UNIVERSITY DEPARTMENT OF ECONOMICS

VINOBA BHAVE UNIVERSITY, HAZARIBAGH

Syllabus and Scheme for Examination

For

M. A. Economics

Under

UGC – CHOICE BASED CREDIT SYSTEM

Approved by Board of Studies on 07/04/2018

Effective from July 2018

MEMBERS BOARD OF STUDIES:

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UNIVERSITY DEPARTMENT OF ECONOMICS
VINOBA BHAVE UNIVERSITY , HAZARIBAG

COURSE OULINE OF M. A ECONOMICS

Semester I	Semester II
ECN-F0I - Foundation of Quantitative Economics **ECN-C02 – Micro Economic Analysis – I** **ECN-C03 - Macro Economic Analysis** **ECN-C04 - Environmental Economics & Economics of Social Sectors**	**ECN– S05— Theory of Statistics** **ECN – C06—Money and Financial Markets** **ECN – C07—Indian Economic Policy** **ECN – C08—Theory of Development and Growth Models**
Semester III	**Semester IV**
ECN – A09 – Choice Base (Elective) **ECN – C10 – Micro Economic Analysis – II** **ECN – C11 – Public Finance** **ECN – C12 – International Economics**	*Students can opt for one of the optional groups, consisting of three papers* **Group –A MATHEMATICAL ECONOMICS & ECONOMETRICS** **Group –B AGRICULTURE & LABOUR ECONOMICS** **Group – C POPULATION STUDIES** **Group – D WOMEN STUDIES** **Group – E Energy, Resource & Environmental Economics** **ECN – D16 – Research & Project work** **Or Computer and Skill Development**

ECN– F01

FOUNDATION OF QUANTITATIVE ECONOMICS

Full Marks – 70, Pass Marks 28   **Time - 3 Hrs.**

*Candidates will have to answer **five** questions out of total of **nine** questions. At least one question from each module will be set. **Question no. 1 will be compulsory**, which will contain **7** short answer questions carrying **2** marks each.*

Module – I Elementary Analytical Geometry

1.1 Solution of Equation in one Variable and Simultaneous equation in two variable*s*

1.2 Equation of Straight line *and parabola*

1.3 Set Theory and its operations.

Module – II Introduction to Differential Calculus

2.1 Functions and graphs, Exponential and logarithmic function, Limit and Continuity

2.2 Derivatives, Partial Differentiation and their application in Economics

2.3 Elasticity of Economic Functions, Relation Between AR, MR and Elasticity of Demand

2.4 Production function, Young's Theorem, Homogenous function and Euler's Theorem

Module – III Differential Calculus and Extreme Values (Optimization)

3.1 Maxima and Minima, Point of Inflexion & their uses in Economics

3.2 Pricing under Perfect Competition, Monopoly, Duopoly, Taxation in Monopoly Market

3.3 Unconstrained Optimization of a function of several variables

3.4 Constrained Optimization: Equality Constrained Optimization

Module- IV Integral Calculus and Economic Dynamics

4.1 Indefinite integrals and inverse differentiation

4.2 Technique of integration, Integration by substitution – integration by parts, definite integration

4.3 Integration and Application to Economic Dynamics (Consumer Surplus, Producer's Surplus)

4.4 Definite integrals and approximate integration

Module – V Determinant & Matrix Algebra

5.1 Determinant and its properties,

5.2 Matrix Operations

5.3 Inverse and Solution of Equation by determinant

5.4 Rank of Matrix

BASIC READING LIST

- Allen, R.G.D. (1974) Mathematical analysis for Economics, Macmillan press & ELBS London. (Chapters: 2,3,4, 5,6, 7, 8,9, 10,11, 12,13,14, 15, 18)

- Chiang, A.C. (1986) Fundamental Methods of Mathematical Economics, McGraw Hill Co. Ltd., New York.

- Handry A.T. (1999) Operations Research, Prentice Hall of India, New Delhi.

- Taha, H.A. (1997) Operations Research: An Introduction (6th Edition) Prentice Hall of India (p) Ltd., New Delhi.

- Yamane, Taro (1975) Mathematics for Economics Prentice Hall of India, New Delhi

- A. C Chiang & K Wainwright (2013) Fundamental Method of Mathematical Economics, McGraw Hill

- E. T. Dowling (2001) Introduction to Mathemeatical economics, McGraw Hill

- K Sydaster & P J Hammond (2015) Mathematics for economic Analysis, Pearson.

ECN – C02

MICRO ECONOMIC ANALYSIS

Full Marks – 70, Pass Marks 28   **Time - 3 Hrs.**

Candidates will have to answer ***five*** *questions out of total of* ***nine*** *questions. At least one question from each module will be set.* ***Question no. 1 will be compulsory****, which will contain* ***7*** *short answer questions carrying* ***2*** *marks each.*

Module – I Fundamentals of Consumption & Production

1.1 Economic models : Basics of model building, Characteristics of equilibrium System

1.2 Approaches to Consumer Behaviour; Indifference Curve Analysis, Derivation of Demand Curve from Indifference Curve Analysis; Revealed Preference approach , Revision of Demand Theory by Hicks

1.3 Iso-quant, Marginal Rate of technical substitution, Elasticity of substitution — Least cost combination of inputs

1.4 Return to scale, change in scale and factors proportion.

Module – II Production & Distribution

2.1 Production function: Cobb-Douglas Production Function and Its Properties

2.2 Marginal productivity theory under different Market condition and Modern theory of distribution; Product exhaustion theorem;

2.3 Factor pricing in perfect and imperfect factor markets; Classical and Modern theories of Wage, Keynesian and modern theory of Interest, Risk, uncertainty & innovation theory of profit

2.4 Macro theories of distribution — Ricardian and Marxian, Neo – Classical theories of Micro-distribution (Kaldor)

Module – III Advance Theories (Theory of Demand an Alternative Approach)

3.1 Consumer Choice involving Risk,

3.2 Indirect Utility function and Duality theorem

3.3 Modern Theory of Consumer Surplus

Module – IV Welfare Economics - I

4.1 Definition, scope and purpose of Welfare Economics, Concept of Social welfare; Measurement of Welfare;

4.2 Role of Value Judgments in Welfare Economics, Pigou's Welfare Economics;

4.3 Pareto optimality — Optimum exchange conditions; The production optimum;

4.4 The consumption optimum; Concept of contract curve;

Module – V Welfare Economics - II

5.1 Compensation criteria - Contributions of Kaldor and Hicks

5.2 Scitovsky double criterion,

5.3 Bergson's, Samuelson social welfare function,

5.4 Arrow's possibility theorem, A. K. Sen's contribution in welfare economics

BASIC READING LIST

- Kreps, David M. (1990), A Course in Microeconomic Theory. Princeton University Press, Princeton.

- Koutsoyiannis, A. (1979), Modern Microeconomic (second edition) Macmillan Press, London.

- Layard, P.R.G. and A.W. Walters (1978), Microeconomi Theory, McGraw Hill, New York.

- Sen, A. (1999), Microeconomics Theory and Applications Oxford Univesity Press, New Delhi.

- Stigler, G. (1996), Theory of Price (4th edition) Printice Hall of India, New Delhi.

- Varian, H. (2000), Microeconomic Analysis, W.W. Norton, New York.

- Case KE, Fair R C Osters, (2009)Principles of Economics (9th edition), Pearson

- Myint, H. (1948), Theories of Welfare Economics, Longmans, London.

- Ng Y.K. (1979), Welfare Economics, Macmillan, London.

- Nicholas, B. (Ed.) (2001), Economic Theory and the Welfare State, Edward Elgar Publishing Ltd., U.K.

- Pigou, A.C. (1962), The Economics of Welfare (4th Edition), Macmillan.

- Quirk, J. and R. Saposnik (1968), Introduction to General Equilibrium Theory and Welfare Economics, McGraw Hill, New York.

- Samuelson, P.A. (1947), Foundations of Economic Analysis, Harvard University Press, Cambridge, Mass.

- N Gregory Mankiw (2007) Economics: Principles and Applications, Learning India private limited.

- Joseph's Stiglitz and C. E Walsh (2007) Economics, W.W Norton and Co.

ECN – C03

MACRO ECONOMIC ANALYSIS

Full Marks - 70 Pass Marks 28   **Time - 3 Hrs.**

*Candidates will have to answer **five** questions out of total of **nine** questions. At least one question from each module will be set. **Question no. 1 will be compulsory**, which will contain **7** short answer questions carrying **2** marks each.*

Module – I , Consumption Function

1.1 Keynes Psychological law of consumption, Income- Consumption relationship,

1.2 Absolute income, Relative income, Life Cycle and Permanent income Hypothesis.

1.3 Consumption and Asset Price

1.4 Consumption under Uncertainty – Modern Approach

Module –II Investment Function

2.1 Marginal Efficiency of capital and investment – long run and short run, Factors affecting Investment Function, Derivation of MEC

2.2 Investment Multiplier,

2.3 Acceleration Principle, Investment Behaviour,

2.4 Super Multiplier, Tobin's **'q'** of Investment

Module – III Macro Economic models

3.1 Classical Macro Economic Model

3.2 Neo – Classical Macro Economic Model

3.3 Keynesian Macro Economic Model

3.4 Post Keynesian Macro Economic Model – Rational and Adaptive Expectation Model, Mundell Fleming Model

Module – IV Theories of Inflation

4.1 Classical, Keynesian and Monetarist approaches to Inflation; Structuralist theory of inflation,

4.2 Inflationary Gap, Measures to remove the gap, Demand Pull and Cost Push theory of inflation.

4.3 Phillips curve analysis —Short-run and long-run; The Natural rate of Unemployment Hypothesis; Tobin's modified Philips Curve.

4.4 Control of Inflation by Monetary, Non Monetary and fiscal measures

Module – V Economic Fluctuation

5.1 Business cycle- Nature Scope, Phases, Monetary and Non Monetary Theory

5.2 Traditional Theories of business Cycle (Schumpeter's and Kaldor)

5.3 Business Cycle Theories of Hicks and Samuelson

BASIC READING LIST

- Ackley, G. (1997), Macroeconomics, Theory and policy Macmillan, New York.

- Blackhouse, R. and A. Salansi (Eds.) (2000), Macroeconomics and the Real World; (2 volumes) Oxford University Press, London.

- Branson, W.A. (1989), Macroeconomics Theory and Policy (3rd edition) Harper & Row, New York.

- Hall, R.E. and J.B. Taylor (1986), Macroeconomics W.E. Norton, New York.

- Heijdra, B.J. and V.P. Fredrick (2001), Foundations of Modern Macroeconomics, Oxford University Press, New Delhi.

- Jha, R. (1991), Contemporary Macroeconomic Theory and Policy, Wiley Eastern Ltd., New Delhi.

- Romer, D.L. (1996) Advanced Macroeconomics, McGRaw Hill Co. Ltd., New York.

