University of Rajasthan
Jaipur

SYLLABUS

M.A. ECONOMICS

(Annual Scheme)

Previous Examination  2019
Final Examination  2020
M. A. Economics (Annual Scheme)

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

For M. A. Previous

Paper-I : Micro Economic Theory
Paper-II : Macro Economic 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 Papers

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) : Agricultural Economics
Optional (ii) : Industrial Economics
Optional (iii) : Demography
Optional (iv) : Survey Methods
Optional (v) : Indian Banking System
Optional (vi) : International Finance
Optional (vii) : History of Economic Thought
Optional (viii) : Mathematical Economics
Optional (ix) : Econometrics

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Optional (x) : Labour and Industrial Relations
Optional (xi) : Economics of Infrastructure
Optional (xii) : Health Economics
Optional (xiii) : Environmental Economics

COMPULSORY PAPERS FOR M.A. PREVIOUS

PAPER-I: MICRO ECONOMIC THEORY

Duration: 3 Hours

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


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, Berrnad, 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

Books Recommended:
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

Reference Books:
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-relation, Problem of aggregation in the construction of Macro Economic variables.


Section - B


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.
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:

2. Martin J Bailley: National Income and the Price Level, Chap. 2 and 3
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)

Reference Books:

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
7. Barret: Macro Economic Policy (Prentice Hall)
8. Uma Dutta Roy Choudhary: National Income Accounting, Macmillan India Ltd. Delhi
10. A.K. Dasgupta: Macroeconomics Analysis (New Delhi Publisher)
11. H. L Ahuja: Samashti Arthashastra (Hindi), Macro Economics (Eng.)
13. Ramdhendra Jha: Contemporary Macroeconomics (Edward Elgar Publishing)
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, χ² (chi square) and F and their properties (without proof), Testing of Hypothesis- Basic Concepts, t test (Significance of Mean and Difference between means), χ² 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).
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:
3. Kailash Nath Nagar: Sankhyiki ke Mool Tatva (Hindi) Meenakshi Prakashan, Meerut
4. Laxmi Narain Natharumka: Arthshastra Mein Ganit Ke Prayog (Hindi), College Book House, Jaipur

Reference Books:
COMPULSORY PAPERS FOR FINAL
PAPER-IV: PUBLIC FINANCE

Duration: 3 Hours

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


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.


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 revolution of resources to Rajasthan.

Books Recommended:
3. S. Ganguli: Public Finance (Concept Publisher)
5. Prem Prakash Sharma: Sarwajanik Vitt Ke Siddhant (Hindi).

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.

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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.

Section - C
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:

Reference Books:

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PAPER-VI: DEVELOPMENT ECONOMICS

Duration: 3 Hours

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:

5. Michael P. Todaro: Economic Development in the Third World (Latest Ed.) (Edward Elgar Publisher)

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7. S. K. Mishra and V. K. Puri: Vikas Ka Arthshastra (Hindi), Economics of Growth and Development Economics (Eng.) (Himalaya publisher)

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)
8. The Economic Survey- Government of India (Oxford University Press)
9. Five Year Plans of India
Paper-VII Advanced Indian Economy

Section A

Section B

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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)
3. Laxmi Narayan Nathuramka:BhartiyaArthshastra, Ramesh Book 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 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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Books Recommended:
1. E.D. Heady and J.L. Dillon: Agricultural Production Functions
2. T.W. Shultz: Transforming Traditional Agriculture
6. D.S. Tyagi and G.S. Bhatta: 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 MRTP 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:

5. K.V. Sivayya and V.B.K. Das: Indian Industrial Economy

Reference Books:

2. Chenery and Clark: Inter-Industry Economics (Willey Publication).
4. J.S. Bain: Industrial Organization (John Wiley & Sons)

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; 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)

Books Recommended:

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

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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 Surveys; 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

Section - B

Sampling Designs: Simple Random Sampling with and without replacement, Relative efficiency of WR and WOR
Stratified Samplings, 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:
3. Cochrance: Sampling Techniques (Wiley India Pvt. Ltd)

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. Pointy sector advances and advance to the neglected sections of the society. Financial Sector Reforms – Context, need and objectives. Implementations of the Narsimham Committee recommendations. Issues in financial reforms.

Section - B


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.

Books Recommended:
1. S. B. Gupta: Monetary Planing for India
3. Harendra Badhav(Ed.): Challenges to Indian Banking Competition, Globalisation and Finacial Markets McMillan.
4. N. S. Yher: Non- performing Advances in Banks, Skylark, New Delhi.
8. RBI Reoprt on trend and Progress of Banking in India(Latest Ed.).

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.

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

Books Recommended:
3. Harold James: International Monetary Cooperation since Brettonwood, IMF.
4. Peter B. Kenen (Ed.): Managing the World Economy: Fifty Years after Bretton Wood.

Reference Books:
2. World Bank: Annual Reports.
3. ADB: Annual Reports.
5. BIS: Annual Reports.

**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, Physiocrats, 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.


**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- furcation, wage fund.

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

Evaluation of socialist thought- Utopian, Socialism, Saint Simon, Own Balne, Fourier, Proudhob, 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
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)

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 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.

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:

2. RGD Allen, Mathematical Economics.

**Reference Books:**


**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**


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.

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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)
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 Economics- 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.
Non competing groups and segmentation in labour markets; Rural labour market and
rural-urban migration; Todaro Harris hypothesis; Investment in rural capital.

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Definition of working force and labour force; Concept of Unemployment and Underemployment; 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:

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:

2. D.N. Mongia: Reading in Indian Labour and Social Problems.
3. Jalan and Bimal: Economics of Labour Policy.
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; Economics of Scale of Joint 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


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:
3. Economics of Infrastructure (1976), Vol.VI, ICSSR.

**OPTIONAL (XII): HEALTH ECONOMICS**

*Section - A*


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


*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


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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


Books Recommended:
4. Health Economics: 3rd Edition by Phelps
5. The economics of health and health care, 2nd edition by Folland, Goodman and Stoto (FGS)

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.

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Section - B

Environmental Values: Use Values, Non-Use Values and Option Values.

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: