

Revised

As per letter No. AA/ICD/2018-19/542-

UNIVERSITY OF MUMBAI

No. UG/58 of 2018-19

dt. 10/10/2018

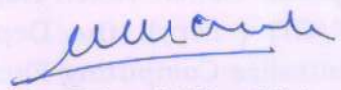
CIRCULAR:-

Attention of the Principals of the Affiliated Colleges and Directors of the recognized Institutions in Humanities Faculty is invited to this office circular No. UG/270 of 2017-18, dated 26th October, 2017 relating to syllabus of Bachelor of Arts.

They are hereby informed that the recommendations made by the Board of Studies in Economics at its meeting held on 18th May, 2018 have been accepted by the Academic Council at its meeting held on 14th June, 2018 vide item No. 4.3 and that in accordance therewith, the revised syllabus as per the (CBCS) for the T.Y.B.A. in Economics – Sem V & VI has been brought into force with effect from the academic year 2018-19, accordingly. (The same is available on the University's website www.mu.ac.in).

MUMBAI – 400 032

To 6th June, 2018
July


(Dr. Dinesh Kamble)
I/c REGISTRAR

The Principals of the affiliated Colleges and Directors of the recognized Institutions in Humanities Faculty. (Circular No. UG/334 of 2017-18 dated 9th January, 2018.)

A.C./4.3/14/06/2018

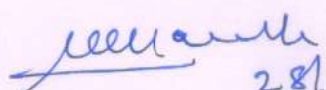
No. UG/58 -A of 2018

MUMBAI-400 032

6th June, 2018
July

Copy forwarded with Compliments for information to:-

- 1) The I/c Dean, Faculty of Humanities,
- 2) The Chairman, Board of Studies in Economics,
- 3) The Director, Board of Examinations and Evaluation,
- 4) The Director, Board of Students Development,
- 5) The Professor-cum-Director, Institute of Distance and Open Learning (IDOL),
- 6) The Co-Ordinator, University Computerization Centre,


28/6/18
(Dr. Dinesh Kamble)
I/c REGISTRAR

AC 14-6-18

Item No. 4.3

University of Mumbai

University of Mumbai



Revised Syllabus Sem. V & Sem. VI Program: B. A. Course: Economics

(As per the Credit Based Semester and Grading System with effect from the academic year 2018-2019)

PREAMBLE:

The syllabus of TYBA has been revised by keeping in view of the recent trends in the subject of economics. The Board of Studies in Economics has revised the syllabi of papers at the TYBA which will be made effective **from the Academic Year 2018-19**. In this revision, some of the existing optional papers have been replaced by new papers. A broad overview of the structure, followed by the syllabi of individual papers, is given below.

DURATION:

- The course shall be a full time course.
- The duration of B.A. course shall be of Three years /Six Semesters.

FYBA: SEMESTER – I & II (One paper each semester)

SYBA: SEMESTER – III & IV (Two papers each semester)

TYBA: SEMESTER – V & VI (Six papers each semester)

PATTERN:

The T.Y.B. A. [Entire Economics] Course shall have 12 papers. Every semester shall have six papers, each carrying 100 marks. However students can opt combination of any two subjects (Economics and any other subject) in which every semester shall have three papers of each subject, carrying 100 marks. Moreover, Papers IX and Papers XII of Semester V and Paper XV and XVIII Semester VI are bifurcated into 80 marks of written exam and 20 marks of project. It is hereby stipulated to have a maximum page limit of 20 for the project.

SCHEME OF EXAMINATION:

The duration of the examination, paper pattern and the allotment of lectures as well as marks are given in detail as follows:

Duration:

- **Three Hours** for each 100 marks paper and Two and Half an Hour for 80 marks paper.

Allotment of Lectures:

- The allotment of lectures is as per the common guidelines stipulated by the Academic Council for Humanities of University of Mumbai.

Paper Pattern:

- There shall be five questions each of 20 marks, for 100 marks paper divided into three sub questions (a, b, c,) with an internal option to choose any two.
- There shall be four questions of 20 marks for 80 marks paper with internal options mentioned as the same above.
- All questions shall be compulsory with internal choice within the questions.
- Questions may be subdivided into sub-questions a, b, c as mentioned earlier and the allocation of marks shall depend on the weightage given to the topic.

Questions	Modules	Marks
Qn.1	Unit I	20
Qn.2	Unit II	20

Qn.3	Unit III	20
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Qn.4	Unit IV	20
Qn.5	4 Sub-questions from Unit I, II, III & IV	20

COURSE STRUCTURE

(APPLICABLE FROM ACADEMIC YEAR 2018 2019)

TYBA (SEMESTER –V)

COURSE CODE	REVISED PAPER		CREDIT	MARKS
GROUP-I : CORE PAPERS				
ECOMIE501	VII	MICROECONOMICS- III	4	100
ECODEV502	VIII	ECONOMICS OF DEVELOPMENT	4	100
GROUP-II :ELECTIVE PAPERS				
ECOFEA503	IX	FINANCIAL ECONOMICS	3	80
OR				
ECOEACB503	IX	ECONOMICS OF AGRICULTURE AND COOPERATION	3	80
OR				
ECOILEC503	IX	INDUSTRIAL AND LABOUR ECONOMICS	3	80
OR				
ECOMSEAA504	X	MATHEMATICAL AND STATISTICAL TECHNIQUES FOR ECONOMIC ANALYSIS	4	100
OR				
ECORMB504	X	RESEARCH METHODOLOGY	4	100

OR				
ECOEHIC504	X	ECONOMIC HISTORY OF INDIA	4	100
OR				
ECOIEA505	XI	INTRODUCTION TO ECONOMETRICS	4	100
OR				
ECOMMEB505	XI	MATHEMATICAL METHODS IN ECONOMICS	4	100
OR				
ECOENVC505	XI	ENVIRONMENTAL ECONOMICS	4	100
OR				
ECOHET506	XII	HISTORY OF ECONOMIC THOUGHT	3	80

MICROECONOMICS III: PAPER VII

SEMESTER –V

COURSE CODE	PAPER TITLE	CREDITS	MARKS
GROUP - I	CORE PAPERS		
ECOMIC501	MICROECONOMICS III : PAPER VII	4	100

Preamble:

The course is designed to provide sound understanding in microeconomic theory. Since students have been taught perfect competition, this course focuses on three aspects, which are the study of imperfect competition, general equilibrium and welfare economics.

Module 1: Monopoly

Sources of monopoly - Profit maximising monopoly – Calculation of price, output and profit for a monopoly- Price discrimination: First, Second and Third degree- Public policy towards monopoly.

Module 2: Basics of Game theory

Prisoner's Dilemma – Dominant strategy equilibrium – Battle of sexes game – Nash equilibrium – Extensive form games – Game tree.

Module 3: Oligopoly

The Cournot model – The Bertrand model – The Edgeworth model – The Chamberlin model – The Kinked demand curve model – Collusion and Cartels – Price Leadership.

Module 4: General Equilibrium and Welfare Economics

Interdependence in the Economy – General Equilibrium and its Existence -The Pareto Optimality Condition of Social Welfare, Marginal Conditions for Pareto Optimal Resource Allocation.

Perfect Competition and Pareto Optimality – Kaldor- Hicks Compensation Criterion - Arrow's Impossibility Theorem.

References:

1. Koutsoyannis, Modern Microeconomics, Macmillan Press Ltd., London, 1975.
2. Mankiw, N. Gregory, Principles of Microeconomics, Cengage Learning, 2015.
3. Mansfield, Edwin, Micro-economics: Theory & Applications, 5th edition, W.W. Norton & Company, New York, 1985.
4. Sen Anindya, Microeconomics: Theory and Applications, Second edition Oxford University Press, New Delhi, 2007.
5. Salvatore, D. Microeconomics : Theory and Applications , New Delhi Oxford, New Delhi, Oxford University Press 2006.
6. R.Gibbons , A Primer in Game Theory, Harvester Wheatsheaf, 1992.