- Scarfe, B.L. (1997) Cycles Growth and Inflation McGraw Hill, New York.

- Shapiro, E (1996) Macroeconomics Analysis, Glgotia Publications, New Delhi

- Errol Desuza (2009) : Macro Economic Analysis, Pearson

- Dornbuseh Fischer and Startz (2010) Macroeconomics, McGrawHiall

- N Gregory mankiw (2010) Macroeconomics, Worth Publisher

- Oliver Blanchard (2009) Macroeconomics, pearson.

ECN – C04

ECONOMICS OF ENVIRONMENT AND SOCIAL SECTOR

Full Marks – 70, Pass Marks 28   **Time - 3 Hrs.**

*Candidates will have to answer **five** questions out of total of **nine** questions. At least one question from each module will be set. **Question no. 1 will be compulsory,** which will contain **7** short answer questions carrying **2** marks each.*

Module – I Basics of Environmental Economics

1.1 Economic Development and Environment- Inter-relationship between Economic Development and Environment

1.2 Sustainable Development - Concept, Characteristics and Sustainable Development Goals (SDGs)

1.3 Concept of Externalities, Types and Measures to control Negative Environmental Externalities- Pigovion tax, Property Rights and Coase theorem, Carbon tax.

1.4 Properties of Environmental goods – Public goods/ private goods.

Module – II Environmental Issues

2.1 Environmental Management- Concept, Types and Methods of Environmental Management; Environmental management and people's participation (PPP).

2.2 Environmental Degradation- Land forest and natural resource degradation.

2.3 Problems of Pollution- Air Pollution and Water Pollution; National Environmental Policy.

2.4 Social Forestry- Rationale and Benefits.

Module III: Environmental Valuation & Accounting

3.1 Concept of Environmental Values- Use Value, Non-use Value and Option Value. Basics of the valuation of environment- Contingent Valuation Method, Travel Cost Method, Hedonic Price Method.

3.2 Environmental Accounting: Objectives forms, functions & importance, Financial Performance and Environmental function.

3.3 Natural Resource Management, Introduction to Natural resource accounting, Salient features of System of Environment and Economic Accounting, Green Accounting, Natural Resource Policies of India.

Module – IV Economics of Social Sector – I

4.1 Social Sector - Importance of Social Sector, Education and Health,

4.2 Human Capital Vs Physical Capital, Education as Instrument of Economic Growth

4.3 Human Capital Formation- Concept and Role in Social Sector Development

4.4 Cost of Education – Expenditure on Education, Education Sector- Status, Problems, Solutions and Financing of education in India, Benefit of Education

Module – V Economics of Social Sector – II

5.1 Health Sector- Status, Problems, Determinants of health

5.2 Poverty, malnutrition and environmental issues,

5.3 Solutions and Financing of Health Sector

BASIC READING LIST

- Chenery H. and TN. Srinivasan (Eds.) (1989), Hand Book of Development Economics, Vol. 1 & 2 Elsevier, Amsterdam.

- Baumol, W.J. and W.E. Oates (1988), The Theory of Environmental Policy, (2nd Edition), Cambridge University Press, Cambridge.

- Bromely, D.W. (Ed.) (1995), Handbook of Environmental Economics, Blackwell, London.

- Fisher, A.C. (1981), Resource and Environmental Economics, Cambridge University Press, - Cambridge.

- Hanley, N., J.F. Shogern and B. White (1997), Environmental Economics in Theory and Practice, Macmillan.

- Hussen, A.M. (1999), Principles of Environmental Economics, Routledge, London.

- Sinha U.P (2007), Economics of social sector and development,Concept Publishing company, New Delhi.

- United Nations - Human Development Report (various issues)

- Blaug. M (1972) - Introduction to Economics of Education (Penguin)

- Cohen, E and T. Gaske (1989) - Economics of Education. Pergamon Press, London

- Schultz, T. W(1971) - Investment in Human Capital, Free Press, New York.

- Tilak, J.B.G. (1994) - Education for Development in Asia, Sage Publications, New Delhi.

- World Bank (1993) - The World Development Report, 1993: Investing in Health, Oxford University Press, New York.

- Bhattacharya, R.N. (2001), "Environmental Economics – An Indian Perspective', OxfordUniversity Press, Delhi.

- Singh, K. and A. Shishodia, (2007), "Environmental Economics: Theory and Applications", Sage Publications, New Delhi

- Charles Kolstad (2010) Intermediate Environmental Economics, Oxford University Press.

- Robert N. Stavins (ed) (2005) Economics of Environment : Selected Readings

- Robert, Yue Ma, James MCGilvray and Micle C (2003) Natural Resource and Environment Economics, Pearson Education.

ECN – S 05

THEORY OF STATISTICS

Full Marks – 70, Pass Marks 28   **Time - 3 Hrs.**

*Candidates will have to answer **five** questions out of total of **nine** questions. At least one question from each module will be set. **Question no. 1 will be compulsory**, which will contain **7** short answer questions carrying **2** marks each.*

Module – I Statistical Method - I

1.1 Simple Correlation: Karl Pearson's and Product Moment Method; Rank Correlation,

1.2 Standard Error of Estimates and Probable Errors estimates; Partial and Multiple Correlation

1.3 Regression Analysis: Regression Coefficients and its properties, Estimation of lines of Regression

1.4 Time series analysis: importance and components, Estimation of trend value by least square method.

1.5 Application of Statistics by Excel: Measures of Central Tendency and Measures of Dispersion

Module – II Statistical Methods – II

2.1 Classical and empirical definition of Probability; Theorem of Probability (Addition Theorem).

2.2 Conditional probability, Multiplication theorem, Extention of multiplication theorem, Bayes theorem

2.3 Random variables and distribution function, Probability density function, Marginal density function.

Module –III   Theoretical Probability Distribution

3.1 Discrete and Continuous Probability Distribution

3.2 Binomial, Poisson Distribution (Constants, Mode and fitting of distribution)

3.3 Normal Distribution, properties of Normal Distribution and equation of Normal Probability curve.

3.4 Relation between Binomial and Normal Distribution.

Module –IV   Sampling Theory

4.1   Sampling Theory, Basic Concept, Types, Census Vs Sampling

4.2   Principle of Sampling, Types, Limitation and Errors in Sampling

4.3 Sampling Distributions, Sampling Distribution of Means

Module   V   Statistical Decision Theory

5.1   Statistical Hypothesis, Hypothesis Testing   Type - I and Type – II errors. Error in hypothesis testing

5.2 Null and Alternate Hypothesis, Formulation of Hypothesis, level of Significance

5.3   Significance of tests in small sample : Test of significance based on **t, F** and **z** distribution.

5.4 Definition of Chi – Square,χ^2 , χ^2 – test. Chi square test for degree of freedom, contingency
    Table (2x2)

BASIC READING LIST

- Spiegel, M.R. (1992), Theory and problems of Statistics, McGrow Hill Co. Ltd., New York.

- Chou, Y. (1975), Statistical Analysis, Holt, Reinharet and Winston, New York.

- Croxtion, Crowden and Klein (1971), Applied General Statistics, Prentice Hall of India, New Delhi

- Millar, J. (1996), Statistics for Advanced Level, Cambridge University Press, Cambridge.

- Nagar, A.L. and R.K. Das (1993) Basic Statistics, Oxford University Press, New Delhi.

- S. P. Gupta: Statistics

- S. C. Gupta: Fundamental of Statistics, Himalaya Publishing house

- D. N. Elhance: Fundamental of Statistics

- Spiegel M.R (2015) Theory of Statistics

- W.G. Cochran (2007) Sampling Techniques, J Willey

- Goon Am, Gupta M K and Dasgupta B (2002) Fundamental of Statistics, (Vol I& II) World press

- Jay L Devore (2010) Probability and statistics for Engineer, C Learning

- John E Freund (1992) Mathematical Statistics, Prentice Hall

- Mood, AM , Gray Bill F.A & Bose DC (2007) : Introduction to the theory of statistics , TaTa McGraw Hill.

ECN – C06

Money & Financial Markets

Full Marks - 70, Pass Marks 28   **Time - 3 Hrs.**

*Candidates will have to answer **five** questions out of total of **nine** questions. At least one question from each module will be set. **Question no. 1 will be compulsory,** which will contain **7** short answer questions carrying **2** marks each.*

Module – I Supply of Money

1.1 Approaches towards determination of money supply — Traditional Approach, Sukhmoy Chakarbarty Committee approach, RBI Approach to Money Supply & Recent changes
1.2 Determinants of Money supply- High Powered Money and Money Multiplier.
1.3 Control of Money Supply — Policy Rates and Reserve Ratio.

Module – II Demand for Money

2.1 Classical Approach to Demand for Money — Quantity Theory Approach (Fisher and Cash balance)
2.2 Keynes's demand for money
2.3 Post Keynesian Approach to Demand for Money — Patinkin and Real Balance Effect, Friedman
2.4 Modern Approaches of Demand for Money- Baumol and Tobin's (Introduction to P
ortfolio balance effect)

Module – III Money and Capital Markets

3.1 Role and structure of money market in India, Instruments of money market
3.2 Sub market – Call money market, Treasury bill market, Discount market,
3.3 Securities market — Markets for derivatives; Future and options and other derivatives; Primary and secondary market for securities
3.4 SEBI - Its impact on working of capital market in India, IRDA and its role in financial markets.

Module – IV Foreign Exchange Markets

4.1 Exchange rates —floating exchange rates
4.2 Spot market and Forward market, Interest arbitrage,
4.3 Foreign exchange market – exposure and management

Module – V Portfolio Analysis and Mutual funds

5.1 Risk and returns of individual security (Insurance)
5.2 Portfolio risk and returns
5.3 Concept of efficient portfolio
5.4 Venture Capital and Mutual funds

BASIC READING LIST

- Ackley, G. (1978), Macroeconomics: Theory and Policy Macmillan, New York.

- Blackhouse, R and A. Salansi (Eds.) (2000) Macroeconomics and the real world (Volumes), Oxford University Press, London.

- Branson, W.A. (1989) Macroeconomics Theory and Policy (3rd edition), Harper & Row, New York.

- Dombusck R and F, Stanley (1997), macroeconomics, McGraw Hill Inc., New York.

- Hall, R.E. and J.B. Taylor (1986), Macroeconomics, W.E. Norton, New York.

- Heijdra, B.J. and V.P. Fredrick (2001) Foundations of Modern Macroeconomics, Oxford University Press, New Delhi.

- Jha, R. (1999), Contemporary Macroeconomic Theory and Policy, Wiley Eastern Ltd., New Delhi.

- Romer, D.L. (1996) Advanced Macroeconomics. McGraw Hill Co. Ltd., New York.

- Scarfe, B.L. (1977) Cycles Growth and Inflation McGraw Hill, New York.

