COURSE STRUCTURE & SYLLABUS
M.Sc. (AGRIBUSINESS ECONOMICS)
(Effective from academic year 2017-18)
(Approved by Board of Studies – 9-5-2017)
(Approved by Academic Council – 7-7-2017)

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**OPTIONAL PAPERS (Any four to be opted)**

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AE-A-01: INDIAN AGRICULTURAL ECONOMICS

**Objective:** To acquaint the learner with introductory Agricultural Economics, development of agriculture in India, use of yield increasing inputs, marketing and prices.

**Contents**

**Module I**
Scope and Subject matter of Agricultural Economics, Nature and Utility of Agricultural Economics, Role and Importance of Agriculture in National Economy: share in National income, Source of livelihood, Employment, Industrial development and trade

**Module II**
National Resource base of Indian agriculture, India’s position in World Agriculture, Comparison of India with other countries, Agricultural Growth in India during pre and post-Independence period,

**Module III**
Factors responsible for agricultural development in India, Growth in use of technological factors in production such as irrigation, seed, fertilisers, capital during last five decades

**Module IV**
Land Utilization Pattern, Changes in agrarian structure in India, Patterns of Cropping in different regions, Shift in Cropping Pattern and its Implications on Food Security.

**Module V**
Farm capital structure in Agriculture and its changes, Issues on Capital formation in Indian agriculture, Mechanization of Agriculture, Employment and Unemployment in agriculture

**Module VI**
Credit in Indian agriculture: purposes of loans, Sources of finance and changes in theses over the plan period. Factors determining demand for credit. Recent policy changes in regard to farm credit and their implications.

**Module VII**
Marketing: Characteristics of primary agricultural markets in India, Regulated markets and market intervention, Marketing efficiency, Marketed and Marketable surplus, Marketing Channels and Functionaries

**Module VIII**
Farm prices, Trends in relative prices of farm products, Supply response to prices in agriculture; Behavior of marketed surplus, Price policy in India and its basis, Cost concepts

**Suggested Readings:**
- Agricultural Research Data Book 2009, Indian Agricultural Statistics Research Institute, Pusa, New Delhi 110 012
- Dhawan, B. D., 1988, Irrigation in India’s Agricultural Development, Sage Publications Pvt. Ltd.
• State of Indian Agriculture: 2012-13, Ministry of Agriculture, Government of India, New Delhi
• Vaidyanathan, A., 1988, India's Agricultural Development in a Regional Perspective, Longman Limited.

Articles

• Joshi, P.K., Birthal, P.S. and Monot, N., 2006, Sources of Agricultural Growth in India: Role of Diversification towards High Value Crops, MTID Discussion Paper No. 98, International Food Policy Research Institute, Washington DC, USA
• Kannan, E. and Sundaram, S., 2011, Analysis of Trends in India’s Agricultural Growth, Working Paper 276, ISEC, Bangalore
• Patnaik, G., 2011, Status of Agricultural Marketing Reforms, IGIDR Proceedings/ Project Series, pp-069-11b
• Ramaswami, B., 2002, Efficiency and Equity of Food Market Interventions, Economic and Political Weekly, March 23, 2002

AE-A-17: MICROECONOMICS - I

This course is the first attempt to develop the theoretical structure of microeconomics. The objective of this course is to develop an understanding of the basic principles of microeconomics. It is intended to improve student’s analytical skills and ability to solve problems, which will be useful in several other areas of economics. By the end of this course the student is expected to be familiar with basic concepts of microeconomics and acquire analytical skills to analyse problems of economic policy. Examples and exercises would be covered to provide a flavour of various applications.

It does not require any previous knowledge of microeconomics. Familiarity with calculus and optimisation theory will be helpful. Relevant mathematical tools will be developed during the course whenever necessary.

Module 1: Consumer Theory
Comparative statics using first order conditions, The integrability problem. Revealed preferences. Endowments in the budget constraint, Labour leisure trade off. Consumer’s surplus, Compensating and Equivalent Variations

Module 2: Theory of Firm

Module 3: Theory of Market I: Perfect Competition, Monopoly, and Monopolistic Competition

Module 4: Game theory (basic introduction)

Module 5: Theory of Market II: Oligopoly

BASIC READING LIST
- Williamson, O. E. and Winter, Sidney G. (Eds) (1993), The nature of the firm; origins, evolution and development, Oxford University Press

ADDITIONAL READING LIST

Module 1

Module 2
- Pindyck, Robert S. and Rubinfeld, Daniel L. (1998), Microeconomics, Prentice Hall

Module 3
- Pindyck, Robert S. and Rubinfeld, Daniel L. (1998), Microeconomics, Prentice Hall.

Module 4

Module 5
**AE-A-18: MICROECONOMICS - II**

**PREAMBLE**
This is the second part of the core Microeconomics Sequence. This course introduces fundamental concepts and topics developed in microeconomic theory. It will cover roughly 4 topics: 1) Theory of General Equilibrium, 2) Economics of Uncertainty, 3) Games of Incomplete Information and 4) Information Economics. The aim is to be as through as possible in a single semester time period. The theoretical tools developed in these topics are essential in many different fields in economics.

**Module 1: Theory of General Equilibriums**
The focus shall be on GE with certainty.


**Module 2: Economics of Uncertainty**
Measures of risk -- Domar-Musgrave index, Roy’s safety index, Mean-Variance, Semi variance. Mini-max regret. Lotteries, preference relation over lotteries, N-M expected utility theory – basic axiom and representation theorem; violations of EU theory. Subjective probabilities. Risk aversion – Jensen’s inequality, Acceptance set and risk aversion, various measures of risk aversion (Arrow-Pratt measure of absolute risk aversion, relative risk aversion), certainty equivalent and risk premium, Arrow-Pratt approximation of risk premium, Pratt’s theorem, DARA, CARA, IARA, DRR, IRRA, CRRA classes of utility functions and their comparative static properties; Applications to various settings and comparative static results. Stochastic dominance criterion of ordering risky prospects, and equivalence between expected utility criterion and stochastic dominance criterion.

**Module 3: Games of Incomplete Information**
Static Bayesian games and Bayesian equilibrium – theory and examples.

**Module 4: Information Economics**
Introduction. The elements of the problem. Types of Asymmetric information problems – moral hazard, adverse selection, signalling.

