




Maharaja Surajmal Brij University  
Bharatpur (Raj.)

SYLLABUS

M.A. ECONOMICS (PVS & FINAL)  
(ANNUAL SCHEME)

(Session 2022-23)

  
अकादमिक प्रभारी  
महाराजा सुरजमल बृज विश्वविद्यालय  
भरतपुर (राज.)

## M.A Economics (Annual Scheme) 2022-23

There shall be Nine papers in all, seven will be compulsory papers and the rest two will be optional papers, Candidates are required to attempt five questions in all selecting at least one question from each section. All questions carry equal marks.

### Compulsory Papers

#### M.A (PREVIOUS)

Paper I	:	Micro Economics Theory
Paper II	:	Macro Economics Theory
Paper III	:	Quantitative Methods for Economics

#### For M.A Final

Paper IV	:	Public Finance
Paper V	:	International Economics
Paper VI	:	Development Economics
Paper VII	:	Advanced Indian Economy

### Optional Paper

Candidates will be required to select any two optional –One for M.A. (Previous) and the other for M.A. (Final) examination from the following :

Optional (i)	:	Agriculture Economics
Optional (ii)	:	Econometrics
Optional (iii)	:	Demography
Optional (iv)	:	History of Economic Thought
Optional (v)	:	Mathematical Economics
Optional (vi)	:	Dissertation

**Note:** Any candidate who score 60% or more than 60% in M.A Previous shall be eligible to opt for Dissertation in M.A Final.

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## COMPULSORY PAPERS FOR M.A. PREVIOUS

## PAPER-I: MICRO ECONOMIC THEORY

Duration: 3 Hours

Max. Marks: 100

Note: The paper will contain nine questions having three questions in each section. Candidates are required to attempt five questions in all, selecting at least one question from each section.

*Section - A*

Theory of Consumer Behaviour - Cardinal and Ordinal utility approaches, Derivation of Individual Demand Curve, Market Demand Curve, Determinants of Demand, Elasticities of Demand, Price, Income and Substitution effects, Normal, Inferior and Giffen goods. Complementary and Substitute goods, The Revealed Preference Hypothesis, Consumer Surplus and its reformulation, Consumer Behaviour under Uncertainty (elementary approach).

Production: Production Function- Law of variable proportions, Three stages of production, Laws of returns and returns to scale, Isoquants and optimum factor combination, Expansion path and Isoclines, Capital deepening and Labour deepening technology through Isoquants.

*Section - B*

Theory of cost- short run costs, long run costs, Empirical cost function (Stigler Survivor Method), Economies of Scale.

Different Market Structures Perfect competition and its relevance.

Monopoly- Impact of taxes on price and output, Measurement of Monopoly power, Price-Discrimination under of monopoly with illustration, Impact of Monopoly on Economic Welfare, Monopolistic Competition- Product differentiation and demand curve, Equilibrium of a firm (Chamberlin Model), Excess capacity according to Chamberlin.

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Oligopoly- Non collusive oligopoly (Cournot, Bertrand, Chamberlin, Kinked demand curve and Stackelberg Models) and Collusive Oligopoly (Cartels and Price Leadership), Full cost pricing, Theory of Hall and Hitch Theory of limit pricing

### Section - C

Pricing of factors - Factor pricing in competitive and imperfect competitive markets.

Exploitation of Labour (Joan Robinson and Chamberlin approaches) and Trade Union, Bilateral Monopoly

Welfare Economics- Pareto optimality Criterion, Kaldor-Hicks Compensation Criterion, Bergson Social Welfare function, Maximization of Social Welfare and the point of Bliss, Welfare Maximization, Externalities, Theory of Second Best

### Books Recommended:

1. A. Koutsoyiannis: Modern Micro Economics, MacMillan, London
2. H.L Ahuja: Advanced Economic Theory, S. Chand & Co., New Delhi
3. H.L Ahuja: Uchchatar Arthik Siddhant (Hindi) S. Chand & Co., New Delhi
4. D. Salvatore: Micro Economic Theory, Schaum's Outline Series, Third edition, McGraw-Hill, Inc. New Delhi.

### Reference Books:

1. D. Salvatore: Micro Economic Theory, Harper Collins
2. J.M. Joshi: Theory of Value, Distribution and Welfare (Vikas, New Delhi).
3. K.C. Roy Choudhary: Micro Economics, Tata McGraw Hill Publishing Co., New Delhi
4. P.R.G Layard and A.A Walters: Micro Economic Theory, McGraw Hill Publishing Co., New Delhi
5. Hal R. Varian: Micro Economic Analysis (Indian Print), Affiliated East- West Press Pvt. Ltd., New Delhi.

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*Signature*

**PAPER II: MACRO ECONOMIC THEORY****Duration: 3 Hours****Max. Marks: 100**

Note: The paper will contain nine questions having three questions in each section. Candidates are required to attempt five questions in all selecting at least one question from each section.

**Section - A**

Basic Concepts & Methodology, Macro Economic Variables (e.g., national income, employment, saving, investment, price level, wages, interest rate), Real and nominal quantities, Stock and flow variables and their inter-relationship, Problem of aggregation in the construction of Macro Economic variables.

Structure of National Accounts- transactions of consumption, production, investment, government and foreign trade sector. Concepts, components and measurement of national income, Value of Money, changes in the value of money, The Quantity Theory of money and its variants including the Friedman's reformulation of the Quantity Theory, Post-Keynesian Theories of Money Demand.

**Section - B**

The Classical Theories of saving, investment, interest rate, wage and employment. The Complete Classical model of determination of employment and output, Say's law, Price and wage flexibility and full employment, The Real Balance Effect, Keynesian criticism of the Classical theories, Keynesian model for the determination of income and employment. The consumption function hypotheses: Absolute Income, Relative Income, Permanent Income and Life Cycle Hypothesis. Business Cycles models of Samuelson, Hicks and Kaldor.

**Section - C**

Macro economic equilibrium- relative roles of Monetary and fiscal policies, IS-LM analysis, Fleming- Mundell open economy model, Stabilization policy: prospects and problems, Aggregate Demand and Aggregate supply curve analysis.

Phillips curve, The control of inflation and recession in developing and developed economies.

Central Bank and Commercial Banks, Instruments of monetary policy and their relative effectiveness in various situations.

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Money Supply, its determinants, High powered money, Money Multiplier, Domestic monetary policy in India since 1981- Its role, effectiveness in various situations.

Note: Use of non-programmable calculator is permitted.

**Books Recommended:**

1. Gardner Ackley: Macro Economic Theory (Latest Ed.) (Macmillan, New York).
2. Martin J Bailey: National Income and the Price Level, Chap. 2 and 3
3. Edward Shapiro: Macro Economic Analysis (Latest Ed.) (Harcourt Brace Jovanovich)
4. K.C. Rana and K.N. Verma: Macro Economic Analysis (Vishal Publishers).
5. William H. Branson and James M. Litvack: Macro Economics (Harper and Row)
6. Rosalind Lavacic: Macro Economics (Macmillan)
7. M.J.C. Surry (Ed.): Macro Economic Theories (Tata MacGraw Hill)
8. R.F. Henson: Guide to Keynes (Tata McGraw-Hill)
9. Dadle Dillard: A Guide to Keynes (Tata McGraw-Hill)

**Reference Books:**

1. M.K. Evans: Macro Economic Activity (MacMillan Publication)
2. M.G. Muller (Ed.) Readings in Macro Economics, 1966 (Edward Elgar Publishing)
3. Reserve Bank of India: Reports on Currency and Finance
4. Reserve Bank of India: Annual Reports- 1998 onwards
5. Reserve Bank of India: Monthly Bulletin
6. J.M. Keynes: The General Theory of Employment, Interest and money (MacMillan Cambridge University Press)
7. Barret: Macro Economic Policy (Prentice Hall)
8. Uma Dutta Roy Choudhary: National Income Accounting, Macmillan India Ltd. Delhi
9. Prabhat Patnaik: Macroeconomics, Oxford University Press
10. A.K. Dasgupta: Macroeconomics Analysis (New Delhi Publisher)
11. H. L. Ahuja: Samashti Arthshastra (Hindi), Macro Economics (Eng.)
12. Rudi Dornbush, S Fisher and R. Startz: Macroeconomics, Tata McGraw-Hill Edition, 2000
13. Raghbendra Jha: Contemporary Macroeconomics (Edward Elgar Publishing)

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**Paper III****Quantitative Methods for Economics**

Duration: 3 Hours

Max. Marks: 100

Note: The paper will contain nine questions having three questions in each section. Candidates are required to attempt five questions in all selecting at least one question from each section.

**Section - A**

Measures of Central Tendency- Mean, Median, Mode, Geometric Mean and Harmonic Mean.

Dispersion- Quartile deviation, Mean Deviation, Standard deviation, Coefficient of Variation.

Skewness- Karl Pearson's Coefficient. Correlation and Simple Regression (Emphasis on interpretation).

Analysis of Time Series- Components, Trend by moving average methods and least squares method, Determination of Seasonal Variation

Index number- Cost of living index, Fisher's Ideal Index and test of Ideal Index Number

**Section - B**

Probability- Basic concepts and calculation of simple probability problems, Mathematical Expectation, Binomial, Poisson and Normal distributions, Sampling Distribution of  $t$ ,  $\chi^2$  (chi square) and  $F$  and their properties (without proof), Testing of Hypothesis- Basic Concepts,  $t$  test (Significance of Mean and Difference between means),  $\chi^2$  test,  $F$  test, (test of Independence, homogeneity and Goodness of Fit).

Linear Programming- Formulation, Graphical solution, Simplex Method involving two variables for maximization only.

**Section - C**

Simple Differentiation, Partial Differentiation of Functions involving two independent variables, Maxima and Minima with and without constraints.

Applications of differential calculus in Economics (Utility Maximization, Profit Maximization, calculation of different elasticities, determination of nature of goods),

Integration- One variable case, Definite Integrals, Applications of Integral Calculus in Economics (Derivation of Total Cost function, consumption function, saving function, consumer's surplus and producer's surplus).

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Differential Equations and its Application in Economics.  
 First order difference equation and its applications in Economics (Cobweb Model and  
 Income Determination), Determinants, Matrices (Multiplication and Inverse).  
 Solution of Simultaneous Equations by Cramer's Rule

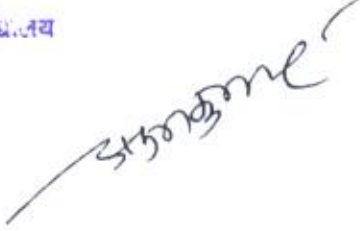
**Books Recommended:**

1. S.P. Gupta: Statistical Methods, Sultan Chand & Sons, New Delhi.
2. B.C Mehta and G.M.K. Madhani: Mathematics for Economists, Sultan Chand & Sons, New Delhi
3. Kailash Nath Nagar: Sankhyiki ke Mool Tatva (Hindi) Meenakshi Prakashan, Meerut
4. Laxmi Narain Nathuramka: Arthshastra Mein Ganit Ke Prayog (Hindi), College Book House, Jaipur

**Reference Books:**

1. R.G.D Allen: Mathematical Analysis for Economists, MacMillan, London.
2. Alpha C. Chiang: Fundamental Methods of Mathematical Economics, McGraw-Hill, Tokyo.
3. F.F Croxton, D.S Cowden & S. Klein: Applied General Statistics, Prentice Hall of India, New Delhi.
4. A.L. Nagar and R.K. Das: Basic Statistics, Oxford University Press.
5. A.L. Nagar & P.D. Sharma: Statistical Methods of Economic Analysis, S. Chand & Co., New Delhi.
6. Edward T. Dowling: Mathematics for Economists, Schaum's Outline Series, McGraw-Hill Book Co., New Delhi.

  
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**For M.A Final**  
**PAPER-IV**  
**PUBLIC FINANCE**

**Duration: 3 Hours**

**Max. Marks: 100**

*Note:* The paper will contain nine questions having three questions in each section. Candidates are required to attempt five questions in all selecting at least one question from each section.

*Section - A*

Nature and Scope of Public Finance, Role of government in the economic activity- Allocation, Distribution and Stabilization functions. Private, Public and Merit goods, Optimal Budgeting, Principle of Maximum Social Advantage, Public Budgets. Public Expenditure- A positive approach, Wagner's Law, Theory of Social Goods, Bowen, Lindhal and Samuelson's Models. Effects of Public Expenditure on Production and Distribution. Public Revenue- Buoyancy and elasticity of a tax, Justice in taxation, Ability to Pay Approach, Equi-proportional, Equi-marginal and least aggregate sacrifice principles.

*Section - B*

Shifting and Incidence of taxes under Monopoly and perfect competition, Effects of Commodity taxation on production, Effects of direct taxation on production (viz. labour supply and saving rate) and distribution, Progressiveness of a tax system and its measurement. Theory of Public Debt - Economic effects of public debt, Loans and savings as sources of finance for development, Burden of public debt on present and future generations. Fiscal Policy - Objectives, neutral, compensatory and Functional Finance, Balanced Budget Multiplier, Fiscal policy in under-developed countries, Automatic and built-in-flexibility.

*Section - C*

Major trends in public expenditures in India (growth and composition); Salient features of the Indian Tax System; Major Taxes, Main trends in the revenue of the Central and State Government in India; Non-tax revenue; Recent tax reforms; Internal and External public debt of India.


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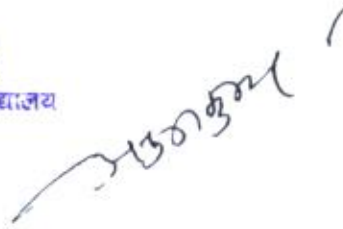
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Fiscal Federalism- Theory and problems, problems of centre-state financial relations in India; Criteria for resource transfer from the centre to the states; Finance Commissions and revolution of resources to Rajasthan.

**Books Recommended:**

1. R.A. Musgrave: Theory of Public Finance (Tata McGraw-Hill)
2. R.A. Musgrave and P.B Musgrave: Public Finance in Theory and Practice.
3. S. Ganguli: Public Finance (Concept Publisher)
4. H.L. Bhatia: Public Finance (Vikas Publishing House)
5. Prem Prakash Sharma: Sarwajanik Vitt Ke Siddhant (Hindi).
6. R. Jhu: Modern Theory of Public Finance (Willey Eastern, New Delhi).

  
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**PAPER- V**  
**INTERNATIONAL ECONOMICS**

Duration: 3 Hours

Max. Marks: 100

Note: The paper will contain nine questions having three questions in each section. Candidates are required to attempt five questions in all selecting at least one question from each section.

*Section - A*

The Law of Comparative Advantage – Mercantilists Approach  
Classical Theory of Comparative Advantage; Views of Adam Smith, Mill, Haberler and Ricardo  
The standard theory of trade- Production functions, Community Indifference Curve, Offer curves, Trade Indifference Curve, Trade offer curves, Meade's General Equilibrium of trade.  
Factor Endowments and Heckscher-Ohlin Theory-Factor Price Equalization, Stolper-Samuelson theorem, Rybczynski Theorems.  
Empirical Tests of Ricardo and Heckscher-Ohlin Theories, Complementary Trade theories.  
Economic Growth and International Trade: Growth of factors of production, Technical progress.

*Section - B*

Free Trade versus Protection; Tariff (Partial equilibrium effects, Optimum Tariff); Other Trade Restrictions (Quota, Quota versus tariff, Non-tariff barriers and the new  
Economic Integration- Theory of Customs Union, Regional Trading Blocks  
Trade and Economic Development- Terms of Trade, Export Instability and economic development, Import Substitution versus Export Promotion, Current trade problems of developing countries, Role of the World Bank/ WTO  
International Resource Movement and Multinational Corporations- Labour and Capital Movements and their effects, Brain Drain and role of MNCs.

  
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## Section - C


Foreign Exchange Market: Functions, Foreign Exchange risks, Hedging, Speculation, Arbitrage, Future and Options.  
 Exchange Rate and Exchange rate determination theories; Spot and Forward rates, Purchasing Power Parity Theory; Monetary approach and Portfolio Balance approaches of exchange rate determination; Euro Currency Market.  
 Balance of payment- Accounting, Causes of disequilibrium and remedies; Devaluation and Marshall- Lerner condition, Elasticity and Absorption approaches.  
 Fixed and Flexible Exchange Rates- Case for and against fixed/flexible exchange rates, Adjustment under gold standard, Price specie flow Mechanism.


**Books Recommended:**

1. Dominick Salvatore: International Economics, III Ed., MacMillan, 1990
2. Herbert G. Grubel: International Economics, Richard D. Irwin, 1977
3. Bo Soxlersten and Geoffrey Reed: International Economics, III edition, MacMillan, 1994
4. Peter B. Kenen: The International Economy, III Ed., Cambridge University Press, 2000

**Reference Books:**

1. Krugman, P.R. and Obstfeld M. International Economics, Theory and Policy.
2. D. Salvatore: Schaum's Outline Series on Theory and Problems of International Economics, III Ed., McGraw-Hill 1990
3. R. Robert Heller: International Trade, Theory & Empirical Evidence, Prentice Hall of India (Latest Edition)
4. Chacolidades: International Economics, II edition, 1990

  
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**PAPER- VI**  
**DEVELOPMENT ECONOMICS**

Duration: 3 Hours

Max. Marks: 100

Note: The paper will contain nine questions having three questions in each section. Candidates are required to attempt five questions in all selecting at least one question from each section.

*Section - A*

Meaning and Measurements of economic development and human development; structural features and process of change - empirical studies of Kuznets, Denison & Chenery; Ingredients of development- Land, Physical capital, Labour and Human Capital, Technological Change Scale, Organization; Growth Models- Ricardo, Marx (Classical), Harrod- Domar, Solow (Neo-Classical), Lewis Model and the Renis- Fei Extension.

*Section - B*


Development Planning: Balanced and Unbalanced strategies; Choice of techniques: Capital Output ratio, Investment Criteria; NPV, IRR, Social Cost Benefit Analysis. Accounting Prices, Applications of Input- Output Analysis in Planning, Programming, Programming approach of Planning.

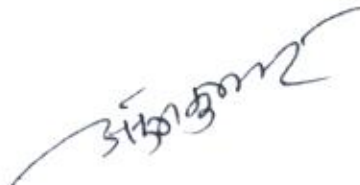
*Section - C*

Financing of economic development; Domestic and external resources; International trade and development Two-gap models, Plan Models of India. Past Performance and current issues of Indian Planning

*Books Recommended:*

1. G.M. Meier: Leading Issues in Economic Development (Latest Ed.) (Palgrave MacMillan)
2. P. A. Yotopoulos and J.B. Nargent: Economics of Development (Harper & Row Publishers, New York).
3. A.P. Thirlwall: Growth and Development with special reference to Developing Economics (Latest Ed.) (Palgrave MacMillan).
4. Debraj Ray: Development Economics (Princeton University Press, Princeton, New Jersey).
5. Michael P. Todaro: Economic Development in the Third World (Latest Ed.) (Edward Elgar Publisher)


  
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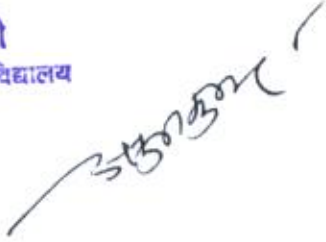


6. Bruce Herrick and Charles P. Kindleberger: Economic Development (Latest Ed.) (McGraw-Hill)
7. S. K. Mishra and V. K. Puri: Vikas Ka Arthshastra (Hindi), Economics of Growth and Development Economics (Eng.) (Himalaya publisher)
8. M.L. Jhingran: Vikas Ka Arthshastra (Vrindha Publications)

**Reference Books:**

1. W.A. Lewis: Development Planning (Himalaya Publisher)
2. S. Chakravarty: Development Planning- The Indian Express 1987 (Himalaya Publisher)
3. S. Kuznets: Modern Economic Growth (Transaction Publisher)
4. A.K. Sen (Ed.): Growth Economics
5. S. Chakravarty: Economic Development and Planning (Asia Publishing House)
6. World Development Report (Latest) (WB Publications)
7. Human Development Report (Latest) (UNDP)
8. The Economic Survey- Government of India (Oxford University Press)
9. Five Year Plans of India
10. P. Bardhan, M. Dutta Chaudhary and T. Krishnan: Development and Change, Oxford University Press

  
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**PAPER- VII**  
**ADVANCED INDIAN ECONOMY**

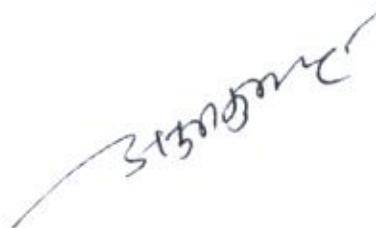
Section A

Natural Resource in India- land, Water, Forest and Minerals, Population- Size, Composition, Quality and Growth Trends. Characteristics of Indian Population through Recent Census, Population Policy and Economic Effects of Population Pressure, Poverty, Unemployment and Human Development during Plan Period- Appraisal of Government Measures, India's Human Development Record in Global Perspective.  
Agricultural Development in India: Institutional Aspects- land Reforms, Green Revolution, Technological Aspects- Agricultural Inputs and Shifts in Production Function, Agricultural Cost and Price Policy, Agricultural Marketing and Credit, Food Policy and Security, Subsidy and Public Distribution System, Capital Formation in Indian Agriculture, Problems in Agriculture- A Need for Second Green Revolution.

Section B

Industry- Strategy of Industrial Development and Industrial Policy Reforms, Small Scale and Cottage Industries, Reservation Policy Relating to Small Scale Industries, Sources of Industrial Finance- Banks, Share Market, Insurance Companies, Pension funds, Non-Banking Sources and FDI. Role of Foreign Capital for Direct Investment and Portfolio Investment, Public Sector Reforms, Privatization and Disinvestment.  
Foreign Trade: Salient features, Trends, Composition, Direction and Organization, Trade Reforms, liberalization and Recent Changes in Trade Policy, MNCs and their Impact on Indian Economy, WTO - Issues and its Impact on Indian economy, India's Balance of Payment Position in Recent Years.