- Shapiro, E. (1996) Macroeconomics Analysis, Glgotia Publications, New Delhi.

- Surrey, N.J.C. (Ed.), (1976) Macroeconomics thems. Oxford University Press, Oxford.

- Sinha, U.P (2010) Monetary and Fiscal actions in India,Concept Publishing Company ,New Delhi.

- F.S Mishkin & S G Eakins (2009) Financial Markets and Institutions, Pearson

- F.J Fabozzi, F Modigliani, F J Jones, M G Ferri (2009) Foundations of Financial Market and Institutions, Pearson

- M R Baye and D W Jansen (1996) Money Banking and Financial Market, AITBS

- M Y Khan (2011) Indian Financial System, Tata McGraw Hill

ECN – C07

INDIAN ECONOMIC POLICY

Full Marks - 70, Pass Marks 28   **Time - 3 Hrs.**

*Candidates will have to answer **five** questions out of total of **nine** questions. At least one question from each module will be set. **Question no. 1 will be compulsory**, which will contain **7** short answer questions carrying **2** marks each.*

Module – I Framework and Challenges of Indian Economy

1.1 Trends and Growth of Indian Economy

1.2 Indicators of Development, PCI, PQLI, HDI, GDI

1.3 Poverty: Causes, Remedies and measurement, Multi-dimensional poverty index, Deprivation index

1.4 Employment: Problems, Solutions and Government Initiatives

1.5 Gender issues: Gender discrimination and Women empowerment

Module – II Development Strategies in India

2.1 Planning in India: Objectives, strategies and evaluation,

2.2 NITI Aayog and its role in planning in India

2.2 Planning and Decentralization (Panchayati Raj Institutions)

2.3 Economic Reforms in India

Module – III Agriculture and Allied Sector

3.1 Issues and Concerns in Indian Agriculture and Allied Sector (fisheries, Horticulture, Dairy, and Poultry)

3.2 Agriculture Finance, Agricultural Marketing

3.3 Cropping pattern in India – factor determining cropping pattern, Dry land farming, Contract Farming

3.4 Agricultural holdings in India – Subdivision and fragmentation of holdings, Organic farming in India

Module – IV   Sectoral Performance – II

4.1 Industrial Sector in pre – Reform Period

4.2 Industrial Sector in Post reform period with emphasis on small – scale Sector

4.1 Infrastructure: Transport, Energy and communication

4.2 Social Infrastructure, components, assessments and policies

Module – V   India and Foreign Trade

5.1 India's Foreign Trade: Direction and Composition and Balance of Payment of India

5.2 New Trade policy (EXIM Policy) FERA, FEMA

5.3 India and International institutions, Regional Blocks, BRICS, SAFTA, EU

5.4 Multinational Corporations and Foreign Capital

BASIC READING LIST

- Ahluwalia, I.J. and I.M.D. Little (Eds.) (1999), Indian's Economic Reforms and Development (Essays in honour of Manmohan Singh), Oxford University Press, New Delhi.

- Bardhan, P.K. (9th Edition) (1999), The Political Economy of Development in India, Oxford University Press, New Delhi.

- Bawa, R.S. and P.S. Raikhy (Ed.) (1997), Structural Changes in India Economy, Guru Nanak Dev University Press, Amritsar.

- Brahmananda, P.R. and V.R. Panchmukhi (Eds.) (2001), Development Experience in the Indian Economy : Inter-State Perspectives, Bookwell, Delhi

- Chakravarty, S. (1987), Development Planning: The Indian Experience, Oxford University Press, New Delhi.

- Dantwala, M.L. (1996), Dilemmas of Growth: The Indian Experience, Sage Publications, New Delhi.

- Dutt R. and Sundram: Indian Economy

- Mishra and Puri: Indian Economics

- Goyal, Ashima (2015) A Concise Handbook of Indian Economy in the 21st Century

- Uma Kapila,(2008) Indian Economy Since Independence (latest edition)

- Bhagwati, J (2012) Reforms and Economic Transformation in India

- Kaushik Basu and A Maertens eds (2013) 'The New Oxford Companion to economics, Oxford University Press

- Himanshu (2010) Towards New Poverty Lines for India, EPW , Jan 2010

- Jean Dreze and Amartya Sen (2013) An Uncertain Glory : India and its Contradictions , Princeton University Press.

- Pulpare Balkrishnan (2010) Economic growth in India: History and Prospects, Oxford Press.

ECN – C08

ECONOMICS OF GROWTH AND DEVELOPMENT

Full Marks - 70, Pass Marks 28   **Time - 3 Hrs.**

*Candidates will have to answer **five** questions out of total of **nine** questions. At least one question from each module will be set. **Question no. 1 will be compulsory**, which will contain **7** short answer questions carrying **2** marks each.*

Module – I Theories of Development

1.1 Economic Growth and Development: Concept, measurement and Indicators of Economic Growth

1.2 Factor affecting Economic growth – Capital, Labour and Technology

1.3 Schumpeter and Capitalistic development, Innovation: Role of credit, Profit and degeneration of capitalism

1.4 Marxian Theory of Development

Module – II Economic Growth – I

2.1 Harrod – Domar Growth Model, Knife edge problem

2.2 Neo- Classical growth Models- Solow, Mrs. Joan Robinson's growth model, Kaldor, Lucas

2.3 Sectoral Models of Economic growth – Mahalanobis growth models

2.4 A. K. Sen Growth Model

Module – III Economic Growth – II

3.1 Technological progress-embodied and disembodied; Production function approach to economic growth

3.2 Growth models of Hicks and Golden Rule of accumulation; intellectual capital;

3.3 Explanation of cross country differentials in economic growth.

Module – IV Social and Institutional Aspects of Development

4.1 Development and Underdevelopment – perpetuation of underdevelopment

4.2 Poverty — Absolute and Relative; Measurement, Causes and alleviation of poverty, Dependency Theory

4.3 Inequality and development inter-linkages: Kuznets

Module – V Partial theories of Growth and Development

5.1 Vicious circle of poverty; Circular Causation

5.2 Unlimited supply of labour; Ranis and Fei model, Big push Theory

5.3 Balanced and unbalance growth, Critical minimum-effort thesis

5.4 Harris Todaro model, Stiglitz labour turnover model

BASIC READING LIST

- Adelman, I. (1961), Theories of Economic growth and Development, Stanford University Press, Stanford.

- Behrman, S. and T.N. Srinivasan (1995) Hand book of Development Economics, Vol. 3, Elsevier, Amsterdam

- Brown M. (1966) On the Theory and Measurement of Technical change Cambridge University Press, Cambridge Mass.

- Chenery, H.B. and TN Srinivasan (Eds) (1989) Hand Book of Development Economics, Vol. I and II Elsevier, Amsterdam.

- Ghatak, S. (1986) An Introduction to Development Economics, George Alien & Unwin, London.

- Todaro, M and Smith (2011) Economic Development, Pearson. Economic Development

- Ray, Debraj, Development Economics, Oxford University Press

- Meir, G.M. - Leading Issues in Economic Development

- Thirlwall, A.P.- Growth and Development

- Basu, K. - Analytical Development Economics

- Bhattacharya, Debesh - Political Economy of Development

- World Bank - World Development Report (various issues)

- Anand, S. and R. Kanbur (1993) – "The Kuznets Process and the Inequality-Development Relationship", Journal of Development Economics, Vol. 40

- Anand, S. and R. Kanbur (1993a) – "Inequality and Development: A Critique", Journal of Development Economics, Vol. 41

- Kuznets, S. (1955) – "Economic Growth and Economic Inequality, American Economic Review, Vol. 45,

- Kuznets, S. (1963) – "Quantitative Aspects of Economic Growth of Nations: VIII, Distribution of Income by Size", Economic Development and Cultural Change, Vol. 12.

- Ranis, G. and J. Fei - 'A Theory of Economic Development', American Economic Review, Vol. 51, 1961, Reprinted in Eicher and Witt (ed.) Agriculture in Economic Development

Semester III
Choice Base

ECN - A09   Open Elective For Other Than Economics Students

Candidates will have to answer five questions out of total of nine questions. At least one question from each module will be set. Question No.1 will be compulsory, which will contain 7 short answer questions carrying 2 marks each.

Full Marks - 70, Pass Marks 28   **Time 3 hrs.**

Module – I   Micro Economics

1.1 Law of demand and supply, Elasticity of demand,
1.2 Consumer's equilibrium,
1.3 Indifference curve Income, Substitution and price effect,
1.4 Derivation of demand curve from indifference curves,
1.5 Consumers Surplus.

Module – II   Macro Economics
2.1 Concept and measurement of national income,
2.2 Keynesian psychological law of consumption,
2.3 investment function and its determinants,
2.4 Theory of the multiplier
2.5 Inflation and its control.

Module – III   Public Finance
3.1 Theory of maximum social advantage,
3.2 Ability to pay approach,
3.3 Incidence of taxation,
3.4 Wagner's law of increasing state activities, effects of taxation and public expenditure,
3.5 Taxable capacity types of taxation, GST, 14th finance commission.

Module – IV   International Trade
4.1 Classical theory of international trade, - Theories of comparative cost
4.2 Theory meaning and components of BOP, equilibrium and disequilibrium in balance of payment, Factors causing disequilibrium in balance of payment and its correction,
4.3 Fixed and flexible exchange rates, demand and supply theory of exchange rate determination,
4.4 Functions of IMF and World Bank.

Module – V   Basic Concept of Economic Development and Growth

5.1 Definition Concept and Determinants of Development, Recent Trends of Economic development in India
5.2 Sustainable Development indicators of economic development and Distribution
5.3 Development indices in India, HDI, GDI, MPI, HPI(I), HPI(II)

BASIC READINGS

1. H.L. Ahuja   Advance Economic Theory
2. H.L. Ahuja   Macro Economic Theory
3. Vais MC   Money Banking and International Trade
4. R.A. Musgrave   Public Finance in Theory & Planning
5. B.P. Tyagi   Public Finance
6. M.L. Jhingan   Economic Development & Planning   **18**

ECN – C- 10

MICRO ECONOMIC ANALYSIS – II

Full Marks - 70, Pass Marks 28   **Time - 3 Hrs.**

*Candidates will have to answer **five** questions out of total of **nine** questions. At least one question from each module will be set. **Question no. 1 will be compulsory**, which will contain **7** short answer questions carrying **2** marks each.*

Module – I Theory of Market – I

1.1 Equilibrium of firm & industry under perfect competition
1.2 Monopoly: Monopoly Power, Profit Maximization and output choice, Monopoly and product quality, Price Discrimination
1.3Monopolistic Competition: General and Chamberlin Approach of equilibrium, Product differentiation, selling cost
1.4 Bilateral Monopoly

Module – II Theory of Market -II

2.1 Oligopoly with fixed number of firms, Traditional model of oligopoly – Cournot, Edgeworth

2.2 Kinked Demand curve and Collusive – Cartels and Mengers, Price Rigidity

2.3 Price leadership at basin point price system

Module – III   Alternative Theory of Firms – I

3.1 Critical evaluation of marginal Analysis, Baumol's Sales revenue Maximization Model

3.2 Williamson's Model of Managerial Discretion

3.3 Marris Model of Managerial Enterprise, full cost pricing rule behavior model

3.4 Bains limit pricing theory

Module – IV   Alternative Theory of Firms – II

4.1 Behavioural Model of Cyert and March

4.2 Goals of firm: Sacrificing Behaviour, Process of Decision Making

4.3 Simple Model of Behaviourism

4.4 Game Theory Model

Module – II Market Equilibrium

5.1 Partial and general equilibrium,

5.2 Walrasian excess demand and input-output approaches to general equilibrium, existence, stability and uniqueness of equilibrium;

BASIC READING LIST

- Amartya Sen: Collective Choice and Social Welfare

- Arrow, K.J. (1951), Social Choice and Individual Values, Yale University Press, New Haven.