Static Moral Hazard: Full information Benchmark, Hidden action in a Two action-Two outcome model as well as in a simple Continuous action and continuous outcome case, Solution through First order approach and its validity, Value of information and characteristics of the Optimal contract


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BASIC READING LIST

ADDITIONAL READING LIST Module 1:

Module 2:

Module 3:

Module 4:

AE-A-03—MACROECONOMICS

Objective
The objective of the paper is to familiarize the students about the contribution of various schools of thought in macroeconomics. The course structure covers the major debates and intends to provide wider vision of the present discourses in macroeconomics. The course will help to develop aptitude to relate concepts with research and policy.

Module I: Background Concepts:
- History of macroeconomic thought- Classical, Keynesian and schools of thought after Keynes.

Behavioral foundations of Macro Economics:
- Investment Function: Neo-Classical Theory of Investment, Stock Market and Tobin’s q-ratio, Accelerator Theory of Investment (simple and flexible acceleration models)
- The Monetarist School: The quantity theory of money approach

Module II: Rational Expectations and new Classical Macroeconomics:
The basic concepts – the Phillips curve and Lucas Supply equation

Module III: Real Business Cycle School:
- Real Business Cycle School and inter temporal substitution of labour- Real Business Cycle theory-technology shocks- neutrality of money and flexibility of wages and prices- Real Business cycle view on great depression.

Module IV: Micro Foundations of real and nominal rigidities: New Keynesian School:
- Imperfect competition and price setting- Real rigidity- Co-ordination failure models- Real Non Walrasian Theories- Small Menu Cost model and Staggering of prices, implicit wage contract theory- efficiency wage theory- Insider- Outsider model.

Module V: Basic Infinite Horizon Models:
- Ramsey Problem: Command Economy, Decentralized economy, dynamic efficiency - Government in the decentralized economy.
- Overlapping Generations Model:
  - OLG with production: tow period lives, dynamic inefficiency and altruism,
  - Social Security Models under OLG

READING LIST

AE-A-04: STATISTICS

Objective: To familiarize the students with statistical techniques used in agri-business operations and agricultural policy analysis.

Contents

Module 1

Module 2
Introduction to Statistics, Scope and Functions of Statistics, Planning and Executing of Survey

Module 3
Types of Data, Sources of data, Collection old Data, Types and method of collecting data, Grouping and Displaying Data, Measures of Central Tendency and Dispersion, moments, skewness and kurtosis.

Module 4
Elements of probability theory, laws of probability, Mathematical expectation. Probability distributions – binomial, Poisson, normal distributions and their applications.

Module 5
Introduction to Sampling and Sampling designs, Sampling errors, Sampling distributions – t, chi-square and F. Tests of significance based on Z, t, Chi-square and F distributions. Point and confidence interval estimation

Module 6
Testing of hypothesis – two types of errors, level of significance and power of a test.

Module 7
ANOVA, Correlation and Regression analysis, Partial and multiplecorrelation, Coefficient of determination. Multivariate normal distribution, Hotelling T2, Principal Component Analysis, Cluster analysis, Discriminant analysis

Module 8
Index Number: Classification and methods of constructing index numbers-Un-weighted and Weighted Aggregated Index, averages of relative methods, issues in constructing and using index numbers

Module 9
Time Series and Forecasting: Analysis of Time Series data-Trend Analysis, Cyclical variation, Seasonal Variation, Irregular Variation, time series analysis in forecasting; measuring trend by logarithms

Suggested Readings:
- Levin, Stephan, Krehbiel and Berenson (2009), Statistics for Managersusing Microsoft Excel, PHI Learning, New Delhi
AE-A-05: FARM MANAGEMENT ECONOMICS

Objective: To expose the students to the concepts, significance and uses of production economics in an agricultural context.

Module 1:

Module 2:
Factors of production, classification, interdependence, and factor substitution - Determination of optimal levels of production and factor application, Optimal factor combination and least cost combination of production – Theory of product choice; selection of optimal product combination.

Module 3:
Cost functions and cost curves, components, and cost minimization – Duality theory – cost and production functions and its applications – Derivation of firm’s input demand and output supply functions – Economies and diseconomies of scale.

Module 4:
Technology in agricultural production, nature and effects and measurement - Measuring efficiency in agricultural production; technical, allocative and economic efficiencies, yield gap analysis – concepts, types, and measurement

Suggested Readings

Books

Journals
- Fuwa, N., Edmonds, C., and Banik, P., 2007, Are small-scale rice farmers in eastern India really inefficient? Examining the effects of microtopography on technical efficiency estimates, Mimeo

- Schreinemachers, P., 2005, The (Ir)relevance of the Crop Yield Gap Concept to Food Security in Developing Countries, with an Application of Multi Agent Modeling to Farming Systems in Uganda, Doctoral Dissertation, University of Bonn
AE-A-06: AGRICULTURAL POLICY FRAMEWORK IN INDIA

Objectives
The objective of this course is to provide orientation to the students regarding the agricultural policies and its effect on sustainable agricultural development and to make them to understand the globalization and its impact on agricultural development.

Module 1: Structure and Characteristics of Agriculture in Developed and Developing Countries, Transformation of Agriculture, Need for sound Agricultural Policies

Module 2: Agricultural Policies and Programmes under Five Year Plans

Module 3: Land Reforms, Abolition of Intermediaries, Regulation of Rent, Ceiling on Land holdings, Reverse Tenancy in Indian Agriculture in some states, Declining size of land holding

Module 4: Policies Related to Agricultural Inputs
Seed Policy in India - Seeds Act and amendments, Private sector entry into seed industry, National Seeds Policy, Bio diversity Act, WTO and Seed Policy, Protection of Plant Varieties and Farmers’ Right Act,
Fertilizer Policy - Fertilizer Policy soon after independence, Retention Price Scheme, New Pricing Scheme, Nutrient Based Pricing, Neem Coated Urea, Fertilizer Subsidy
Water Policy - National Water Policy, Irrigation Potential created and Utilized, Participatory Irrigation Management, Water Resources and Future Challenges, Water and Electricity Subsidy

Credit Policy - Institutional and Non-Institutional credit, Structure of Rural credit System and their policies, Credit Subsidy


Module 7: Issues in Measurement of Poverty

Module 8: Issues in Agricultural Taxation

Module 9: Agricultural Insurance – Principal Risks and Risk Mitigating Strategies, Need for Agricultural Insurance and Issues Involved, Schemes for Crop Insurance in India and their implementation

Suggested Readings:

Books

- Frank E. (1992), Agricultural Policies in Developing Countries, Cambridge Univ. Press.
Singh, G. (2009), Performance of Formal Rural Credit in India, Gurdev Singh, Allied Publishers

Articles

Kumar, A.G., Gulati, A. and Cummings, R., 2007, Foodgrains Policy and Management in India, Responding to today’s Challenges and Opportunities, Indira Gandhi Institute of Development and Research and International Food Policy Research Institute
Panagariya, A., 2002, India at Doha: Retrospect and Prospect, Economic and Political Weekly, January 26th, 2002
AE-A-07: AGRICULTURAL FINANCE

Objective: The course aims to make students proficient in concepts and techniques of agricultural financial management.

