed and marketable surplus
   2.2 Crop insurance; Terms of trade between agricultural and non-agricultural prices; Need for state interventions
   2.3 Objectives of agricultural policy- Instruments and evaluation
   2.4 Food security in India and Public Distribution System.

3. **Agricultural growth in India**-
   3.1 Recent trends in agricultural growth in India; Inter- regional variations in growth of output and productivity
   3.2 Cropping pattern shifts; supply of inputs- irrigation, power, seed and fertilizers
   3.3 Pricing of inputs and role of subsidies; Distribution of gains from technological change
   3.4 Role of Public investment and capital formation in Indian agriculture.

4. **Agriculture and external sector-**
   4.1 International trade in agricultural commodities; Commodity agreements- Role of WTO; Issues in liberalization of domestic and international trade in agriculture
   4.2 Nature and features of agro industries
   4.3 Role of MNCs; Globalisation of Indian economy and problems and prospects of Indian agriculture, Impact of WTO on Indian agriculture.

   **Reading List:**

1. Bhaduri A. (1984) The Economic Structure of Backward Agriculture, Macmillan, Delhi
2. Bilgrami SAR, (1996) Agricultural economics, Himalaya Publishing House, Delhi
3. Gulati , A & T. Kelly (1999), Trade Liberalisation and Indian Agriculture, Oxford University Press, New Delhi.
4. Rudra A. (1982), Indian Agricultural Economics: Myths and Reality, Allied Publishers, New Delhi.
5. Bardhan P. (1984) Land, Labour and Rural Poverty, Oxford University Press, New Delhi.
6. Soni, R.N (1995) Leading issues in Agricultural Economics, Arihant Press, Jalandhar.
7. Dantwala M.L, (1996) Dilemmas of Growth: the Indian Experience, sage Publications, New Delhi.
8. Vaidyanathan, A (1995) The Indian economy : Crisis, response and Prospects, Orient Longmans, New Delhi
9. Bhalla G. S (1994) Economic Liberalisation and Indian Agriculture, Institute for Studies in Industrial development, New Delhi.

**ECO-524**                    **ADVANCED ECONOMETRICS**

**Course Outcomes**

| | |
|---|---|
| **CO-1** | Remember and understand the basic concepts/Principles of **ADVANCED Econometrics** |
| **CO-2** | Analyse the Various Concepts to understand them through case studies |
| **CO-3** | Apply the knowledge in understanding practical problems |
| **CO-4** | Execute/create the Project or field assignment as per the knowledge gained in the course |

*Objective: Econometrics is mainly concerned with the empirical verification of economic theory. It requires a reasonable understanding of economic relationships and relevant statistical methods. Thus, the econometric theory becomes a powerful tool for understanding of applied economic relationships and for meaningful research in economics. This paper is devoted to equip the students with basic as well as advanced theory of econometrics and relevant applications of the methods.*

*Expected outcome: The topics covered in the course include various problems faced in estimation of both single equations and simultaneous equations models. The course also covers various econometric methods applicable to different topics in economics and those needed for applied economic research. Students are expected to know the basic concepts and applications of econometrics, adding rigour to the understanding of economic problems*

1.     **SIMULTANEOUS EQUATION MODELS**
        1.1  Structural form and reduced form
        1.2  The simultaneous equation bias and inconsistency of OLS estimators
        1.3   The identification problem ; Rules of identification- order and rank conditions
        1.4   Indirect least squares (ILS)
        1.5   Two stage least square (2SLS)
        1.6   Three stage least square (3SLS)
        1.7    Maximum likelihood estimation (ML)

2.     **TIME SERIES ANALYSIS**
        2.1    Deterministic time series models and stochastic time series model
        2.2  Test of stationarity: Autocorrelation Function (ACF) and Correlogram
        2.3   The Unit Root Test: The Augmented Dickey-Fuller (ADF) test, The Phillips-
                    Perron (PP) tests

3.      **FORECASTING TECHNIQUES**
        3.1    Forecasting with a single equation regression model
        3.2    Forecasting with ARIMA modeling; Box-Jenkins methodology,
        3.3    Vector Auto- Regression
        3.4     Multi-variate Analysis: Discriminant Analysis and Principal Component Analysis

4.     **DYNAMIC ECONOMETRIC MODELS**
        4.1    Autoregressive and distributed lag models
        4.2    Geometric lag approach: The Koyck model, Adaptive expectation model
        4.3  Concept of rational expectation

4.4 Partial adjustment model

4.5 Polynomial lag: The Almon approach

**Reading List:**

1. Jhonston J. (1991), Econometric Methods , McGraw Hill Book Co. London
2. Asteriou Dimitrious, (2006), Applied Econometrics, Palgrave Macmillan, New York
3. Gujrati D.N. (1995), Basic Econometrics, (2nd edition) McGraw Hill, New Delhi
4. Kmenta, J. (1977), Elements of Econometrics, (reprint edition) University of Michigan Press, New York.
5. Koutsoyiannis A. (1977), Theory of Econometrics (2nd ed.) The Macmillan Press Ltd. London.
6. Madalla G.S. (1997), Econometrics, McGraw Hill, New York.
7. Intrilligator, M.D. (1978), Econometric Methods, Techniques and Applications, Prentice Hall, Englewood Cliffs, New Jersey.
8. Pindyck, Robert S. and Daniel L. Rubinfeld,(1976), Econometric Models and Economic Forecasts, International Student edition, McGraw-Hill

**OR**

**ECO-524**            **ECONOMICS OF CLIMATE CHANGE**

**Course Outcomes**

| | |
|---|---|
| **CO-1** | Remember and understand the basic concepts/Principles of **CLIMATE CHANGE** |
| **CO-2** | Analyse the Various Concepts to understand them through case studies |
| **CO-3** | Apply the knowledge in understanding practical problems |
| **CO-4** | Execute/create the Project or field assignment as per the knowledge gained in the course |

*Objectives: The objective of this course is to acquaint the students of economics the various climate change issues and to provide some insights into the application of economic theory in the design and implementation of public policy related to the management of climate.*

*Expected outcomes: The students will learn the issues relating to climate, the impact of climate change on the growth and development.*

**1. Understanding Climate Change:**

1.1 Introduction to the Climate System, Drivers of Climate system, Climate Change and Natural Variability

1.2 Economics, ethics and climate change;

1.3 Ethical frameworks and inter-temporal equity.

**2. The Impacts of climate change on growth and development:**

2.1 How climate change will affect people around the world, Implications of climate change for development,

2.2 Costs of climate change in developed countries,

2.3 Economic modelling of climate change, Climate change impacts on society

2.4 Displacement and migration, Human settlement and Health; Impact of climate change on marginalized sections.

### 3. Optimal Climate Policy:

3.1 Economic efficiency, carbon abatement costs, social cost of carbon, discounting.

3.2 National climate policy: externalities, cost effectiveness, carbon tax, cap-and-trade, induced innovation.

3.3 Climate change and equity: economic incidence, environmental justice, residential sorting.

3.4 Climate change and the environmental Kuznets curve

### 4. Climate Change and India's Concerns:

4.1 United Nations Framework Convention on Climate Change, The Kyoto Protocol to the Framework Convention,

4.2 Climate Change Impacts on Natural Resources, Vulnerability of Coastal Belt in India towards climate Change,

4.3 Climate Change, Rural Livelihoods and Food Security in India, India's Position on International Climate Negotiations,

4.4 India's National Action Plan on Climate Change.

### Reading List:

1. Keohane and Olmstead, (2016). Markets and the Environment. Island Press
2. Stern, Nicholas (2008), "The Economics of Climate Change", American Economic Review: Papers & Proceedings, 98(2), 1-37.
3. Nordhaus, W. (2013). Chapter 16 - Integrated Economic and Climate Modeling.
4. Handbook of Computable General Equilibrium Modeling. B. D. Peter and W. J. Dale, Elsevier. Volume 1: 1069-1131. Read up to Section 16.1.10.
5. Ackerman, F., S.J. De Canio, R.B. Howarth, and K. Sheeran. 2009. "Limitations of integrated assessment models of climate change." Climatic Change.
6. Hepburn, Cameron (2006), "Discounting climate change damages: Working note for the Stern review".
7. Keohane and Olmstead, (2016). Markets and the Environment. Island Press
8. Goulder and Parry, "Instrument Choice in Environmental Policy." Review of Environmental Economics and Policy 2008.)
9. Aldy, Krupnick, Newell, Parry, and Pizer, "Designing Climate Mitigation Policy." Journal of Economic Literature, 2010) Section 3.
10. Goulder "Markets for Pollution Allowances: What Are the (New) Lessons?" Journal of Economic Perspectives 27(1), Winter 2013.
11. ARE, Special Issue: California's Climate Change Policy: The Economic and Environmental Impacts of AB 32—Notes from the Editors, 2010,
12. Fullerton and Muehlegger (2019). "Who Bears the Economic Burdens of Environmental Regulations," Review of Environmental Economics and Policy
13. Banzhaf, Ma, and Timmins (2019). "Environmental Justice: The Economics of Race, Place, and Pollution," Journal of Economic Perspectives.
14. Climate Change and Agriculture in India: By: K. Palanisami (Author) , C. R. Ranganathan (Author) , Udaya Sekhar Nagothu (Author) , Krishna Reddy Kakumanu (Author) | Publisher: Routledge India

<div align="center">**OR**</div>

**ECO-524**                                         **DEMOGRAPHY**

**Course Outcomes**

| | |
|---|---|
| **CO-1** | Remember and understand the basic concepts/Principles of **Demography** |
| **CO-2** | Analyse the Various Concepts to understand them through case studies |
| **CO-3** | Apply the knowledge in understanding practical problems |
| **CO-4** | Execute/create the Project or field assignment as per the knowledge gained in the course |

*Objectives: The main objective of this paper is to make the students aware of the importance of population in economic development. The paper also enlightens the student on the quantitative and the qualitative aspects of the population through various demographic techniques.*

*Expected outcomes: The students will learn the issues relating to population in economic development and apply the various demographic techniques.*

**1: Introduction**
1.1 Meaning and Scope of Demography, Size, Composition and Distribution of Population
1.2 Measures of Population change, structure, sources and distribution of population data
1.3 Malthusian Theory, Marx ideas on Population; Optimum Theory of Population

**Unit-2: Theories of Demographic Transition**
2.1 Theory of Demographic Transition; Models of Meadows,
2.2 Enke and Simon, Becker and Easterlin
2.3 Population and Development.

**Unit-3: Fertility, Mortality and Migration**
3.1 Fertility - Measurement of Fertility, Factors Influencing Fertility, Fertility levels, Fertility in India.
3.2 Mortality, Measurement, levels and trends in India, Infant Mortality;
3.3 Life Table, construction and uses

**Unit-4: Migration, Structure of Population and Population Policy**
4.1 Migration - Concept and Types, Factors Affecting and Theories of Migration
4.2 Population Trends in 21st Century, Population Explosion, Age and Sex Structure, Population Policy in India.
4.3 Urbanization, Rural-Urban Population; Population, Development and Environment Linkages.

**References:**
1. Agarwal S.N. (1972), India's Population Problem, Tata McGraw- Hill Co., Bombay.
2. Borgue, D.J (1971) Principles of Demography, John Wiley, New York
3. Choubey, P .K. (2000), Population Policy in India, Kanishka Publications, New Delhi
4. Coals, A.J. and E.M. Hoover (1958), Population Growth and Economic Development in Low income

5. Gupta, J. A. (2000), New Reproductive Technogies, Women's Health and Autonomy, Indo Dutch Studies
6. Hans Raj (1984)- 'Fundamentals of Demography'-Surjeet Publication, Delhi
7. Novell, C. (1988), Methods and Models in Demography, Belhaven Press, London.
8. Srinivasan K (1998), Basic Demographic Techniques and Applications, Sage, New Delhi