- Duesenberry, J.S. (1949), Income, Saving and the Theory of Consumer Behaviour, Harvard University Press, Cambridge, Mass.

- Marshall, A. (1946), Principles of Economics, Macmillan, London.

  - Kreps, David M. (1990), A Course in Microeconomic Theory. Princeton University Press, Princeton.

  - Koutsoyiannis, A. (1979), Modern Microeconomic (second edition) Macmillan Press, London.

  - Layard, P.R.G. and A.W. Walters (1978), Microeconomi Theory, McGraw Hill, New York.

  - Sen, A. (1999), Microeconomics Theory and Applications Oxford Univesity Press, New Delhi.

  - Stigler, G. (1996), Theory of Price (4th edition) Printice Hall of India, New Delhi.

  - Varian, H. (2000), Microeconomic Analysis, W.W. Norton, New York.

  - Case KE, Fair R C Osters, (2009)Principles of Economics (9th edition), Pearson

  - Samuelson, P.A. (1947), Foundations of Economic Analysis, Harvard University Press, Cambridge, Mass.

  - N Gregory Mankiw (2007) Economics: Principles and Applications, Learning India private limited.

  - Joseph's Stiglitz and C. E Walsh (2007) Economics, W.W Norton and Co.

ECN – C11

PUBLIC FINANCE

Full Marks - 70, Pass Marks 28   **Time - 3 Hrs.**

*Candidates will have to answer **five** questions out of total of **nine** questions. At least one question from each module will be set. **Question no. 1 will be compulsory**, which will contain **7** short answer questions carrying **2** marks each.*

Module – I Public Expenditure

1.1 Theories of the Growth of Public Expenditure- Wagner's law of increasing state activities and Wiseman Peacock hypothesis,

1.2 Structure and Growth of Public expenditure in India, Effects of public expenditure on Production, Distribution and Economic Stability.

1.3 Budgeting Systems- Performance Budgeting, PPBS and Zero based budgeting.

Module – II Taxation

2.1 Theory of Incidence; Dalton's and Musgrave's concepts of incidence- Taxable Capacity

2.2 Benefit and Ability to pay approaches, theory of optimal taxation

2.3 Indian Tax system, revenue of the Union, States and Local bodies; Major taxes in India

2.4 Reforms in direct taxes, taxes on services, GST, Non tax revenue of Central, State and Local Bodies

Module – III Public Debt and Public Sector Pricing

3.1 Classical View of Public Debt: Compensatory aspect of debt policy

3.2 Sources; effect and burden of public debt; Public debt and economic growth

3.3 Public debt and inflation, Public debt as a means of regulating economy

3.4 Principles of debt management and repayment.

Module – IV Fiscal and Monetary Policies

4.1 Objectives of Fiscal Policy- full employment, anti- inflation, economic growth, redistribution of income and wealth

4.2 Interdependence of Fiscal and Monetary policies,

4.3 Budgetary deficits, fiscal deficit, Revenue deficit and Monetary deficit its implications

4.4 Fiscal policy for stabilization- automatic V/s discretionary stabilization

Module – V Fiscal Federalism in India

5.1 State financial relation in Indian union budget, Expenditure pattern

5.2 Analysis of Union budget, Lack of flexibility in budget

5.3 Resource transfer from union to state and role of Finance commission

5.4 Fiscal crisis and fiscal sector reform in India

BASIC READING LIST

- Atkinson, A.B. and J.E. Stiglistz (1980), Lectures on Public Economics, Tata McGrow Hill, New York.

- Allen & Browale: Theory of Public Finance

- Auerbach, A.J. and M. Feldstern (Eds) (1985) Handbook of Public Economics, Vol. Im North Holland Amsterdam.

- Huchanan, J.M. (1970) The public Finance, Richard D. Irwin, Homewood Goode, R. (1860), Lectures on Public Economics, Tata McGraw Hill, New Delhi.

- Menutt, P. (1996), The Economics of Public Choice, Edward Elgar, U.K.

- Musgrave, R.C. (1959), The Theory of Public Finance, McGraw Hill Kogakhusa, Tokyo.

- Suoup, C.S. (1970), Public Finance, Aldine, Chicago.

- Shome, P. (Ed.) Tax policy: Handbook, Tax Division, Fiscal Affair Development International Monetary Fund. Washington, D.C.

- Dalton H: Public Finance

- Taylor: Public Finance

- Musgrave and Musgrave (1989) Public Finance Theory and practice, MCGraw Hill

- J Hindricks, G Myles (2006) Intermediate Public Economics, MIT Press

- H Rosen T. Gayer (2009) Public Finance, McGRaw Hill

- Rangrajan and D K Srivastava (2005) Fiscal Deficit and Govt. Debt, EPW

- M Govind rao (2011) : A Study of Budgets, RBI (Latest)

ECN – C12

INTERNATIONAL ECONOMICS

Full Marks - 70, Pass Marks 28   **Time - 3 Hrs.**

*Candidates will have to answer **five** questions out of total of **nine** questions. At least one question from each module will be set. **Question no. 1 will be compulsory**, which will contain **7** short answer questions carrying **2** marks each.*

Module – I Theory of International Trade
1.1 The theory of International trade — theories of comparative cost advantage and opportunity costs.
1.2 Heckscher -Ohlin theory of trade, Leontief Paradox.
1.3 Samuelson Factor Price equalization Theorem, Stopler Samuelson's Theorem
1.4 Modern Theories of Trade: Strategic trade theory, N. N Trade Theory

Module – II Theory of Interventions and Gains from Trade
2.1 Economic effects of tariffs and quotas on national income, output, employment, Nominal, effective and optimum rates of tariffs - their measurement and impact.
2.2 Concept of Terms of trade, Theory of reciprocal demand, Factors affecting terms of trade
2.3 Nature of Gains, Sources of gains, Factor determining Gains
2.4 Criteria for measuring Gains from International Trade.

Module – III Monetary aspects of International Trade
3.1 Meaning and Components of Balance of Payments; Equilibrium and disequilibrium of Balance of Payments
3.2 Theory of Balance of Payment: Monetary and Absorption Theory, Elasticity Approach
3.3 Factors causing disequilibrium in balance of payments and its correction
3.4 Foreign Trade Multiplier

Module – IV Exchange Rate
4.1 Concept of Foreign exchange rate, fixed and flexible exchange rates, Convertibility of currency
4.2 Devaluation -Devaluation of Indian Rupee and its impact on our economy
4.3 Theories of exchange rate determination.

Module - V — International Economic Co-operation & Organisation
5.1 Forms of economic cooperation; Static and dynamic effects of a custom union and free trade areas
5.2 Rationale and economic progress of SAARC regions, Asian Development bank — their achievements and shortcomings.
5.3 Reforms of the International monetary system, India and developing countries
5.4 Functions of WTO, IMF, World Bank

BASIC REDING LIST

- Bhagwati, J.N. (ed), International Trade : Selected Readings. Cambridge University Press, Cambridge.

- Carbough, R.J. (1999), International Economics, International Thomson Publishing, New York.

- Chacholiades, M. (1990), International Trade Theory and Policy, McGraw Hill, Kohakusha, Tokyo, Japan.

- Dana, M/s (2000), International Economics: Study, Guide and Workbook (5th Ed) Routledge Pub. London.

- Dunn, R.M. and J.H. Mutto (2000), International Economics, Routledge, London.

- Kenen, P.B. (1994), International Economy; Cambridge University Press, London.

- King, P.O. (1995), International Economics and International Economic Policy: A Reader McGraw Hill International, Singapore.

- Salvatore, D. (1997), International Economics, Prentice Gall, Upper Saddle River, N.J. New York.

- D Salvatore (2011) International Economics : Trade and Finance John Wiley

- Soderston, Bo (1991), International Economics, Macmillan Press, London.

- R.Findlay in Jones, R.W. and Kenen (ed)-"Handbook of International Economics", vol. I and vol. II, North Holland, 1984.

- Amrita Narlikar (2005): The World Trade Organization-A very short introduction.

- Krugman, P – Rethinking International Trade. MIT Press, 1990

- Paul Krugman, Maurice Obetfeld and Mare Melitz (2012) International economics: Theory and policy, Addison- Wesley

GROUP - 'A'

ECN – E13

MATHEMATICAL ECONOMICS & OPERATION RESEARCH

Full Marks - 70, Pass Marks 28   **Time - 3 Hrs.**

*Candidates will have to answer **five** questions out of total of **nine** questions. At least one question from each module will be set. **Question no. 1 will be compulsory**, which will contain **7** short answer questions carrying **2** marks each.*

Module – I Micro Economics Application

1.1 Utility Maximization: Cardinal and Ordinal utility maximization, Indirect Utility Function and Duality theorem, Substitution Effect and Slutsky equation

1.2 Compensated and normal demand function; Revealed preference theory

1.3 Homogeneous production function; Properties of Cobb-Douglas production function, Euler's Theorem, Production possibility curve; Technical progress through production function.

1.4 Cobweb model: (Supply lag and Demand Lag) Simple Continuous Cob-web Model and Model with stocks, Single market equilibrium — Marshallian and Walrasian equilibrium conditions

Module – II Macro Economic Application

2.1 Difference Equations: Distributed and Lagged, First and second order difference equation.

2.2 Differential Equations**:** First order and second order differential equation (general and particular solution) with economic application;

2.3 Dynamic monetary model; Static and dynamic multiplier; Determinants of investment; Accelerator,

2.4 Harrod Problem, Harrod- Domar growth model.

Module – III Theory of Matrix and Linear Programming

3.1 Matrix: Symmetric and Skew - Symmetric; Orthogonal matrix, Characteristics roots and vectors; Idempotent matrix; Quadratic forms, Solution of equations by matrix method

3.2 Linear Programming, Primal and Dual; Steps in construction of dual duality theorem

3.3 Solution of linear programming by graphical method.

Module – IV Game Theory and Input Output Analysis

4.1 Concept of Game theory; Pure and Mixed strategies; Maximum and Mini - max solution; Saddle point; Solution of Games by pure and mixed strategy

4.2 Graphical solution of Games 2x2 Pay off matrix.

4.3 Input Output Analysis — Open and Closed systems; Hawkins - Simon Conditions; Solution under three industries.

BASIC READING LIST

- Allen R.G.D. (1976) Mathematical, Economics, Macmillan

- Arrow, K.J. and M. Intriligator (Eds.) (1982) Hand book of Mathematical Economics, Vol. 1, 2 and 3 North Holland, Amsterdam.

- Henderson, J.M. and R.E. Quandt (1980) Micro Economic Theory : A Mathematical approach McGraw Hill, New Delhi.

  - A. C Chiang & K Wainwright (2013) Fundamental Method of Mathematical Economics, McGraw Hill

  - E. T. Dowling (2001) Introduction to Mathemeatical economics, McGraw Hill

  - K Sydaster & P J Hammond (2015) Mathematics for economic Analysis, Pearson.

GROUP - 'A'

ECN – E14

ADVANCED ECONOMETRICS – I

Full Marks - 70, Pass Marks 28   **Time - 3 Hrs.**

*Candidates will have to answer **five** questions out of total of **nine** questions. At least one question from each module will be set. **Question no. 1 will be compulsory**, which will contain **7** short answer questions carrying **2** marks each.*

Module – I Introduction to Econometrics

1.1 Nature, Meaning scope and importance of econometrics

1.2 Stochastic term and its importance, Assumptions of error terms

1.3 Simple Regression Model, Estimation of Parameters and properties of Least square estimates

1.4 Gauss Markov theorem; Concept and derivation of R^2 and Adjusted R^2;

Module – II Econometric Problems in Regression Analysis

2.1 Nature, Test, Consequences, Reasons of Multicollinearity and Heteroscedasticity and their corrections, Transformation of Heteroscedasticity into Homosaedesticity

2.2 Transformation of non-linear into linear ones; logarithmic, reciprocal and logarithmic reciprocal.

2.3 Auto correlation, First order Auto regressive scheme, Mean, variance and co-variance of auto co-related U's, Durbin Watson test and graphical test.

2.4 Problems of Auto-correlation – Application, Almond Approach to distributive lag model.

Module – III Regression with Qualitative Independent variables

3.1 Dummy variable technique testing structural stability of regression models, Seasonal analysis, Piece-wise linear regression, Use of dummy variables;

3.2 Regression with dummy dependent variable; LMP, LOGIT, PROBIT and TOBIT model & its applications

3.3 Autoregressive and distributed lag models — Koyck model

Module – IV Dynamic Econometric model

4.1 Partial adjustment model (PAM)

4.2 Error correction mechanism, causality test, Granger test

BASIC READING LIST

- Chung, J.W. (1993) Utility and production: Theory and applications, Basil Blackwell, London.

- Ferguson, H. (1976) Neo Classical Production and distribution.

- Amemiya, T. (1985), Advanced Econometrics, Harvard Univ. Press, Cambridge, Mass.

- Baltagi, B.H. (1998) Econometrics, Springer, N.Y.

- Dongherty, C. (1992) Introduction to Econometrics, Oxford University Press, New York.

- Goldberger, A.S. (1998), Introductory Econometrics, Harvard University Press, Cambridge Mass.

- Gujarati, D.N. (1995) Basic Econometrics (2nd Edn.) McGraw Hill, New Delhi.

- Hill, R.C., E.G. William and G.G. Judge (1997), Undergraduate Econometrics, Wiley, New York.

- Kennedy, P. (1998), A Guide to Econometrics (4th Edn), MIT Press, New York.

- Kmenta, J. (2008), Elements of Econometrics (Reprint Ed)Khosla Publishing House, New York.

- Koutsoyiannis, A. (1977), Theory of Econometrics (2nd ed.) The Macmillan Press Ltd., London.

- Krishna, K.L. (Ed) (1977) Econometrics Applications in India O.U.P. New Delhi.

- Maddala, G.S. (Ed.) (1993), Econometrics Methods and Applications (2 Vols) Aldershot, U.K.

- Theil, H. (1981), Introduction to Econometrics, Prentice Hall of India, New Delhi.

- Stock, James H. and Mark W. Watson (2007), Introduction to Econometrics, 2/E, Pearson

- J. Jhonston 2016 Econometric model

- D.N Gujrati & d C Porter (2009) Essential of econometrics McGraw hill

- Christopher Dougherty (2007) Introduction to Econometrics, Oxford University Press

- Nachanee econometrics

GROUP - 'A'

ECN – E15

ADVANCED ECONOMETRICS - II

Full Marks - 70, Pass Marks 28   **Time - 3 Hrs.**

*Candidates will have to answer **five** questions out of total of **nine** questions. At least one question from each module will be set. **Question no. 1 will be compulsory**, which will contain **7** short answer questions carrying **2** marks each.*

Module – I Simultaneous Equation Model

1.1 The Simultaneous equation — Bias and inconsistence of OLS estimators; Structural form and reduced form models;

1.2 The identification problem; Rules of identification; Order and rank conditions.

1.3 Methods of estimating simultaneous equation system, recursive methods of OLS;

1.4 Indirect least squares (ILS); Two-stage least square (2SLS);

Module – II Time Series Analysis

2.1 Stationary and Non-stationary Time series and Unit roots co-integration – Spurious regression,

2.2 Dickey Fuller Test, Engle Garner test, Random Walk Model

2.3 AR, MA and ARIMA, Estimation of ARIMA and forecasting with ARIMA,

2.4 Vector Auto Regression (VAR), Problem with VAR Modeling, Box – Jenkins (BJ) Method

Module – III Multivariate Analysis

3.1 Maximum Likelihood (M-L) method,

3.2 General linear model (GLM), Generalised Least Square (GLS)

3.3 Multivariate probability distribution: Multivariate normal distribution and its properties, Marginal and Conditional probability distribution,

3.4 Discriminant analysis.

BASIC READING LIST:

- Amemiya, T. (1985), Advanced Econometrics, Harvard Univ. Press, Cambridge, Mass.

- Baltagi, B.H. (1998) Econometrics, Springer, New York.

- Goldberger, A.S. (1998), Introductory Econometrics, Harvard University Press, Cambridge Mass.

- Gujarati, D.N. (1995) Basic Ecometrics (2nd Edn.) McGraw Hill, New Delhi.

- Gujarati D.N., Dawn C Porter, Sangeetha Gunasekar (2012) Basic Ecometrics (5th Edn.) McGraw Hill, New Delhi

- Kmenta, J. (1997), Elements of Econometrics (Reprint Ed) University of Michigan Press, New York.

- Koutsoyiannis, A. (1977), Theory of Econometrics (2nd ed.) The Macmillan Press Ltd., London.

- Maddala, G.S. (Ed.) (1993), Econometrics Methods and Applications (2 Vols) Aldershot, U.K.

- Franses, P.H. (1998), Time series models for business and Economic Forecasting, Cambridge Unit Press, Cambridge.

- Intrilligator, M.D. (1978), Econometric Methods techniques and application Prentice Hall, Englewood cliffs, New Jersey.

- Anderson, T.W. (1958) Introduction to multivariate statistical Analysis, Chapman and Hall, Lonodn.

- Chatfield, C and A.J. Collins, (1980), Introduction to Multivariate Analysis, Chapman and Hall, London.

- Nachana Econometrics

ECN – E13

AGRICULTURE & LABOUR ECONOMICS

AGRICULTURE ECONOMICS - I

Full Marks - 70, Pass Marks 28   **Time - 3 Hrs.**

*Candidates will have to answer **five** questions out of total of **nine** questions. At least one question from each module will be set. **Question no. 1 will be compulsory**, which will contain **7** short answer questions carrying **2** marks each.*

Module – I Agriculture and Economic Development
1.1 Nature and scope of agriculture and rural economics: Traditional agriculture and its modernization;
1.2 Role of Agriculture in Economic Development; Sustainable Agriculture.
1.3 Problems of Inputs in Indian Agriculture: Irrigation, Power, Seeds, Fertilizer
1.4 Agricultural Development in India, Recent trends in agriculture growth in India

Module – II Diversification of Rural Economic Activities
2.1 Livestock economics – livestock resources and their productivity; Problems of marketing;
2.2 White revolution; Fishery and poverty development; Forestry, horticulture;
2.3 Rural Non-Farm Sector (RNFS) uses and challenges

Module – III Agricultural Productivity and Marketing
3.1 Agricultural production: Resource use and efficiency production function analyses in agriculture.
3.2 Factor combination and resources substitution cost and supply curve size of farm and Productivity debate in India, laws of returns
3.3 Resource use efficiency in traditional agriculture; Technical change, labor absorption, Feminization of Agriculture
3.4 Marketing and state policy, Agricultural Markets and marketing efficiency – marketing functions and costs

Module – IV Land Reform, Land Policy & Co-operation in India
4.1 Land Reform measures and performance; Recent Changes in Land Policies
4.2 Land utilization; Land distribution structure and trends; Rent; Land tenures and Farming systems – collective and state farming; Tenancy and crop sharing – forms, with special reference to India.
4.3 Co-operative movement in India; Genesis and growth of co-operative sector; agricultural cooperation in India;
4.4 Problem and prospect of cooperative institutions.

Module – V Rural Labour Market
5.1 Rural Labour Supply, Interlocking of factor markets; Mobility and Productivity of labour
5.2 Wage Determination: Classical, Neo-classical and bargaining theories of wage determination; Concept of minimum wage, leaving wage and fair wage in theory and practice; National wage policy; Bonus systems and profit sharing.
5.3 Nature extend and trends in rural unemployment, Agricultural wages in India, Male-female wage differences
5.4 Non-Agricultural rural employment – trends and determinants.

BASIC READING LIST

- Bhaduri, A. (1984), The Economic Structure of Backward agriculture, Macmillan, Delhi

- Bilgrami, S.A.R. (1996), Agriculture Economics, Himalaya Publishing House, Delhi.

- Dantwala, M.L. et al. (1991), Indian agricultural Development since Independence, Oxford and IBH, New Delhi.

- Deogharia, P.C. (2008) Rural Credit In India, Satyam Publication, New Delhi.

- Government of India (1976), Report of to National Commission on agriculture, New Delhi.

- Government of India, Economic survey (Annual)

- Gulati, A and T. Kelly (1999), Trade Liberalization and Indian agriculture, O.U.P. New Delhi

- Joshi, P.C. (1975) Land Reforms in India: Trends and propects. Allied Publishers, Bombay

- Kahlon, A.S. and D.S. Tyagi (1983), Agriculture price Policy in India, Allied Publishers, Bombay

- Barbara Harriss-White -Rural Commercial Capital -Agricultural Markets in West Bengal

- Agricultural Markets From Theory To Practice: Field Experience In Developing Countries by Barbara Harriss-White

- Terence J. Byres Paths of capitalist Agrarian transition in the past and in the contemporary world.