Contents

Module 1: Agricultural Finance: Concepts and Scope, Importance of Agricultural Finance, Characteristics of farm financial decisions, Steps in the process of farm financial management, classification of loans or credit, role of credit in agriculture and rural development

Module 2: Agencies of Agricultural Finance: Cooperative, Nationalized Banks, RRBs, NABARD, ARDC, AFC, Regional and All India Financial Institutions, Microfinance, outlines of recommendation of various committees, Programmes of Rural development (SFA, MFAL), Comprehensive Crop Insurance Scheme


Module 5: Tools of Financial Analysis: Farm Planning and Budgeting, Balanced Sheet or Net Worth statement.


Module 7: Warehouse Receipt Financing, Financing of Supply Chain, Channel Financing

Module 8: Project Appraisal- B:C Ratio, Internal Rate of Return(IRR), Net Present Value (NPV), Pay Back period

Suggested Readings

Books

Articles
- Barton, D., 2000, What is a Cooperative? Mimeo
• Vaidyanathan, A., 2013, Future of Cooperatives in India, Economic and Political Weekly, Vol. 48, No. 18, pp.30-34.
AE-A-08: INTERNATIONAL TRADE IN AGRICULTURE

Objective: The course provides insights into theoretical aspects as well as policy related issues in international trade in agricultural commodities. The objective is to acquaint the students with various principles and theories that explain basis for international trade and trade patterns, trends and patterns in international trade in agriculture, provisions of Agreement on Agriculture under WTO and their impact on agricultural trade with a focus on status of developing economies. The paper also deals with various issues related to Indian agricultural trade and export import procedures and documents needed for conducting import export business.

Module 1
Importance of Agriculture in development, trade and agriculture, Inter-regional verses international trade-importance of trade, case for free trade and for protectionism- globalisation and agriculture – case of free trade and for protectionism in case of agriculture.

Module 2
Mercantilist doctrine of balance of trade - Adam Smith and absolute advantage theory of trade - Ricardo and comparative advantage, its limitations - Comparative advantage in Heckscher Ohlin Model - Factor price equilisation theorem - Factor intensity reversal - the empirical evidence on Heckscher Ohlin theory - the Leontief Paradox. Stolper-Samuelson Theorem – Rybczynski Theorem- Trade theories and empirical evidence relating to trade patterns, applicability to India. Recent explanations of the basis of trade in terms of technological lead, domestic market size and product cycle approach – Linder’s hypothesis — Gravity models-empirical evidence.

Module 3
Instruments of trade policy- Economic rationale and impact of tariffs - optimum tariff rate - quotas and subsidies – other instruments of trade policy - effective rates of protection. Trade policy of developing economies- Import substituting industrialization and export oriented industrialization.

Module 4
Brief history of GATT- provisions relating to agri trade- factors leading to establishment of WTO- basic principles- functions and organization - Agreement on agriculture - main provisions - market access- domestic support - export subsidies-special and differential treatment, sanitary and phytosanitary provisions, export standards, TRIPS, various rounds and Doha impasse - emergence of various country groups /alliances and their participation in negotiations -Issues for further negotiations- implications of WTO provisions on Indian Agriculture - reduction commitments for India. Formation of regional trade blocks- reasons, types and performance – impact on trade.

Module 5
Overview of Foreign Trade and trade policy of India, Indian agricultural trade-trends and features, Agricultural Trade policy- objectives, instruments of trade policy, trade policy for various commodities, Competitiveness of Indian Agriculture, measures of competitiveness, competitiveness of various crops, domestic and international prices, competitiveness and commodity trade flows, measures for improving competitiveness of Indian exports- policy recommendations.

Module 6
Export and import procedures and documentations: Introduction to international business- definition of international business and prerequisites to start export/import business, Flow of foreign currency in cross border trade-NOSTRO and VOSTRO accounts- meaning of cross border trade settlement-methods of trade settlement with focus on foreign letter of credit- open account-advance payment-documentary credits, documentary collection, and consignment- forex market and broad features of market, Types of documents needed- clearance of goods in air and sea shipment- inco terms, Potential for agri export business in India.

Functions and role of institutions involved in agri exports in India- DGFT- Customs- EXCISE – RBI – Shipping - ECGC and Insurance - EPC (APEDA)- EIA

Module 7

World agricultural trade: changing structure and pattern - status of developing economies - multilateralism and regionalism – impact on trade- various factors affecting international trade

Suggested Readings

Books

- Hooda and Gulati (2007), WTO Negotiations on Agriculture and Developing Countries, Oxford University Press, New Delhi
- Gulati, Ashok and Tim Kelley (1999), Trade liberalization and Indian Agriculture: Cropping Pattern Changes and Efficiency Gains in Semi-Arid Tropics, Oxford University Press in New Delhi; New York

Articles

AE-A-19: BASIC ECONOMETRICS

Objective: The objective of this paper is to introduce basic econometric techniques that are widely used in empirical work in economics and other related disciplines. It covers the problems faced in estimation and inference in the context of single and multiple equations regression model. The focus is on conceptual understanding and 'hands on' applications using economic data drawn from real-world examples, rather than on formal theoretical proofs alone. By the end of the course, students should be able to develop simple econometric models and interpret the econometric and statistical results reported in other studies.

Module 1: The nature of Econometrics and Economic Data: Introduction, Model Specification and applied research, the role of data in model specification, The Structure of Economic Data, Steps in Empirical Analysis, Causality and the Notation of Ceteris Paribus in Econometrics, etc.

Module 2: The Classical Linear Regression Model: Estimation and Inference: Ordinary least squares (OLS) estimation, the Classical assumptions, the Gauss-Markov theorem and properties of the OLS estimators, interval estimation and hypothesis testing and prediction, reporting and interpreting regression results, Maximum Likelihood techniques, Restricted Least Square estimation, Likelihood Ratio (LR), Wald and Lagrange Multiplier (LM) Test, Minimum Variance Bound (Rao-Cramer Inequality Theorem).


