

**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.

**COMPULSORY PAPERS FOR 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.

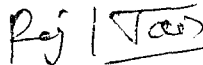
Public Revenue- Buoyancy and elasticity of a tax, Justice in taxation, Ability to Pay Approach, Equi-proportional, Equi-marginal and least aggregate sacrifice principles.

**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.

  
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**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.

**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 devolution 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. Jha: Modern Theory of Public Finance (Willey Eastern, New Delhi)

**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

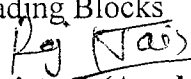
The standard theory of trade- Production functions, Community Indifference Curve, Offer curves, Trade Indifference Curve, Trade offer curves, Meade's General Equilibrium of trade.

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 protectionism); The Political Economy of Protectionism and Strategic Trade Policy. Economic- Integration- Theory of Customs Union, Regional Trading Blocks

  
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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.

### 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 Sodersten 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

## PAPER-VI: DEVELOPMENT ECONOMICS

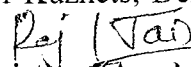
**Duration: 3 Hours**

**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 &

  
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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: Economic 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)
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. Jhingan: 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 Publication)
7. Human Development Report (Latest) (UNDP)

  
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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

## **Paper-VII Advanced Indian Economy**

### **Section A**

Natural Resource in India- land, Water, Forest and Minerals, Population- Size, Compositition, 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 Input 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**

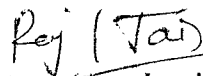
Industry – Strategy of Industrial Development and Industrial Policy Reforms, Small Scale and Cottage Industries, Reservation Policy Relating to Small Scale Industries, Sources of Industrial Finance – Banks, Share Market, Insurance Companies, Pension funds, Non-Banking Sources and FDI, Role of Foreign 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.

### **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 there in, 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

  
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**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 Nathuramka: BhartiyaArthastra, Ramesh Books Depot (Latest Ed.)
4. Mishra &Puri: Indian Economy, Himalaya 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.

**OPTIONAL PAPERS****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 Production, 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

  
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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

### 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

## PAPER (II): INDUSTRIAL 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

Concept of Plant, firm, business house, industry and market; Business Organization in private and public corporate sectors; Strength and structure of Indian corporate sector; Public sector in India: rationale and performance

Industrialization and development; Backward and forward linkages; Independence of industrial sectors

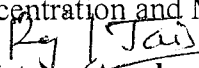
Industrial sector in India; Alternative strategies for Industrialization; Capital goods v/s Consumer goods; Import substitution v/s Export promotion in newly industrial countries and their experience.

### Section-B

Location of Industries: Theories and measures of location, Location of Industries in India; Industrial project, selection criterion; Industrial finance – money and capital-markets, development banks. Industrial finance in India.

### Section-C

Industrial growth in India, inter- regional variations in industrial Development; Industrial Policy in India; Small Scale Industries; Industrial Concentration and MRTTP

  
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Act; Foreign Collaboration in technology imports; Industrial sickness; Policy making for Industrial growth, Effective study of the steel, cement, electronics and textiles industries; Industrial development in Rajasthan.

### Books Recommended:

1. R.R. Barthwal: Industrial Economics: An Introductory Textbook (New Age International Pvt Ltd)
2. S.C. Kuchchhal: Financial Management (Sultan Chand & Sons, New Delhi).
3. Hay and Morris: Industrial Economics: Theory and Evidence (Oxford University Press).
4. Isher J. Ahluwalia: Industrial growth in India: Stagnation since the mid-sixties (Oxford University Press).
5. K.V. Sivayya and V.B.K. Das: Indian Industrial Economy

### Reference Books:

1. W. Isard: Methods of Regional Analysis- An Introduction to Regional Science (Cambridge University Press).
2. Chenery and Clark: Inter- Industry Economics (Willey Publication).
3. M.A. Utton: Industrial Concentration (Penguin Books Ltd)
4. J.S. Bain: Industrial Organization (John Wiley & Sons)
5. J. Bhagwati and P. Desai: Indian Planning for Industrialization (Oxford University Press).
6. Productivity trends in Cement industry in India, National Productivity Council.

## PAPER (III): DEMOGRAPHY

**Duration: 3 Hours**

**Max. Marks: 100**

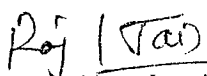
Note: The paper will contain nine questions having three questions in each section. Candidates are required to attempt five questions in all selecting at least one question from each section.

### 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

  
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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 under employment 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 finding)

### 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

## PAPER (IV) SURVEY METHODS

**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

Sampling Methods: Principles Sample Survey; Stages of Survey; Practical problems in planning, execution and analysis of survey; Random number tables and their uses in samples with equal probability (Simple random Sampling) and Proportional to size; Sampling and Non- Sampling errors; Concept of Sampling Distribution and simple uses of t, F and Chi Square

Mathematical Expectation and Variance; Properties of Expectation and Variance Point and Interval Estimators, Properties of Estimators: Unbiasedness, Efficiency, Consistency and Sufficiency; Testing of Hypothesis, Errors of Type I and II

  
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### Section-B

Sampling Designs: Simple Random Sampling with and without replacement, Relative efficiency of WR and WOR

Stratified Sampling, Proportional, Optimum and Neymann allocation; Gain in Precision, Cluster Sampling, Two stage sampling; Systematic sampling.

Indian official statistics, sources of data on national income and its components, Price indices, Public finance, monetary and trade statistics; Estimates of poverty and consumption behaviour NFHS surveys.

### Section-C

Regression analysis with one and two explanatory variables, Multiplicative and additive models; Growth and elasticity equations.

Estimation of regression parameters and their standard errors; Interpretation of estimated equation with all the summary statistics viz. Standard errors and coefficient of determination; the problem of curve fitting; Fitting of linear, exponential and parabolic curves; Application in the estimation of elasticities and growth rates; Simple econometric analysis of time series, unit root analysis.

**Note:** Use of non-programmable calculator is permitted.

### Books Recommended:

1. M.N. Murthy: Sampling Methods (Statistical Publishing Society).
2. P.V. Sukhatme, B.V. Sukhantme and C. Ashok: Sampling Theory of Surveys with Applications (Asia Publishing house).
3. Cochran: Sampling Techniques (Wiley India Pvt. Ltd)
4. S.C Gupta and V.K. Kapoor: Fundamentals of Applied Statistics (Sultan Chand & Sons)
5. Damodar Gujarati, Basic Econometrics Statistics for Business and Economics, Anderson, Suweenly William, Thomson

## PAPER (V): INDIAN BANKING SYSTEM

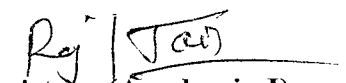
**Duration: 3 Hours**

**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

Indian Banking system as on the eve of bank nationalization, Structure and development of commercial banks in India since 1969. Branch expansion programme and policy, deposit mobilization and sectoral allocation of Bank credit. Concept of social and mass banking. Priority sector advances and advance to the neglected sections of the society.

  
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Financial Sector Reforms – Context, need and objectives. Implementations of the Narsimham Committee recommendations. Issues in financial reforms.

### Section-B

Rural Banking – Overall structure and review of the contribution of major credit cooperatives, commercial banks and Regional Rural banks including that of NABARD. Human Resource Development – Present and future HRD needs for bank employees in India. Recruitment, training and appraisal of bank employee's. Khandelwal Committee (2010) on Human resource in public sector Banks.

### Section-C

The Reserve Bank of India – Functions and Role. Autonomy of the RBI. Liquidity Management Monetary Policy – Goals, targets and indicators. RBI's monetary policy – Objectives and Techniques. Impact of RBI's monetary Policy on economic growth and price stability.