ECONOMICS OF DEVELOPMENT: PAPER VIII

SEMESTER –V

COURSE CODE	PAPER TITLE	CREDITS	MARKS
GROUP -I	COMPULSORY PAPERS		
ECODEV502	ECONOMICS OF DEVELOPMENT :PAPER VIII	4	100

Preamble:

This course is designed to inculcate diverse concepts related to economic growth and development by giving special emphasis on structural issues related to the process of development. In order to create an awareness on policy options, the pressing problems on the path of development such as inequality, poverty and technological aspects are dealt in.

Module1:Concepts of Economic Growth and Development:

Meaning of Growth and Development – Distinction between growth & development– Concept of human development. HDI, GDI, Sustainable development – Green GDP – Three core values of development – Capability Approach.

Module 2:Structural Issues in Development Process:

Big push theory – Theory of human capital – Role of Education, Health & nutrition in economic development- Schumpeter’s theory of development, Dual economy models of growth, Solow’s growth model.

Module 3:Inequality, Poverty and Development:

Measures of poverty and inequality – Kuznet’s inverted U-hypothesis – Policy options for poverty alleviation – Inclusive growth – Self Help Groups and Micro Finance.

Module 4:Technology and Economic Development:

Role of Infrastructure in economic development –Role of technology in economic development, Types of technical progress –Schumacher’s Concept of Intermediate/ Appropriate technology, Green technology.

References:

1. Todaro, Michael P. and Stephen C. Smith. Economic Development, 8e. Delhi: Pearson Education, 2003.
2. Thirlwall, A.P. Growth and Development 8e. New York: Palgrave MacMillan, 2005.
3. Meier, Gerald M. and James E. Rauch. Leading Issues in Economic Development, 8e. New Delhi: Oxford Univ. Press, 2006.
4. Mamoria, Joshi, Principles and practice of marketing in India, Kitab Mahal, 1979.
5. Boldwin, Economic Development: Theory, History and Policy, Willy Publishers, 1957
6. Sinha Francis, Microfinance self Help Groups in India: Living up to Their Promises, Practical Action Publishing, England, 2009.

FINANCIAL ECONOMICS: PAPER IX

SEMESTER – V

COURSE CODE	PAPER TITLE	CREDITS	MARKS
GROUP - II	ELECTIVE PAPERS		
ECOFEA503	FINANCIAL ECONOMICS: PAPER IX	3	80

Preamble:

The course introduces students to the economics of Finance. It aims at imparting knowledge about the basic models of investment and portfolio analysis, including the CAPM. The valuation of assets, derivatives and options is to be studied in addition to patterns of corporate financing.

Module 1: Investment & portfolio Analysis:

Basic theory of interest, discounting & present value; internal rate of return, evaluation criteria, fixed income securities; bonds prices & yields. Structure of interest rate, yield curves, spot & forward rates. Portfolio of assets, random asset returns, Mean variance portfolio analysis, The Markowitz Model & two fund theorem.

Module 2: CAPM:

The capital Market line, the CAP Model, the beta of an asset & of a portfolio, security market line, CAPM model in investment & pricing formula.

Module 3: Options & Derivatives:

Meaning, functions & types of derivatives - forward contracts, futures - forward & future prices, stock index futures, interest rate futures, future for hedging. Options & Swaps and their types - Option market: call & put options, option trading strategies - spreads, straddles, strips & straps, strangles, the principle of arbitrage. Participants of derivatives market- hedgers, speculators, arbitrageurs.

Module 4: Corporate Finance:

Patterns of corporate financing: stock, debt, preferences, convertibles. Capital structure & the cost of capital, corporate debt & dividend policy, the Modigliani –Miller theorem.

References:

1. David Luenberger , Investment Science, Oxford University Press, 1997.
2. Hull John C, Options, Futures and other derivatives, Pearson Education, 2005.
3. Thomas Copeland, J. Fred Weston and Kuldeep Shastri, Financial Theory and Corporate Policy, Prentice Hall, 2003.
4. Richard Brealey and Stewart Myers, Principles of Corporate Finance, McGraw Hill, 2002.
5. Stephen Ross and Bradford Jordan, Fundamentals of Corporate Finance, McGraw Hill, 2005.
6. William Sharpe, Gordon Alexander and J. Bailey, Investment, Prentice Hall of India, 2003.

**ECONOMICS OF AGRICULTURE AND COOPERATION
: PAPER IX**

SEMESTER V

COURSE CODE	PAPER TITLE	CREDITS	MARKS
GROUP - II	ELECTIVE PAPERS		
ECOEACB503	ECONOMICS OF AGRICULTURE AND COOPERATION : PAPER IX	3	80

Preamble:

This paper provides an overview of the role of agriculture in the economic development of the country and the salient features associated to agricultural productivity and agricultural labour. The pertinent aspects related to agricultural credit, agricultural marketing as well as the global problems existing in the marketing are dealt in. Students can acquire understanding about the features of agricultural policy and the agrarian crisis as well as the problems and challenges in the field of agriculture and cooperation.

Module 1: Agricultural Productivity:

Role of agriculture in economic development - Cropping Pattern Agricultural Productivity, Causes of Low Productivity in Agriculture - Measures taken to improve the Agricultural Productivity in India - Water Management and agricultural development - Agricultural labour: Problems and suggestions.

Module 2: Agricultural Credit:

Institutional and Non-Institutional Sources of Credit - Co-operative Credit and Agriculture, Rural Indebtedness - Commercial Banks and Regional Rural Banks, microfinance - NABARD - Role and Performance.

Module 3: Agricultural Marketing :

Types of Marketing - Corporate, Commodity and Global Problems and Measures of Agricultural Marketing - WTO and Indian Agriculture. Problems of Agricultural Marketing and its measures- National Agricultural Market.

Module 4: Agricultural Price and Policy:

New Agricultural Policy – 2007 - Food Security in India - Price Policy of CACP
Evaluation, Agricultural Crisis and Farmers’ Suicide. Agro-Tourism and its policy

References:

1. Bilgram, S.A.R, Agricultural Economics, Himalaya Publication House, Delhi, 1966
2. Raj K.N, Essays in Commercialization of Indian Agriculture, Oxford University Press, New Delhi, 1988.
3. Thamarajalaxmi R, Intersectoral Relationship in Developing Economy, Academic Foundation, Delhi, 1994.
4. Memoria C. B, Agricultural Problems of India, Kitab Mahal Allahabad, 1979.

5. Datt and Sundaram, Indian Economy, S.Chand & Company, New Delhi,2012.
6. Mishra &Puri, Indian Economy, Himalaya Publishing House, New Delhi,2012.

INDUSTRIAL AND LABOUR ECONOMICS: PAPER IX

SEMESTER V

COURSE CODE	PAPER TITLE	CREDITS	MARKS
GROUP - II	ELECTIVE PAPERS		
ECOILEC503	INDUSTRIAL AND LABOUR ECONOMICS : PAPER IX	3	80

Preamble:

There has been a paradigm shift in the structure of the Indian industrial sector and the policies governing it ever since the new era of globalisation and liberalisation has ushered in. This paper intends to equip the students with the knowledge about the fundamentals of Industrial Economics and also the changing policies related to the Indian industry in the globalised era.

Module 1: Introduction

Meaning and Scope of Industrial Economics, Industrial Profile : Private sector - Performance and Problems; Cooperatives - features, types, merits and demerits; Public Sector - Role, Performance and Problems, Diversification and Industrial Combinations - Motives for Mergers and Acquisitions.

Module 2: Industrial Location and Problem of Regional Imbalance

Determinants of Industrial Location, Theories of Industrial Location - Weber's and Sargent Florence's Theories, Dispersion of Industries and the Problem of Regional Imbalance

Module 3: Industrial Productivity and Industrial Sickness

Concept and Measurement of Industrial Productivity, Factors Affecting Industrial Productivity, Industrial Sickness - Causes, Effects and Remedial Measures, Rationalisation - Concept, Aspects and Impact

Module 4: Industrial Development in India

New Industrial Policy, 1991; Disinvestment Policy; FIPB Revamp- Micro, Small and Medium Enterprises Development Act, 2006; National Manufacturing Policy, 2011,Recent Trends in India's Industrial Growth, Industrial Policy, 2012, Role of MNCs in the Indian Economy - Merits and Demerits, Issues in Industrial Proliferation and Environment Preservation; Pollution Control Policies.