Module 4: Regression Analysis with Qualitative information: Binary (or Dummy) Variables: Exogenous Dummy Variable- Formulating and interpreting coefficients on dummy explanatory variables, interactions involving dummy variables and use of dummy variables in seasonal analysis, piece wise regression analysis, the dummy variable alternative to chow test. Discrete and Limited Dependent variable - Linear Probability Model, Problems relating to LPM, Logit and Probit Model, Multinomial Choice Models: Ordered Response Model; Unordered Response Model, Censored and Truncated Regression Model

Module 5: Multicollinearity: Introduction, perfect verses imperfect Multicollinearity, Consequences, tests for detection and remedies for Multicollinearity.

Module 6: Violation of the OLS Assumptions: Introduction, Consequences of violation of OLS assumption, GLS Estimation- Aitken’s generalization of Gauss Marks Theorem. Heteroscedasticity & Autocorrelation: Causes and consequences, diagnostic tests and remedial procedural

Module 7: Specifications: Choosing the Independent Variables and Functional Form
Omitted variables: Too few variables, Irrelevant variables: variable overload, Criterion of choice, superfluous variables etc. The use and Interpretation of constant term, Alternative Functional forms, Problem with incorrect functional form, test for choosing the appropriate functional form.

Module 8: Lagged Variables and Distributed- Lag Models: Introduction, Consequences of applying OLS, Almon’s lag approach, Koyak Transformation: Partial adjustment hypothesis and adaptive expectations hypothesis, estimation of distributed lag models etc.

Module 9: Simultaneous Equation Models (SEM): Introduction, Structural, reduced form and final form model, Rational behind the use of SEM - simultaneous bias and inconsistency of the OLS estimator, Problem of Identification: Rank and Orders conditions, Methods of estimation: ILS, 2SLS, Instrumental Variable, LIML (LVR), Mixed estimation Method, 3 SLS and FIML methods

Note: Students will be taught software packages for performing econometric applications. Computer exercises will be given
BASIC READING LIST:

- Green, William H., Econometric Analysis, Prentice Hall.

ADDITIONAL READING LIST:

Module 2 and 3

- Judge, G.G. et al., Introduction to the theory and Practice of econometrics, 2nd Edition John Wiley and Sons, Chapter 3 and 5.
- Wooldridge, J. (2009), Introductory Econometrics, 4th edition, South-Western College Pub, Chapter 2-6

Module 2-3 (Articles)

- Smith, V. Kerry (1971), ‘A Note on Student’s t Test in Multiple Regression’, The Journal of Financial and Quantitative Analysis, Vol. 6, No. 3, June, pp. 1053-1056
- Bandiera, Oriane (2005), Some Notes on the intuition behind popular Econometric Techniques.

Module 4

- Wooldridge, J. (2009), Introductory Econometrics, South-Western College Pub., Chapter 7 and Chapter 17
- Green, William and David A Hensher (2009). Modeling Ordered Choices, NSU Stem School of Business. (https://pdfs.semanticscholar.org/83cb/843ab8542b4ab2ad1cca4c400b7992aad460.pdf)

Articles


Module 5:

- Madala G.S., Introduction to Econometrics, John Wiley & Sons, Chapter 7

Module 6:

- Judge, G.G. et al., Introduction to the theory and Practice of econometrics, 2nd Edition John Wiley and Sons, Chapter 21
- Wooldridge, J. (2009), Introductory Econometrics, 4th edition, South-Western College Pub, Chapter 12
- Madala (2001), Introduction To Econometrics, John Wiley & Sons, Chapter 6

Articles


Module 7

- Judge, G.G. et al., Introduction to the theory and Practice of econometrics, 2nd Ed. John Wiley and Sons, Chapter 16.

Articles

- Oriana Bandiera: Some Notes on the intuition behind popular Econometric Techniques

Module 8

- Judge,G.G. et al., Introduction to the theory and Practice of Econometrics, 2nd Ed John Wiley and Sons, Chapter 16.

Module 9


Article


AE-A-10: AGRICULTURAL RISK MANAGEMENT AND INSURANCE

Objective: To expose the students to the various kinds of risk in farming, risk management strategies and mechanisms and insurance policies.

Module I
Risks in Agriculture: Overview, Types of Risk, Risk Management Strategies and Mechanisms, decision making process in farm business management under risks and uncertainty.

Module II
Climatic Variability & Change: Climate Risks, Challenges in Climate Variability, Drought Risk, Floods & Cyclones, Catastrophe Protection for Non-Borrowing Farmers, Bankruptcy Law

Module III
Production Risks, Technological Change - Improved Varieties and Fertiliser Use/Moisture Stress/Pests/Riskiness of Net Returns, Evidence on Aggregate Instability, Output Stability

Module IV
Risk Management through Agricultural Insurance: Introduction, National Agricultural Insurance Scheme (NAIS), Crop Insurance as Risk Mitigation Tool, Impact of Crop Insurance on Farmers, Suicides by Farmers

Module V

Module VI

Module VII

Module VIII
Price Support Measures: Introduction, Minimum Support Price (MSP), Market Intervention Scheme (MIS), Scheme for Tribals, Price Stabilization Fund Trust (PSFT), Credit Risk Fund

Module IX
Emerging Commodity Markets: Pre-harvest Concerns, Commodity Futures, International Trade

Module X

Suggested Readings:
AE-A-11: STRATEGIC AGRO-FOOD MARKETING

Objective: To apprise students regarding various aspects of agro-food marketing.

Module 1
Marketing, scope of marketing, food industry India, features of food industry, food marketing problems, marketing management philosophies and process, marketing environment.

Module 2
Consumer behavior and marketing strategy, a framework for consumer analysis, affect and cognition and marketing strategy, consumers’ product knowledge and involvement, attention and comprehension, attitudes and intentions, consumer decision making.

Module 3
Consumer markets and consumer buyer behavior, business market and business buyer behavior, customer driven marketing strategy, marketing research.

Module 4
Marketing management: new product development strategy, pricing strategies, marketing channels, communicating customer value.

Module 5
Food retail marketing system in India: organized and un-organized marketing system, formats of organized marketing systems (Reliance fresh, Tata Star Bazaar, D-Mart, Godrej Natures Basket, Subhiksha etc.). FDI and retailing in India.