### Book Recommended:

1. S.B. Gupta: Monetary Planning of India
2. L.M. Bhole and Mahakud: Financial Institutions and Markets, McGraw Hill Education, New Delhi.
3. Harendra Badhav (Ed.): Challenges to Indian Banking Competition, Globalisation and financial Markets McMillan.
4. N.S. Yher: Non-performing Advances in Banks, Skylark: New Delhi.
5. Report of the Committee (Narsimham) on the Financial System Nov., 1991.
6. Raghuram Rajan Committee Report on Financial Sector reforms, Planning Commission.
7. I.B.A. Bulletin: Annual Special Issues.
8. RBI Report on trend and Progress of Banking in India (Latest Ed.)
9. Hanson and Kathuria (ed.): A Financial Sector for the 21<sup>st</sup> Century, Oxford University Press.
10. Y.V. Reddy, Monetary and Financial Reforms in India, UBSPD, New Delhi.

## PAPER (VI): INTERNATIONAL 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

Finance Function- Sources and Uses; International capital movements – classification and role in developing nations. Foreign Direct Investment, foreign Portfolio investment and financial instability.

  
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International Financial System and Globalization- development in Exchange Markets; Eurocurrency Markets, Asian Dollar Markets and International Bond Markets. Principles of International Financial Management.

### Section- B

**Foreign Exchange Market-** Structure, Kinds, instruments of payments, functions, exchange trading, exchange risk, arbitrage and speculation.

Foreign exchange rate- meaning, determination of equilibrium exchange rate, theories of exchange rate and exchange rate systems.

Balance of payments- meaning, components, disequilibrium of BOPs, its causes and Remedial measures.

Open Economy Macro Economics- BOPs equilibrium and adjustment mechanism (automatic and policy).

Trends in India's Balance of payments and growth of foreign exchange reserves since the beginning of the 1990s.

### Section- C

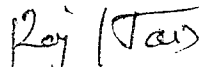
Global Business Finance; Long term borrowing from World Bank, Asian Development Bank and its overall impact on Indian economy – International Monetary System and alternative international monetary standards. IMF and problem of international liquidity. Optimum currency areas. Theory of international reserves. WTO and its impact on different sectors of the economy. Regional Blocks- Multilateralism and World Trading System.

### Books Recommended:

1. Grabbe J. Orlin: International Financial Markets. Prentice Hall, Inc, Englewood Cliffs, NJ, USA.
2. Daniel R. Kane: Principles of International Finance, CroomHelm Ltd.
3. Harold James: International monetary cooperation since Brettonwood, IMF.
4. Peter B. Kenen (Ed.): Managing the world Economy: Fifty Years after Bretton Wood.
5. Peter Kenen: International Economics, Cambridge University press
6. Bo Sodersten and Geoffrey Reed: International Economics, MacMillan.
7. John Millar (Ed): Curing World Poverty.
8. IMF: International Capital Markets, Development prospects and policy Issue, 1994.
9. Lovi- Mauriea: International Finance, McGraw Hill.

### Reference Books:

1. World Bank: Annual Conference on Development Economics.
2. World Bank : Annual Reports.
3. ADB: Annual Reports

  
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4. IMF/World Bank: Special Issue of Finance and Development of Financial market.
5. BIS: Annual Reports.
6. Reserve Bank of India: Monthly Bulletin.
7. Reserve Bank of India: Report on Currency and Finance.

## PAPER (VII): 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 propositions and capital demand and supply bi-furcation, wage fund.

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

Evaluation of socialist thought- Utopian, Socialism, Saint Simon, Own Balne, Fourier, Proudhon, Scientific socialist.


### Section-C

Karl Marx – Efforts at scientific socialism; Organic composition of capital; Break down of capitalism, Reserve Army of Labour; Critiques of Marx Modern, Revival of Marx in Economics; The German Historical School and the development of Marginalize; 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)

  
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3. Gide and Rist: History of Economic Dostrine (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.

## PAPER (VIII): MATHEMATICAL 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 thory-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.

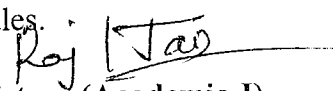
Perfect Competition; Market demand and supply function; Determination of price and output of a firm; Effects of specific and advalorem taxes; Stability of equilibrium- Marshallian & Walrasian.

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 Sarmuelson Hicks.

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

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

Input- Output Analysis - Concept 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 Economic.
3. B.C. Mehta: Mathematical Economics: Micro Economic Models. Sultan Chand & Sons, New Delhi.

**Reference Books:**

1. Alpha C. Chiang: Fundamental Methods of Mathematical Economics, McGraw-Hill, Kagakusha, Tokyo.
2. R.G.D. Allen, Marco Economic Theory: A Mathematical Treatment, McGraw-Hill, London.
3. Michael K. Evans: Macro Economic Activity: Theory, Forecasting and control.
4. B.C. Mehta and G.M.K. Madnani: Mathematics for Economists, Sultan Chand & Sons, New Delhi.
5. H.S. Agrawal: Kismat Siddhanton ka Ganitiya Vishleshan, R.B.S.A. Publishers, Jaipur.

**PAPER (IX): ECONOMETRICS**

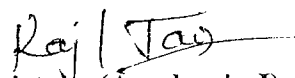
**Duration: 3 Hours**

**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.

  
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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.

### 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)

## PAPER (X): LABOUR AND INDUSTRIAL RELATIONS

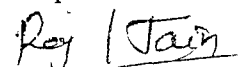
**Duration: 3 Hours**

**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

Labour Economic – Importance, Old and new theories; Theoretical and institutional labour Economics; Theory of individual labour supply and demand for labour; Wage determination; Functions and Characteristics of labour market with special reference to developing economies.

  
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Non competing groups and segmentation in labour markets; Rural labour market and rural- urban migration; TodaroHarris hypothesis; Investment in rural capital.

Defination of working force and labour force; Concept of Unemployment and Under-employment; Types of unemployment; Estimates of unemployment in India and Rajasthan. Employment in organized and industrial sectors in India-its size, growth and characteristics.

### Section- B

Government and labour market; Labour legislation and social security; State reputation of wages; Minimum wages for industrial and Agricultural workers; Wage and income policy. Labour Unions – their role and functions; Labour unions and collective bargaining economic impact of unions.

Trade Union movements in USA, Russia and India, Industrial relations- factors determining industrial relations; Collective bargaining in India.

### Section – C

Industrial disputes and grievances, causes of unrest; Machinery for industrial peace; Conciliation, mediation and arbitration, Industrial disputes in India since 1980, Critical study of existing machinery of industrial relations in India.

Workers participation in ownership and management–concepts and Indian experience; Industrial Labour Organization- functions and role, India and ILD; Industrial Labour and Industrial Relations in Rajasthan.

### Books Recommended :

1. Dunlop: Industrial Relations system (Harvard Business School Press)
2. B.C. Roberts: Trade Union in a free society (Hutchinson & Company)
3. R.N. Subramaniam: Labour Management Relations in India.
4. V.G. Mhetras: Labour Participation in Management (Manaktalas)

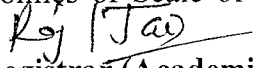
### Reference Books:

1. Mary Sur: Collective Bargaining (Vikas Publishing House).
2. D.N. Mongia: Reading in Indian Labour and Social Problems.
3. Jalan and Bimal: Economics of Labour Policy.
4. McConnell C.L. and S.L. Brue: Contemporary Labour Economics, McGraw- Hill Co.

## OPTIONAL (XI): ECONOMICS OF INFRASTRUCTURE

### Section-A

Infrastructure and Economic Development – Infrastructure as a Public Good; Social and Physical Infrastructure: Special Characteristics of Public Utilities, The Peak Load, Off Load Problem; Dual Principle Controversy; Economies of Scale of Joint

  
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Supply; Marginal Cost Pricing vs. Other Methods of Pricing in Public Utilities; Cross Subsidization – Free Prices, Equity and Efficiency. The Structure of Transport Costs and Location of Economic Activities; Demand for Transport- Models of Freight and Passenger Demand; Model Choice; Cost Functions in the Transport Sector; Principle of Pricing; Special Problems of Individuals Modes of Transport; Inter- model Condition in the Indian Situation.

### Section- B


Infrastructure Development and Reforms in India – Power, Transport , and Communication, Rate Making in Telephone Utilities; Principal of Decreasing Costs in Telephone Industry – Characteristics of Postal Services; Criteria for Fixation of Postal Rates; Measurement of Standards of Service in Telephone and Postal Utilities. Primacy of Energy in the Process of Economic Development; Factors Determining Demand for Energy; Effects of Energy Shortages; Energy Conservation, Renewable and Nonconventional Sources of Energy; Energy Modeling; The Search for An Optimal Energy Policy in the Indian Context. Bulk Supply and Pricing of Electricity – The Relative Economics of Thermal, Hydel and Nuclear Power Plants – The Case for a National Power Grid.

### Section – C

Financing Water Utilities – Urban and Rural Water Supply; The Exploitation of National Gas; Pricing Problem; Organization and Financing of Supply of Social Services; Private v/s Public Sector Financing; Recent Debate About the Fixation of Prices of Social Services; Development of Social Services in the Successive Indian Plans. Education and Economic Growth; Approaches to Educational Planning, Social Demand, Rate of Return and Manpower Balance Approaches ; The Case for Universal, Free, Primary Education; Structure of Higher Education and Problems of Its Financing in India; Human Resources and Human Capital Development – The Issues in Education Policy. Health Dimensions of Development – Determinants of Health- Poverty, Malnutrition, Illiteracy and Lack of Information, Economic Dimensions of Health Care – Demand and Supply of Health Care, Financing of Health Care and Resource Constraints, Inequalities in Health.

### Books Recommended:

1. National Council of Applied Economic Research, 1996, India Infrastructure Report: Policy Implications for Growth and Welfare, New Delhi.
2. Parikh, K.S.(1999), India Development Report 1999-2000, Oxford, New Delhi.
3. Economics of Infrastructure (1976), Vol. VI, ICSSR.
4. Crew, M.A. and P.R. Kleindorfer (1979), Public Utility Economics, MacMillan, New York.

  
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**OPTIONAL (XII): HEALTH ECONOMICS****Section-A**

Introduction to Health Economics: Basic Concepts in Economics with Special Reference to Health – Utility, Demand and Supply Analysis, Elasticities, Expenditure Function, Imperfections in Market Structure, Production Possibility Frontier (PPF), Externalities and Market Failure: Approaches to Economics – Positive and Normative, Welfare Economics and Health.

Application of Economics to Issues Relating to Health with Special Reference to Market Failure and Public Policy; Health Economics and Population Dynamics – Demographic Aging, Obesity, Disability and Malnutrition

Costing and Health Economics: The Importance of Costing in Health Economics, Alternative Definitions of Cost, Cost Theory and Cost Analysis, Types of Cost – Monetary and Non-Monetary, Measurement and Valuation Issues in Cost, Production Cost and Discounting Constraints in Measuring Health Cost. Economic Evaluation: What is Economic Evaluation? Various Types of Economic Evaluation Used in Health Care, Measuring Outcome, Cost Effectiveness Analysis (CEA), Cost – Benefit Analysis (CBA), Divergence between Social and Private Costs and Benefits in Health Care