- V.K. Ramachandran and Madhura Swaminathan Agrarian Studies: Essays on Agrarian Relations in Less-Developed Countries Edited, New Delhi: Tulika Books. 2002. ISBN 81-85229-57-0

- Utsa Pattnaik ,Indian agriculture in the world economy

ECN – E14

AGRICULTURE ECONOMICS & RURAL LABOUR - II

Full Marks - 70, Pass Marks 28   **Time - 3 Hrs.**

*Candidates will have to answer **five** questions out of total of **nine** questions. At least one question from each module will be set. **Question no. 1 will be compulsory**, which will contain **7** short answer questions carrying **2** marks each.*

Module – I Economic of Rural Infrastructure

1.1 Problems of Rural Economy – Economic, social and others, Modes and problems of rural electrification

1.2 Use of Land, water and energy; rural transport, communication

1.3 Problems of Rural finance; Rural credit, Financial inclusion

1.4 Rural social infrastructure – education and health and information dissemination

Module – II Agricultural & Rural Finance

2.1 Need of agriculture finance, Role of capital and rural credit; rural saving and capital formation

2.2 Characteristics and sources of rural credit – Institutional and non institutional; reorganization of rural credit – cooperatives, commercial banks, Regional rural banks

2.3 Role of NABARD

Module – III Agricultural Prices

3.1 Marketing and State Policy: Agricultural markets and marketing efficiency, Regulated marketed and marketable surplus, Behaviour of agricultural price – Cobweb model

3.2 Price and income stability; State policy with respect to agricultural marketing, warehousing; Prices, Taxation and crop insurance;

3.3 Terms of trade between agriculture and non agricultural Prices; Need for state intervention

3.4 Objectives of agricultural Price policy; instruments, Food security in India and public distribution system.

Module – IV Agricultural Growth in India

4.4 Cropping patterns, Crops shifting

4.2 Pricing of inputs and role of subsidies

4.3 Distribution of gains from technological change, Role of public investment and capital formation in Indian agriculture strategy of agricultural development and technological progress

4.4 Sustainable agriculture – indigenous practices; Bio-technological practices and growth potential, Need of Second Green Revolution, Climate change and its impacts

Module – V Agriculture and External Sector

5.1 International Trade in agricultural commodities

5.2 Commodity agreements – Role of World Trade Organization

5.3 International Trade in agriculture, Role of MNCs.

5.4 Globalization of Indian Economy and problems and prospects of Indian agriculture, Impact of World Trade Organization on Indian Agriculture

BASIC READING LIST

- Bhaduri, A.(1984) The Economic Structure of backward Agriculture, Macmillan, Delhi
- Bilgrami, S.A.R. (1996), Agricultural Economics, Himalaya Publishing House, Delhi.
- Dantwala, M.L. et. al (1991), Indian Agricultural Development Since Independence, Oxford & IBH, New Delhi.
- Deogharia P.C. (2008) Rural credit in India, Satyam Publication, New Delhi.
- Government of India (1976), Report of the National Commission on Agriculture, New Delhi.
- Government of India, Economic Survey (Annual), New Delhi.
- Gulati, A. and T. Kelly (1999), Trade Liberalisation and Indian Agriculture, Oxford University Press, New Delhi.
- Joshi, P.C. (1975) Land Reforms in India: Trends and prospects, Allied Publishers, Bombay.
- Kahlon, A.S. and Tyagi d.S. (1983), Agriculture price Policy in India, Allied Publishers, New Delhi.
- Rao, C.H. Hanumantha (1975), Agricultural Growth, Rural Poverty and Environmental Degradation in India, Oxford University Press, New Delhi.
- Reserve bank of India, Report on Currency and Finance (Annual), Mumbai.
- Rudra, A. (1982), Indian Agricultural Economics : Myths and Reality, Allied Publishers, New Delhi.
- Saini, G.R. (1979), Farm Size, Resource Use Efficiency and Income Distribution, Allied Publishers, New Delhi.
- Datt, G. (1996), Bargaining Power, Wages and Employment : An Analysis of Agricultural Labour Markets in India, Sage Publications, New Delhi.
- Hajela, P.d. (1998), Labour Restructuring in India : A Critique of the New Economic Policies, Commonwealth Publishers, New Delhi.
- Jhabvala, R and R.K. Subramanya (Eds) (2000). The Unorganized Sector : Work Security And Social Protection, Sage Publication, New Delhi.
- Lester, R.A. (1960), Economics of Labour (2nd Edition), Macmillan, New Delhi.
- Papola T.S., P.S. Ghosh and A.N. Sharma (Eds) (1993), Labour Employment and Industrial Relations in India, B.R. Publishing Corporation, New Delhi.
- Rosenberg, M.R. (1988), Labour Markets in Low Income Countries in Chenery, H.B. and T.N. Srinivasan (Eds), The handbook of Development Economics, North – Holland, New York.
- Venkata Ratnam, C.S. (2001), Globalization and Labor-Management Relations: Dynamics of Change, Sage Publication/Response Books, New Delhi.

ECN – E15

INDUSTRIAL & LABOUR ECONOMICS - III

Full Marks - 70, Pass Marks 28   **Time - 3 Hrs.**

*Candidates will have to answer **five** questions out of total of **nine** questions. At least one question from each module will be set. **Question no. 1 will be compulsory**, which will contain **7** short answer questions carrying **2** marks each.*

Module – I Framework and Problems of Industrial Economics

1.1 Concept and organization of a firm, Classification of firm on the basis of Ownership structure (Public, Private, Joint and Cooperative Sectors); Objectives of firm, behavioral model of firm

1.2 Location of Industries — Weber, Sargent Florence, Factors Influencing Location of Industries

1.3 Industrial Sickness — Symptoms, Causes and Remedial Measures.

Module – II State of labour

2.1 Static and social security of labour — Concepts of Social Security, Social assistance and social insurance; Policies with special respect to social security

2.2 labour welfare in India- Special Problems of labour, female labour, Child labour, need for safety nets.

2.3 Labour Reforms- Second National Commission on labour; labour market reforms; exit policy.

2.4 Labour Market Policies: Mobility of Labour

Module – III Industrial Relations

3.1 Theories of Labour movement growth; pattern and structure of labour unions in India.

3.2 Causes of industrial disputes and their settlement and prevention.

3.3 Current trends in collective bargaining.

3.4 Labour legislation in India.

Module – IV Industrial Productivity and Finance

4.1 Productivity — Measurement, Factors affecting Productivity, Importance of Productivity in the Competitive Environment

4.2 National Production Movement in India.

4.3 Industrial Finance- Owned, external and other components of funds, Major funding agencies IDBI, IFCI, SFCs, SIDBI and Commercial banks.

4.4 Role of FDIs in Industrial development.

Module – V Indian Industrial Growth and Pattern

5.1 Industrial Policy in India — Role of Public and Private Sector.

5.2 Problems of MSME in India, Role of MNC's in India.

5.3 Recent trends in Indian Industrial growth, Regional Industrial growth in India.

5.4 Industrial Development and Environmental Preservation- Pollution control policies of industries.

BASIC READING LIST

- Ahluwalia, I.J. (1985), Industrial Growth in India, Oxford University Press, New Delhi.
- Barthwal, R.R. (1985), Industrial Economics, Wiley Eastern Ltd., New Delhi.
- Cherunilam, F. (1994), Industrial Economics: Indian Perspective (3rd Edition) Himalaya Publishing House, Mumbai.
- Desai, B. (1999), Industrial Economy in India (3rd Edition), Himalaya Publishing House, Mumbai.
- Divine, P.J. and R.M. Jones et. Al. (1976) An Introduction to Industrial Economics, George Allen and Unwin Ltd., London.
- Government of India, Economics Survey (Annual)
- Hay, D. and D.J. Morris (1979) Industrial Economics: Theory and Evidence, Oxford University Press, New Delhi.
- Kuchhal, S.S. (1980), Industrial Economy of India (5th Edition), Chaitanya Publishing House, Allahabad.
- Reserve Bank of India, Report on Currency and Finance (annual).
- Singh, A. and A.N. Sadhu (1988), Industrial Economics Himalaya Publishing House, Bombay.
- Weber, Alfred. 1929. (translated by Carl J. Friedrich from Weber's 1909 book). *Theory of the Location of Industries*. Chicago: The University of Chicago Press
- Isard, Walter. 1956. Location and Space-economy; a General Theory Relating to Industrial Location, Market Areas, Land Use, Trade, and Urban Structure. Cambridge:

GROUP - 'C'

ECN – E13

POPULATION STUDIES -I

Full Marks – 70 , Pass Marks 28   **Time: 3 Hrs.**

Candidates will have to answer five questions out of total of nine questions. At least one question from each module will be set. Question no. 1 will be compulsory, which will contain 7 short questions carrying 2 marks each.

Module I: Population and Development

1.1 Meaning and scope of Demography

1.2 Components of Population growth and their interdependence

1.3 Measure of Population change; structure, distribution and sources of population data

1.4 Theories of Population – Malthus, Optimum Theory of Population

   Theory of demographic transition, view of Meadows, Enke and Simon

1.5 Population and development

Module II: Structure of Population

2.1 Population trends in the Twentieth Century; Population explosion- Threatened or real, distant or imminent.

2.2 International aspects of population growth and distribution, pattern of age and sex structure in more developed and less developed countries

2.3 Determinants of age and sex structure, demographic effect of sex and age structure, economic and social implications of age structure, pyramids and projections.

2.4 Individual ageing and population ageing

Module III: Fertility, Nuptuality and Mortality

3.1 Importance of study of fertility – Total Fertility Rate, Gross Reproduction rate and Net Reproduction Rate, Levels and trends of fertility in more and less developed countries

3.2 Factor effecting fertility – Socio- economic factors, economic status, health, education, Nutrition, caste, religion, race, region, rural-urban status of husband and wife

3.3 Nuptiality concept and analysis of marital status, single mean age at marriage, synthetic cohort methods, trends in age at marriage.

3.4 Mortality- Death rate crude and age specific mortality at birth and infant mortality rate, Factors for decline in mortality in recent past.

Module IV: Migration and Urbanization

4.1 Concept and types- temporary, internal and international

4.2 International migration – its effect on population growth and pattern; factors affecting migration

4.3 Theories of migration related to internal migration

4.4 Urbanization – Growth and Distribution of rural- urban population in developing countries.

Basic Reading List:

Agarwala, S.N (a972) India's Population Problem, Tata McGr Hill Co. Bombay

Bose, A (1996), India's Basic Demographic Statistics, B.Publlishing Corporation, New Delhi

Bogue, D.J (1971), Principles of Demography, John Wiley, New York

Chenery, H. and T.N.Srinivasan, (Eds) (1989), Handbook Development Economics, Vol, 1 and 2

Choubey, P.K (2000) , Population Policy in India, Kanish Publication, New Delhi

 Coale, A.J and E.M. Hoover (1958) Population Growth and Economic development in low income countries : A Case study of India's prospects, Princeton University Press, Princeton

Gulati, S.C (1988) Fertilty in India; An Econometric Study , A Metropolis, Sage Publications, New Delhi

Simon, J.L (1992), Population and Development in Pel Countries, Princeton University Press.

Srinivasan, K. (1988) Basic Demographic Techniques and Applications, Sage Publications, New Delhi

Srinivasan, K and A . Shariff (1988) , India; Towards Population and Demographic Goals, Oxford University Press, New delhi

United Nations (1973) The Determinants and Consequence

Population Trends , Vol I UNO Publications, New York

GROUP - 'C'

ECN – E14

POPULATION STUDIES- II

Full Marks – 70 , Pass Marks 28   **Time: 3 Hrs.**

Candidates will have to answer five questions out of total of nine questions. At least one question from each module will be set. Question no. 1 will be compulsory, which will contain 7 short questions carrying 2 marks each.

Module –I Demographic data Base in India

1.1 Study of census in India – Methodology and Characteristics of Census

1.2 Nature of information collected in 1971, 1981, 1991, and 2011 census India

1.3 National Family Health Survey 1 and 2 and rapid household survey

1.4 Changing characteristics of population in India; Population growth rates, trends and regional variations in sex ratio; Age structure population, foetal , infant and child mortality rates; Life expectancy

1.5 Appraisal of Kerela Model

1.6 Pattern of Urbanization and Migration in India

Module – II Population and Development with Reference to India

2.1 Population, Economy and environment linkages- population, health, nutrition, productivity nexus, population and human development issues; Culture and Fertility, Education and Fertility; Demography and household economic behavior.

Module – III Population Policy

3.1 Population and strategies for human development of different social groups; Social impact of new productive techniques and their regulation

3.2 The New population policy

3.3 Tasks before the National Population Commission

Module –IV Population Policy in India

4.1 Evolution of Population policy in India – Shift in policy from population control to family welfare, to women empowerment

4.2 Family Planning strategies and their outcomes

4.3 Reproductive health, maternal nutrition and child health policies

Basic Reading List:

Agarwala, S.N (a972) India's Population Problem, Tata McGr Hill Co. Bombay

Bose, A (1996), India's Basic Demographic Statistics, B.Publlishing Corporation, New Delhi

Bogue, D.J (1971), Principles of Demography, John Wiley, New York

Chenery, H. and T.N.Srinivasan, (Eds) (1989), Handbook Development Economics, Vol, 1 and 2

Choubey, P.K (2000) , Population Policy in India, Kanish Publication, New Delhi

Coale, A.J and E.M. Hoover (1958) Population Growth and Economic development in low income countries : A Case study of India's prospects, Princeton University Press, Princeton

Gulati, S.C (1988) Fertilty in India; An Econometric Study , A Metropolis, Sage Publications, New Delhi

Simon, J.L (1992), Population and Development in Pel Countries, Princeton University Press.

Srinivasan, K. (1988) Basic Demographic Techniques and Applications, Sage Publications, New Delhi

Srinivasan, K and A . Shariff (1988) , India; Towards Population and Demographic Goals, Oxford University Press, New delhi

United Nations (1973) The Determinants and Consequence

Population Trends , Vol I UNO Publications, New York

GROUP - 'C'

ECN – E15

POPULATION STUDIES- III

Full Marks – 70 , Pass Marks 28   **Time: 3 Hrs**

Candidates will have to answer five questions out of total of nine questions. At least one question from each module will be set. Question no. 1 will be compulsory, which will contain 7 short questions carrying 2 marks each.

Module – I

Demographic and Futurological issues, sex, ratio, age. Consumption regional difference, rural urban, tribal, women population structure with reference to women

Module – II

Population policy and status of women, health and education policy of women in India, Population Structure of Tribal and Rural women in Chotanagpur, Comparison with other parts of the country, Problems and Remedy

Module – III

Demographic structure in developed and developing countries, Population Estimates and Projection Human Development: Measures and implications of population growth on Human Development

Module – IV

Changing characteristics of population in India: Growth rates, trend and regional variations in sex ratio; age structure of population, Factors responsible for high fertility rate in India, Population Policy since independence

Readings:
Bonar, James : Malthus and His Works
Bogue,D.J. : Principles of Demography
Bhende, A.A. and Kanitkar T. : Principles of Population Studies
Coale A.J. and Hoover EM. : Population Growth and Economic Development in Low Income Countries: A Case Study of India's Prospects.
Coontz, Sydeny H. : Population Theories and The Economic Interpretation
Agarwal S.N. : India's Population Problems
Thomson, Warren S. and : Population Problems
Levis, David T
Govt. of India : Census of India
Chaubey, P.K. : Population policy in India
Simon J.L. : Population and development in poor countries
Srinivasan K. : Basic Demographic techniques and Applications
Srivastava O.S. : Demography and Population

GROUP - 'D'

ECN – E13

WOMEN STUDIES –I
(Gender & Development)

Full Marks - 70, Pass Marks 28   **Time - 3 Hrs.**

*Candidates will have to answer **five** questions out of total of **nine** questions. At least one question from each module will be set. **Question no. 1 will be compulsory**, which will contain **7** short answer questions carrying **2** marks each.*

Module – I
Demography of female population: Age structure, mortality rates, and sex ratio — Causes of declining sex ratios and fertility rates in LDCs and particularly India; Women and their access to nutrition, health, education.

Module – II
Economic status of women and its effect on work-participation, income level, health, and education in India. Impact of technological development on women's work participation in agriculture and non-agriculture rural activities, small and cottage industries.

Module – III
Fertility: Meaning, Concepts – CBR, ASBR, GFR, GRR and Factors affecting fertility. **Nuptality:** Meaning, Concepts – CMR, SMR, GMR, Determinants of nuptality, Martial Dissolution

Module –IV
Social security of women: entitlements, ensuring economic independence,Self help groups in providing social security; Schemes for safety net for women; Democratic decentralization (panchayats) and women's empowerment in India.

BASIC READING LIST:

- Boserup E. (1970), Women's Role in Economic Development, George Allen and Unwin,London.

- Desai, N. and M.K. Raj. (Eds.) (1979), Women and Society in India, Research Centre for Women Studies, SNDT University, Bombay.

- Government of India (1974), Towards Equality — Report of the Committee on the Status of Women in India, Department of Social Welfare, Ministry of Education and Social Welfare, New Delhi.

- Krishnaraj, M., R.M. Sudarshan and A. Shariff (1999), Gender , Population and Development,
- Oxford University Press, New Delhi.

- Seth, M. (2000), W omen and Development : The Indian Experience, Sage Publications, New
- Delhi.

- Srinivasan K. and A. Shroff (1998), India: Towards Population and Development Goals, Oxford University Press, New Delhi.

- Venkateswaran, S. (1995), Environment, Development and the Gender Gap, Sage Publications, New Delhi.

- Wazir, R. (2000), The Gender Gap in Basic Education: NGOs as Change Agents, Sage Publications, New Delhi.

GROUP - 'D'

ECN – E14

WOMEN STUDIES – II
(Gender & Development)

Full Marks – 70 , Pass Marks 28   **Time: 3 Hrs.**

Candidates will have to answer five questions out of total of nine questions. At least one question from each module will be set. Question no. 1 will be compulsory, which will contain 7 short questions carrying 2 marks each.

Module -I
Economic growth and gender equality. Globalisation of the world economy and gender status. Feminisation of poverty. Women's contribution to GDP Impact of economic growth on gender (in-equality. Impact of gender equality on economic growth and socio-economic development. Concept of the "feminisation of poverty". Basic causes of the feminisation of poverty.

Module – II
Gender inequality in the labour market, Factors affecting female entry in labour market- particularly India; female work participation in agriculture, non-agricultural rural activities, cottage and small-scale industries, and services sector, Problems of female labour.

Module – III
Women in the labour force, labour market theories, segmented labour market, determinants of women's employment, occupational pattern of women in India, inter - state comparisons of contribution of women to GNP in India, problems and working conditions of Indian women.

Module – IV
Economic of tribal and rural women in Chotanagpur, Comparison with other parts of the state and country, problems and remedy

ECN – E15

WOMEN STUDIES –III
(Gender & Development)

Full Marks – 70   **Time: 3 Hrs.**

Candidates will have to answer five questions out of total of nine questions. At least one question from each module will be set. Question no. 1 will be compulsory, which will contain 7 short questions carrying 2 marks each.

Module -I
Distribution of resources and decision-making mechanisms, Distribution of time: work in the labour market, work in the household, leisure time. Demographic changes and gender status. The gender factor in demographic development. The gender shift and demographic development

Module – II
Global demographic changes: impact on gender status. Gender interpretation of the causes of the demographic shift in birth rates: micro- and macro-level. The concept of the gender shift: substance, stages, indicators. Demographic interpretations in the concept of the gender shift.

Module -III
Gender budgets. Gender review Gender budgets and gender budgeting. Methodology of gender budget preparation. Approaches and principles of gender budgeting. Experiences of different countries in gender budgeting. The children's budget as a type of social budget: Russian experience. Main principles of gender review of socio-economic and demographic development of countries and regions.

Module -IV
Gender policy: national, regional and global level. Gender inequality indicators Objectives and methods of gender policy. Main gender issues in socio-economic development in developed countries, developing countries. Gender issues in the Millennium Development Goals. Indicators of gender differences in socio-economic development. Incorporation of the gender factor into the Human Development Index.

Basic Reading Lists:
Boserup E. (1970), Women's Role in economic Development, George Allen and Unwin, London.
Desai, N. and M.K.Raj (Eds) (1979), Women and Society iniNdia, Research Centre for Women Studies, SNDT University, Bombay.
Government of India (1974), Towards Equality- Report of the Committee on the Status of Women in India, Department of Social Welfare, Ministry of Education and Social Welfare, New Delhi.
Krishnaraj, M.R.m.Sudarshan and A.Shariff (1999), Gender, Population and development, Oxford University Press, New Delhi.
Seth, M. (2000), Women and Development: The Indian Experience, Sage Publications, New Delhi.

ECN – E13

ENERGY, RESOURCE & ENVIRONMENTAL ECONOMICS - I

Full Marks - 70   **Time - 3 Hrs.**

*Candidates will have to answer **five** questions out of total of **nine** questions. At least one question from each module will be set. **Question no. 1 will be compulsory**, which will contain **7** short answer questions carrying **2** marks each.*

Module – I Basic Issues of Environment Economy Trade Off

1.1 Laws of Thermodynamics

1.2 Environmental asset as public good – Concept of externality and market failure

1.3 Pareto optimality in the presence of external effects in production.

Module – II The Theory of Environmental Policy

2.1 Pollution as negative externality – optimal pollution; The concept of property right - Coase theorem; Potential for market bargain in externality – criticism of Coase theorem.

2.2 Taxation and optimal pollution – The optimal Pigovian tax – Pollution changes and property right – Pollution changes and abatement cost.

2.3 Environmental standards – The inefficiency of standard setting – Taxes Vs Standards – Baumol and Oates least cost theorem.

2.4 Tradable pollution permits – The basic theory of TPPs – Type of permits – advantage of TPPs.

Module – III Common Pool Resources

3.1 Tragedy of the commons

3.2 Nature of dependence on common pool resources

3.3 Empirical studies on CPR in Indian context

Module – IV Environmental Accounting

3.1 Basic Theory of Environmental Accounting

3.2 A Dynamic Optimization Model on National Income - Hawtrick's rule and sustainable income

3.3 Environmentally adjusted national product and sustainable resource management - illustrations with various types of non-renewable and renewable resources

BASIC READING LIST

- D Pearce and RK Turner: Economic of Natural Resources and the Environmen, Prentice.
- N. Hanley, J. Shogren and B. White : Environmental Economics in Theory and Practice, Macmillan.
- R.N. Bhattacharyya (Ed.) : Environmental Economics, OUP
- J.M. Conrad and C. Clark : Natural Resource Economics, CUP
- J.M. Conrad : Resource Economics, Cambridge Univ. Press
- Phillip Neter : Natural Resource Economics.
- Anthony Fisher : Environmental and Resource Economics, Edward Elgar
- Kanchan Chopra, Purnamita Dasgupta "Natural Resource Dependence on Common Pool Resources : An Empirical Study EPW Feb 23-29, 2008.
- D. Browley (Ed.) The Handbook of Environmental Economics,

ECN – E14

ENERGY, RESOURCE & ENVIRONMENTAL ECONOMICS - II

Full Marks - 70   **Time - 3 Hrs.**

*Candidates will have to answer **five** questions out of total of **nine** questions. At least one question from each module will be set. **Question no. 1 will be compulsory**, which will contain **7** short answer questions carrying **2** marks each.*

Module – I Natural Resource Scarcity & Regulation

1.1 Malthusian and Ricardian scarcity, Physical measures and economic measures

1.2 Resource scarcity mitigation , recycling and substitution

1.3 Regulation under Imperfect Market and Transaction Cost: Issues of efficiency in water transfer

Module – II Economics of Non-Renewable Resource

4.1 Basic concepts – Hotelling rule – The concept of backstop - A simple model of optimal depletion

4.2 Perfect competition and monopoly in non-renewable resource market.

4.3 Optimum extraction of exhaustible resources - General model, imperfect competition

4.4 Exploration and externality, non convexity, efficiency and equilibrium in exhaustible resource depletion

Module – III Economics of Renewable Resource – I

3.1 Economic of fishery – Growth function – logistic model

3.2 The sustained yield function – Schaefer model - Underlying assumptions – Drawbacks of MSY

3.3 Static model of fishery – Profit maximization

3.4 Comparison of MSY and open access condition

Module – IV Economics of Renewable Resource – II

4.1 Economics of forestry – The volume function and the mean annual increment – optimal single rotation – The rotation

4.2 Timber supply in the short run and in long run – The comparative static effects

BASIC READING LIST

- D Pearce and RK Turner: Economic of Natural Resources and the Environmen, Prentice.
- N. Hanley, J. Shogren and B. White : Environmental Economics in Theory and Practice, Macmillan.
- R.N. Bhattacharyya (Ed.) : Environmental Economics, OUP
- J.M. Conrad and C. Clark : Natural Resource Economics, CUP
- J.M. Conrad : Resource Economics, Cambridge Univ. Press
- Phillip Neter : Natural Resource Economics.
- Anthony Fisher : Environmental and Resource Economics, Edward Elgar
- Kanchan Chopra, Purnamita Dasgupta "Natural Resource Dependence on Common Pool Resources : An Empirical Study EPW Feb 23-29, 2008.
- D. Browley (Ed.) The Handbook of Environmental Economics,

GROUP - E

ECN – E15

ENERGY, RESOURCE & ENVIRONMENTAL ECONOMICS - III

Full Marks - 70   **Time - 3 Hrs.**

*Candidates will have to answer **five** questions out of total of **nine** questions. At least one question from each module will be set. **Question no. 1 will be compulsory**, which will contain **7** short answer questions carrying **2** marks each.*

Module – I Environmental Valuation and Impact Assessment

1.1 Environmental Valuation and Cost-benefit Analysis;

1.2 Revealed preference Approach (Household Production Function, Travel cost, Hedonic Price, Statistical value of life);

1.3 Stated Preference Approach (Contingent Valuation Method);

1.4 Environmental Impact Assessment: Case Studies in Indian Context

Module – II Economics of Climate Change

2.1 Climate Change - Scientific Evidences, Likely Impact on Economy, Adaptation & Mitigation

2.2 Economics of Climate Change – Why policies differ, Cost & Burden Sharing

2.3 UNFCC and the Global Protocols

Module – III Energy Environment Linkage

3.1 Energy Use as the driver of Climate Change

3.2 Energy and Growth - Energy Intensity of GDP, Recent Changes in Energy Intensity,

3.3 Macroeconomic Impact of Energy Price Changes (theory), Forward & Backward Linkages between Energy & Economy

Module – IV Energy Demand Analysis

4.1 Network Model - Reference Energy Systems (RES)

4.2 Energy Accounting Framework – Energy Balance Table, Structure, Format and Conventions; Sankey Disgrams

4.3 Demand Forecasting - Baseline Analysis, Trend Analysis, Process Modelling Approach, Econometric Energy Demand Modelling

4.4 Area of Interventions for Energy Demand Management – Technology, Pricing, Regulations; Examples from Indian context

BASIC READING LIST

- Banerjee (2001): Economic Valuation of Environmental Benefits/ Costs in Bhattacharyya (ed.) Environmental Economics: Indian Perspective, OUP.

- Baumol & Oates (1988): Theory of Environmental Policy (2/e), Chs 3,4,11 12.

- Bhattacharyya, R.N. (2001)(ed.) Environmental Economics: Indian Perspective, OUP.

- Chakraborty (2001): Global Environmental Issues and Initiatives in Bhattacharyya (ed.) op.cit.

- Chattopadhyay (2006): Dirtier Trade for India? The Story of Globalization in Arthaniti

- Chichilinsky (1994): North-South Trade and the Global Environment, AER.

- Forest Reinhardt and Patia McGrath. 2002. "Global Climate Change After Marrakech (A)", Harvard Business School Case 9-702-075.

- Gerking & Stanley (1986): An Economic Analysis of Air Pollution and Health: The Case of St. Louis. REStat.

- Harrington & Portney(1987): Valuing the Benefits of Health and Safety Regulations, J. of Urban Economics.

- IEA: World Energy Outlook: International Energy Organization, Paris, 2002.

- India Development Report – Recent Issues

- IPCC Reports

- J. B. Taylor: Principles of Macroeconomics, 3rd Edition, Houghton Mifflin, Boston, 2001.

- John P. Weyant (ed.), Energy and Environmental Policy Modeling, Kluwer Academic Publishers, Boston, 1999.

- K.G. Maler (2000): International Environmental Problems in Kolstad (ed): Environmental Economics, OUP

- M. Munasinghe and P. Meier: Energy Policy Analysis and Modelling, Cambridge University Press, 1993.

- M. S. Bazaraa and J. J. Jarvis: Linear Programming and Network Flows, John Wiley and Sons, N. Y., 1990.

- Markandya & Murty (2001): Measuring Non-user Benefit from Cleaning ganges in Cleaning up the Ganges: a Cost-benefit Analysis of the Ganga Action Plan, OUP.

- Metz, Bert (2010) Controlling Climate Change, CUP

- Murty, et al (2005): Measuring benefits from reduced air pollution in the cities of Delhi and Kolkata in India using hedonic property prices model in Bhattacharyya & Mitra (ed.) Studies in Macroeconomics and Welfare, Academic Press.

- P. Newman and J. Kenworthy. 1988. "The transport energy trade-off: Fuel efficient traffic versus fuel efficient cities," Transportation Research Part A: General, 22(3): 163-174.

- Parikh, et. al (2005): Economic Valuation of Air Quality Degradation in Chembur, Mumbai in Bhattacharyya & Mitra (ed.) Studies in Macroeconomics and Welfare, Academic Press.

- Parry (1997): Reducing Carbon Emissions: Interactions with the Tax System, Resources

- Parry, Ian W H and Kenneth A. Small. 2005. "Does Britain or the United States Have the Right Gasoline Tax?" American Economic Review, 95(4): 1276-1289.

- R. Miller and P. D. Blair: Input-Output Analysis: Foundations and Extensions, Prentice-Hall, N.J, 1985.

- R. S. Pindyck and D. L. Rubinfeld: Econometric Models and Economic Forecasts, 4th Edition, McGraw-Hill, New York, 1998.

- Sanyal (2001): International Trade and the Environment in Bhattacharyya (ed.) op. cit.

- Scott Barrett (1999): Montreal Versus Keyoto.

- Stern, Nicolas (2007) The Economics of Climate Change: The Stern Review, CUP

- The Hindu Survey on Environment – Recent Issue

- Thomas Tietenberg. Environmental and Natural Resource Economics, seventh edition, (Boston, MA: Addison Wesley, 2006). Chapter 18

- Warick McKibbin and Peter Wilcoxen. 2002. "The Role of Economics in Climate Change Policy," Journal of Economic Perspectives, Winter. 16(2): 107-129.

ECN – D16

RESEARCH & PROJECT

Part – 1 – Research Methodology

1.1 Major concepts of Research Methodology, Steps of scientific research, Formulation and execution of research project.

1.2 Features of good research design, framing of hypothesis/research questions, schedule/ questionnaire

1.3 Specification of data requirement, Sources of secondary data, Primary data collection methods

1.4

1.5

1.6

1.7 Data analysis, Writing the project report, Notes and Bibliography

1.8 A. Central tendency (Mean, Median, Mode), Dispersion, Correlation (Simple, Multiple) & Regression

    B. Uses of statistics in research.

Part – 2 – Project / Dissertation

Students will have to do an individual project work as assigned by the Department under the supervision of the Department. The project work will be of 70 marks. At the end of the semester the candidate will have to present his dissertation.

Seminar and other activity in the department – 30 Marks

Basic Readings

— Blange M., Research Methodology in Economics

— Kothari, Research Methodology

— Pannerselvam R. (2004), Research Methodology, Prentice Hall, India

— Wilkinson & Bhendarkar, Methodology and Techniques of Social Research