Module 6
Corporate houses in rural market place: ITC’s Chaupal Sagar, Tata Kisan Sansar and Mahindra ShubhLabh.

Module 7
Emerging ICT Applications in Agribusiness

Module 8
Strategic marketing cases: Coffee wars in India: Cafe Coffee Day takes on the global brands, Cargill India private limited, COFCO Xinjiang Tunhe company limited, Parle-G.

Suggested Readings
Books
- Padberg, D (1997), ‘Agro-food Marketing’. Edited by D Padberg, Department of Agricultural Economics, Texas A&M University, USA, C Ritson, Department of Agricultural Economics and Food Marketing, University of Newcastle upon Tyne, UK, L Albisu, Centro Investigación Agroalimentaria de Aragón (CITA), Spain.

Articles/Cases
AE-A-20: ACCOUNTANCY AND FINANCIAL STATEMENT ANALYSIS

Objectives: The course aims at providing basic understanding of various essential concepts of accountancy and preparation of accounting statements, introduction to accounting standards and IFRS framework of accounting.

Contents

Module 1: Basic Principles

Module 2: The Accounting Process

Module 3: Preparation of Final Accounts/Statement
Sole traders with Basic Adjustments ⁹ Preparation of Final Accounts / Statement of Companies (Both Horizontal & Vertical Form of Financial Statements) ¹⁰ Brief Introduction to Partnership Account- Accounting for small, medium and large companies

Module 4: Statement of Changes in Funds

Module 5: Depreciation & Inventory Valuation

Module 6: Analysis of Companies’ Annual Reports
Provisions of the Companies Act 1956 ²⁷ Provision Affecting Preparation ²⁸ Presentation & Analysis of Audit Reports & Directors’ Reports.

Different Tools ²⁹ Ratio Analysis ³⁰ Different Types of Ratio’s ³¹ Inter-Relation Between Ratio’s ³² Due-point Analysis ³³ Common Size Statement of Inter Firm and Intra Firm ³⁴ Internal Revenue Code-Interpretation of Financial Statements From Investor and Company Point of View ³⁵ Horizontal Analysis and Vertical Analysis of Company Financial Statements ³⁶ Liquidity, Leverage, Solvency and Profitability Ratios ³⁷ Du Pont Chart ³⁸ A Case Study on Ratio Analysis

Reading List:
- D’Souza, Dolphy, (2009), Indian Accounting Standards and GAAP In 2 Vol., Snow White Publications Pvt. Ltd.
- Case studies of IFRS implementation in Brazil, Germany, India, Jamaica, Kenya, Pakistan, South Africa and Turkey, United Nations Intergovernmental Working Group on International Standards of Accounting and Reporting (ISAR). (Various years)

AE – A-13: ENVIRONMENTAL ECONOMICS

Objective: This course is meant to provide some insights into the application of economic theory in the design and implementation of public policy related to the management of environment issues and problems. The course finds roots in welfare economics, national income accounting, macroeconomic policies and trade and development. Modules incorporated in this paper are devoted to issues of environmental microeconomic theory and problems, market induced correctives, environmental valuation, natural resources accounting, optimal use of natural resources, sustainable development and environmental resource problems in India.


Module 4: Sustainable Development and Natural Resource Accounting: Definition, approaches, and indicators of sustainable development – Environmentally corrected GDP.

Module 5: Economics of Natural Resources: Basic concepts – Exhaustible resources (discount rate) – Renewable resources (economic and biological efficiency level) – Bio-diversity loss. Institutional Framework: Community participation and management of resources.

BASIC READING LIST

- Adrian Heyes & Nadkarni, M. V. (eds.) (2001), Poverty, Environment and Development, Studies of Four Countries and Pacific Region, UNESCO Principal Regional Office for Asia and Pacific, Bangkok, pp. 25-89
- Jeroen, C.J.M. van den Bergh (1999), Handbook of Environmental and Resource Economics, Edward Elgar Publishing Ltd., U.K.
- Tutenlurg, Tom (2001), Environmental Economics and Policy

ADDITIONAL READING LIST

Module 3

Module 2

Module 3

Module 4

Module 5
- Markandya, A. and J. Richardson (Eds.), The Earth Scan Reader in Environmental Economics, Earth Scan, London.

OTHER REFERENCES
- Agras, Jean and Duane Chapman (1999), A Dynamic Approach to the Environmental Kuznets Curve, Ecological Economics, 28(2) : 2670277, February
- Beckerman, W., ‘Sustainable development: is it a useful concept?’ 3(3): 191-209
- Diamond, Peter A. and Jerry A. Hausman (1994), Is Some Number Better Than No Number? Journal of Economic Perspectives: 8(4) : 45-64, Autumn

Module 1: Seemingly Unrelated Regression (SURE): Estimation by OLS, GLS and FGLS, testing for structural change and aggregation bias, case of autoregressive errors

Module 2: Time Series:


2.3 Models with Trend: Deterministic and Stochastic Trends, Removing the Trend, Unit Roots and Regression Residuals, The Monte Carlo Method, Dickey–Fuller Tests, Examples of the ADF Test, Extensions of the Dickey–Fuller Test, Structural Change, Power and the Deterministic Regressors, Panel Unit Root Tests, Trends and Univariate Decompositions


2.5 Cointegration and Error-correction Models: Linear Combinations of Integrated Variables, Cointegration and Common Trends, Cointegration and Error Correction, Testing for Cointegration -The Engle–Granger Methodology, Illustrating the Engle-Granger Methodology, Cointegration and Purchasing-Power Parity, Characteristic Roots, Rank, and Cointegration, Hypothesis Testing, Illustrating the Johansen Methodology, Error-Correction and ADL Tests, Comparing the Three Methods


Module 3: Panel Data
3.1 Introduction Panel Data: Some Examples, Benefits and Limitations


3.5 Introduction to Dynamic Panel Data Models

Note: Students will be taught software packages for performing econometric applications. Computer exercises will be given to students.
Basic Reading List

- Wooldridge, J. (2002), Econometric analysis of Cross Section and Panel Data
- Walter Enders (2008), Applied Econometrics Time series, Wiley India
AE-A-16: SUPPLY CHAIN IN AGRICULTURE

Objective: The course introduces students to the concepts and processes of agricultural supply chain management.

Module 1
Building a strategic framework to analyze supply chains: understanding the supply chain, supply chain performance: achieving strategic fit and scope, supply chain drivers and metrics.

Module 2
Designing the supply chain network: designing distribution networks and applications to e-business, network design in the supply chain, designing global supply chain networks.