  
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## Section C

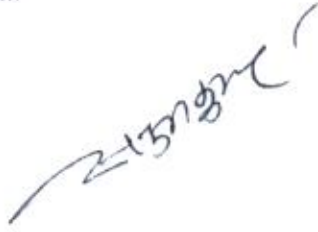
Economic planning: Goals, Achievements and Shortcomings of Planned Development, Planning and the market. Subsidy Policy and Problems, National and Per Capita Income - Growth pattern and trends, Aggregate and Sectoral Composition and Change therein, Regional Distribution, Income Inequalities in India.

New Economic Policy - LPG and Second Phase of Economic Reforms, Infrastructure Development in India - Physical Infrastructure (Power, Transport, Communication and Irrigation) and Social Infrastructure (health and education), SEZs, Jan DhanYojna as part of Financial Inclusion, New Trends: Mudra Banking, Cashless Society

## Books and References:

1. RudraDutt and Sundaram: Indian Economy, S. Chand (Latest Ed.) (Hindi and English)
2. A. N Agrawal: Indian Economy, New Age International Pub. (P) Limited, (Latest Ed.) (Hindi and English).
3. Laxmi Narayan Nathuranka: Bhartiya Arthshastra, Ramesh Book Depot (Latest Ed.)
4. Mishra & Puri: Indian Economy, Himakaya Publishing House (Latest Ed.) (Hindi and English)
5. Uma Kapila: Indian Economy, Academic Foundation.
6. Economic Survey, GOI.
7. XIIth Five Year Plan, Planning Commission.
8. Monthly Bulletins, RBI.

  
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**OPTIONAL PAPER**  
**PAPER-I**  
**AGRICULTURAL ECONOMICS**

Duration: 3 Hours

Max. Marks: 100

Note: The paper will contain nine questions having three questions in each section. Candidates are required to attempt five questions in all selecting at least one question from each section.

*Section - A*

Agriculture in growing economy, changing importance of agriculture; Subsistence/traditional agriculture and its modernization; Interdependence between agriculture and industry- Some empirical evidence; Institutional change and technological changes; Farming Systems- traditional commercial, cooperative, collective and state farming; Production functions in agriculture, resource use efficiency; Farm Size and Productivity relationship in Indian agriculture; farm Budgeting; Concept of cost; Supply of individual crops and aggregate supply; Supply price relationship

*Section - B*

Factors of production, Characteristics of factor markets; Inter-linkages between land, labour and capital markets; Traditional agriculture; Tenancy and crop sharing; Mobility of land and segmentation in labour markets; Role of capital and agricultural credit; Organized and Unorganized capital markets; Uncertainty and crop insurance; Agricultural markets and marketing efficiency

*Section - C*

Behaviour of agricultural prices; Demand and supply of agricultural products and cobweb cycles; Prices and income stability; Market and Marketable surpluses; Role of public, price and distribution policies; Stabilization and support policies; Terms of trade between agriculture and non-agriculture; Agricultural price policy in India; Agricultural growth in India; Inter-regional variation in growth of output and productivity; Agricultural growth in Rajasthan; Cropping pattern changes in India. Institutional changes- Land Reforms, credit structure and marketing; Supply of inputs- Irrigation, power, seed fertilizer; Pricing of inputs; Problem of mobilization of resources from agriculture


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*S. S. Singh*



**Books Recommended:**

1. E.D. Heady and J.L. Dillon: Agricultural Production Functions
2. T.W. Shultz: Transforming Traditional Agriculture
3. Pranab K. Bardhan; Land, Labour and Rural Poverty in India (Columbia University Press).
4. Krishna Bhardwaj: Production and Conditions in Indian Agriculture (Cambridge University Press).
5. C.H.H. Rao: Agricultural Production, Costs and Returns in India (Asia Publishing House).
6. D.S. Tyagi and G.S. Bhalla: Agricultural Development in India

  
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**Optional Paper**  
**Paper II**  
**ECONOMETRICS**

Duration: 3 Hours

Max. Marks: 100

*Note:* The paper will contain nine questions having three questions in each section. Candidates are required to attempt five questions in all selecting at least one question from each section.

*Section - A*

Nature and scope of Econometrics, Methodology of Econometric Research. Random Variables, Statistical Inference.

Simple linear regression model (2 variables), Estimation of regression parameters using Ordinary Least Squares (OLS) method and maximum likelihood method. Properties of estimators, Test of significance, confidence interval and analysis of variance. Various functional forms of regression models.

General linear model ( $n$  variables, matrix notation)- Estimation of regression parameters by least squares methods; Properties of estimator; Test of significance; Aitken Estimator.

*Section - B*

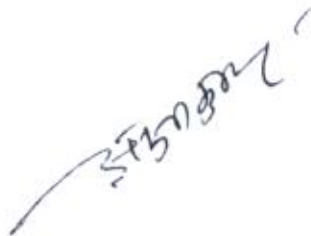
Violation of basic assumptions- Autocorrelation, Multicollinearity Heteroskedasticity and Specification Error, D-W statistics.

Distributed lag models- Koyck approach, Adaptive Expectations and Partial Adjustment Models, Almon Approach.

Dummy variable.

Panel data- pooling of cross section and time series data, models- fixed effect and Random effect.

  
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**Section - C**

Simultaneous equations model: Structural form and reduced form; Identification problem; Derivation of Order and Rank conditions; Estimation of simultaneous equations model- Ordinary least squares(OLS), Indirect Least Squares(ILS) and two stage least squares ( 2 SLS) methods.

Applied Econometrics: Estimation of Demand, Cost of Production Functions; Forecasting.

Note: Use of non-programmable calculator is permitted.

**Books Recommended:**

1. J. Kmenta: Elements of Econometrics (Macmillan)
2. Damodar Gujarati: Basic Econometrics (McGraw-Hill)
3. J. Johnston: Econometric Methods(3<sup>rd</sup> edition) (McGraw-Hill)
4. G.S. Maddala: Econometrics (McGraw-Hill)

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*3/10/2023*  
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## PAPER-III DEMOGRAPHY

**Duration: 3 Hours**

**Max. Marks: 100**

*Note:* The paper will contain nine questions having three questions in each section. Candidates are required to attempt five questions in all selecting at least one question from each section.

### Section - A

Mortality Measures- Grade and specific rates; Life tables; Factors affecting mortality; Mortality change and population growth; Fertility measures- Crude and specific rates, gross and non reproductive rates; Factors affecting fertility; Study of fertility attitudes by special survey, mortality rate, fertility rate, reproductive rate and population growth in India  
Composition of Population - Social economic composition; relationship of age, sex and Other compositional traits to economic and special organization; Composition of Population in India; Effect of birth death and migration rates upon population.

### Section - B

Basic Principles of measurement of population growth- Estimates, Census, Vital registers and records of migration; Continuous Population registration; Methods of population presentation; Projection of population in India  
Economically active population- Basic concepts and definitions; Impact of demographic process on the composition and size of the labour force, occupation and industrial composition of work force in relation to regional and international differences in economic development; Female participation in workforce; A study of occupation, Composition and female participation in India; Concept of Human Development.

### Section - C


Theories of demographic transition; Employment and Manpower planning- its significance and problems; Measurement, Incidence and implications of unemployment and underemployment with special reference to India  
Implication of population change for capital formation and employment in developing countries; Indian Census, family planning; NFH surveys (objectives and findings)

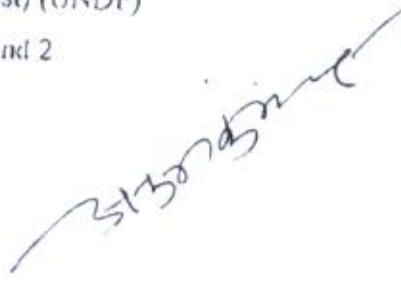
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*Signature*

**Books Recommended:**

1. G.W. Barclay: Techniques of Population Analysis (John Wiley & Sons)
2. D.K. Bogue: Principles of Demography
3. Coale and Hoover: Population Growth and Economic Development in Low Income Countries (Literary Licensing LLC)
4. O.S. Srivastava: Arthik Evam Samajik Jananki shastra (Hindi) (Vivek Prakashan)
5. Jeevan Chandra Pant: Jananki (Hindi)
6. Mahboob-ul-Haq: Reflections in Human Development
7. Human Development Report (Latest) (UNDP)
8. National Family Health Survey 1 and 2

  
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**Optional Paper**  
**Paper IV**  
**HISTORY OF ECONOMIC THOUGHT**

Duration: 3 Hours

Max. Marks: 100

*Note:* The paper will contain nine questions having three questions in each section. Candidates are required to attempt five questions in all selecting at least one question from each section.

*Section - A*

Mercantilism, Physiocrates, Quesnay's Economic Table, Concept of Surplus, growth theory, taxation and role of Government.

Classical school- Adam Smith, the invisible hand doctrine, Wealth of Nations, Laissez faire. Profits and wages; Modern revival of Adam Smith, Critiques of Adam Smith.

Malthus's theory of population and theory of under- competition: Ricardo- Principles of Political Economy and Taxation. Distribution theory- different rents. Differences with Say on determination of value. Modern revival and interpretation.

*Section - B*


Critics of the classical school - Sismondi, Socialist and the nationalist school: Re-Statement of the classical position. Senior and the four postulates; J. S. Mill- four prepositions and capital demand and supply bi- furation, wage fund.

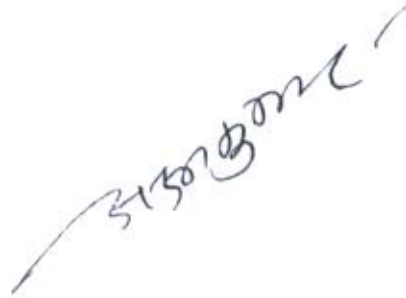
Rehabilitation by Cairness, Stationery State Version, non-competing groups.

Evaluation of socialist thought- Utopian, Socialism, Saint Simon, Own Balm, Fourier, Prondhob, Scientific socialist.

*Section - C*

Karl Marx- Efforts at scientific socialism; Orgaic composition of capital; Break down of capitalism; Reserve Army of Labour; Critiques of Marx Modern, Revival of Marx in

  
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Economics; The German Historical School and the development of Marginalism; The neo-classical school, Marshall.

Twentieth century economic thought- main features(only the rise of Keynesianism, the rise of mathematical Economics, dynamics and econometrics); Critical evaluation of the development of economic thought; Indian economic thought- Kautilya and Gandhi.

**Books Recommended:**

1. H. Haney: History of Economic Thought (Macmillan)
2. Eric Roll : History of Economic Thought (Prentice-Hall)
3. Gide and Rist: History of Economic Doctrine (Macmillan)
4. V. C. Sinha: Arthik Vicharon ka Itihas (New Delhi National Publishing House).
5. K. L. Rangaswami: Aiavangar: Aspect of the ancient Economic Thought.
6. J. C. Kumarappa: Gandhian Economic Thought.

*Singh*

*SK*  
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PAPER - V  
**MATHEMITCAL ECONOMICS**

Duration: 3 Hours

Max. Marks: 100

*Note:* The paper will contain nine questions having three questions in each section. Candidates are required to attempt five questions in all selecting at least one question from each section.

*Section - A*

Theory of consumer Behaviour- Concavity of a Utility Function; Convexity of an indifference curve; Maximization of utility; Derivation of demand functions - Ordinary and Compensated demand function; Elasticity relations in demand theory-Engel Aggregation Condition and Cournot Aggregation Condition.  
Income and Leisure -Derivation of labour supply function.  
Slutsky Equation- 2 and n- commodity cases, elasticity form and important results.  
Type of Utility functions- separable and additive, homogeneous and homothetic, direct and indirect; Roy's Identity; Linear Expenditure System.  
Restrictions on demand functions.  
Theory of firm : Production function- A well behaved production function; Cobb- Douglas and CES production Functions. Homogeneous production function; Optimization behaviour of a firm- profit maximization, constrained cost minimization and constrained output maximization.

*Section - B*

Elasticity of substitution (s) derivation of its expression and calculation of value of s for CDPF and CESPF; Special cases of CESPF.  
Deviation of Cost and input demand function.  
Perfect Competition: Market demand and supply function; Determination of price and output of a firm; Effects of specific and advalorem taxes; Stability of equilibrium - Marshallian & Walrasian.  
Stability Conditions; Lagged adjustment - Cobweb Model; Consumer's surplus and producer's surplus.  
Monopoly: Profit Maximization and sales revenue maximization; Multiplant Monopolist, price discrimination, effect of various taxes( Lumpsum tax, profit tax, specific tax and Ad-Valorem tax) on output and price of a monopoly firm.  
Duopoly: Collusion, Cournot, Stackelberg and market sharing models.  
Factor Market: Elasticity of factor demand and Marshall's four rules.

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## Section - C

Macro Economic Models: Keynesian theory of income determination, concept of Multiplier, derivation of IS and LM functions; Multiplier- Accelerator interaction; Trade Cycle models of Samuelson and Hicks.

Growth mode: Harrod- Domar, Kaldor, Solow and Meade.

Linear programming : Simplex method, Duality theorems, problem of Degeneracy.


Input- Output Analysis- Concepts of static, dynamic, closed and open input- output models; Hawking- Simon conditions of viability; Determination of gross output and value added.

Theory of Games: Two person- constant sum games; Maximin and minimax; Pure and Mixed strategies.

Note: Use of non-programmable calculator is permitted.

## Books Recommended:

1. J. M. Henderson and R. L. Quandt: Micro Economic Theory : A Mathematical Approach, McGraw- Hill, London.
2. RGD Allen, Mathematical Economics.

  
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