STRUCTURE OF B.A. THREE YEARS COURSE

[WITH HONOURS IN ECONOMICS]

1. Economic Theory I
   - 1.a. Microeconomics I
   - 1.b. Macroeconomics I
2. Economic Theory II
   - 2.a. Microeconomics II
   - 2.b. Macroeconomics II
3. Quantitative Tools in Economics
   - 3.a. Mathematical Economics
   - 3.b. Statistics for Economics I
4. Indian Economics
   - 4.a. Indian Economic History
   - 4.b. Indian Economy since Independence, with special reference to West Bengal
5. International Trade & Public Finance
   - 5.a. International Trade
   - 5.b. Public Finance
6. Development Economics
   - 6.a. Development Economics
   - 6.b. Demography & Environmental Economics
7. History of Economic Analysis & Comparative Economic Development
   - 7.a. History of Economic Analysis
   - 7.b. Experiences of Developing Industrialized Economies of UK, USA and Japan, and Socialism in former Soviet Union
8. Quantitative Methods & Computer Applications
   - 8.a. Statistics for Economics II
   - 8.b. Computer Applications

Structure of B.A. (Honours in Economics) Examination: 2003-2004 (onwards)

Paper	New Structure		Old Structure	
	Half A	**Half B**	**Half A**	**Half B**
I	Microeconomics	Macroeconomics	Micro	Macro
II	Microeconomics	Macroeconomics	Micro	Macro
III	Math Econ	Statistics I	Indian Economics	
IV	Ind Econ	Ind Econ History	Math Econ	Statistics I
V	Trade	Public Finance	Ind Econ Hist	Comp Econ Dev
VI	Dev Econ	Env & Demography	Marxian Econ	Dev Econ
VII	Classical Pol Econ	Comp Econ Dev	Computer	Statistics II
VIII	Computer	Statistics II	Trade	Public Finance

SYLLABUS

Paper I - Economic Theory I

Half A: Microeconomics I

Essential Reference:

D. Salvatore, Microeconomics

[1] **Introduction:** Wants and Scarcity, Functions of an Economic System, Alternative Economic Systems, Circular Flow of Income and Price System, Specialization – Internal Markets, International Specialization, Models, Methodology and Ethics – Classical Political Economy - Smith, Marx, Ricardo, Micro and Macro economics, Lucas Hypothesis (statement only), General Equilibrium versus Partial Equilibrium, Positive and Normative economics.

R.G, Lipsey, Introduction to Positive Economics

Samuelson & Nordhaus, Economics

[2] **Demand and Supply Analysis:** Market demand and supply, Equilibrium, Stability, Comparative Static, Government Intervention – Excise Tax and Subsidy, Price Controls; Non-Market Clearing Theory.

[3] **Consumer Behaviour:** Cardinal Theory, Indifference Curves, Consumer Equilibrium, Price Consumption Curve, Income Consumption curve, Elasticity – Own Price, Cross and Income, Substitution and Income Effects, Inferior and Giffen Goods, Substitutes and Complements, Compensated Demand Curves, Applications of Indifference Curves, Aggregating Individual Demand Curves - Snob Effect, Bandwagon Effect and Veblen Effect, Reveled Preference Approach.

Hal Varian, Intermediate Microeconomics

Ryan and Pearce, Price Theory

Friedman, Lectures in Price Theory

[4] **Production:** Production Function, Production with one variable input - Shape of AP and MP curves, Law of Diminishing Returns, Malthusian theory; Production with many variable inputs – Isoquants, Ridge lines, Returns to Scale, Technological Progress and Competitiveness.

Miller and G.S. Maddala, Microeconomic Theory

[5] **Costs:** Nature of Production Costs, Short Run Costs, Long Run Costs – Isocost lines and Least Cost Minimization, Duality Theorem, Expansion path and Cost

Curves, Shape of Long Run Average Cost Curve, Increasing/Constant/Decreasing Costs, Survivor Principle, Multi-product Firms and Dynamic Changes in Costs.

Miller and G.S. Maddala, Microeconomic Theory

Half B: Macroeconomics I

Module I: Macroeconomic aggregation

National Income Accounting. System of National accounts in the presence of environmental degradation. Per capita national income as an index of welfare, Concepts of Human Development.

Module II: Simple Keynesian Theory

Principle of Effective Demand and Simple Keynesian Theory of Income Determination, Comparative Statics and Dynamics-Multiplier and Paradox of Thrift.

Module III: Introduction of money in a Keynesian framework

ISLM model. Application of ISLM framework to analyse the impact of monetary and fiscal policies.

Module IV: Classical Macroeconomics

Say's Law – Walras Law – Quantity Theory of Money. Classical Dichotomy and its critique. Determination of output employment and prices in a classical model, Wage price flexibility and full employment.

Module V: Complete Keynesian Model

Keynesian theory of income and employment – underemployment equilibrium and disequlibrium. Keynes Classics controversy on wage price flexibility and full employment.

Paper II - Economic Theory II

Half A: Microeconomics II

[1] **Perfect Competition:** Characteristics of Perfect Competition, Price determination in short and long run, Supply Curve for Increasing/Constant/Decreasing Cost Industries, International Competition in the Domestic Economy, Analysis of Competitive markets – Producer Surplus, Welfare Effects of Excise Tax, Import duty.

Miller and Madalla, Microeconomics

[2] **Pure Monopoly:** Definition and Sources of Monopoly Power, Short and Long Run Equilbrium, Multi-plant Monopolist, Price Discrimination, Comparison with Perfect Competition.

Pindyck & Rubinfeld, Microeconomics

[3] **Monopolistic Competition:** Product Differentiation, Short and Long Run Equilbrium, Excess Capacity.

Cohen and Cyert, Monopolistic Competition

[4] **Oligoply:** Strategic Interdependence - Cournot Model, Kinked Demand; Collusive Oligopoly – Cartels and Price Leadership, Efficiency and Welfare Implications, Limit Pricing and Cost Plus Pricing, Game Theory and Oligopoly.

Pindyck & Rubinfeld, Microeconomics

Graveille and Rees, Microeconomic Theory

[5] **Pricing and Employment of Inputs:** Perfect Competition – Demand Curve of Firm and Market Demand Curve, Supply Curve, Pricing and Employment Decisions, Factor Price Equalization, Economic Rent; Imperfect Competition: Demand Curve, Equilibrium, Monopsony, Bilateral Monolopoly Trade Unions, International Migration and Brain drain, Discrimination in Labour market.

Half B: Macroeconomics II

Module I: Money Demand and Supply

Concept of Money. Determinats of Money Supply – Role of Central Bank and Commercial Bank. Demand for Money – transaction balance and speculative balance. Interest elasticity of transaction balance and speculative balance – approaches of Baumol and Tobin – Concepts of Money Market and Capital Market – different components.

Module II: C and I Functions

Consumption function – Keynesian absolute income approach – Dusenberry's relative income approach – Life cycle hypothesis – Friedman's permanent income hypothesis. Investment function – Marginal Efficiency of Capital – Acceleration Principle.

Module III: Growth Theory

Measures of Growth – General causes of growth – Classical and Keynesian views on growth. Harrod's Growth Model and Domar's Growth Model.

Module IV: Trade Cycles

Multiplier-accelerator interaction in generating economic cycles. Trade cycles: Models of Hicks, Goodwin and Hawtrey.

Module V: Inflation Theories

Keynesian Inflationary Gap Analysis. Demand Pull vs Cost push Inflation, mark up Inflation, Phillips Curve, Stagflation, Monetary and Fiscal Counter Inflationary and counter-cyclical policies.

Paper III – Quantitative Tools in Economics

Paper III

Half I: Mathematical Economics

Module I: Simple Linear Models

General Linear Models - Demand-Supply analysis - Shifts in demand and supply - Effects of excise tax in competitive markets - Qualitative comparative statics.

Module II: Income Determination

Income Determination - Multiplier - Effects of taxation and spending by government - Income-deficit Trade-off - Introduction of Monetary Sector.

Module III: Differentiation

Introducing Calculus - Differentiation.