Module 3
Planning and coordinating demand and supply in a supply chain: demand forecasting in a supply chain, aggregate planning in a supply chain, sales and operations planning: planning supply and demand in a supply chain, coordination in a supply chain.

Module 4
Planning and managing inventories in a supply chain: managing economies of scale in a supply chain: cycle inventory, managing uncertainty in a supply chain: safety inventory, determining the optimal level of product availability.

Module 5
Designing and planning transportation networks: transportation in a supply chain.

Module 6
Managing cross-functional drivers in a supply chain: sourcing decisions in a supply chain, pricing and revenue management in a supply chain, information technology in a supply chain, sustainability and the supply chain.

Module 7
Case studies: Campbell Soup Co.: a leader in continuous replenishment innovations, McDonald’s India optimizing the French fries supply chain, supply chain management at Wal-Mart, Nestle agricultural material sourcing within the concept of creating shared value (CSV), Barilla Spa.

Suggested Readings:

Books

Articles/Cases
AE-B-02: AGRICULTURAL COOPERATIVES

Objective: The objective of this course is to acquaint the students with agricultural cooperatives in India.

Contents

Module 1

Module 2
Genesis and Coverage of Agricultural Co-operatives in India: Progress of Co-operatives, Coverage of Agricultural Cooperatives

Module 3
Strengths and Weaknesses of Co-operatives as an Organizational Format, Threats Arising from Generic Constraints of Agricultural Co-operatives, Continuing Relevance and Future Potential of Co-operatives in Indian Agriculture, Lessons for the Indian Farmer

Module 4
Co-operative Legislation in India: The Co-operative Laws before and after independence, Opportunities Lost and Gained for the Indian Farmer

Module 5

Module 6

Module 7
Overview of agribusiness Credit Co-operatives, Cooperative Marketing, Dairy cooperative; Financing Agribusiness Cooperative.

Suggested Readings:
AE-B-03: AGRO-PROCESSING INDUSTRIES

Objective: The objective of this course is to acquaint the students with different food processing techniques and their management.

Contents

Module 1
Agro-Processing Industries in India: growth and present status; Scope and importance of agro-food industries in India, different types of agro-food, industries, Farm Industry Linkages, Organization in Food Industry; Introduction to Operations of food industry; Deteriorative factors and hazards during processing, storage, handling and distribution.

Module 2
Basic principles and methods of food processing and food preservation by manipulation of parameters and factors and application of energy, radiations, chemicals and biotechnological agents; Food packaging materials and methods, labelling of food products.

Module 3
Analysis of costs in Food Organization; Risk management; Laws and regulations related to Food industry and food production and marketing; Quality management – quality standards, PFA, ISO, etc.

Module 4

Module 5
Issues in Agro Processing Industries: Issues in Product development, pricing, quality marketing and supporting organizations, Role of Co-operatives, Financial Institutions, Central, State and Local Governments, Socio-economic impacts of rural industrialization.

Module 6
Challenges before Agro-based industries: Sugar and allied farm Industries - transition from partial decontrol to total decontrol, excess stock with sugar factories, export problems in sugar industry, derivative trading in sugar industry. Spinning Mills - Higher cost of raw material, obsolete technology, management of spinning of mills, marketing of yarn, global challenges before cooperative spinning mills

Module 7
Quality of food products, licenses and certificates, AGMARK, ISO, BIS, GMP, HACCP and their Impacts on Agro Based Industries

Suggested Readings
- Journal of Indian Food Industries, various issues
- Beverages and Food World, various issues
- Journal of Food Marketing and Technology, various issues.
AE-B-04: ORGANIZATIONAL STRUCTURES IN AGRICULTURAL PRODUCTION

Objective: The course introduces students to the types and systems of farming, contract and organic farming.

Contents

Module 1
Types of Farming in India: Small and Large Scale Farming, Extensive and Intensive Farming, Specialized-Mixed-Diversified Farming, Irrigated and Dry Farming, Crop and Livestock farming, Subsistence and Commercial farming

Module 2
Definition and concepts of farming system, Systems of Farming: Family, Cooperative, Institutional, Capitalistic, State, Personal, Collective and Corporate Farming

Module 3

Module 4
Global Experience, Scope and Progress of Contract Farming in India, various Farm Firm Linkages, Contract farming and Small Farmer, Features of Contracts, Asset Specificity and Contract farming

Module 5

Module 6

Module 7
Promotion of Organic Farming in India, Cropping pattern and Inputs in Organic Agriculture, Cropwise Organic Farming in India, Economics of Organic Farming, Quality and Certification

Module 8
Marketing Strategies, Marketing infrastructure, Organic Agro-Processing, Problems in Marketing of Organic Produce-Dimension of Domestic Organic Market, Extension and Credit availability, Organic Agribusiness Potential in India, India Competence and Strength

Module 9
Sustainable agriculture: Introduction, definition, goal and current concepts, factors affecting ecological balance and ameliorative measures; Land degradation and conservators of natural resources, Irrigation problems, waste lands and their development

Module 10
Farm Income Augmentation and Stabilization

Suggested Readings
- Singh, Sukhpal (2005), Political Economy of Contract Farming in India, CAB
AE-B-05: COMMODITIES AND COMMODITY DERIVATIVES

Objective: To apprise students regarding various aspects of Commodities and Commodity Derivatives

Contents

Module 1
Introduction to Commodity Derivatives, Derivatives: Definitions, Functions, Participants, Exchange Traded and OTC Commodity derivatives, Commodities and Instruments available for trading, Difference between financial and commodity derivatives, Evolution of Global and Domestic commodity derivatives trading

Module 2
Fundamentals of Commodity Spot and Derivatives Markets, Importance of commodity spot trading, Forwards and futures contracts and use of derivatives for hedging for forward pricing, Pricing Commodity Derivatives, Equilibrium relationship between spot and futures prices, Price discovery in futures market

Module 3
Trading, Clearing and Settlement, Commodity exchanges and their role, Trading in commodity exchanges, Clearing and settlement, Risk management, Regulatory framework

Module 4
Agricultural Commodity Markets, Commodities and instruments available for trading, Price drivers, Technical analysis in agricultural commodity markets

Module 5
Gold and Base Metals, The market for gold, Base metal production, Price drivers, Application of derivatives

Module 6
Crude Oil and Natural Gas, The demand for and supply of crude oil, Crude oil price and price drivers, Trading crude oil and refined products, The demand and supply of natural gas, Measuring natural gas, Natural gas price drivers

Module 7

Module 8
Risk Management in Commodity Markets, Physical and financial risk, Measuring risk premium and correlation risk, Institutional and market risk management

Module 9
Commodities within an Investment Portfolio, Commodities as a new asset class, Benefits of commodities within a portfolio, Methods of investing in commodities, Commodity indexes & commodity related funds

Suggested Readings:

AE–B–08: INDUSTRIAL ORGANIZATION IN AGROBUSINESS

Objectives: The course will analyze marketing and other strategic decisions by agribusiness sector actors in a market environment characterized by, product differentiation, imperfect information, and market power. The course uses microeconomic theory, including game theory, industrial organization, and agency theory to analyze the behaviour of integrated processing firms, contractual relations between processors and food retailers, behaviour of food retailers, and contractual relations between food retailers and customers.