References:

1. Agrawal A.N, Indian Economy, New Age International Publishers, New Delhi, 2011.
2. Barthwal R.R, Industrial Economics, New Age International Publishers, New Delhi, 2007.
3. Cherunilam. F, Industrial Economics: Indian Perspective, Himalaya Publishing House, Mumbai, 1994.
4. Datt R. and Sundaram K.P.M, Indian Economy, S.Chand& Co., New Delhi, 2009.
5. Desai S.S.M. and Bhalerao N, Industrial Economy of India, Himalaya Publishing House, Mumbai, 2008.
6. Kuchhal S.C, Industrial Economy of India, Chaitanya Publishing House, Allahabad,1980.

MATHEMATICAL AND STATISTICAL TECHNIQUES FOR ECONOMIC ANALYSIS: PAPER X

SEMESTER V

COURSE CODE	PAPER TITLE	CREDITS	MARKS
GROUP - II	ELECTIVE PAPERS		
ECOMSEAA504	MATHEMATICAL AND STATISTICAL TECHNIQUES FOR ECONOMIC ANALYSIS :PAPER X	4	100

Preamble

A plethora of data has emerged at an exponential rate and it is the description, interpretation and understanding of these data and drawing of accurate conclusions that is imperative for a student of Economics. The aim of this paper is to provide students with the mathematical and statistical skills and understanding needed for 'knowing why' and 'when' to apply these techniques.

Module 1: Equations, Graphs and Derivatives

Microeconomic applications of equations and graphs - Linear and non-linear relationships in economic analysis– Market demand and supply models, taxes, elasticity
Derivatives and their applications in various areas of economic analysis – Derivatives–
Higher order derivatives– Increasing and decreasing functions; Necessary and sufficient conditions for maxima and minima– Optimisation of economic functions

Module 2: Linear Algebra

Matrices and basic operations on matrices– Rank of a matrix– Inverse of a matrix–
Cramer's rule– Input-Output Analysis and policy implications– Linear Programming
Problem: Formulation and graphical solution.

Module 3: Descriptive Statistics and graphing techniques for presenting data

Concept of primary and secondary data along with tabulation and graphs – Measures of central tendency (only arithmetic-mean, median, and mode) – Absolute and relative

measures of dispersion (range, quartile deviation, mean deviation and standard deviation)
with simple applications – Measures of skewness and kurtosis – Lorenz Curve.
Commercial Statistics – Brokerage, Commission and Insurance.

Module 4: Elementary Probability Theory

Sample space and events– Mutually exclusive, exhaustive and complimentary events– Conditional probability– Binomial probability distribution– Nature and Properties of the Normal Probability Distribution; Standard Scores and the Normal Curve; The Standard Normal Curve: Finding Areas when the Score is Known, Finding Scores when the Area is Known.

References:

1. Dowling Edward T: Introduction to Mathematical Economics, Schaum Outline Series in Economics, Tata McGraw -Hill, New Delhi, 2004.
2. Dowling Edward T: Theory and Problems of Mathematical Methods for Business and Economics, McGraw –Hill, 1993.
3. Gupta S.P.: Statistical Methods, S. Chand, New Delhi, 2014.
4. Lerner Joel J and P.Zima: Theory and Problems of Business Mathematics, McGraw Hill, New York, 1986.
5. Sancheti D.C. and V.K. Kapoor: Statistics-Theory, Methods and Applications, S. Chand, New Delhi, 2014.
6. Chiang A. C.: Fundamental Methods of Mathematical Economics, 3rd edition, McGraw-Hill, 1984.

RESEARCH METHODOLOGY: PAPER X

SEMESTER V

COURSE CODE	PAPER TITLE	CREDITS	MARKS
GROUP - II	ELECTIVE PAPERS		
ECORMB504	RESEARCH METHODOLOGY : PAPER X	4	100

Preamble:

This paper is designed with the view to introduce the concepts, principles and methods of economic research based on qualitative and quantitative data. The course will enable the students to get an insight into the applications of modern analytical tools and techniques related economic decision making. The student gets an opportunity to learn how to collect and analyze primary and secondary data. Practical sessions will strengthen the knowledge related to computer applications to research analysis.

Module 1: Introduction to Concept of Research:

Nature, Scope & Purpose of social research - Basic assumptions of research - Significance and objectivity in social sciences research - Types of research: pure & applied research; formulative or exploratory research; descriptive research, historical research, experimental research, survey research - Ethical issues and major difficulties relating to research .

Module 2: Elements of Research Methodology:

Steps in Research process: Identification, selection and formulation of research problem – sources of research problem – criteria of a good research problem - Review of literature - Formulation of hypothesis - Preparing Research Design: Definition, Concepts, and types– exploratory, descriptive and diagnostic, experimental and Analytical research designs – Collection and analysis of the data - Interpretation and report writing.

Use of web search in research process- introduction to Internet and WWW - Using search engine like Google, Yahoo etc. Use of advanced search techniques.

Module 3: Sources of Data for Research:

Types of data sources: Primary and Secondary - Primary data-Meaning and Collection methods - Observational method - Interview technique - Design of Schedule and Questionnaire - Survey method and Field Visits - Case Study as a method.

Major Sources of Secondary data: Meaning, advantages, Relevance, limitations and cautions of secondary data.

Sampling Technique: Census and sample survey- Essentials of a good Sampling - Advantages and limitations of sampling, Methods of sampling: Random sampling : Simple or Unrestricted Random Sampling- Mixed or Stratified Random Sampling, Systematic or Quasi Random sampling – Multistage or Cluster Random Sampling - Sequential Random Sampling, Non random sampling : Judgement or Purposive sampling–Convenience sampling accidental sampling – Quota sampling, Selecting an appropriate sampling technique- Sampling and Non-sampling errors - Sample size.

Module 4: Processing and Analysis of Data

Classification, Tabulation and Graphical presentation of socio-economic data - An introduction to Statistical Analytical Tools – Measures of Central Tendency – Measures of Variation: absolute and relative measures – Quartile deviation, standard deviation, coefficient of variation- Skewness: meaning and Measurement (Karl Pearson’s and Bowley’s methods) - Basics of Computer Applications in Data organization & Data Processing, Introduction to spreadsheet application, features and functions, Using formulas and functions, Data storing, Features for Statistical data analysis, Graphical representation of data, Generating charts/ graph and other features.

References:

1. Goode J. William & Hatt K. Paul, Methods in social Research, New York, McGraw-Hill, 1952.
2. Kothari, C.R., Research Methodology: An Introduction, Delhi, New Age, 2004.
3. Krishnaswami, O.R & M. Ranganatham ,Methodology of Research in Social Sciences, Himalaya Publishing House, Mumbai, 2011.
4. P. Saravanavel, Research Methodology, KitabMahal, Allahabad, 1987.
5. Gupta S. P., Statistical Methods, Sultan Chand and Sons, New Delhi, 2014 .
6. Rajaram V., Fundamentals of computers, Prentice Hall of India, New Delhi, 1996.

ECONOMIC HISTORY OF INDIA: 1857-1947: PAPER X

SEMESTER – V

COURSE CODE	PAPER TITLE	CREDITS	MARKS
GROUP - II	ELECTIVE PAPERS		
ECOEHIC504	ECONOMIC HISTORY OF INDIA: 1857-1947 : PAPER X	4	100

Preamble:

This course analyses key aspects of Indian economic development during the second half of British colonial rule. It investigates the place of the Indian economy in the wider colonial context, and the mechanisms that linked economic development in India to the colonial rule.

Module 1: Growth and Structural Change 1857-1947

The state of Indian Economy after 1857 under British Rule- Nature of Communities- Trade and Tariff Policy- Foreign Investment and Exchange Rate Policy, Saving and Investment- Public Finance -Balance of Payments- Great Depression and the Indian Economy.

Module 2: Agriculture and the Commons

Trends in Production and Income-Resources, Regional dimensions of agriculture- land, labour and credit markets- forests and forest-indigenous inhabitants -village commons and pastures-land use patterns-Jhum Cultivation- Waste lands.

Module 3: Industry

Long term patterns of small scale industrialization and its interpretation- handloom, weaving and other industries- labour and capital in traditional small scale industry- modern small scale industry- statistical outline of large scale industry- stages of industrialization and major industries- labour, finance, entrepreneurship and management in large scale industry.

Module 4: Infrastructure, Fiscal and Monetary systems:

Impetus- Irrigation- Railways- Roads and Inland Waterways- Ports- Post and Telegraph- Power- Legal- systems Economic policy and policy making-Trade policy- Fiscal systems- Monetary system- prices.

References:

1. Tirthankar Roy, The Economic History of India 1857-1947, Oxford University Press, 2011.
2. S.Sivasubramonian, National Income of India in the Twentieth Century, Oxford University Press, 2000.
3. SumitGuha (ed.), Growth, Stagnation or Decline?, Delhi , Oxford University Press,1993.

4. A.K. Banerji, India's Balance of Payments, Bombay: Asia Publishing House, 1962.
5. George Blyn, Agricultural Trends in India, 1891-1947: Output, Availability and Productivity, Philadelphia: University of Pennsylvania press, 1966
6. Alice Thorner, The Secular Trend in the Indian Economy, 1881-1951, Economic Weekly, vol.14, 1962.

INTRODUCTION TO ECONOMETRICS: PAPER XI

SEMESTER V

COURSE CODE	PAPER TITLE	CREDITS	MARKS
GROUP - II	ELECTIVE PAPERS		
ECOIEA505	INTRODUCTION TO ECONOMETRICS : PAPER XI	4	100

Preamble:

The objective of this course is to impart a basic understanding of econometrics. At the same time, it will enhance the student's ability to apply the theoretical techniques to the problems of the real world. Topics like forecasting have been introduced to impart this practical orientation.

Module 1: Idea of a random variable:

Concept of a random variable: Discrete and continuous - Expected values of a random variable - Variance of a random variable - Discrete random variables: Bernoulli, Binomial, Poisson - Continuous random variables: The normal distribution.

Module 2: Jointly distributed Random variables:

Joint and marginal distributions for bivariate random variables - Conditional probability- Conditional mean and variance – Covariance - Correlation and Partial correlation - Central limit theorem (without proof).

Module 3: Statistical Inference:

Point and interval estimation - The Z distribution - The Null and Alternate hypotheses and significance testing for mean using Z distribution when population variance is known - The chi-square distribution and testing for sample variance with known population variance - The F distribution and comparing sample variances - The t distribution and hypothesis tests when population variance is unknown.

Module 4: Regression Analysis:

Two variable regression model - The concept of the PRF - Classical assumptions of regression - Derivation of the OLS estimators and their variance - Properties of OLS estimators under classical assumptions, Gauss-Markov Theorem (without proof) - Tests

of Hypothesis, confidence intervals for OLS estimators - Measures of goodness of fit: R square and its limitations, adjusted R square and its Limitations.

References:

1. Damodar N. Gujarati, Basic Econometrics, McGraw-Hill, Delhi, 2003.
2. Kapoor V. K., Operations Research Problems & Solutions, Sultan Chand & sons, Delhi, 2011.
3. Murray R. Spiegel Schaum's Outline of Theory and Problems of Statistics, McGraw- Hill, 1988.
4. Jeffrey M. Wooldridge, Econometrics, Cengage Learning, India Edition, 2009.
5. Damodar Gujarati, Econometrics by Example, Palgrave Macmillan, 2011.
6. Stock J. Watson, Introduction to Econometrics, Prentice Hall, New York, 2003.

MATHEMATICAL METHODS IN ECONOMICS: PAPER XI

SEMESTER V

COURSE CODE	PAPER TITLE	CREDITS	MARKS
GROUP - II	ELECTIVE PAPERS		
ECOMMEB505	MATHEMATICAL METHODS IN ECONOMICS : PAPER XI	4	100

Preamble:

The objective of this paper is to prepare the students the basic mathematics that enables the study of economic theory based on microeconomic theory, macroeconomic theory, statistics and econometrics. In this course, particular economic models are not dealt as the ends, but the means for illustrating the method of applying mathematical techniques to economic theory in general.

Module 1: Functions of one real variable

Graphs; elementary types of functions: quadratic, polynomial, power, exponential, logarithmic; sequences and series: convergence, algebraic properties and applications; continuous functions: characterizations, properties with respect to various operations and applications; differentiable functions: characterizations, properties with respect to various operations and applications; second and higher order derivatives: properties and applications.

Module 2: Single-variable optimization

Geometric properties of functions: convex functions, their characterizations and applications; local and global optima: geometric characterizations, characterizations using calculus and applications.

Module 3: Integration of functions and Differential Equations

Areas under curves; indefinite integrals; the definite integral, First Order Differential Equations.

Module 4: Mathematical Methods and Models

Game Theory, Input Output Model, Linear Programming, Auto Correlation, Multicollinearity , Hetroscadasticity.

References:

1. K. Sydsaeter and P. Hammond, Mathematics for Economic Analysis, Pearson Educational Asia, Delhi, 2002.
2. Damodar N. Gujrati, Basic Econometrics, McGraw-Hill, Delhi, 2003.
3. Chinag A. C.: Fundamental Methods of Mathematical Economics, McGraw-Hill, Delhi,1984.
4. R. G. D. Allan, Mathematical Analysis for Economists, Macmillan and Co., 1962.
5. Dowling Edward T: Introduction to Mathematical Economics, Schaum Outline Series in Economics, Tata McGraw -Hill, New Delhi, 2004.
6. Dowling Edward T: Theory and Problems of Mathematical Methods for Business and Economics, McGraw –Hill, 1993.

ENVIRONMENTAL ECONOMICS: PAPER XI

SEMESTER V

COURSE CODE	PAPER TITLE	CREDITS	MARKS
GROUP - II	ELECTIVE PAPERS		
ECOENVC505	ENVIRONMENTAL ECONOMICS: PAPER XI	4	100

Preamble:

This course focuses on economic causes of environmental problems. In particular, economic principles are applied to environmental questions and their management. Economic implications of environmental policy are addressed as well as valuation of environmental improvements.

Module1: Introduction to Environmental Economics:

Introduction to environmental development and environmental economics, Rio-Declaration on environmental development, Agenda 21 programme of action for sustainable development, Social and economic dimensions, Conservation and management of resources for development.

Module 2: The design and implementation of Environmental Policy:

Overview - Criteria for evaluating environmental policies; Standards, Pigovian taxes and effluent fees, tradable permits, choice between taxes and quotas, implementation of environmental policy.

Module 3: Measuring benefits of environmental improvements:

Economic value of Environment- Use and Non-use values-Measurement method:-market based and non-market based methods, contingent valuation, travel cost method, hedonic price method, risk assessment and perceptions.

Module 4: Environmental problems:

The global environment- Trans-boundary environmental problems, economics of climate change, International environmental Agreements - , sustainable development: Concepts and measures.

References:

1. Barry C. Fields: Environmental Economics : An Introduction, McGraw Hill International Edition, 1997.
2. Charles Kolstad : Environmental Economics, Oxford University Press, New York, 2000.
3. Kaltschmitt, Martin, Streicher, Wolfgang, Wiese, Andreas, Renewable Energy: Technology, Economics and Environment, Springer, Germany, 2007.
4. Hanley Nick, Shogren Jason and White Ben: Introduction to Environmental Economics, Oxford University Press, 2001.
5. Smith Stephen: Environmental Economics: A very Short Introduction, 1st Edition, Oxford University Press, New York, 2011.
6. United Nations Sustainable Development, UN Conference on Environment & Development, Rio de Janeiro, Brazil, Agenda 21, <https://sustainabledevelopment.un.org/content/documents/Agenda21.pdf>, 1992.

HISTORY OF ECONOMIC THOUGHT: PAPER XII SEMESTER V

COURSE CODE	PAPER TITLE	CREDITS	MARKS
GROUP - II	ELECTIVE PAPERS		
ECOHET506	HISTORY OF ECONOMIC THOUGHT: PAPER XII	3	80

Preamble:

This course provides basic understanding about the celebrated economists and their contributions starting from the classical period. It throws light on the contributions of Nobel Laureates of recent period too.

Module 1: Classical Period

Adam Smith - division of labour, theory of values, capital accumulation, distribution, David Ricardo- Value, theory of rent, distribution. Karl Marx - dynamics of social changes, theory of values, surplus value, profit and crisis of capitalism and Contemporary Relevance.

Module 2: Marginalist : Marshall To Schumpeter

Role of time in price determination , economics methods, ideas of consumer's surplus, representative firm, external and internal economies, quasi-rent, nature of profit; Pigou : welfare economics: Schumpeter: role of entrepreneur and innovation.

Module 3: Keynesian Ideas:

Liquidity Preference Theory and Liquidity trap, Consumption Function, MPC,

Multiplier & Accelerator principles and their interaction, wage rigidities, underemployment equilibrium, role of fiscal policy: deficit spending and public works, multiplier principles, cyclical behaviour of the economy.

Module 4: Post- Keynesian Developments:

Hayek – Supply side economics: Arthur Laffer, Evans – Monetarism: Milton Friedman’s Don Patinkin – An overview of the new classical economics: Robert Lucas.

Nobel Prize Winners in Economics: A. K. Sen (1998), Joseph Stiglitz (2001), Paul Krugman (2008), Jean Tirole (2014), Angus Deaton (2015), Richard Thaler (2017).

Reference:

1. Gide, O. and G. Rist , A History of Economic Doctrine, George Harrop Co., London, 1956.
2. Roll, E, A History of Economic Thought, Faber Landon, 1973.
3. Dasgupta A. K, Epochs of Economic Theory Oxford University Press. New Delhi, 1985.
4. Schumpeter, J.A, Ten Great Economist, Oxford University Press, New York, 1951.
5. Ghosh and Ghosh: Concise History of Economic Thought, Himalaya Publishers.
6. Puttaswamaiah K, Nobel Economists – Lives and Contributions, Indus Public Co., New Delhi, 1995.

TYBA (SEMESTER –VI)

COURSE CODE		REVISED PAPER	CREDIT	MARKS
GROUP-I : COMPULSORY PAPERS				
ECOMA601	XIII	MACRO ECONOMICS- III	4	100
ECOINT602	XIV	INERNATIONAL ECONOMICS	4	100
GROUP-II : ELECTIVE PAPERS				
ECOIFSA603	XV	INDIAN FINANCIAL SYSTEM	3	80
OR				
ECOEACB603	XV	ECONOMICS OF AGRICULTURE & COOPERATION	3	80
OR				
ECOILEC603	XV	INDUSTRIAL AND LABOUR ECONOMICS	3	80

ECOMSEA604	XVI	MATHEMATICAL & STATISTICAL TECHNIQUES FOR ECONOMIC ANALYSIS	4	100
OR				
ECORMB604	XVI	RESEARCH METHODOLOY	4	100
OR				
ECOIETC604	XVI	INDIAN ECONOMIC THOUGHT	4	100
OR				
ECOTPEA605	XVII	THEORY AND PRACTICE OF ECONOMETRICS	4	100
OR				
ECOAEB605	XVII	APPLIED ECONOMETRICS	4	100
OR				

ECODTEC605	XVII	DEVELOPMENT THEORY AND EXPERIENCE	4	100
ECOITPP606	XVIII	INTERNATIONAL TRADE, POLICY AND PRACTICE	3	80

MACROECONOMICS III: PAPER XIII

SEMESTER –VI

COURSE CODE	PAPER TITLE	CREDITS	MARKS
GROUP -I	COMPULSORY PAPERS		
ECOMA601	MACROECONOMICS III: PAPER XIII	4	100

Preamble:

This course introduces the students to formal modelling of a macroeconomic theory with analytical tools. It focuses on goods market with fixed exchange rate, the money market, uncovered interest rate parity and the benefits and costs of fixed and flexible exchange rates.

Module 1: The Goods Market in the Open Economy:

Trade Balance and its implications for GDP calculations – Export and Import Functions
– The Real Exchange Rate and why it matters –Why equilibrium GDP is consistent with a trade imbalance? – Fiscal and Exchange Rate Policy with a Fixed Exchange Rate.

Module 2: Money/Financial Markets and Mundell-Fleming Model:

The LM equation for the open economy –Uncovered Interest Parity and its implications for exchange rate determination – The combined IS/LM/UIP model.

Fiscal and Monetary Policy under Fixed and Flexible Exchange Rates– The Mundell-Fleming trilemma.

Module 3: Exchange Rate Regimes & Exchange Rate Crises:

The choice of regime – Fixed or Flexible – The spectrum of arrangements from Hard Peg at one end to Fully Floating at the other; Why the Balance of Payments must always balance under Floating Exchange Rates but need not balance under a Fixed or Managed Exchange Rate regime.

Exchange Rate crises – The relation between Exchange Rate crises and other kinds of

crises (banking crises, financial crises, etc.).

Module 4: International Monetary History, 1900-present:

The Gold Standard – The Inter-War Period and the Great Depression – 1944, Bretton Woods System and its collapse ; Fixing in Europe via ERM, and the Dollar Standard elsewhere.

The Maastricht Treaty and preparations for the Euro; The Global Financial Crisis and its consequences for the Euro; The Euro Crisis, Asia Infrastructure Investment Bank (AIIB), New Development Bank (NDB).

References:

1. Blanchard, Oliver, Macroeconomics , Pearson education, New Delhi, India, 2008.
2. Dornbusch R S, Fischer and R Startz; Macroeconomics, 8e Tata Mc Grow Hill, New Delhi, 2004.
3. Froyen, R. T.; Macroeconomics : Theory and Policy, Pearson Education Asia, Delhi, 2001.
4. Mankiw, Gregory; Macroeconomics, 6e, Worth Publishers, New York, 2003.
5. Salvatore, D.; International Economics, Printice Hall, New York, 1997 .
6. Robert C Feenstra & Alan M Taylor , International Trade, Worth Publishers, 2014.

INTERNATIONAL ECONOMICS: PAPER XIV

SEMESTER –VI

COURSE CODE	PAPER TITLE	CREDITS	MARKS
GROUP - I	COMPULSORY PAPERS		
ECOINT602	INTERNATIONAL ECONOMICS: PAPER XIV	4	100

Preamble:

This course develops a systematic exposition of models which explain the composition, direction, and consequences of international trade, and the determinants and effects of trade policy. It then builds on the models of open economy macroeconomics focussing on national policies as well as international monetary systems. It concludes with an analytical account of the causes and consequences of the rapid expansion of international financial flows in recent years.

Module 1: Introduction

Importance of the study of International Economics - An overview of world trade- Distinction between domestic & international Trade -Concepts of Cost Difference , Adam Smith’s Theory of International Trade, The Ricardian Theory.

Module 2: Modern Theories of International Trade

Heckshcher- Ohlin Theory of International Trade, Factor Abundance: Two Criteria, Leontief Paradox, Haberler's theory of Opportunity Cost, Law of reciprocal demand and offer curves, Role of Factor Accumulation, Stolper-Samuelson theorem.

Module 3: Importance of Trade and Recent trends:

Monopolistic competition and trade - firm heterogeneity, FDI: The concept and role, FDI Inflows- FDI Outflows, and the global supply chain, Business Process Outsourcing.

Module 4: Trade Policy and Regionalism

Instruments of trade policy; Why countries cooperate? -GATT, GATS, Regional Trade Agreements - controversies in trade policy (labour standards, IPR and environment) - ASEAN, SAARC, SAFTA, Protectionism.

References:

1. Paul Krugman, Maurice Obstfeld, and Marc Melitz, International Economics: Theory and Policy, Addison-Wesley (Pearson Education Indian Edition), 9th edition, 2012.
2. Dominick Salvatore, International Economics: Trade and Finance, John Wiley International Student Edition, 10th edition, 2011.
3. Gordon Hanson, „The Rise of Middle Kingdoms: Emerging Economies in Global Trade”, Journal of Economic Perspectives, Spring 2012.
4. Melitz M. and Trefler D., “Gains from Trade When Firms Matter”, Journal of Economic Perspectives, Spring 2012.
5. Kindleberger Charles P, International Economics, Homewood, USA, 1978
6. Bo Sodersten and Geoffrey Reed, International Economics, Palgrave Macmillan, 1994.

INDIAN FINANCIAL SYSTEM: PAPER XV

SEMESTER – VI

COURSE CODE	PAPER TITLE	CREDITS	MARKS
GROUP - II	ELECTIVE PAPERS		
ECOIFSA603	INDIAN FINANCIAL SYSTEM : PAPER- XV	3	80

Preamble:

The basic purpose of this paper is to acquaint students with various components of the Indian financial system, its working and the trends that have taken place over the years especially since financial sector reforms.

Module 1: Indian Financial System: Structure, Trends and Turns

Meaning and components of the Financial System - Financial System and Economic Development - Indicators of Financial Development: FR, FIR, NIR and IR – Overview of financial sector reforms since 1990s – Trends and turns in Indian financial sector: 1950-2017.

Module 2: Banking in India since 1990s.

Developments in Commercial banking sector since 1990s – Management of Non-Performing Assets (NPAs); Capital Adequacy Norms - Basel Accord III - Monetary policy of the RBI –

Changes in RBI monetary policy since 1990s - Monetary Policy Committee (MPC), Payment Banks, Mudra Bank- Transmission Channels of Monetary policy.

Module 3: Money and Capital Markets in India:

Money Market: Components of organized money market – Reforms in the money market - Features of Indian Money Market.

Capital Market: Structure of the Indian Capital Market – Recent Developments in the Capital Market – Role of SEBI - Interlink between Money Market and Capital Market - Overview of Debt Market in India – Islamic Banking, Merchant Banking and Investment Banking.

Module 4: Non-Banking sector of the Financial System:

Non-Bank Finance Companies (NBFCs) in India and their progress - Developments in India's Insurance sector – Progress of Mutual Funds industry in India - Credit Rating Agencies in India.

References:

1. Pathak, Bharati, The Indian Financial System –Markets, Institutions, and Services, Pearson Education, New Delhi, 2008.
2. Bhole, L. M, Financial Institutions and Markets, Growth and Innovation, Tata McGraw-Hill, New Delhi, 2008.
3. Khan, M.Y, Financial Services, Tata McGraw Hill, New Delhi, 2007.
4. Reserve Bank of India (various issues) Report on Currency and Finance, RBI, Mumbai.
5. Rakesh Mohan & Partha Ray, Indian Financial Sector: Structure, Trends & Turns; IMF Working Paper (WP/17/7). <https://www.imf.org> Issues > 2017/01/20
6. Dutta Abhijit, Indian Financial System, Excel Books, Delhi, 2012.

ECONOMICS OF AGRICULTURE AND COOPERATION : PAPER XV

SEMESTER VI

COURSE CODE	PAPER TITLE	CREDITS	MARKS
GROUP - II	ELECTIVE PAPERS		
ECOECB603	ECONOMICS OF AGRICULTURE AND COOPERATION :PAPER XV	3	80

Preamble:

The paper is designed to provide various aspects related to the principles of cooperation and cooperative organizations in the globalized economy. The essentials of cooperative finance are dealt in with reference to the latest trends.

Module 1: Co-operation:

Meaning and features of Co-operation - Principles of Co-operation (Manchester-1995) – Role of Co-operation in Economic development - Globalization and Co-operation- Importance and Benefits of Co-operation, Use of Big data Artificial Intelligence (AI) in Indian Agriculture.

Module 2: Co-operative Finance in India:

Co-Operative Finance: Need, Structure, Progress and Problems - National Co-operative Development Corporation (N.C.D.C.), Aadhar as KYC Norm for Agricultural Finance - Farmers service societies and urban Co-operative banks.

Module 3: Agricultural Co-operatives:

Role and Types of Agro-Industries - Problems and Measures of Agro-Industries – Sugar and Dairy Co-operatives - Food and Fruits Processing Industry - Co-Operative Farming.

Module 4: Co-operative Organizations in India:

Consumer Co-operatives - Co-Operative Marketing - Housing Co-operative societies - Labour Co-operative societies - Agricultural Marketing societies-Leadership in Cooperative development.

References:

1. R. D. Bedi, Theory, History and Practice of Co-Operation, International Publishing House, Meerut(U.P.), 1983.
2. Mathur B. S, Co-Operation in India, Sahitya Bhavan, Agra, 2000.
3. John Matthai, Agricultural Co-Operation in India , Reliance Publishing House, New Delhi, 1925.
4. Krishnaswami, Fundamentals of Co-Operation, S. Chand and Company Ltd, New Delhi, 1985.
5. Hajela T.N, principles, problem and practice of Co-operation, Agarwal publication, New

Delhi, 2000.

6. Government of Maharashtra - Co-operative movement at a Glance (latest annual report).

INDUSTRIAL AND LABOUR ECONOMICS: PAPER XV

SEMESTER – VI

COURSE CODE	PAPER TITLE	CREDITS	MARKS
GROUP - II	ELECTIVE PAPERS		
ECOILEC603	INDUSTRIAL AND LABOUR ECONOMICS :PAPER XV	3	80

Preamble:

Issues pertaining to the labour market, wage policy, trade unions and amicable solutions to industrial disputes have become vital for developing countries, especially for India, where the bulk of the labour force is employed in the unorganised sector, and the organized sector is witnessing a phenomenon of 'jobless' growth. This paper intends to provide knowledge of the same and also discusses the importance of labour welfare and social security measures for the growing labour force in India.

Module 1 : Introduction – Indian Labour Market

Characteristics of the Indian Labour Market - Child Labour and Female Labour – Problems and Measures- Globalisation and Indian Labour Market -Labour Market Reforms – Exit Policy and Need for Safety Nets - Second National Commission on Labour.

Module 2 : Trade Unionism

Definition and Functions of Trade Unions- Historical Evolution of Trade Unions in India and Their Present Status - Problems of Trade Unions in India - Role of Outside Leadership

Module 3 : Industrial Relations

Causes of Industrial Disputes and Their Settlement Mechanism - Collective Bargaining – Concept, Features, Importance and Pre-requisites for Successful Collective Bargaining - Collective Bargaining in India - Workers’ Participation in Management –Concept, objectives and Forms of Workers’ Participation in India.

Module 4 : Labour Welfare and Social Security

Concept, Theories and Principles of Labour Welfare - Agencies for Labour Welfare - Role of the Labour Welfare Officer - Social Security – Concept; Social Assistance and Social Insurance - Social Security Measures in India - International Labour Organization

and Its Impact on Indian Labour Legislations.

References:

1. Datt R. and Sundaram K.P.M, Indian Economy, S.Chand & Co., New Delhi, 2009.
2. Mamoria C.B. and Mamoria S, Dynamics of Industrial Relations, Himalaya Publishing House, Mumbai, 2002.
3. Mishra S.K. and Puri V.K, Indian Economy, Himalaya Publishing House, Mumbai, 2002.
4. Monappa A, Industrial Relations, Tata McGraw Hill Publishing Company Ltd., New Delhi, 2006
5. Ratna Sen, Industrial Relations in India - Shifting Paradigms, Macmillan, New Delhi, 2005.
6. Singh J.K, Labour Economics – Principles, Problems and Practices, Deep andDeep Publications Pvt. Ltd., New Delhi, 1998.

**MATHEMATICAL AND STATISTICAL TECHNIQUES FOR
ECONOMIC ANALYSIS: PAPER –XVI**

SEMESTER VI

COURSE CODE	PAPER TITLE	CREDITS	MARKS
GROUP - II	ELECTIVE PAPERS		
ECOMSEA604	MATHEMATICAL AND STATISTICAL TECHNIQUES FOR ECONOMIC ANALYSIS :PAPER- XVI	4	100

Preamble:

This paper proposes to equip the students with analyzing skills with sound footing of relevant mathematical and statistical techniques. Economic analysis and interpretation of data cannot be carried out in the absence of knowledge of these techniques narrated here.

Module1: Techniques and applications of partial derivatives

Functions of several variables and partial derivatives - Second order partial derivatives - Optimisation of multivariable functions - Constrained optimisation with Lagrange multiplier and its economic interpretation - Marginal productivity, Income and price elasticity of demand - Homogeneous production functions and returns to scale - Cobb-Douglas production function

Module 2: Integral Calculus:

Integration and Definite integral; area under the curve - Economic applications - Present value of cash flows(present value of a sum to be received in future and present value of a stream of future income) - Consumer's and Producer's Surplus- Learning curve.

Module 3: Correlation and Regression:

The meaning and significance of Correlation; Scatter plot of Bivariate Distributions; Correlation and Causation - Karl Pearson's coefficient of correlation: Spearman's rank correlation coefficient - Simple regression analysis- Method of Least Squares and Regression Lines, Regression Coefficients, Relationship between correlation coefficients and regression coefficients.

Module 4: Index Numbers and Time Series:

Simple and composite index numbers- Construction, uses and problems of index numbers- Laspeyre's, Paasche's and Fisher's Index numbers- Cost of living index numbers-real income – wholesale price index number- Splicing of index numbers, Components of time series, Estimation and forecasting of trend by the Least Squares Method.

References:

1. Dowling Edward T: Introduction to Mathematical Economics, Schaum's Outline Series in Economics, Tata McGraw Hill, New Delhi, 2004.
2. Lerner Joel J and P. Zima: Theory and Problems of Business Mathematics, McGraw Hill, New York, 1986.
3. Dowling Edward T: Theory and Problems of Mathematical methods for Business and Economics, McGraw –Hill, 1993
4. Gupta S.P.: Statistical Methods, S. Chand, New Delhi.
5. Sancheti D.C. and V.K. Kapoor: Statistics-Theory, Methods and Applications, S. Chand, New Delhi, 2014.
6. Chiang A.C: Fundamental Methods of Mathematical Economics, 3rd ed., McGraw-Hill, 1984.

RESEARCH METHODOLOGY: PAPER XVI

SEMESTER –VI

COURSE CODE	PAPER TITLE	CREDITS	MARKS
GROUP - II	ELECTIVE PAPERS		
ECORMB604	RESEARCH METHODOLOGY :PAPER XVI	4	100

Preamble:

This paper is designed with a goal to strengthen the critical thinking and listening skills in conducting economic research and to device research outcomes in an impeccable way. The entire course is based on the broad social sciences spectrum.

Module 1: Statistical applications in research:

Methods of studying Correlation- measurement of simple correlation: graphic method: scatter diagram - coefficient of correlation - Karl Pearson and rank correlation interpretation of $r = \pm 1$

Linear Regression analysis: meaning, regression lines, regression coefficients, regression equations, relationship between correlation and regression.

Analysis of Time Series – components –trend analysis- moving averages (3, 4 and 5 yearly)- method of least square.

Module 2: Index numbers:

Meaning – classification – problems encountered while constructing index numbers- uses and limitation of index numbers, Methods of constructing index numbers: Simple index: i) aggregate method ii) simple average of relatives method, Weighted index: Laspeyres's, Paache's and Fisher's index – weighted average of relatives method, Chain based index – concepts of Base shifting, splicing, and deflating, Consumer price index: meaning, need and construction – methods: aggregate expenditure method and family budget method.

Module 3: Hypothesis formulation and Hypothesis Testing:

Definition and functions of hypothesis –Criteria of workable hypothesis – forms and sources of hypothesis- Concepts in Testing of Hypothesis: Universe / Population, parameter and statistic, Null and Alternative Hypotheses, Levels of Significance, critical region, Type I and Type II errors - Point and Interval Estimates.

Module 4: Research Report Writing:

Types of Research Report: Technical, Popular, Interim, Summary, Article- Format of a Research Report- Principles of writing the Research Report: Organization and Style - Contents-Styles of reporting- Steps in drafting Reports- Editing the final draft-Evaluating the final draft -Organization of the Research Report: Preliminaries, Contents of Report, Structuring the Report: Chapter format- Pagination- Identification- Using quotations- Presenting footnotes –abbreviations- Presentation of tables and figures- Referencing- Documentation-Use and format of appendices- Indexing - Bibliography, Appendices.

References:

1. Goode J. William & Hatt K. Paul, Methods in social Research, New York, McGraw-Hill, 1952.
2. Kothari, C.R (2004) Research Methodology: An Introduction, Delhi, New Age, 2004.

3. Krishnaswami, O.R & M. Ranganathan , Methodology of Research in Social Sciences, Himalaya Publishing House, Mumbai, 2011.
4. Kumar, Renjith (2009) Research Methodology: A Step by Step Guide for Research, Delhi, Pearson Education, 2009.
5. P.Saravanavel Research Methodology, KitabMahal, Allahabad, 1987.
6. Gupta S P Statistical Methods Sultan Chand and Sons, New Delhi, 1987.

INDIAN ECONOMIC THOUGHT: PAPER XVI

SEMESTER VI

COURSE CODE	PAPER TITLE	CREDITS	MARKS
GROUP - II	ELECTIVE PAPERS		
ECOIETC604	INDIAN ECONOMIC THOUGHT : PAPER XVI	4	100

Preamble:

The history of Indian economic thought provides rich insights into both economic issues and the workings of the Indian mind. It will give the student an introduction to major Indian thinkers and their ideas on Indian economic policy.

Module 1: The Modernists

Naoroji :- Drain theory, criticism and long run relevance, Ranade's views on railway investment and the methodology of Indian economics, Gokhale:-Gokhale and the economics of education, the rupee ratio debate , Dr. Ambedkar's contribution to the rupee debate.

Module 2: Agriculture, Poverty and Famines

Why do famines occur? Famine policy, criticism of famine policy, Ranade's views on Poverty and Industrialisation, agrarian policy, contribution of Dr.B.R.Ambedkar.

Module 3: Economic Policy after Independence

Nehruvian economics –Mahalonobis model and planning, industrial stagnation, industry and trade, agriculture and the wage goods model , reappraisal of Nehru's economics

Module 4: Economic Thought in Contemporary India

Measurement of poverty, liberalisation, privatisation and globalisation, Human development and AmartyaSen's contribution, JagadishBhagawati's contribution.

References:

1. Jadhav Narendra, Ambedkar : An Economist Extraordinaire , Konark Publishers, New Delhi, 2015.
2. Dasgupta A.K.(1993) : A History of Indian Economic Thought , Routledge, 1993.
3. Balkrishnan P. , The Recovery of India: Economic Growth in the Nehru Era, Economic and Political Weekly, Vol. 42, No. 45/46 (Nov. 10 - 23, 2007), pp. 52-66, 2007.
4. A.Sen: Development as capabilities Expansion, [http://morgana.unimore.it/Picchio_Antonella / Sviluppo%20umano/svilupp%20umano/Sen%20development.pdf](http://morgana.unimore.it/Picchio_Antonella/Sviluppo%20umano/svilupp%20umano/Sen%20development.pdf)
5. A.Pangariya: Why Growth Matters: How India's Growth Acceleration has Reduced Poverty, [http://www.cde.org.za/wp-content/uploads/2013/09/Prof%20Arvind%20Panagariya Why% 20growth% 20matters_% 20How% 20Indias% 20growth% 20acceleration% 20has% 20reduced% 20poverty.pdf](http://www.cde.org.za/wp-content/uploads/2013/09/Prof%20Arvind%20Panagariya%20Why%20growth%20matters_%20How%20Indias%20growth%20acceleration%20has%20reduced%20poverty.pdf)
6. Deaton Angus(2013) : What is Going on in India, [https://scholar.princeton.edu/sites/default/ files/deaton/files/deaton_book_review_sen_dreze_etc_lancet_2013_0.pdf](https://scholar.princeton.edu/sites/default/files/deaton/files/deaton_book_review_sen_dreze_etc_lancet_2013_0.pdf)

THEORY AND PRACTICE OF ECONOMETRICS: PAPER XVII

SEMESTER VI

COURSE CODE	PAPER TITLE	CREDITS	MARKS
GROUP - II	ELECTIVE PAPERS		
ECOTPEA605	THEORY AND PRACTICE OF ECONOMETRICS : PAPER XVII	4	100

Preamble:

The paper is aims to help students understand the art of model building. It focuses on building the appropriate model and testing it statistically and to apply it to the practical problems in forecasting and analysis.

Module 1: Econometric Model Specification:

Identification: Structural and reduced form - Omitted Variables Bias- Errors in measurement- Endogeneity and Bias.