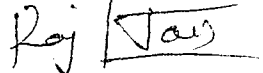
**Section- B**

Efficiency and Equity in Health: An Overview of the Normative Economics of the Health Sector, Health Care and Welfare State, Private Versus Public Health Care, Public and Private Partnership in Health Care, Efficiency and Effectiveness in Health Care, Equity in Health Care Delivery

Health Inequalities: Health Inequality and its Measurement, Determinants of Health, Health Seeking and Access to Health Care Service, Health Care Utilization. Changing Scenario of Health Inequalities in India; Human Capital and Health, Health Care and Labor Market, Demand for Health Care and for Medical Services –The Consumer Perspective, Moral Hazard and the Economics of Moral Hazard, Demand and Supply of Human and Physical Infrastructure- Physician, Hospital and Drugs etc. Costs as a Barrier to Health Care Utilization.

**Section- C**

Policies, Reforms and Regulatory Concerns in Health Sector: Health Care Delivery Systems and Role of Government in Providing Health Care, Improving Access to Health Care with Quality, Overview of Health Sector Reforms and Policies, National Health Policies and Programmes. Health Financing: National Health Accounting: Sources and Uses of Funds, Health Budgeting, Interrelationship between Epidemiological Transition and Health Expenditure, Health Care Financing System, Source of Health Care Spending, Equity in Health Care Finances, Future Investment Strategies in Health Sector, Willingness to Pay for Health Care, User Charges as Determinant of Health Financing.

  
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**Books Recommended:**

1. Rexford E. Snterre and Stephen P. Neun, Health Economics: Theories, Insights and Industry Studies, Thompson South – Western, 3<sup>rd</sup> Edition (614,San/Hea ,073226)
2. Zweifel and Breyer, 1997, Health Economics, Oxford University Press.
3. Drummond MF, Sculpher MJ, Torrance GW, O'Brien B, Stoddart GL, eds. Methods for economic evaluation of health care programmes, Third Edition, Oxford University Press, 2005.
4. Health Economics: 3<sup>rd</sup> Edition by Phelps
5. The economics of health and health care, 2<sup>nd</sup> edition by Folland, Goodman and Stono (FGS)
6. Gold Marthe R, Joanna E Siegel, Lousie B russei, and Milton C Weinstein, 1996, Cost effectiveness in health and Medicine, new York: Oxford University Press.
7. David Wonderling, Reinhold Gruen & Nick Black, 2005, Introduction to health economics, Chapters 10-11, 127-152.
8. Gold Marthe R, Joanna E Siegel, Lousie B russel, and Milton C Weinstein, 1996, Cost effectiveness in health and medicine, New York: Oxford University Press.,Ch. 6, pp. 176-213

**OPTIONAL (XIII): ENVIRONMENTAL ECONOMICS****Section-A**

Concept of Sustainable Development; The Environmental Costs of Development; Economic Growth and Environment; Environmental Kuznets Curve (EKC); The Nature of Environmental Goods; Market Failure and Public Policy; Theory of Externalities and Public Goods.

Renewable Resources: Optional Management of Resources, Non Renewable Resources- Hotelling's rule. Resource Scarcity and Economic Growth, Population Growth, Technological Changes and Implications for Long Term Growth

**Section-B**

Environmental Values: Use Values, Non-Use Values and Option Values. Environmental Valuation: Contingent Valuation Method, Travel Cost Method, Hedonic Pricing Method Valuing Environment as input in Production: Production Function, Cost Function. Conventional National Income Accounts and Environment: Concept of Green GDP.


**Section-C**

Environmental Policy Instruments, Property Rights and Transaction Costs, Quantitative Regulations, Price Instruments to Correct Externalities, Pollution Taxes and Abatement Subsidies, Transferable Permits/Pollution Markets, Innovative Approaches to Control Environment Pollution.

**Book and References:**

Baumol W. J. and W.E. Oates 1988: The Theory of Environment Policy, Cambridge University Press, Cambridge.

Kolstad C. D.: Environmental Economics, Oxford University press.

  
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