Module 1: Integrated food processing firm, concentration, vertical and horizontal mergers, strategic competition, oligopoly models, industry applications

Module 2: Managing links between processors and food retailers, private labels, product line choice, new product offerings, variety, slotting fees

Module 3: Food retailing firms, price competition, multiple products with interdependent demands (e.g., sales, countercyclical pricing, loss leaders), Non-price competition (variety, service, location)

Module 4: Marketing retail products: Managing the link between retailers and consumers, Customer and Brand Loyalty, coupons, modelling and estimating consumer demand

Reading list

Module 1

Module 2


Module 3

Module 4

AE-B-09: FINANCIAL ECONOMICS

PREAMBLE
The course on Financial Economics is designed with 3 objectives in mind. Firstly, to familiarize students with the financial system and its components viz. financial instruments, financial institutions, financial markets and financial regulations. Secondly, to familiarize them with contemporary theories about the workings of different financial markets including money market, capital markets (bonds, stocks and hybrids) and derivative markets. Thirdly, familiarize them with the policy and regulatory framework within which financial institutions are required to function.

Module 1: The demand for securities

Module 2: The supply of securities
Regulations governing supply of securities – General characteristics of securities – Government bonds – Index linked bonds – Corporate Securities – equities, bonds, convertible securities –Stock market operations – Money market funds – Claims on financial institutions.

Module 3: Securities markets and their efficiency
Stock exchanges – The over the counter stock market – Operational efficiency and the Efficient Market Hypothesis (EMH) – The weak, semi-strong and the strong form of EMH.

Module 4: The determination of equity prices

Module 5: Security analysis and market efficiency

Module 6: Derivatives
Uses of Derivatives – Futures contracts and futures markets – Forward contracts – The origins of Futures trading – Basic elements and organization of futures contracts.

Module 7: Futures prices
Relation among spot and futures prices – financial futures – commodity futures – Closing out with futures – Hedgers, speculators, market equilibrium – The role of expectations – Futures and portfolio management.

Module 8: Options and option pricing

Module 9: Swaps, Currency and Interest Rate Swaps
Vanilla Interest Rate Swaps – Swaptions – Other types of swaps – Currency, Equity and Commodity Swaps.

Module 10: Regulation of financial markets
BASIC READING LIST
• Chandra, Prasanna (2008), Investment Analysis and Portfolio Management, Tata McGraw Hills

ADDITIONAL READING LIST Module 1, 2 & 3

Module 2:

Module 3 & 4:
• Fabozzi (2009), Bond Markets, 7th revised edition, Pearson Publications, USA, February 27

Module 3:

Module 4:

Module 5:

Module 6, 7, 8, 9:

Module 7:

Module 8:
• Simon Benninga (1997), Financial Modeling, MIT Press

Module 10:

ADDITIONAL READING LIST:
• Cox, Ingersoll, and Ross, “A Re-examination of Traditional Hypothesis,” pp. 774-775.


• Irving Fisher (1930) “The Theory of Interest Rates” (New York; Macmillan, 1930)

**ADDITIONAL REFERENCES:**

• All India Management Association, Global Trends in Finance: Opportunities for India, Excel Books, New Delhi, 1998.
• Damodaran, Aswath (1997), Corporate Finance, Theory and Practice, John Wiley and Sons, (Chap. 27, Option Pricing Theory).
• Pike, Richard and Neele, Bill (1998), Corporate Finance and Investment Decisions and Strategies, Prentice Hall of India
• Somanathan T.V. (1998), Derivatives
AE-B-10: ECONOMIC GROWTH AND DEVELOPMENT

Objective: The course is about the fundamental models used to analyze theoretical and empirical issues in economic growth and development. The main objective of the course is to familiarize students with the problem of development in underdeveloped and developing economies. The focus of the course is to: (i) discuss the major theoretical developments in areas of Growth economics and policy discourse; (ii) analyze the economic problems of developing countries, especially problems related to slow growth, high poverty rates, high income inequality, etc.; (iii) discuss strategies for attaining sustainable growth, reducing poverty, income inequality and use of theory and empirical analysis to address issues in these areas.

Module I: Growth:
The long and medium run: Harrod-Domar Model - the Solow growth model and its application to convergence of country growth rates
Neoclassical Growth theory: the micro foundations of growth- Ramsey model with infinitely lived agents-
Application to household behavior and interaction with the government - Ricardian equivalence.
Endogenous growth theory: The AK model – Long run AK model – AK model with externalities
New Growth theory: Human capital, Externalities and ideas; endogenous technological progress and development

Module II: Development, Scope of Development Economics
Background and beginnings of ‘Development Economics’: post-war world economic order and end of formal colonialism; distincttion between growth and development economics/studies.
Human Development and deprivation
The concept of development – Evolution of Measures of Economic Development, Human Development Index and its extensions, modifications, and other related measures: Human Poverty Index (HPA), Gender related Development Index (GDI), Gender Empowerment Measure (GEM)
Associated problems of measurement; components; outcome indices and process indices.
Comparing Developing Economies
Economic performance/progress of developing countries over the recent past in reference to India, China, Africa and Latin America.