Elasticity of demand - Applications of derivatives: Constant elasticity demand curves; Tax rates and Tax yields in competitive markets; the model of income determination - Multiplier and rate of income tax - deficits and level of income tax; Income Tax and Income Deficit trade-off; Marginal Cost; Production and revenue functions; marginal Revenue; Relation Network: Marginal Product and Marginal Cost.

Module IV: Optimisation

Economic applications of maxima/minima: Optimisation:

[a] Constrained/unconstrained optimisation.

[b] Theory of Consumer Behaviour - maximisation of Utility - First and second order conditions - Taylor' s series expansion to be developed;Langrangean function - Hessian Determinants - Ordinary demand functions - compensated demand function; Substitution and income effects - Slutsky equation.

[c] Theory of Firm - Production function - Isoquants - Elasticity of substitution - Optimising behaviour - Constrained output maximisation - Constrained cost

minimisation - Profit maximisation - Input demand function - Constrained revenue maximisation.

Module V: Production

Homogenous production function: Properties, Euler's Theorem and distribution, CES production function.

Module VI: Monopoly

AR, MR, Profit maximisation, Cost functions, production functions. Price discrimination, Market discrimination: Perfect discrimination: Applications - Monopoly: The multi-plant monopoly, Multi-product monopolist, taxation and Monopoly output: Maximising monopolist, Monoposony.

Module VII: Introducing Time (I)

Application of integral calculus and differential calculus. Optimisation over time - basic concepts - Bond market - Market rates of return - Discount rates and present values - Investment Theory of firm.

Module VIII: Introducing Time (II)

Application of Difference Equations: Cobweb Model, Dynamic Multiplier.

Module IX: Linear Production Models in Economics

Leontief's Input-Output Model.

Half B: STATISTICS FOR ECONOMICS I

The Syllabus has been re-oriented keeping in mind the specific methodological requirements of Economics as a discipline. So, the existing topics have been retained, but have been re-shaped to make them more relevant as tools and techniques for use by economists – and not simply the learning of Statistical tools. In teaching the course, therefore, the focus should be more on applications and conceptual issues and less on derivations.

The basic references are:

1) *Goon, Gupta & Dasgupta (1998), Fundamentals of Statistics, 7/e, World Press, Calcutta.*
2) *Spiegel, Statistics, Schaum's Series, 2/e.*

I. Data Presentation [4]

Statistical data – Classification and presentation; Population and Sample - Collection of Data; Variable and attribute; Frequency distribution – Diagrammatic presentation, Ogive

- Goon, Gupta & Dasgupta, Fundamentals of Statistics, Volume I (Chaps 1-3)
- Kenney & Keeping, Mathematics of Statistics, Vol. I, Chaps 1-2.
- Bowen & Starr (1985) Basic Statistics for Business and Economics, McGraw Hill Book Co, New York. Chap. 3.

II. Describtive Statistics: Univariate Data Analysis [22]

[a] Measures of Central Tendency: Arithmetic Mean, Median, Mode (for grouped and ungrouped data) – Comparison of mean, median and mode – Geometric and Harmonic Mean; Composite mean. [5]

[b] Application: Index Numbers as Weighted Averages – Problems in constructions of Index Numbers – Chain Index – Cost of Living Index Number (diferent formulae) – Wholesale Price and Cost of Living Index in iNdia – Uses of Index Numbers. [5]

[c] Measures of Dispersion: Range – Mean Deviation and Standard Deviation – Quartile Deviation – Measures of Relative Dispersion – Curve of Concentration. [5]

[d] Application: Measurement of Economic Inequality – Nature of Income and Wealth Distribution; Gini Coefficient and Lorenz Curve. [3]

[e] Measures of Skewness & Kurtosis [2]

- Goon, Gupta & Dasgupta, op. cit., Chaps 4 - 6 of Volume I, and Chap 6 of Volume II.
- Bowen & Starr, op. cit. Chaps. 4, 17.
- Kenney & Keeping, op. cit, Chap. 5.
- Nagar & Das, Basic Statistics, 2/e, Chap. 14.

III. Probability Theory and Distribution [35]

[a] Elements of Probability Theory: Sample, Events – Meaning of Probability; Classical Definition of Probability - Addition and Multiplication Rules, Theorems of Total Probability, Conditional Probability and Statistical Independence, Limitations of Classical Definition; Axiomatic approach – Bayes' Formula, Random Variables, Probability Mass and Density Functions – expectations and Variances of Random Variables (for Random Sampling with and without replacement). [20]

[b] Some Univariate Probability Distributions: Binomial, Poisson and Hypergeometric and Normal Distributions; Standard Normal distribution - Mean, Variance, Skewness, Kurtosis; Use of Moment Generating Functions; Limiting Forms of Binomial and Poisson Distributions; Importance of Normal Distributions. [15]

- Goon, Gupta & Dasgupta, op. cit., Chaps 7- 8 of Volume I.
- Bowen & Starr, op. cit. Chaps. 5, 7 & 8.
- Hoel, Introduction to Mathematical Statistics, Chap. 1.

Paper IV

Half I: Indian Economic History

[I] **Revenue Administration under East India Company**

(a) Role of East India Company as ruler of Bengal Presidency
(b) Permanent Settlement Act of 1793
(c) Mahalwari and Ryatwari settlement
(d) Effects of Permanent Settlement

[II] **Economic Transition and Drain**

(a) Commercialisation of agriculture
(b) Deindustrialisation
(c) Economic drain
(d) External and Internal Drain

[III] Famines and Famine Relief

(a) Reports of Famine Commission
(b) Causes of Famine
(c) Famine Relief Policy
(d) Agricultural Exports: Indigo, cotton, jute.
(e) Agricultural Policy

[IV] Industrial development, organisation and capital

(a) Major industries: Cotton, Jute, Iron & Steel

(b) Rise of partnership and joint stock enterprises

(c) Industrial policy of discrimination

(d) Managing Agency firms

(e) Capital supply to industry: Indigenous and foreign

(f) Currency: Gold Standard

[V] Transport and Communication

(a) Abolition of transit and town duties

(b) Road development

(c) Railway construction

(d) Railway management and finance

(e) Development and shipping and inland waterways

[VI] Labour legislation and Trade Union Movement

(a) History of factory legislation

(b) Critical review of labour legislation

(c) Labour movements and early Trade Unions

(d) Causes of Trade Unions growth and effects of World War II

(e) INTUS / HMS / UTUC / CITU

[VII] Banking Development and Government Finance

(a) Rise of Indian owned joint stock banks

(b) Banking expansion and amalgamation

(c) History of Reserve Bank of India

(d) Customs duties and other taxes: Salt, opium, excise, income.

References:

Dharma Kumar ed. Cambridge Economic History of India, Vol. II.

R.C. Dutt, Economic History of India, Vol I and II.

Daniel Thorner, The Shaping of Modern India. Ch 3.

Sumit Sarkar, Modern India 1885-1947.

Amiya Bagchi,

DR Gadgill, Industrial Evolution in India

SK Basu, Managing Agency System in India

VB Singh ed, Economic History of India, 1857-1956, Ch 10 - 13, 18.

Dhiresh Bhattacharya, A Concise History of the Indian Economy, 1750-1950.

Half II: Indian Economy in Planning Era

[I] Trends in Macroeconomic Variables

(a) Sectoral Composition of GDP and per capita income

(b) Trends in saving and capital formation

(c) Saving-Investment Puzzle

(d) Nature of Population Problem

(e) Demographic transition since 1950

(f) Population policy

[II] Issues in Indian Agricultural Sector

(a) Trends in agricultural production and composition

(b) Inverse Farm Size-Productivity debate

(c) Land Reform Policy in India

(d) Agricultural Policy

(e) Price and Marketable Surplus

(f) Debate on Intersectoral Terms of Trade

(g) Critical Evaluation of Green Revolution

(h) Public Distribution System

(i) Agricultural Workers and Policy

[III] Issues in Industrial Sector

(a) Licensing and Monopoly Restrictive Trade Practices Act

(b) Industrial Financing

(c) Industrial Sickness

(d) Structure of Indian Trade Union movement

(e) Reforms in Industrial Policy since 1991

[IV] Foreign Trade Policy

(a) Exim Policy and balance of payments since 1947

(b) Reforms in Exim policy after 1991

(c) Issue of convertibility

(d) Foreign Direct Investment and MNCs

[V] Monetary Policy since Independence

(a) Developmental and Regulatory Role of RBI

(b) Inflation and anti-inflationary policy

(c) Credit Control Operations

(d) Chakravarty Committee Report

(e) Narasimhan Report

(f) Reforms in Monetary Policy

[VI] **Budgetary and Fiscal Policy**

(a) Concepts of budgetary deficits and importance (Revenue and capital deficit, Primary deficit, fiscal deficit)

(b) Trends in deficits and reasons for increasing fiscal gap

(c) Evolution of Taxation Policy with special reference on relative importance of direct and indirect taxes

[VII] **Five Year Plans**

(a) Objectives of Plans

(b) Conflict between objectives and resolution

(c) Mahalanobis Strategy

(d) Rolling plans

(e) Physical versus indicative planning

(f) Performance of plans

Paper V

Half I: Public Finance

Module I

Public Finance - definition, scope, and instruments - Role of government and Budget - Principles of Taxation - Benefit Principle, Ability to pay, Neutrality. Requirements of good Tax structure - direct tax - Basics of Income and Expenditure Taxation - Effects of income tax on work effort, savings, capital formation, risky investment (with/without offset) - Indirect tax - welfare costs of indirect taxation - partial and general equilibrium approach - tax incidence in perfect competition and elasticity, Taxation under monopoly.

Module II

Evaluation of Public Expenditure - Cost benefits analysis (Externalities and public goods) - Income redistribution and measures - Redistribution impact on budget - limits to redistribution.

Module III

Public Good - pure public good and pure private good, optimal allocation of resources between pure public goods. Stabilisation policy, taxation vs Borrowing, Taxation vs Deficit Spending, Public Debt, Internal and external debt, burden of public debt.
Public Finace in LDCs with special reference to Indian Govt budget - Revenue deficit, Budget deficit and Fiscal deficit.

Half II: International Trade

[I] Classical Trade Theory

(a) Absolute advantage

(b) Comparative advantage

(c) Extension of Comparative advantage to n-goods and n-countries

(d) Gains from Trade: Gains from specialisation and from exchange

(e) Community Indifference Curves

(f) Critical evaluation of Classical Theory and recent trend back towards Ricardian model

[II] Neo-Classical Trade Theory

(a) Assumptions

(b) Factor abundance - Physical versus Price definitions

(c) Hecksher-Ohlin Theory

(d) Factor Price Equalisation Theorem

(e) Factor Intensity Reversal

(f) Stolper-Samuelson Theorem

(g) Rybzinski Theorem

(h) Empirical relevance of HO Theorem

(i) Immesirising Growth

[III] Commercial Policy

(a) Effects of Tariff and Quotas in PE Model

(b) Offer Curve and Optimum Tariff

(c) Infant Industry Argument

(d) Domestic distortions and tariff

(e) Real and effective protection

[IV] Balance of Payments

(a) Balance of Trade and Balance of Payments

(b) Equilibrium: Autonomous and accommodating capital flows

(c) Automatic adjustment: Gold Standard

(d) Devaluation: Alternative approaches

(e) Marshall-Lerner Condition

(f) Balance of payments and economic policy

[V] National Income Accounting in Open Economy

(a) Export and Import Functions

(b) National Income in Open Economy

(c) Trade Multiplier

(d) International propagation of business cycles

(e) Mundell Fleming Model

[VI] Foreign Exchange Market

(a) Demand for Forex

(b) Supply of Forex

(c) Equilibrium and adjustment

(d) Spot and Forward Market

(e) Fixed and flexible exchange rates

Paper VI

Half I: Development Economics

[I] Conceptual Issues underlying Underdevelopment

(a) Mainstream definition of economic development

(b) Systems Approach to understanding process of development and underdevelopment

(c) Economic development as part of Social Development

(d) Nature and Importance of Interdisciplinary approach to problems of LDCs

(e) Difference between economic growth and development

(f) Critique of Neoclassical approach to development

[II] Structural features of Underdevelopment

(a) Vicious Cycle of Poverty

(b) Low level Equlibrium traps

(c) Nature of dual economy

(d) Market segmentation

(e) Dual/Triple Markets and interlinkages

(f) Historical origins of dual societies: Lewis, Fei-Rannis Models

(g) Interpretation of Economic backwardness: Mainstream vs Structuralist approach

(h) International Trade and Cumulative causation

[III] Strategies for Development

(a) Stages of Growth - A critique

(b) Critical Minimum effort Thesis and Big Push

(c) Choice of Techniques in Labour surplus economy

(d) Balanced and Unbalanced Growth

(e) Export promotion versus import substitution policies

(f) Growth Models and underdeveloped economies

[IV] Economics of population and Development

(a) Standard theory of demographic transition - Demographic transition in LDCs

(b) Relation between Investment in Human capital, Reduction in Inequality and Rate of Economic Growth - Empirical evidence

(c) Gender discrimination in developing countries and implications for economic growth: Kerala experience

(d) Economic Theory of Rural-Urban migration

Half B: Demography and Environmental Economics

The course has been planned keeping in mind the need to provide Under Graduate students an exposure to demographic and environmental problems with special reference to India.

The following are recommended as texts:

- *Michael Todaro, Economics for a Developing World, Longman, London.*
- *Ramprasad Sengupta, Introduction to Ecological Economics, Oxford University Press, New Delhi.*
- *Clarence, Demography*
- *Rabindra N. Bhattacharya ed. (2001), Environmental Economics: An Indian Perspective, Oxford University Press, New Delhi.*

In addition, supplementary references may be suggested for individual modules.

1. **Population and Development:** Components of population growth and their interdependence; Demographic transition; Hidden momentum of population growth; trends in Indian and World Population; Population and Development – Malthus, Enke, Simon; Population and Resource Scarcity: Ehrlich-Commoner Model; Policy approaches and conflicts – Population policy in India. [10 classes]

- *Thirlwall, Growth and Development, Chapter 6.*
- *Todaro and Smith, Economics for a Developing World, Chap 11-12.*
- *Uma Kapila, Indian Economy Since Independence, Academy Press, New Delhi.*

2. **Economics of Fertility:** Theory of Consumer Behavior and Household Economics of Fertility. [8 classes]

- *Todaro and Smith, Economics for a Developing World, Chap 12.*

3. **Demography Techniques:** [10 classes]

[a] Fertility: Importance of study of fertility; Concepts – Total fertility rate, gross and net reproduction rates; levels and trends of fertility in India and LDCs; Factors affecting fertility – Socio-economic factors, economic status, health, education, nutrition, caste, religion, etc.

[b] Mortality: Death Rates – Crude and age specific; Mortality at birth and infant mortality rates; level and trend in LDCs; Factors affecting mortality rates.

[c] Life Table: Construction and Uses.

[d] Population: Concept of stable and optimum populations, Methods of population projection.

- *Goon, Gupta & Dasgupta, Fundamentals of Statistics, Volume II.*
- *D.J. Brogue, Principles of Demography*
- *C.L. Chiang, Life Table and Mortality Analysis*
- *C. Novel, Methods and Models in Demography*
- *K. Srininvasan, Basic Demography Techniques and Applications*

4. **Migration and Urbanization:** Migration - Concepts and Types; Factors affecting migration; Theories of internal migration; Urbanization – Forces causing Urbanization, Trends in Urbanization in India; Urban Bias. [8 classes]

- *Lipton et al, Migration, Institute of Development Studies, Selected Chapters.*

- *John Harris ed. Rural Development, Methuen, article by Terry Byres.*
- *Uma Kapila, Indian Economy Since Independence, Academy Press, New Delhi.*

5. **Elementary Ecology:** Elementary ecology, entropy laws, laws of thermodynamics, 2-way environment-economy inter-linkage, uncertainty and irreversibility, renewable and non-renewable resources. [6 classes]

- *Ramprasad Sengupta, Ecological Economics*
- *Rabindra N. Bhattacharya, Environmental Economics (articles by Goutam Gupta and R.N. Bhattacharya)*

6. **Environmental Degradation:** Causes and effects of degradation; degradation of land, forest and other natural resources; pollution from energy use, effects on health, land, water, and air; Participatory Management; Sustainable Development and Environmental Accounting. [12 classes]

- *Anil Aggarwal & Sunita Narain, Citizens Report, Centre for Science & Environment, New Delhi*
- *R. N. Bhattacharya, Environmental Economics (article by Gopal Kadekodi)*

7. **Pollution prevention, control and abatement:** Legal institutions and instruments; command and control versus market based instruments; taxes versus permits; direct and indirect instruments of pollution control; pollution control system and policy in India – legislation, standards and enforcement. [8 classes]

- *National Law School, Bangalore: Note on Environmental Legislation in India*
- *U Sankar and Mathur, Pollution Prevention and Control in India*

Paper VII - History of Economic Analysis & Comparative Economic Development

Half A: History of Economic Analysis

The objective of this course is to provide students with an idea of the evolution of economic theories as a response to immediate economic problems and policy issues, and as an attempt to refine earlier analysis by filling in their gaps and correcting

their mistakes. In addition, it should be impressed that the Neo-Classical Approach learned in earlier Years is a branch of economic analysis, and there are alternative approaches and perspectives that can yield fresh and fruitful insights.

1. **Development of Economic Ideas:** Economic thought of Plato and Aristotles; Mercantilism; Transitional Economists; Physiocracy – Natural order, primacy of agriculture, social classes, Quesnay and his Tableau Economique, taxation, Turgot.
2. **Classical Political Economy:** Economic Ideas of Adam Smith, Ricardo, Thomas Malthus, Mill.
3. **Marxian Economics:** Economic Ideas of Karl Marx.
4. **Marginalist Revolution:** Contribution of Jevons, Walras, Menger; Marshall as the great synthesizer; Pigou and Welfare Economics; Schumpeter, Role of entrepreneur and innovations.
5. **Indian Economic Thought:** Ideas of Kautilya, Nauroji, Gandhi, and Tagore.

References:

1. *Gide & Rist (1956) A History of Economic Doctrines (2/e); George Harrop & Co., London.*
2. *Zamagni & Screpanti, A History Of Economic Analysis*
3. *M. Blaug (1997) Economic Theory in Retrospect: A History of Economic Thought from Adam Smith to J.M. Keynes (5/e) Cambridge University Press, Cambridge.*
4. *Derek O'Brien, The Classical Economists*
5. *Phyllis Deane, The Evolution of Economic Ideas*
6. *Morishima, Marxian Economics*
7. *B.N. Ganguly (1977) Indian Economic Thought: A 19th Century Perspective, Tata McGraw Hill, New Delhi.*

Half B: Experiences of Developing Industrialized Economies of UK, USA and Japan, and Socialism in former Soviet Union

[I] Industrial Revolution in Great Britain:

(a) Causes of Industrial Revolution

(b) Role of agriculture

(c) Role of capital

(d) Role of government

(e) Leading sector

(f) Impact of Industrial Revolution

[II] Rise of Japan as an Economic Giant

(a) Meiji Restoration

(b) Zaibatsus and their evolution in Post World War II era

(c) Role of agriculture and Land Reforms

(d) Causes of Japanese revival after World War II

(e) Role of Industrial Policy in Post war era

[III] Soviet Experience

(a) War Communism

(b) New Economic Policy and Scissors Crisis

(c) Bukharin-Preobrazhensky Debate

(d) Structure of Soviet Planning Models

(e) Collectivisation

[IV] Experience of United States of America

(a) Economic policy in late 19th Century

(b) Economic Depression: Causes and effect

(c) New Deal Policy and Revival

Paper VIII - Quantitative Methods & Computer Applications

Half A: Statistics for Economics II

The basic references are:

1. *Goon, Gupta & Dasgupta (1998), Fundamentals of Statistics, 7/e, World Press, Calcutta.*

3) *Spiegel, Statistics, Schaum's Series, 2/e.*

2. *Mathai & Rathie, Probability & Statistics, Macmillan.*

Analysis of Bi-Variate Data [3]

Bi-variate frequency distribution - Bi-variate data and Scatter diagram; Joint Probability Distribution – Ideas of Independence, Marginal and Conditional Distributions.

- Goon, Gupta & Dasgupta, Fundamentals of Statistics, Volume I. Chaps 9-10

Elementary Sampling Theory [10]

Population and Sample –Parameter and Statistic; Random Sampling – Methods of drawing a Random Sample, Random Sampling Numbers; Sampling Distribution, standard error and the Central Limit Theorem; Sampling Distributions associated with Normal Population: Distribution of Sample Mean and Sample Variance – Chi-square, Student t, and F (definition and important properties only) – Idea of degrees of freedom.

- Goon, Gupta & Dasgupta, Fundamentals of Statistics, Volume I. Chap 13
- Mathai & Rathie, Probability and Statistics, chap. 7.

Classical Statistical Inference [15]

Basic concepts of Estimation, Desirable properties of estimators – Unbiasedness, Minimum Variance; Simple Methods of Point Estimation; Maximum Likelihood Estimators and their properties – Maximum Likelihood Estimation of parameters of Binomial, Poisson and Normal Distributions; Confidence Interval; Testing of Hypothesis - probability-values, Type I and II errors; Simple application of tests for mean and variance of an univariate normal population; Comparison of Means of two univariate populations –Fisher's t-test.

- Goon, Gupta & Dasgupta, Fundamentals of Statistics, Volume I. Chaps 14-15
- Mathai & Rathie, Probability and Statistics, chap. 9.
- Bowen & Starr, op. Cit., Chaps 10 and 11.

Association between Bivariate data [25]

[a] Analysis of Linear Correlation: Coefficient of Simple Correlation – Properties and the Method of Calculation – Spearman's Rank Correlation Coefficient. [3]

[b] Simple Linear Regression: Specification of the Model, Assumptions, Ordinary Least Square (PLS) estimation, Gaus-Markov Theorem, Estimation of the error variance; Statistical Inference in the Linear Regression Model - Confidence Intervals for Estimated Parameters and the Testing of Hypothesis; Coefficients of Determination; Analysis of Variance for the Linear Regression Model. [15]

[c] Problems in OLS Methods: Analysis of Residuals, Heteroscadasticity and auto correlation problems - First Order Auto-regressive process and consequences (statement only, no proof) - Goldfeld-Quandt and Durbin-Watson tests for

Heteroscadasticity and autocorrelation; Elementary remedial ideas – Weighted Least Squares and First Order Differencing. [7]

- Goon, Gupta & Dasgupta, Fundamentals of Statistics, Volume I. Chap 10 and 12.
- G.S. Maddala, Introduction to Econometrics (3/e) John Wiley & Sons Ltd., 2002. (Chaps. 3, 5, 6 – selected sections only)

Time Series and Forecasting [8]

Trend – Method of Trend determination – Polynomial and Logistic Trends – Seasonal variations and deseasonalisation – forecasts and their accuracy.

- Goon, Gupta & Dasgupta, Fundamentals of Statistics, Volume I. Chap 7.
- Bowen & Starr, op. Cit., Chaps 18.

Half B: Computer Applications

1. **Basics of Computers:** Computer fundamentals, organization and components of computers; Computer hardware – CPU, Memory, Disk drives, Input and Output devices – Keyboard, Mouse, VDU; Computer Peripherals; Computer Software; Operating System, Application software and packages.
2. **Use of Computer for Office Automation:** Text Editors, Word processors, Spread sheet, Database, Document formation and presentation.
3. **Use of Application Software:** WORD, EXCEL, FOXPRO.
4. **LAN and Internet:** Text and mail communication using computers; Local area Network (LAN), Wide area Network (WAN); Internet – World Wide web, Email, Chat, E-commerce.
5. **Statistical Applications:** Descriptive statistics, Graphical presentation of data, correlation, regression analysis, Linear Programming using EXCEL.