Module 2: Failure of Classical Assumptions

Multi-collinearity and its implications - Auto-correlation: Consequences and Durbin-Watson test- Heteroskedasticity: Consequences and the Goldfeld -Quandt test.

Module 3: Forecasting:

Forecasting with a) moving averages b) linear trend c) exponential trend- CAGR- Forecasting with linear regression- Classical time series decomposition- Measures of forecast performance: Mean Square Error and Root Mean Square Error - Limitations of econometric forecasts.

Module 4: Linear Programming:

Linear programming - Dual of a linear programming problem - Simplex method - Transportation.

References:

1. Damodar N. Gujarati, Basic Econometrics, McGraw-Hill, Delhi, 2003.
2. Kapoor V. k. (2011), Operations Research Problems & Solutions, Sultan Chand & sons.
3. Lipschutz (Schaum Series), Theory and Problems of Statistics.
4. Wooldridge Jeffery M., Introductory Econometrics: A Modern Approach. 6th edition, Cengage Learning, USA, 2016.
5. Stock James H. and Watson Mark W., Introduction to Econometrics, Updated 3rd Edition, Global Edition, Pearson Education Limited, 2015.
6. Makridakis Spyros and Steven C Wheelright, Forecasting Methods and Applications, Willey Publications, 2008.

APPLIED ECONOMETRICS: PAPER XVI

SEMESTER VI

COURSE CODE	PAPER TITLE	CREDITS	MARKS
GROUP - II	ELECTIVE PAPERS		
ECOAE605	APPLIED ECONOMETRICS: PAPER XVI	4	100

Preamble:

The aim of this course is to provide a foundation in applied econometric analysis and to develop skills required for empirical research in economics. Topics include specification and selection of regression models, dynamic econometric models, advanced methods in regression analysis and panel data models. Since the emphasis is on application of methods, this course requires understanding of econometric software and computing skills.

Module 1: Violations of Assumptions in the Linear Regression model:

Heteroscedasticity, implications, testing and remedy, autocorrelation, implications, testing and remedy, multicollinearity

Module 2: Regression Diagnostics and Specification:

Misspecification; functional forms; model selection, endogeneity and instrumental variables

Module 3: Advanced Topics in Regression Analysis:

Dynamic Econometric Models: distributed lag models; autoregressive models; simultaneous equation models.

Module 4: Introduction to Panel Data and Research softwares.

What is a Panel data? Difference with Time Series Data- Multivariate data, Regression with Panel data, General Introduction to Research Softwares like R, Eviews and SPSS.

Readings:

1. Jeffrey M. Wooldridge, *Econometrics*, Cengage Learning, India Edition, 2009.
2. Dimitrios Asteriou and Stephen Hall, *Applied Econometrics: A Modern Approach*, Palgrave Macmillan, 2007.
3. Damodar Gujarati, *Econometrics by Example*, Palgrave Macmillan, 2011.
4. Kleiber C and Zeilis A, *Applied Econometrics with R*, Springer, Use R1, 2008.
5. Baltagi B H, *Econometric Analysis of Panel data*, Wiley Publications, 2013.
6. Walters Enders, *Applied Econometric Time Series*, Wiley Publications, USA, 2014.

DEVELOPMENT THEORY AND EXPERIENCE: PAPER XVII

SEMESTER VI

COURSE CODE	PAPER TITLE	CREDITS	MARKS
GROUP - II	ELECTIVE PAPERS		
ECODTEC605	DEVELOPMENT THEORY AND EXPERIENCE : PAPER XVII	4	100

Preamble:

This is the second paper of economic development sequence. The course begins with demographic concepts and their evolution during the process of development. Then it focuses on the theory migration and discusses the link between migration and development. The structure of markets and contracts is linked to the particular problems of enforcement experienced in poor countries. The course ends with the issues related to environment and development.

Module I: Demography and Development:

Demographic concepts; birth and death rates, age structure, fertility and mortality; demographic transitions during the process of development; gender bias in preferences and outcomes and evidence on unequal treatment within households; connections between income, mortality, fertility choices and human capital accumulation.

Module II: Structural Transformation:

The Lewis model –Clark-Fisher model of structural change , Urbanization: Trends and Projections with reference to India, Urbanization and Development, Causes of urbanization, Urban informal sector, Policies for the urban informal sector, Migration and development, Economic theory of rural-urban migration: Harris-Todaro migration model

Module III: Land, Labor and Credit Markets:

Role of Agriculture in Economic Development, Market Failure and Agriculture, The distribution of land ownership; Land reform and its effects on productivity; contractual relationships between tenants and landlords; Land Acquisition; Nutrition and Labour Productivity; Rural Credit Market; Microfinance; Inter-linkages between Rural Factor Markets.

Module IV: The Environment and Development:

The core of environmental problems- Rural poverty and environmental destruction- industrialization and environmental pollution - Economic models of environmental issues: privately owned resources, common property resources, public goods: regional environmental degradation and the free rider problem, limitations of public goods

framework.

References:

1. Debraj Ray, Development Economics, Oxford University Press,2009.
2. Partha Dasgupta, Economics: A Very Short Introduction, Oxford University Press,2007.
3. Abhijit Banerjee, Roland Benabou and Dilip Mookerjee, Understanding Poverty, Oxford University Press,2006.
4. Amartya Sen, Development as Freedom, Oxford University Press,2000.
5. Daron Acemoglu and James Robinson, Economic Origins of Dictatorship and Democracy, Cambridge University Press,2006.
6. Michael Todaro and Stephen Smith : Economic Development,11th edition, Pearson

**INTERNATIONAL TRADE, POLICY AND PRACTICE
: PAPER XVIII**

SEMESTER VI

COURSE CODE	PAPER TITLE	CREDITS	MARKS
GROUP - II	ELECTIVE PAPERS		
ECOITPP606	INTERNATIONAL TRADE, POLICY AND PRACTICE : PAPER- XVIII	3	80

Preamble:

This course is designed for addressing changing phase of International Trade Policy and Practice. The main purpose of this course is to expose students to current trends in International developments.

Module 1 :Introduction

Inter regional and international trade, Role of Dynamic factors i.e. change in Tastes, Technology and Role of Factor Accumulation.

Foreign Exchange Rate: Concepts - Short and Forward rates - Foreign Exchange rate determination – Fixed and flexible exchange rate – Interrelationship between exchange rates and Interest rates.

Exchange Rate system in India, managed floating, Current and Capital Account

Convertibility and their impact, FEMA.

Module 2 : Emerging new International Economic Order

GATT, Uruguay Round, WTO, WTO Agreement, Dispute settlement Mechanism, Impact of WTO on Emerging Economies and India, Doha Round and implications of its failure- Emergence of Regional Free Trade agreements (FTA), Bilateral Investment Treaty (BIT), Double Taxation Avoidance Agreement (DTAA).

Module 3 :International Financial Institutions and International Debt Problem.

IMF, World Bank, Asian Development Bank (ADB) –New Development Bank (NDB), Asia Infrastructure Investment Bank (AIIB) and their role with special reference to India. South East Asian Crisis and Lessons for India, Global Economic Crisis, Global Financial Crisis of 2008, International Debt Problem – Emerging Global Financial Architecture.

Module 4: Role of Foreign Capital Flow

Factors determining Foreign Investment, Foreign Institutional Investment (FII), Qualified Foreign Investment (QFI), Foreign Portfolio Investment (FPI), Role of FDI in Economic Development- Factors influencing FDI inflows- Green Field and Brown field FDI in India, Foreign Investment and Role of MNCs in India.

References:

1. Robert J Carbaugh, International Economics, South-Western Cengage Learning, USA, 2017.
2. Paul R Krugman, Maurice Obstfeld and Melitz Mark, International Economics: Theory and Policy, Princeton University, USA, 2015.
3. Dennis R Appleyard, Alfred J Field, International Economics, McGraw-Hill, USA, 2013.
4. Robert J Carbaugh, International Economics(With Xtra! and Info Trac), South Western College Pub, 2003.
5. Kindleberger Charles P., International Economics,3rd edition, R. D. Irwin, Homewood, IL, 1963.
6. Bo Sodersten and Geoffrey Reed, International Economics, 3rd Edition, Palgrave Macmillan; (May 15, 1994)