Module III: Major themes/perspectives of post-war ‘high development theory’ (late 1940s to 1970s)
Vicious circle of poverty; big push, balanced and unbalanced growth, dual-economy models – broad policy implications (Lewis, Ranis-Fei, Jorgenson models and limitations) – Rural-urban migration and urban unemployment (Harriss-Todaro model and extensions), Rural-urban wage-gap (Labour turnover model and wage-efficiency model – their extensions and limitations) – Political Economy of development and underdevelopment; dependency school and its critique

Module IV: Economics of Institutions
Evolution of Institution and their role in an economy: existing views: political organization and freedom: Role of financial institutions in economic development: Theory (Acemoglu and Zilibotti model), evidence; Decentralization of Institutions
New Institutional Economics
Market failures, government failures, role and emergence of institutions, role of state in economic development

Module V: Capital, Inequality and Growth
Income, capital and growth in the long run
The dynamics of capital accumulation: private vs. public capital and the great transformation
Inequality in the long-run: labour income vs capital ownership

BASIC READING LIST
- Bardhan, P. and C. Udry (1999), Development Microeconomics, Oxford University Press.

ADDITIONAL READING LIST Module I:

- World Development Reports
- World Bank 1993
- World Bank 1998
- China Human Development Report 1999: Transition and the State
- Human Development Reports

Module II:

- Bardhan, P. (1988), 'Alternative approaches to development economics' Oxford University Press, New Delhi,

Module III:


• Dasgupta, P. Human wellbeing and Natural Environment, Oxford University Press, 2002.

Module IV:
• Maddison. A. World economy in the 20th century,

Module V:
AE-B-11: POLITICAL ECONOMY OF INDIA’S DEVELOPMENT

PREAMBLE
This course is designed to offer a broad structure of major issues, debates, dilemmas, relating to the key trends, aspects, features, and the future of India’s economy. The course, which is oriented in a political economy perspective, aims at imparting rich analytical insights and understanding about India’s economy so that students can develop a strong sense of potential, possible, and useful areas for further research on India’s development from political economy perspective.

Module 1: Evolution of the debate over the role and ramifications of the British colonial rule for India’s economy

Module 2: India’s population/demography since Independence
Broad features, major trends, and regional dimensions

Module 3: Planning in India up to 1991
Historical roots, evolution of plan models, limitations and lessons.

Module 4: Poverty and inequality in India
Diversity of measures and estimates; debates over the trends in the post-liberalisation period; poverty alleviation programmes and REGS and their efficacy; Self-Help Groups

Module 5: Reforms/Liberalisation in India
Its political economy and impact, roles of market, state, and planning in India’s development and its future

READING LIST
Module 1:

Module 2:

Module 3:

Module 4:
- India Development Reports, Oxford University Press.


Module 5:
- Bardhan (1999), Political Economy of Reforms in India, New Delhi: NCAER.
- Basu, K. (ed) (2004), India’s Emerging Economy, New Delhi Delhi: OUP.
- Dreze, J. and A. Sen (2003), Development and Participation, Delhi: OUP.
- Human Development Reports (various years).
AE-B-12: NATIONAL INCOME ANALYSIS


2. Treatment of Government Sector, financial intermediaries and rest of the world sector.

3. Methods of income estimation. The product method, the income method, the expenditure method. The equivalence of these methods. Income estimation in India. Trends in respect of aggregate and sectoral income and factor shares in India.

4. Accounts for the producing sector, consuming sector, governing sector, the rest of world sector.


6. Inter-temporal comparisons of National Income. Income at current and constant prices. Special prices of secular comparisons, such as new goods, quality changes, etc. International comparisons of National Income. Comparison in terms of purchasing power parity. The problem of deflation.

7. Concept of National Income in socialist countries.


10. Physical Quality of Life Index and Human Development Index.

BASIC READING LIST

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<tr>
<th>Sr.</th>
<th>Name of the Author</th>
<th>Title of the Book</th>
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<tbody>
<tr>
<td>1.</td>
<td>Ruggles and Ruggles</td>
<td>National income accounts and income analysis</td>
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<td>2.</td>
<td>Studenski (P.)</td>
<td>Income of nations</td>
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<td>3.</td>
<td>Beckerman (Wilfred)</td>
<td>An introduction to national income analysis</td>
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<td>Parchure Rajas</td>
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<td>Shoup (G.)</td>
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<td>6.</td>
<td>Powelson</td>
<td>National income and flow of fund analysis</td>
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<td>7.</td>
<td>Edey (Peacock) and Cooper</td>
<td>National income and social accounting</td>
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<td>8.</td>
<td>Palmer (Edger Z.)</td>
<td>The meaning and measurement of national income</td>
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<td>9.</td>
<td>Stone (E.) and Stone (G.)</td>
<td>International income and expenditure</td>
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<td>10.</td>
<td>Parker (R. N.) and Harcourt (G. C.)</td>
<td>Reading in the concept and management of income</td>
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<td>11.</td>
<td>Kuznets (Simon)</td>
<td>National income and industrial structure in Simon Kuznets economic change</td>
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<td>12.</td>
<td>Sivasubramanian S.</td>
<td>The National Income of India in the Twentieth Century</td>
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<td>13.</td>
<td>Minhas (B. S.)</td>
<td>National Income accounts &amp; data systems</td>
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<td>14.</td>
<td>Taylor (Lance)</td>
<td>Macro Models for Developing Countries</td>
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<tr>
<td>15.</td>
<td>V. K. R. V. Rao</td>
<td>Some reflections on the comparability of real national income of industrialised and underdeveloped countries, in Milton Gilbert (Ed.) Income and Wealth Series III</td>
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<tr>
<td>16.</td>
<td>United Nations</td>
<td>System of national accounts</td>
</tr>
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</table>

17. Rao (C. R.) Ed. Data base of Indian economy
18. Rubner (A.) Three sacred cows of economics
21. Hicks (J. R.) The social framework
22. Usher Dan The price mechanism and the meaning of national income statistics
23. Hicks (Mukherjee) & Ghosh The framework of the Indian economy
24. Chaudhary (M. D.) Regional income accounting in an under developed economy – a case study of India
25. Morris (M. D.), McAlpin (M. B.) Measuring the condition of India’s poor
26. Lal (R. N.) The systems of national accounts and material product balances
27. V. K. R. V. Rao India’s national income 950/1980
28. Roy Choudhury (U. D.) National income accounting
29. Pradhan, Sahoo, Saluja A social accounting matrix for India 1994-95
30. Bartelmus Peter Implementation of environmental accounting: towards an operational manual
31. Polatoff & others The flow of funds Accounts: A frame work for financial Analysis
32. Deshpande Medha Flow of funds Accounts: frame work
33. Economic Commission for Europe A note on some aspects of national accounting methodology in Eastern Europe & the Soviet Union
34. Parchure Rajas Accounting Principles

ADDITIONAL READING LIST: