Banaras Hindu University
Faculty of Social Sciences
Department of Economics

Bachelor of Arts in Economics
(In force from Session 2021-22)

Revised & Updated Ordinance, Course Structure & Curriculum

Content

Guiding Principles for Undergraduate Courses

S N.	Principle	Weight
1	As Pedestal to PG Courses	40%
2	Subsiding to Social Sciences	10%
3	General awareness about economic aspects of life	10%
4	Preparing Students for Professional/ Job Oriented Courses	20%
5	Linking with Job Market	20%

<u>**Structure**</u>

The Under Graduate Economics (Honours) course shall have altogether Twenty (22) courses comprising of 6**7** credits. Out of these Four (04) papers shall be optional in nature. There shall be limited choice in optional papers. Semester I, Semester II, Semester III and Semester IV shall have two compulsory papers each. Papers of Sem-I to IV shall be open to those students as well who have taken honours in any other subject but have opted for Economics as one of the other subjects in the three-subject system. Semester V as well as Semester VI shall have five compulsory and two optional papers each. These papers are exclusively for only those students who are going for Honours in Economics. In addition, the Department shall offer some papers for students from other departments/ faculties as ancillary paper. All the Papers would be of 3 credits except Paper –XXII (Field Survey/Project Work/Dissertation) which would be of 4 credits. The structure of course is as following:

==**BA Semester-I to IV**==

Paper	Semester-I	Credits	Paper	Semester-II	Credits
ECB-101	Microeconomics	3	ECB-201	Techniques of Economic Analysis	3
ECB-102	Macroeconomics	3	ECB-202	History of Economic Thought	3
Paper	**Semester-III**	**No. of Credits**	**Paper**	**Semester-IV**	**No. of Credits**
ECB-301	Money, Banking & Financial Market	3	ECB-401	Indian Economic Experiences & Policies	3
ECB-302	Public Economics	3	ECB-402	Statistical Methods	3

==**BA Economics (Hons) Semester-V and VI**==

Paper	Semester-V	Credits	Paper	Semester-VI	Credits
ECB-501	International Economics	3	ECB-601	International Macroeconomics	3
ECB-502	Quantitative Methods	3	ECB-602	Economy of Uttar Pradesh	3
ECB-503	Basic Econometrics	3	ECB-603	Environmental Economics	3
ECB-504	Product & Factor Market Analysis	3	ECB-604	Development Economics	3
ECB-505	Optional-I (from List-I), Paper-I	3	ECB-605	Optional-I (from List-I), Paper-II	3
ECB-506	Optional-II (from List-II), Paper-I	3	ECB-606	Optional-II (from List-II), Paper-II	3
ECB-507	Research Methods	3	ECB-607	Field Survey/Project Work / Dissertation	4

Optional Papers

The B.A. Economics (Honours) students would be required to choose one optional group each from 'List-I' and 'List- II' provided as under and study two papers each from the optional group chosen. For example, if the student choses Econometrics from List-I and Operations Research from List-II, he will have to take Econometrics-I as Paper-XIII and Operations Research-I as Paper-XIV in Semester-V and Econometrics-II as Paper-XIX and Operations Research-II as Paper-XX in Semester-VI. Students shall not be permitted to opt two optional groups from the same list. For example, students are not allowed to opt for Agriculture with Econometrics.

Optional Papers- List 'I'			
ECB-505A	Econometrics-I	ECB-605A	Econometrics-II
ECB-505B	Agriculture-I	ECB-605B	Agriculture-II
ECB-505C	Population Studies-I	ECB-605C	Population Studies-II
ECB-505D	Banking & Insurance-I	ECB-605D	Banking & Insurance-II
Optional Papers- List 'II'			
ECB-506A	Operations Research-I	ECB-606A	Operations Research-II
ECB-506B	Computers in Economics-I	ECB-606C	Computers in Economics-II
ECB-506C	Industrial Economics-I	ECB-606D	Industrial Economics-II
ECB-506D	Financial Market-I	ECB-606E	Financial Market-II

Ancillary Course (For students not offering Economics as one of the Main Course in Sem-I to Sem-IV)

The Department would in principle be offering the following ancillary courses for students who have not taken economics as one of the main courses in Semester I to Semester IV. The actual number of course that would be offered in a particular semester and permissible number of students per course would be declared by the Department at the beginning of each Semester depending on availability of faculty and other resources.

1. ECB 301 Money, Banking & Financial Market
2. ECB-302 Public Economics
3. ECB-401- Indian Economic Experiences & Policies
4. ECB-505B-Agriculture-I
5. ECB-506D-Financial Market-I
6. ECB-505D-Banking & Insurance-I
7. ECB-605B-Agriculture-II
8. ECB 602- Economy of Uttar Pradesh
9. ECB-605D-Banking & Insurance-II
10. ECB-603-Environmental Economics
11. ECB-606D-Financial Market-II

These courses would be offered in different semesters as per detail given below:

Semester wise <mark>Ancillary Courses</mark> offered by Department to Students not Offering Economics as one of the Main Course in Sem-I to Sem-IV

Semester-I

Course Code	Course Title	Credits
ECB-401	Indian Economic Experiences & Policies **Or**	3
ECB-505B	Agriculture-I **Or**	3
ECB-505D	Banking & Insurance-I **Or**	3

Semester-II

Course Code	Course Title	Credits
ECB-602	Economy of Uttar Pradesh **Or**	3
ECB-605B	Agriculture-II **Or**	3
ECB-605D	Banking & Insurance-II **Or**	3

Semester-III

Course Code	Course Title	Credits
ECB 301	Money, Banking & Financial Market **Or**	~~3~~
ECB-506D	Financial Market-I **Or**	3
ECB-603	Environmental Economics	3

Semester-IV

Course Code	Course Title	Credits
ECB-606B	Public Economics	3
ECB-606D	Financial Market-II	3

The syllabi of these courses would be same (which is offered to students who have taken economics as their main course). The exact number of course offered in a particular semester would be declared by the Department based on the availability of teaching and other resources.

Suggested Readings are provided after the syllabus of every paper. A detailed chapter specific reading list would be provided to the students at the beginning of every semester.

BACHELOR OF ARTS (ECONOMICS)
SEMESTERWISE SYLLABI
Semester-I

Paper	Semester-I	No. of Credits
ECB-101	Microeconomics	3
ECB-102	Macroeconomics	3

Semester-I Compulsory Paper
ECB-101: Microeconomics

<u>The Subject Matter of Economics</u>: Nature & Scope of Economics; Approaches to the Study of Economics: Micro & Macro Economics, Economic Agents: Consumer, Producer and Government; Central Problems of Economy, Problem of Scarcity and Choice; Basic Principle of Economics. Demand and supply function; Law of demand, Elasticity of demand – price, income and cross elasticities, and their measurements; Elasticity of supply; Price determination.   (8 Lectures)

<u>Theory of Consumer Behaviour</u>   : Utility Analysis – Concept and Measurement; Cardinal Utility Analysis – Assumptions; Tools of Cardinal Utility Analysis –Laws of Cardinal Utility Analysis; Consumer Equilibrium: A Two- good Case; Derivation of Demand Curve from Marginal Utility Curve
Ordinal Utility Analysis: Consumer's Preference: Axioms/Assumptions; Indifference Curve –Properties; Budget Line Consumer's Equilibrium; Income Effect: Income Consumption Curve, Derivation of Engel Curve, Substitution Effect: Hicks and Slutsky Methods; Price Effect: Price Consumption Curve, Derivation of Demand Curve; Breaking up Price Effect into Income and Substitution Effects: Comparison of Cardinal and Ordinal Utility Analysis, Features of Special Classes of Utility Functions – The Cobb-Douglas Utility Function; The Leontief Utility Function.   (18 Lectures)

<u>Theory of Production and Cost</u>:   Production Function; Laws of Production – Law of Variable Proportions; Law of Returns to Scale; Economies and Diseconomies of scale; Production with Two Variable Inputs – Isoquants: Properties, Isoquant Map, Iso-cost Lines, Producer's Equilibrium; Expansion Path; the Economic Region of Production and Ridge Lines

The Concepts of Costs: Accounting Costs and Economic Costs; Opportunity Cost-Private Cost and Social Costs; The Cost Function; The Traditional Theory of Costs – Short-Run and Long Run Costs: The 'Envelope Curve'; Modern Theory of Costs –both Short-Run Costs and Long Run Costs Analysis: The 'L-shaped Curve.

Concepts of revenue: total, average and marginal revenue and their relationships, Break-even analysis & it's uses.   (19 Lectures)

Selected Readings

1. Pindyck, R. S., & Rubinfeld, D. L. (2013). *Microeconomics* (8thed.). New York: Pearson Education.

2. Koutsoyiannis (1979), A: Modern Microeconomics, 2nd edition, Macmillan, Education,

3. Walter Nicholson, Christopher M. Snyder (2009): Intermediate Microeconomics and Its Application, 11th Edition, South-Western College Pub,

4. Hal R. Varian (2010): Intermediate microeconomics: a modern approach, W.W. Norton & Co.8th edition,

5. Lipsey, R. G., & Chrystal, K. A. (1999). *Principles of Economics* (9thed.). Oxford: Oxford University Press.

6. Salvatore, D. (2011). Schaum's Outline of Microeconomics, 4th edition, (Schaum's Outline Series)

7. Mankiw, N. G. (2017). *Principles of Microeconomics* (8thed.). MA: Cengage Learning.

8. Samuelson, P. A., & Nordhaus, W.D. (2010). *Economics* (19thed.). New Delhi: McGraw-Hill Companies.

9. Nicholson & Snyder: (2009), Microeconomic Theory Basic Principles and Extensions, South-Western, 11th edition

Semester-I Compulsory Paper
ECB-102: Macroeconomics

National Income: Concept of Stock & Flow, Sectors of the economy; National Income Accounting & National Income Identities: Measurement of National Income, problems of measurement of National income in India, Structure of Indian Economy through National Account Statistics; Circular Flow of Income in two, three and four Sector economy; Measurement of cost of living: CPI, GNP Deflator.   (9 Lectures)

Theory of Employment and Income: Classical analysis of determination of Equilibrium output and Employment, Simple Keynesian theory of employment and income determination: With and Without Government Sector; The Neo-Classical Synthesis-The IS-LM Model and the interaction of the Real and Monetary Sectors. IS-LM model in the open Economy under fixed exchange rate without capital mobility. (12 Lectures)

Consumption Function: Keynes Psychological Law of Consumption and Its Implications; Theories of Consumption function: Absolute Income Hypothesis, Relative Income Hypothesis, Permanent Income Hypothesis, Life Cycle Hypothesis, Consumption under Uncertainty; Concept of Investment Multiplier: Simple and Dynamic, Leakages and limitations; The principle of Acceleration, Interaction of Accelerator and Multiplier; Investment function: Types of investment, Concept of MEC and MEI.   (16 Lectures)

Economic Fluctuations: Trade Cycle: Nature and Characteristics; Theories of Trade Cycle: Samuelson, Hicks; Control of trade cycle, Recent Recession in the World.

Selected Readings:

1. Dernberg Thomas F (1985): Macroeconomics: Concepts, Theories and Policies,7thEdition.

2. Dornbusch, Fischer & Startz (2005): Macroeconomics, Tata McGraw-Hil Publishing Co. Ltd

3. Shapiro Edward (2007): Macroeconomic Analysis, Galgotia Publications Pvt. Ltd.

4. Blanchard Olivier (2007): Macroeconomics, Ch-8,9, Pearson Education

5. Branson William (2006): Macroeconomics: Theory and Policy, AITBS

6. Rana,K.C. & Verma K.N: Macro Economic Analysis, Vishal Publishing House

7. Hejidra, B.J. and F.V. Ploeg (2001): Foundations of Modern Macroeconomics, Oxford University Press, Oxford.

8. Shapiro, Edward (2001) Macroeconomic Analysis, Galgotia Publications Private Limited, New Delhi

Semester-II

Paper	Semester-II	No. of Credits
ECB-201	Techniques of Economic Analysis	3
ECB-202	History of Economic Thought	3

Semester-II Compulsory Paper
ECB-201: Technique of Economic Analysis

Sets and Set operations; Relations; Identity & Equations: Linear and Quadratic, Simultaneous Equations; Functions: Types of Functions, Curvilinear Functions, Quadratic, Polynomial, Exponential, Logarithmic; Implicit & Explicit functions; Graphs, Slopes and Intercept; Economic Application of Graphs and Equations: Budget Line, Iso-cost Lines, Supply and Demand Analysis, Income determination models, Progression: Arithmetic and Geometric

(15 Lectures)

Differential calculus: Single Independent Variable Functions: Sequence, Limits; Continuity; The Derivative; Rules of Differentiation; Higher-order Derivatives; Total Differential and Total Derivative; Uses of the Derivatives in Economics, Increasing and Decreasing functions, Concavity and Convexity; Series; Relationship among Total, Marginal and Average Concepts. (13 Lectures)

Differential Calculus: Multivariate Independent Variable Functions: Multivariable Functions and Partial Derivatives; Rules of Partial Differentiation; Second and Higher-order differentials; Application of Partial Derivatives in Economics: Marginal Concepts, Elasticity, Logarithmic transformation of Nonlinear Functions. (12 Lectures)

Integration: Indefinite and Definite Integral, Applications in Economics. (5 Lectures)

Selected Readings

1. Chiang, A.C. & Wainwright, K. (2013). *Fundamental Methods of Mathematical Economics*. (4th ed.). McGraw Hill Education (India) Private Limited, 4th Edition.

2. Sydsaeter, K. & Hammond, P. (2016). *Mathematics for Economic Analysis*. New Delhi: Pearson Education Inc.

3. Dowling, E. T. (2012). *Schaum's Outlines-Introduction to Mathematical Economics.* (3rd ed.). New York: McGraw Hill.

4. Bradley, T. (2013). *Essential Mathematics for Economics and Business*. London: John Wiley & Sons.

5. Rosser, M. (2003). *Basic Mathematics for Economists*. (2nd ed.). New York: Routledge.

6. Bhardwaj, R. S. (2007). *Mathematics for Economics and Business*. Excel Books India.

Semester-II Compulsory Paper

ECB-202: History of Economic Thought

Schools of Economics: Mercantilism-main characteristics: Thomas Mun, Physiocracy: Natural Order, Primacy of Agriculture, Social Classes, Tableau Economique, Taxation. Division of Labour, Theory of Value, Capital, Classical School of Economics -Adam Smith, Accumulation, Distribution, Views on Trade, Economic Progress, Idea of Laissez faire, Economic Ideas of David Ricardo, J.B. Say & Economic Ideas of J.S. Mill, Alfred Marshall- Role of time in price determination, Economic Methods. Pigou-Welfare Economics.   (12 Lectures)

Socioeconomic Conceptions: German Historical School-F. List. W. Roscher. G. Schmoller. Methodological Debate. -M. Weber, Utopian Socialism and T. More, Saint-Simon, Sismondi, Scientific Socialism-Karl Marx- Dynamics of Social Change and Crisis of Capitalism, Socialism transition to Communism, Keynesian Economics and Role of State, Liberalism & Neo Liberalism -An Elementary Idea.   (10 Lectures)

Ancient Indian Economic Thought- Kautilya: The Idea of Welfare State, Taxation & Public Finance, Interest & Profit, Trade, Infrastructure, Agriculture, Wage Policy, Price Regulation, Valluvar: The idea of wealth, factor of production, welfare state, public health and public finance, poverty & begging, Economic doctrines of ancient Indian dynasties.   (10 Lectures)

Economic Ideas of Indian Visionaries: Dadabhai Naoroji Theory of Economic Drain, National Income of India, Taxation, The idea of Poverty, Economic Ideas of Pt. Madan Economic Ideas of B R. Ambedkar, Mohan Malviya, M. G. Ranade, G.K. Gokhale, Mahatma Gandhi, J.K. Mehta   (13 Lectures)

Selected Readings:

1. Roy,Tirthankar,(2020) The Economic History of India, 1857–2010, ,OUP, India

2. Dalrymple William, (2019) The Anarchy: The East India Company, Corporate Violence, and the Pillage of an Empire, Bloomsbury Publishing

3. Dutt, R.C, (2018) The Economic History of India in the Victorian Age: From the Accession of Queen Victoria in 1837 to the Commencement of the Twentieth Century, Franklin Classics

4. Lokanathan, V. (2018) A History of Economic Thought, S Chand publication

5. Paul, Rr, (2018) History of Economic Thought, K Publisher

6. Hajela, T.N, (2015) History of Economic Thought,18th Edition, Ane Books

7. Hunt,E.K. &Lautzenheuser, Mark (2011)History of Economic Thought, 3rd Edition,Taylor & Francis

8. Haney, L.H. (2009) History of Economic Thought, University of Michigan

9. Blaug, M (1997) Economic Theory in retrospect, Cambridge University Press, Cambridge

10. Dasgupta, A. K., (1993) A History of Indian Economic Thought, Routledge

11. Schumpeter, J.A(1954) History of Economic Analysis, Routledge

12. Schumpeter, J.A(1952) Ten Great Economists, Routledge

13. Gray Alexander (1951) The Development of Economic Doctrines, Longsman Green & Co

14. **Roll, E (1938) A History of Economic Thought, Faber, London, Faber & Faber**

15. **Gide, C. and G. Rist (1915) A History of Economic Doctrines, Boston**

Semester-III

Paper	Semester-III	No. of Credits
ECB-301	Money, Banking & Financial Market	3
ECB-302	Public Economics	3

Semester-III Compulsory Paper
ECB-301: Money, Banking and Financial Market

Money: Meaning & Functions; High Powered Money and Money Multiplier; Measurement of Supply of Money in India; Value of money: Cash Transaction Approach, Cash Balance Approach, Keynesian theory of money and prices; Keynesian theory of demand for money.   (14 Lectures)

Inflation: Types, Effects, Demand pull and cost push Inflation, structural inflation; Inflation and Unemployment-The Phillips Curve-Short run & Long run; concept of Inflationary Gap, Double Inflationary Gap, Trends and causes of inflation in India.
(12 Lectures)

Banking: Commercial Banking- Meaning and Functions, Balance sheet, Process of Credit Creation; Concept of Micro-finance. Central Banking- Functions; Methods of Credit Control; Recent Reforms in Banking Sector in India; Monetary Policy: Objectives & Limitations (with Reference to India).   (9 Lectures)

Financial Market: Role and structure of Money Market; Capital market: Primary and secondary market in India; SEBI: Functions and role; Financial Instruments: Government securities, derivatives, futures and options, bond, debentures.
(10 Lectures)

Selected Readings:

1. **Lewis M. K. and P.D.Mizen (2000): Monetary Economics, Oxford**

2. **Jadhav Narendra (2006): Monetary Policy, Financial Stability & Central Banking, Macmillan**

3. **Baye and Jansen (1996): Money, Banking and Financial Markets, AITBS**

4. **Gail E. Makinen (1978): Macroeconomics: Concepts, Theories and Policies, Money, The Price Level and Interest Rate, Prentice hall India Ltd.**

5. **David E. W . Laidler (1977): The Demand for Money: Theories & Evidence, Dun Donnelley**

6. **O. P. Kotwal (1987): Theories of Inflation: A Critical Survey, Tata-McGraw-Hill Publishing Co. Ltd.**

7. **Ackley G, (1978): Macroeconomics: Theory & Policy, New York, Macmillan**

8. **Rana,K.C. & Verma K.N: Macro Economic Analysis, Vishal Publishing House**

9. **Shekhar & Shekhar, (1998): Banking Theory & Practice, Vikash Publishing House Pvt. Ltd.**

Semester-III Compulsory Paper
<u>ECB-302:</u> <u>Public Economics</u>

<u>Public Economics and Public Goods</u>: Public Finance & shift to Public Economics, Major Fiscal Functions, Allocation of Resources between Public & Private goods: Samuelson's pure theory of Public Goods (Partial & General Equilibrium Analysis), Principle of Maximum social advantage. (6 Lecturers)

<u>Public Expenditure</u>: Principles and effects of Public expenditure. Hypotheses of public expenditure (Wagner, Peacock-Wiseman and Colin Clark), Causes, Pattern and growth of public expenditure in India. (6 Lecturers)

<u>Public Revenue:</u> Tax Revenue and Non-Tax Revenue; Classification of Taxation; Principles of Taxation-Benefit principles (Bowen & Lindahl model), Ability to Pay Principle, Incidence and Shifting of Taxation, Theories of Tax Shifting, Laffer Curve; Trends and Composition of Taxes by levels of Government. (10 Lecturers)

<u>Public Debt and Public Budget</u>: Public Debt Vs Private Debt, Sources of Public Debt, Burden of Public Debt, Repayment of Public Debt; Concept & Implications of Deficit Financing; Consolidation and Corrective measures-FRBM Act, Budgetary Procedure in India. (10 Lecturers)

<u>Fiscal Federalism:</u> Principles of Federal Finance, Major issues in Centre-State Financial Relations in India, Transfer of Grants: types of Grants, Finance Commission-Evaluation of its working, Co-operative Federalism, NITI Aayog. (10 Lecturers)

<u>Selected Readings</u>:

1. Atkinson, A. and Stiglitz, J. (1980): Lectures in Public Economics, McGraw Hill, London.

2. Browning, Edgar K. and Browning, Jacquelene, M. (2004): Public Finance and the Price System, Pearson Education Pvt. Ltd. Delhi.

3. Buchanan, James M. (1968): The Demand and Supply of Public Goods, Skokie Ill Rand Mc Nally.

4. Chelliah, Raja J. et.al: Trends and Issues in India's Federal Finance.

5. Chelliah, Raja J: Fiscal policy in Underdeveloped Countries.

6. Cullis, John & Jones, Philip (2009): Public Finance and Public Choice, Oxford University Press, Oxford.

7. Jha, Raghbendra (1999): Modern Public Economics, Routledge, London and New York.

8. Laffont, Jean. Jacques (1994): Fundamentals of Public Finance, Cambridge Mass, MIT Press.

9. Musgrave, R.A., and Musgrave, P.B. (1989): Public Finance in Theory and Practices, McGraw Hill, New York.

10. Musgrave, Richard.A.(1959): The Theory of Public Finance, McGraw Hill, New York. Myles, Gareth D. (1995): Public Economics, Cambridge University Press, Cambridge.

11. Rosen, Harvey S. (1995): Public Finance (Fourth Edition), Richard D. Irwin, Chicago. Thompson, F. and Green, M.T. (1998): Handbook of Public Finance, Marcel Dekker, NewYork.

Semester-IV

Paper	Semester-IV	No. of Credits
ECB-401	Indian Economic Experiences & Policies	3
ECB-402	Statistical Methods	3

Semester-IV Compulsory Paper
ECB 401: Indian Economic Experiences & Policies

Characteristics of Indian Economy: Basic features and problems of Indian Economy, Economic History of India; Change in Indian Economic structure after Globalization, Emergence and development of Planning exercise in India – historical debates, plan models and shift in focus over time, Planning commission v/s NITI Aayog, Evaluation of Five-Year Plans.   (10 Lectures)

National Income: Concepts & Trends, Output –Employment Relationship; Growth – Equity Relationship; Employment Structure and its Elasticity, Concepts of Poverty and Measurements, Inequality and problem of Identification, Inflation – trends, structure and causes, Black money in India.   (15 Lectures)

Sectoral Composition of Indian Economy: Agricultural Crisis & Policy response, Trends in Agricultural Production and Productivity, Evaluation of land reforms & Green Revolution, Trends and Patterns of Industrial Sector with focus on PSUs and policy of Disinvestment, MSMEs– Growth, Structure, Policy & Performance, Dualism and Labour Absorption, Service sector & Leap frog jump in India.   (10 Lectures)

External Sector in India: India's foreign trade – composition, trends, India's Balance of payment since 1991, Convertibility of Rupee, Foreign Capital routes, MNCs & Impact of Globalization, WTO and India, Human Development Index and SDGs. (10 Lectures)

Suggested Readings

1. **Kapila,Uma (2020-21) Indian Economy Performance and Policies,21st Edition, Academic Foundation.**

2. **Kapila,Uma (2019): Indian economy II-Macroeconomic Policies, Sectoral Developments and Performance, Academic Foundation**

3. **Dutt Guarav and Sundaram's (2017), Indian Economy. S Chand & Co. Ltd. New Delhi.**

4. **Singh, Ramesh, (2020-2021): Indian Economy, 12th Revised Edition,Tata-McGraw Hill Publications, New Delhi.**

5. **Jalan, B (2000): The Indian Economy – Problems & Prospects, Viking, New Delhi**

6. **Mishra S.K & V.K Puri (2017). Indian Economy and –Its Development Experience. Himalaya Publishing House.**

7. **Brahamananda, P.R. & V.R. Panchmukhi (1987)(Eds) : The Development Process of the Indian Economy, Himalaya Publishing House, Bombay**

8. **Dhingra, I.C., (2017): March of the Indian Economy, Heed Publications Pvt. Ltd.,**

9. **Dantwala, M.L(1995).: Dilemmas of Growth, The Indian Experience, Sage Publications, NewDelhi**

10. **Kabra, K.N (1997): Development Planning in India, Sage Publications, NewDelhi**

Semester-IV Compulsory Paper
ECB-402: Statistical Method

Introduction and Overview: Meaning and Scope of statistics; Data: Collection, Organization and Presentation.   (6 Lectures)

Statistical Measures: -Mean, median and mode; Weighted Mean, Geometric and Harmonic means, Measure of Position: Standard score, Quintile.
Measures of Dispersion: Range, inter-quartile range and quartile deviation, mean deviation, standard deviation, Coefficient of Variation, and Lorenz curve; Moments, Skewness and Kurtosis, Symmetrical Vs. Asymmetrical distribution.
                                                                    (12 Lectures)

Correlation and Linear Regression Model: Correlation Analysis: Meaning and Types, Methods of studying correlation: Scatter diagram, Karl Pearson's correlation coefficient and Spearman's Rank method, Partial & Multiple Correlation coefficient; Regression: Method of Ordinary least squares.   (15 Lectures)

Time Series Statistics & Index Numbers: Time Series: Components & Measurements; Index Number: Problems in the construction of index numbers; Types of index numbers: price; quantity; and value index; criterion for good index number.
                                                                    (8 Lectures)

Inferential Statistics: Population and Statistic, Point and Interval estimation, Confidence coefficient and interval, Properties of Good Estimators.   (4 Lectures)

Selected Readings:

1. Gupta, S. C. (2011). *Fundamentals of statistics* (pp. 18-1). New Delhi: Himalaya Publishing House.

2. Gupta, S. C., & Kapoor, V. K. (2020). *Fundamentals of mathematical statistics*. Sultan Chand & Sons.

3. Bluman, A. G. (2013). *Elementary statistics: A step by step approach: A brief version* (No. 519.5 B585E.). McGraw-Hill.

4. Berenson, M. L., Stephan, D. F., Krehbiel, T. C., & Levine, D. M. (2011). *Statistics for Managers using MS Excel*. Pearson Higher Ed.

5. Sharma, J. K. (2010). *Fundamentals of Business Statistics*. (2nd ed.). New Delhi: Vikas Publishing House.

6. Nagar, A.L. and Das, R.K (1983), Basic Statistics, Second Edition, Oxford University Press.

Semester-V

Paper	Semester-V	No. of Credits
ECB-501	International Economics	3
ECB-502	Quantitative Methods	3
ECB-503	Basic Econometrics	3
ECB-504	Product & Factor Market Analysis	3
ECB-505	Optional-I(from List-I), Paper-I	3
ECB-506	Optional-II(from List-II), Paper-I	3
ECB-507	Research Methods	3

Semester-V Eco (Hons) Compulsory Paper
ECB-501: International Economics

Importance of International Economics; Basis of International trade, Inter-Regional and International Trade; Theories of International Trade: Absolute and Comparative Advantages, Mills's Reciprocal Demand, Haberler's Opportunity Cost. (13 Lectures)

Heckscher – Ohlin Theory. Modifications in H-O theory by relaxing assumptions with reference to the assumption of returns to scale, Leontief Paradox; Stolper-Samuelson theorem; Intra-industry trade-meaning, causes.   (13 Lectures)

Trade as Engine of Growth, Import Substitution Vs. Export Orientation, Export- Led Growth & Developing Countries, Concept of Terms of Trade; its relations with Economic Development. Gains from Trade.   (10 Lectures)

Tariffs and Quota: Their impact under partial equilibrium analysis, Free trade Vs. Protection, Forms of Economic Integration. The Globalization debate: Regionalism vs. Multilateralism.   (9 Lectures)

Selected Readings
(Valid for Paper-XVI, Semester-VI, International Macroeconomics also)

1. **Salvatore, Dominick (2013): International Economics, Wiley Publication (USA), 11th edition.**

2. **Cherunilam Francis: International Economics (4th Edition) 2006 Tata McGraw-Hill Companies**

3. **Krugman Paul and Maurice Obstfeld: International Economics: Theory and policy, latest edition, Pearson Education low-price edition, distributed in India by Addison-Wesley Longman.**

4. **Sodersten B O & Reed Geoffrey: International Economics, 2003 McMillan Press Ltd. Bhagawati, Jagdish: In Defence of Globalisation, 2004 Oxford University Press Krause Walter: International Economics, 2000**

5. **Sawyer W. Charles, Sprinkle Richard: International Economics T.T. Publications, 2003**

6. **Mannur, H.G. (2007): International Economics, Vikas Publication House, Second revised edition.**

Semester-V Eco (Hons) Compulsory Paper
ECB-502: Quantitative Methods

<u>Linear Algebra</u>: Vectors, Vector Spaces; Linear Dependency; Matrix; Types, Matrix Operations: Addition, Subtraction, Scalar Multiplication; Laws of Matrix Algebra: Commutative, Associative and Distributive; Matrix expression of a System of Linear Equations.

Determinants; Properties of determinants, Rank of a Matrix; Minors, Cofactors, Adjoint and Inverse Matrices; Laplace Expansion; Solving Linear Simultaneous Equations: Matrix Inversion Technique and Cramer's Rule; Jacobian Determinant.   (10 Lectures)

<u>Optimisation of Single and Multivariable Functions</u>: Unconstrained Optimisation: Necessary & Sufficient conditions; Constrained optimization: Langrange-multiplier method; Envelop Theorem; Economic Applications: Utility Maximisation; Producers Equilibrium: Optimisation of Cobb Douglas and CES Production Function, Multi-plant monopoly, Price Discrimination, Collusive and Non-collusive Oligopoly models.
(15 Lectures)

<u>Integral Calculus-</u>Indefinite Integration: Rules of Integration; Methods of Integration: Integration by substitution, Parts and partial fraction; Definite Integral: Area under or between Curves and Improper Integrals; Multiple Integrals; Applications of Definite Integrals in Economics: From a Marginal function to a Total function, Consumers' and Producers' Surplus, Rate of Growth/Decay, Present values of a Cash flow and a perpetual flow.   (10 Lectures)

<u>Differential & Difference Equations</u>: Differential Equations: Definitions and Concepts; First-Order Differential Equations; Integrating factors and Rules; Variables separable case; Differential Equation with Homogenous Coefficients; Exact Differential Equations; Economic Applications: Domar's Growth Model and Solow Growth Model.

Difference Equations: Definitions and Concepts; Finite differences; Homogeneous linear difference equation with constant coefficients; Solutions for Non-homogeneous linear equations; Linear First-Order Difference Equations; Economic Application: Cobweb Model.   (10 Lectures)

Selected Readings

1. **Chiang, A.C. & Wainwright, K. (2013).** *Fundamental Methods of Mathematical Economics*. **(4th ed.). McGraw Hill Education (India) Private Limited, 4th Edition.**

2. **Sydsaeter, K. &   Hammond, P. (2016).** *Mathematics for Economic Analysis*. **New Delhi: Pearson Education Inc.**

3. **Dowling, E. T. (2012).** *Schaum's Outlines-Introduction to Mathematical Economics.* **(3rd ed.). New York: McGraw Hill.**

4. **Simon, C. P., & Blume, L. (1994).** *Mathematics for economists* **(Vol. 7). New York: Norton.**

5. **Bradley, T. (2013).** *Essential Mathematics for Economics and Business*. **United Kingdom: John Wiley & Sons.**

6. **Rosser, M. (2003).** *Basic Mathematics for Economists*. **(2nd ed.). New York: Routledge.**

7. Renshaw, G. (2011). *Maths for Economics*. (4th ed.). Oxford. Oxford University Press.

8. Bhardwaj, R. S. (2007). *Mathematics for Economics and Business*. Excel Books India.

Semester-V Eco (Hons) Compulsory Paper
ECB-503 Basic Econometrics

Nature and Scope of Econometrics, Methodology of econometric research

(3 Lectures)

Probability Theory and Distribution: Sample spaces and Events; Probability Axioms and Properties; Counting techniques; Conditional Probability and Bayes' rule; Independence.

Defining Random Variables; Probability Distributions; Expected Values and Probability Functions; Properties of commonly used Discrete and Continuous distributions; Binomial, Poison and Normal Distribution; Chi-Square, t, and F.

(12 Lectures)

Testing of Hypothesis: - Defining statistical hypotheses; types and steps in testing of hypothesis; distribution of test statistics; testing hypotheses related to population parameters; Type I and Type II errors; Power of a test; test for comparing parameters for two sample.   (6 Lectures)

Simple Linear Regression Model
Estimation of model by Ordinary Least Square: Assumptions & Properties; Goodness of fit- R Square; Gauss-Markov Theorem; Testing of regression coefficient, Maximum Likelihood Estimation.   (16 Lectures)

Violation of the CLRM Assumptions: Multicollinearity, Heteroscedasticity & Autocorrelation: Causes, Consequences, detection and remedies.   (8 Lectures)

Selected Readings

1. Gupta, S. C., & Kapoor, V. K. (2000). *Fundamentals of mathematical statistics*. Sultan Chand & Sons, 10th Revised Edition.

2. Freund, J. E., Miller, I., & Miller, M. (2014). *Mathematical Statistics: With Applications*. Pearson Education India, 8th Edition.

3. Salvatore, D. P. (2002). Schaums outline of theory and problems of statistics and econometrics, 2nd Edition, Mc. Graw- Hill.

4. Gujarati, D. N., Porter, D.C., (2009). *Basic Econometrics.* (5th ed.). New Delhi: McGraw Hill.

5. Gujarati, D. N. (2011). *Econometrics by Example* (1st ed.). New Delhi: Palgrave.

6. Studenmund, A. H. (2014). *Using Econometrics: A Practical Guide.* (7th ed.). New Delhi: Pearson.

7. Wooldridge, J. M. (2018). *Introductory econometrics: A modern approach*, (7th Ed), CENGAGE.

Semester-V Eco (Hons) Compulsory Paper
ECB-504- Product and Factor Market
<u>Objectives of Firm:</u> Definition of firm - Objectives of the Firm: Profit Maximization, Sales Maximization, Growth Maximization.   (2 Lectures)

<u>Price and Output under Perfect Competition & Monopoly</u>:
<u>Perfect Competition</u>: Assumptions, The Nature of Demand and Marginal Revenue Curves under Perfect Competition; Short Run Equilibrium of the Firm; Long Run Equilibrium of the Firm and Industry; Shutdown Point, Short Run Supply Curve of the Firm and the Industry;
<u>Monopoly</u>: Assumptions, Equilibrium of the Monopolist in the Short Run and Long Run; Allocative Efficiency and Dead Weight Loss; Measurement of Monopoly Power; Absence of Supply Curve Under Monopoly; Monopoly comparison with Perfect Competition; Price Discrimination – Meaning, Possibility and Profitability, Price and Output determination under Price Discrimination.   (14 Lectures)

<u>Price and Output under Monopolistic Competition & Oligopoly</u>
<u>Monopolistic Competition</u>: Assumptions, Product Differentiation, Advertising (Selling Costs), Concepts of the 'Industry' and the 'Group', The Nature of Demand and Marginal Revenue Curves under Monopolistic Competition; Price-Output determination under Monopolistic Competition,
<u>Oligopoly</u>: Characteristics, Collusive Oligopoly Price Leadership (Low-Cost and Dominant Firm), Non-collusive Oligopoly – Cournot's Duopoly Model, The Kinked-Demand Model.   (10 Lectures)

<u>The Theory of Distribution</u>: Personal versus Functional Distribution; Marginal Productivity Theory of Distribution; Concepts of Productivity – Marginal Revenue Product (MRP) and Value of Marginal Product (VMP); Determination of Factor Prices under Perfect Competition and Monopoly; The Adding Up Problem: Euler's Product Exhaustion Theorem   (9 Lectures)

<u>Rent & Wage Determination</u>
<u>Rent</u>: Ricardian Theory of Rent: Scarcity Rent and Differential Rent; Modern Theory of Rent; Quasi Rent.
<u>Wage</u>: Modern Theory of Wages; Collective Bargaining and Wage theory
<u>Interest</u>: Classical, Loanable Funds and Keynesian theory of interest (Liquidity Preference)
<u>Profit</u>: Schumpeter's Innovation Theory and Knight Theory of Profits.   (10 Lectures)

Selected Readings

1. Ahuja, H. L. (2015). *Modern Micro Economics*. (19th ed.), S. Chand.

2. Koutsoyiannis, A. (1975). *Modern microeconomics*. Springer.

3. Pindyck, R. S., & Rubinfeld, D. L. (2013). *Microeconomics* (8thed.). New York: Pearson Education.

4. C. Snyder & Nicholson, W. (2011). *Fundamentals of Microeconomics* (11thed.). New Delhi: Cengage Learning India.

5. Lipsey, R. G., & Chrystal, K. A. (1999). *Principles of Economics* (9thed.). Oxford University Press.

6. Salvatore, D. (2011). *Micro Economics, Schaums Outline, TMH*

7. Varian, H. R. (2014). *Intermediate Microeconomics: a Modern Approach* (9th ed.). New Delhi: W.W. Norton and Company/Affiliated East-West Press India.

Optional Paper-I (List-I)

Optional Papers	
ECB-505A	Econometrics-I
ECB-505B	Agriculture-I
ECB-505C	Population Studies-I
ECB-505D	Banking & Insurance-I

Semester-V Eco (Hons) Optional Paper-I-List-I Econometrics
ECB-505A: Econometrics: I

Multiple Linear Regression Model : Matrix Approach to Linear Regression Model, Multiple Regression Analysis: Estimation, Properties and assumptions; meaning of partial regression coefficients; Goodness of fit: R^2 and adjusted R^2; Interpretation of multiple regression equation.

(13 Lectures)

Specification Analysis: Omission of relevant Variables; Inclusion of Irrelevant Variables, Misspecification of the functional form: Alternative functional forms; test of specification error. Measurement errors   (10 Lectures)

Dummy Variable Regression Models: Dummy Variable, ANOVA, ANCOVA, Dummy Variable Trap; Testing of Structural Break; Interaction effects and Seasonal Adjustment; Qualitative response regression models: Linear Probability Model; Logit Model; Probit Model.   (12 Lectures)

Simultaneous-Equation Models
Simultaneous-Equations Models; Simultaneous Equation Bias; Structural Models; Reduced Form Models; Identification Problem; Rules of Identification; Tests for Simultaneity and Exogeneity; Method of Indirect Least Squares; Method of Two-Stage Least Squares.   (10 Lectures)

Selected Readings

1. Gujarati, D. N. (2011). *Econometrics by Example* (1st ed.). New Delhi: Palgrave.

2. Salvatore, D. P. (2002). **Schaums outline of theory and problems of statistics and econometrics, 2nd Edition, Mc. Graw- Hill.**

3. Gujarati, D. N., Porter, D.C., (2009). *Basic Econometrics.* (5th ed.). New Delhi: McGrawHill.

4. Studenmund, A. H. (2014). *Using Econometrics: A Practical Guide.* (7th ed.). New Delhi: Pearson.

5. Wooldridge, J. M. (2018). *Introductory econometrics: A modern approach*, (7th Ed), CENGAGE.

6. Dougherty, C. (2016). *Introduction to Econometrics* (5th ed.). New York: Oxford University Press.

7. **Koutsoyiannis, A. (1973).** *Theory of Econometrics*. **New York: Harper & Row**

Semester-V Eco (Hons) Optional Paper-I-List-I Agriculture
ECB-505-B: Agriculture-I

Agriculture and Economic Development: Agriculture – Industry Linkage, Interaction between agriculture and the rest of the economy; Agriculture and rural poverty. Share cropping and contract farming.   (8 Lectures)
Productivity in agriculture, Traditional agriculture and its modernization question, Emerging trends in agricultural technology; Dry land farming and use of bio technology techniques,

(7 Lectures)
Theories of Agriculture Development: Physiocratic model of agricultural development, Lewis & Fei–Ranis models of agricultural development.   (8 Lectures)

Agricultural Production Economics: meaning and basic concepts of production economics in agriculture, the principles of resources allocation: production function approach, increasing and diminishing production function, total, average and marginal product curves, and the relation between them, stages of rational and irrational production, Farm size and productivity.   (15 Lectures)
The general conditions of equilibrium, factor-product, factor-factor and product-product relationship.   (7 Lectures)

Selected Readings:
1. **Bhaduri, A. (1984): The Economic Structure of Backward Agriculture, Macmillan, Delhi.**

2. **Bilgram, S. A. R. (1996): Agricultural Economics, Himalaya Publishing House, Delhi.**

3. **Rudra, A. (1982): Indian Agricultural Economics: Myths and Reality, Allied Publishers, New Delhi.**

4. **Ghatak, S. and K. Ingerscent (1984): Agriculture and Economic Development, Select books, New Delhi.**

5. **Soni, R. N. (2017): Leading Issues in Agricultural Economics, 12th modified edition Vishal Publication**

Semester-V Eco (Hons) Optional Paper-I-List-I Population Studies
ECB-505-C   Population Studies-I

Demography- Meaning, scope and importance of Demography; Difference from population studies.   (3 Lectures)

Population Theories-Malthusian Theory, Neo- Malthusian Theory and Optimum Theory; Theory of Demographic Transition.   (8 Lectures)

Age-Pyramids -Concept, Construction & its Significance, Age pyramids and Population Projection: stable and stationary population.   (6 Lectures)

<u>Fertility -</u>Measurement, Levels and trends of fertility in developed and less developed countries; Factors affecting fertility. (7 Lectures)

<u>Mortality -</u>Measurement, levels and trends in more and less developed countries. Factors responsible for decline in Mortality. (8 Lectures)

<u>Basic Statistical Methods in Population Studies -</u>Sources of demographic data, Mortality analysis. Population growth, composition and distribution; Health statistics. (8 Lectures)

<u>Life-Table-</u> Basic concepts of the Life Table; Types and forms of Life Table, Preparation of Life Tables. (5 Lectures)

Selected Readings:
(Also valid for Population Studies-II)

1. **Hansraj – Fundamentals of Demography, Surjeet Publications, ISBN-81-229-0336-3**

2. **Preston, S., Heuveline, P., and Guillot, Michel (2000): Demography: Measuring and Modeling Population Processes**

3. **R.K.Jain, (2013) Textbook of Population Studies , Neha Publishers & Distributors, ISBN-10 - 9789382126331**

4. **Sahoo, Fakir Mohan. (Ed) (2009): Behavioural Issues in Ageing: Care, Concern and Commitment**

5. **Weinstein, Jay and Pillai, Vijayan K. (2000): Demography: The Science of Population**

6. **Yaukey.D, Anderton,D.L and Lundquist, Jennifer H,(2007): Demography: The Study of Human Population (3rd edition).**

Semester-V Eco (Hons) Optional Paper-I-List-I Banking and Insurance
ECB-505-D: Banking & Insurance-I

<u>Evaluation of Banking Business</u>: Development of Banking, Socio, Economic and Legal Environment of banking business, Official Regulation & Control over Banks (Historical Perspectives in the context of Global as well as Indian Experiences).
(6 Lectures)

<u>Banking System</u>- Central Banking: Genesis of Central Banking in India, Emerging Role as a Bankers' Bank, Early Central Banking Policies, Operations and Recent Development, Exchange Control, Monetary Management and Allied Issues

<u>Commercial Banking</u>: Growth of Commercial banking since independence, nationalization of commercial banks and their performance assessment, Institutional Performances of Bank- Bank Balance Sheet Approach: Management of assets and liabilities in banks - Profit, Profitability & Productivity in banks. (With special reference of India). (22 Lectures)

Banking Sector Reforms: Capital Adequacy Norms- According to BASEL Norms, income recognition norms, classification of assets and the issue of non-performing assets and their management; Consolidation & Reorganization of Banks in India.
(10 Lectures)

Overview of Development Banking in India, Co-operative Banks, Payment Bank, Corporate Bank. (5 Lectures)

Selected Readings:

1. **RBI: History of RBI, Vol-I, II, III, & IV**

2. **RBI: Trend and Progress in Banking in India (Latest Reports)**

3. **Shekhar & Shekhar, (1998): Banking Theory & Practice, Vikash Publishing House Pvt. Ltd.**

4. **Jadhav Narendra (2006): Monetary Policy, Financial Stability & Central Banking, Macmillan**

5. **Baye and Jansen (1996): Money, Banking and Financial Markets, AITBS**

Optional Paper-I (List-II)

Optional Papers	
ECB-506A	Operations Research-I
ECB-506B	Computers in Economics-I
ECB-506C	Industrial Economics-I
ECB-506D	Financial Market-I

Semester-V Eco (Hons) Optional Paper-I-List-II Operations Research
ECM-506 A Operations Research-I

Introduction**:** Definition, significance, scope and limitations of Operations Research, Basics of Mathematical Programming, Development of A Programming Problem; Linear and Nonlinear, Static and Dynamic, Single and Multiple Goals. Programming and Decision Making. (8 Lectures)

Linear Programming: Assumptions, formulation and solution by graphic method and simplex methods; Duality in LP programming and its economic interpretation, difference between primal and dual, dual simplex method; Sensitivity analysis; Some special cases: unbounded solution, infeasibility, multiple optimal solution.

(15 Lectures)

Transportation problem and Assignment Problem**:** Transportation problem, mathematical model of transportation problem, the transportation method. Methods for finding initial solution Tests for optimality; Assignment problem: Different approaches to finding solution. (12 Lectures)

Non-Linear programming: Non-Linear programming, Mathematical formulation; Concepts of global minima and local minima; Lagrange multipliers and Kuhn-Tucker conditions; Duality in non-linear programming; Integer programming: Algorithms for integer programming. (10 Lectures)

Selected Readings:

1. **Sharma J.K.: "***Operations Research: Theory and application",***S. Chand, second edition**

2. **Chiang, Alpha C. (2005): "***Fundamental Methods of Mathematical Economics***", 4th edition, McGraw-Hill.**

3. **Natarajan, Balasubramani and Tamilarasi: "***Operations research"***Pearson**

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4. **Col. D. S. Cheema (2006), Operations Research, Publisher: Laxmi**

5. **Frederick Hillier, Gerald Lieberman (Nov. 2005), Introduction to Operations Publisher: Tata Mcgraw Hill**

6. **Hillier (2001), Introduction to Operations Research, Seventh Edition (With CD), Publisher: Tata Mcgraw Hill Publishing Co Ltd**

7. **Nita Shah et al.(2007), Operations Research, Publisher: Prentice-hall Of India Pvt Ltd**

8. **R. Panneerselvam (2006), Operations Research, Publisher: Prentice-hall Of India Pvt Ltd**

9. **Taha (2008), Operations Research An Introduction 8e (s), Publisher: Pearson Education (Singapore) Pvt. Ltd**

Semester-V Eco (Hons) Optional Paper-I-List-II Computers In Economics
Both the papers in this option will have two segments- Part-A (Theory) & Part-B (Practical). Part 'A' will be given 60% weight while remaining 40% weight will be given to Part 'B' in which the students would be assessed through practical examination. There will be no internal assessment marks for the theory portion.

ECB-506 B: Computers in Economics-I

Use of Computer for Office Automation: Text editors and word processor software packages; Operative familiarization with any one package like MS-word —Introduction to Word Processing: Editing, viewing documents in different layouts, page margins, indent, bulleting and numbering, bold face, italics, underline, fonts and fonts size, borders and shading, find and replace, page breaks and page numbers, headers and footers, Printing: What To Do Before Printing? Introduction To 'Page Setup', 'Print Preview' And 'Print, Dialog Box'.   (15 Lectures)

MS-Excel: Excel basic: Introduction about Microsoft Excel at the basic level: overview, tools, creates a spreadsheet, format, spreadsheet, calculations, create charts and printing; Solve problems with Excel: Solve some economics problem on spreadsheet: Introduction about the modelling process on spreadsheet and using Excel tools to solve the problems.   (15 Lectures)

MS-Power Point: Presentation with PowerPoint: PowerPoint components, What's Slide Master? What's Title Master? Creating a presentation with full components: text, picture, drawing, WordArt, equation, organization chart, chart, table, sound, video clips, Customizing and applying effects for a slide: template design, background color, animation, effects, built-in animation effects, navigation buttons, etc. Printing and exporting a slide.   (10 Lectures)

Graphics: Uses of computer graphics, classification of applications, software for computer graphics: Harvard and Stanford Graphics, MS-Excel graphics. (5 Lectures)

Selected Readings:
1. **V. Rajaraman: Fundamentals of Computers, Prentice Hall (Ind.) New Delhi.**
2. **Sanders, D.H: Computers today, McGraw Hill, New York.**
3. **Sinha: Computer Fundamentals, BPB Publications, New York.**

4. **Kerns: Essentials of Microsoft windows, Word and Excel, Prentice Hall of India, New Delhi.**

5. **Lipschutz, M.M. & Lipschutz, S: Theory and Problems of Data Processing, Schaum's Outline series.**

6. **Leon & Leon: Internet Basics.**

7. **J. Jeffcoate: Multimedia in Practice: Technology & Applications, Prentice Hall of India.**

8. **Long Larry: Computer Fundamentals**

9. **Sams Teach Yourself Windows XP Computer Basics by Greg M. Perry**

10. **Ram, B: Computer Fundamentals**

11. **Michael Miller: Absolute Beginner's Guide to Computer Basics**

12. **Michael Miller: Easy Computer Basics, Windows Vista Edition New Perspectives Computer Concepts by Jamrich Parsons, Dan Oja**

13. **Computer decisions, Volume 9 by Karlsruhe**

14. **George E. Mason, Jay S. Blanchard, Danny B. Daniel: Computer applications**

15. **Microsoft Office 2007: Advanced Concepts and Techniques by Gary B. Shelly, Thomas J. Cashman by Misty E. Vermaat**

16. **Formulas and functions with Microsoft Office Excel 2007 by Paul McFedries**

17. **Microsoft Office Access 2007 on demand by Steve Johnson**

18. **Microsoft Office PowerPoint 2007 on demand by Steve Johnson**

Semester-V Eco (Hons) Optional Paper-I-List-II Industrial Economics
ECB-506 C: Industrial Economics-I

Framework of Industrial Economics: Development of Industrial Economics and Structural Change, Concept of Firm – ownership, control and objectives of the firm;; Forms of organization of industrial firms; Theory of optimum size of the firm, Factors influencing optimum size; Industrial Profile: Private sector - Performance and Problems; Public Sector - Role, Performance and Disinvestment, Emergence of Mixed Economy & Cooperatives   (10 Lectures)

Market Structure: Elements of Market Structure, Market concentration, Economies of scale and profitability; Theories of industrial location – Weber and Sargent Florence; Factors affecting location, Empirical Evidence from industries.   (10 Lectures)

Market Conduct: -Business Goals & Behaviour, Investment Decisions and Investment expenditure, Diversification and Industrial Combinations, Motives for Mergers and Acquisitions & Joint Ventures: performance and sustainability, MNCs and transfer of technology issues; Rise of Indian MNCs; Global Industrial Trends   Foreign capital: Direct Investment & Foreign Institutional Investment, NRI policy of India. (10 Lectures)

Market Performance and Profitability: -Market Performance: Growth, size, and profitability of the firm and Constraints on firm's growth, Concept, measurement and determinants of efficiency of firms, Productivity Movements in India, National

Productivity Council; Competition Commission of India: Role and Objectives.

(15 Lectures)

Selected Readings:

1. Teece David J. (Edited) (2019), The Evolution of the Theory of the Firm, Volume 1, Basic Elements, Edward Elgar publishing

2. Barthwal R.R. (2017) Industrial Economics: An Introductory Textbook, New Age Internationals

3. Singh Manoj Kumar, (2011) Industrial Economics and Principles of Management, New Age International (P) Ltd., Publishers

4. Singh,S.P.(2008) Industrial Economics And Management ,Aitbs publisher

5. Sen, R. and B. Chatterjee (2001), Indian Economy: Agenda for the 21st Century (Essays in honour of Professor P. R.Brahmananda) Deep and Deep Publications Pvt.Ltd., New Delhi.

6. Desai, B. (1999), Industrial Economy in India (3rd Edition), Himalaya Publishing House,Mumbai.

7. Kelkar, V. L. and V. V. Bhanoji Rao (Eds.) (1996), India Development Policy Imperatives, Tata McGraw Hill, New Delhi.

8. Cherunilam, F. (1994), Industrial Economics: Indian Perspective (3rd Edition), Himalaya Publishing House, Mumbai.

9. Sandesara, J. C. (1992), Industrial Policy and Planning – 1947-1991: Tendencies,Interpretations and Issues, Sage Publications, India Pvt. Ltd., New Delhi.

10. Singh, A. and A. N. Sadhu (1988), Industrial Economics, Himalaya Publishing House,Bombay.

11. Ahluwalia, I. J. (1985), Industrial Growth in India, Oxford University Press, New Delhi.

12. Bagchi, A. and M. Banerjee (Eds.) (1979), Change and Choice in Indian Industry,Bagchi Publications, Calcutta.

13. Divine, P. J. and R. M. Jones et. al. (1976), An Introduction to Industrial Economics, George Allen and Unwin Ltd.,London.

14. Bhagwati J. and P. Desai (1972), India: Planning for Industrialization, Oxford University Press, London.

15. Dasgupta, P. S., Marglin and A. Sen (1972), Guideline for Project Evaluation, Unido Publications, New York.

Semester-V Eco (Hons) Optional Paper-I-List-II Financial Market
ECB-506 D: Financial Market-I

Definition and Meaning of the Financial System - Components of financial System: Institutions, Instruments, Markets, and Services; Functions and Role of financial system; Financial System and Economic Development.   (5 Lectures)

 Money Market: Meaning - Constituents of organized money market; Features of Indian Money Market. Instruments of money market.   (8 Lectures)

Capital Market: Capital Market Instruments-Shares, Equities, Debentures and Bonds; New Instruments, Types of bonds and equities, Primary Market: – procedure for issuing equity and debentures, SEBI guidelines towards the issue of equity, Free pricing regime, Secondary Market: organization, management and membership of stock exchanges, listing, trading and settlement systems; Overview of Debt Market in

India – Interlink between Money Market and Capital Market. SEBI & Capital Market in India.   (15 Lectures)

Markets for Derivatives: Futures, Options, and Other Derivatives: Types, Uses and Pricing of Derivatives; Derivatives trading in India.   (5 Lectures)

Financial Sector Reforms in India since 1991, Major issues, Global & Indian experience in Financial Sector reforms.
(12 Lectures)

Selected Readings:
(Valid for Paper XX.5 of Semester-VI also)
1. **Mishkin,F.S. and Eakins S.G: Financial Markets & Institutions, Pearson Education**

2. **Fabbozi, Modigliani, Jones and Ferri: Foundations of Financial Markets and Institutions, Pearson Education.**

3. **Bayes and Jansen: Money, Banking and Financial Markets, AITBS**

4. **Bhole, L.M: Financial Institutions and Markets, Tata McGraw Hill Publishing Company Ltd.**

5. **Gupta,S.K.,Aggarwal, N. and Gupta, N: Financial Institutions and Markets, Kalyani Publishers**

6. **Khan,M.Y: Financial Institutions and Markets, Tata McGraw Hill Publishing Company Ltd.**

7. **Pathak Bharati (2008): The Indian Financial System –Markets, Institutions, and Services, Second Edition. Pearson education**

Semester-V Eco (Hons) Compulsory Paper
ECB-507: Introduction to Research Methods

Introduction to Research: Distinction between social science research and science research, Research Methods V/s Methodology.   (2 Lecturers)

Types and approaches of research: Introduction to Descriptive, Analytical, Fundamental, Quantitative and Qualitative, inductive and deductive Research Approaches.   (5 Lecturers)

The Time Consideration; Historical, Experimental and Ex Post Facto research
                (3 Lectures)

Positivism and Scientific Method, the Empiricism, Objectivity and Subjectivity in Research, the Randomness.   (4 Lecturers)

Formulation of a Research Problem: Sources for generating research ideas, Review of literature, Origin of Research Problem, Aim/ Objective, Hypothesis/Research Questions.   (4 Lecturers)

Introduction to Analytical Research Design and Sampling Methods: Probability & non-probability sampling methods and its types, Preparation of Questionnaire/ Schedule, pilot survey, Reliability and Validity.   (4 Lecturers)

Data: Data and its types, sources and methods of Collection of Primary and secondary Data, Data processing.   (6 Lecturers)

Report writing: Steps in writing of a Research Report/dissertation, Referencing style, the concepts of plagiarism and ethics in research.   (2 Lecturers)

Note: The paper would be taught in workshop mode. Out of the 45 contact hours (required for a 3-credit course) 67% i.e., 30 hours would be devoted to Lectures while remaining 33% i.e. 15 hours would be devoted to intensive discussion and work assignment related to different aspects of the course. Students would be divided into small groups and tutorial would be organized to facilitate intensive teacher-taught interaction.

Selected Readings:

1. Kothari, C. R. (2004). Research methodology: Methods and techniques. New Age International.

2. Cooper, D. R., Schindler, P. S., & Sun, J. (2006). Business research methods (Vol. 9, pp. 1-744). New York: McGraw-Hill.

3. Ethridge, D. (2004). Research methodology in applied economics: organizing, planning, and conducting economic research (No. BOOK). Blackwell publishing.

4. Goode, W. J., & Hatt, P. K. (1952). Methods in social research.

5. Bryman, A. (2016). Social research methods. Oxford university press.

6. Jackson, S. L. (2015). Research methods and statistics: A critical thinking approach. Cengage Learning.

7. Lansing, J. B., & Morgan, J. N. (1971). Economic survey methods.

8. Medhi, J. (1992). Statistical methods: an introductory text. New Age International.

9. Lee, N., & Lings, I. (2008). Doing business research: a guide to theory and practice. Sage.

10. Panneerselvam, R. (2011). Research Methodology PHI Learning Private Limited New Delhi.

11. Sarangi, P. (2010). Research Methodology, Taxman Publications Private Limited, New Delhi.

12. Kumar, R. (2018). Research methodology: A step-by-step guide for beginners. Sage.

Semester-VI

Paper	Semester-VI	No. of Credits
ECB-601	International Macroeconomics	3
ECB-602	Economy of Uttar Pradesh	3
ECB-603	Environmental Economics	3
ECB-604	Development Economics	3
ECB-605	Optional-I(from List-I), Paper-II	3
ECB-606	Optional-II(from List-II), Paper-II	3
ECB-607	Field Survey/Project Work / Dissertation	4

Semester-VI Eco (Hons) Compulsory Paper
ECB-601: International Macroeconomics

Balance of Payments: Concept and Components; Equilibrium and Disequilibrium, Various measures to correct Disequilibrium in the BOP, Approaches to BOP: monetary, elasticity and absorption.   (12 Lectures)

Concept of Foreign Trade Multiplier.   (3 Lectures)

Introduction to International Monetary System: Foreign Exchange Markets-Functions, Nominal and Real Exchange Rates, Fixed and Floating Exchange Rates, Buying & Selling Rates, Spot Rate, Forward rate, Hedging, Arbitrage, Theories of Exchange Rate Determination.   (12 Lectures)

International Capital Movements: FDI & Portfolio Investment, International Resource Movement & Role of Multinational Corporations, Foreign Aid: Dual gap theory, Aid Tying and Sources of Neo- Imperialism.   (10 Lectures)

International Institutions; IMF and World Bank, The GATT/WTO Agreements, Problem of International Liquidity and SDR, New International Economic Order.
                                   (8 Lectures)

Semester-VI Eco (Hons) Compulsory Paper
ECB-602: Economy of Uttar Pradesh

Historical Context of the Economy of Uttar Pradesh: Brief introduction of regions of U.P and their evolution, Relative position of U.P on the eve of independence and factors responsible for subsequent decline, Idea of U.P as a State.   (6 Lectures)

Profile of U.P and Its Regions Since 1991: Demographics, Gross State Domestic Product (SDP) and per capita SDP, Poverty, Employment, Economic Inequality, Regional Variations in Health and Educational attainments, Human Development – State and Regions, Politics and Public Policy in Uttar Pradesh.   (14 Lectures)

Industry and Agriculture of U.P: De-industrialization, MSMEs, Rise and decline of Industrial clusters, State specific strategy for industrial development - foreign investment, infrastructure, *Udyog Bandhu* and Industrial Estates; Salient traits of agriculture in UP- special reference to Distress in agriculture in East U.P and Bundelkhand, Sugarcane economy of West/East U.P, Floriculture and Horticulture of Central/East U.P, Commercialization and mechanization of agriculture, Growth of Non-agricultural sector.   (15 Lectures)

State Finance since 1991: Tax and Non-tax revenue of U.P, Public Expenditure and Public Debt of U.P, Status of State Finance.   (5 Lectures)

Uttar Pradesh as a Challenge to National Development Effort: Importance, Challenge, Barriers.   (2 Lectures)

Recent Policy Initiatives – One District One Product, Employment Generation – State Specific Programmes and MGNREGS, Safety Nets Programmes.   (3 Lectures)

Semester-VI Eco (Hons) Compulsory Paper
ECB-603: Environmental Economics

Environmental Economics -Definition, Nature, Scope and Importance; Related branches-Ecological Economics, Environmental Economics and Natural Resources Economics; Historical development of environmental economics; Environment-Economy Interaction: Economic Perspective (Circular Flow Analysis): The Ecological Perspective: Basic Interaction Model limited to economy-environment as two sub systems and economy and ecosystem as separate systems; Ecology and its implications for the economy: Ecosystem and its functions like resource, sink, amenity and life support functions . (8 Lectures)

Problems of decision making and Environmental degradation: Market failure; Environmental Externality, Absence of Property Rights, Public goods and Open Access Resources, Level of Optimal Pollution. (8 Lectures)

Environment and Development: The Debate. (3 Lectures)

Economics of Pollution Control: State vs Market; State Intervention – Command and Control/ Regulations, Correcting Market Failure: Market Based Approach- Taxes and Charges, Environmental Subsidies, Deposit Refund System (Refundable Deposits), Pollution Permits and Permit Trading, Allocation of Property Rights. (8 Lectures)

Valuation of Environmental Goods and Services: Valuation Meaning, need and justification Total Economic Value Need and Justification, Components of Total Economic Value; Valuation methods (only introductory approach): Revealed and Stated preferences methods (introductory). (8 Lectures)

Sustainable Development: Meaning and Definition, Evolution and Importance, The Approaches to Sustainable Development, Components of Sustainable Development, The Sustainable Economy; Latest National Environmental Policy. (7 Lectures)

Basic concepts of resource economics Natural resources: meaning and classification. (2 Lectures)

Selected Readings

1. **Charles, Kolstad., (2010), Environmental Economics, London: Oxford University Press.**

2. **Common, M. (1988), Environmental and Resource Economics: An Introduction, London: Longman Group UK Limited.**

3. **Conrad, J. M., (2010), Resource Economics, New York: Cambridge University Press.**

4. **Eugene, T., (2011), Environmental Economics, Delhi Vrinda Publication (P) Ltd.,**

5. **Field, B., and M, Field.,(2016), Environmental Economics: An Introduction, The McGraw-Hill Education, New York**

6. **Hanley, N., Shogren, J.F., and White. B., (2013). Introduction to Environmental Economics, London: Oxford University Press.**

7. **Hussen, Ahmed M. (2019); Principles of Environmental Economics and Sustainability, London: Routledge**

8. **Karpagam, M., (2012), Environmental Economics: A Text Book, New Delhi: Sterling Publishers.**

9. **Singh, Katar and Anil Shishodia., (2007), Environmental Economics: Theory and Applications, Sage Texts**

10. Muthukrishnan, S., (2015) , Economics of Environment, New Delhi: Prentice Hall India Inc,

11. Pearce, D.W. and Turner, R. K., (2014). Economics of Natural Resources and the Environment, Baltimore: The Johns Hopkins University Press.

12. Perman, R., Ma,Yue., Common,M., Maddison, D., and McGilvray, J., (2011), Natural Resource and Environmental Economics, 4th Edition, Boston: Addison-Wesley (Pearson).

13. Prasad, S N (2011); Environmental Economics, Jaipur: Pointer Publication.

14. Sankaran, S. (2012): Environmental Economics, Madras: Margham Publications.

15. Tietenberg, T. H., (2018), Environmental and Natural Resource Economics, London: Routledge

Semester-VI Eco (Hons) Compulsory Paper

ECB-604: Development Economics

Development Economics: Nature & Importance; Economic Development: Concept and measurements- traditional economic measures, the new economic view of development, Core Values of Development, Objectives of Development; Characteristics of developing world; Economic growth vs. Economic Development; Millennium Development Goals; Sustainable development goals.   (12 Lectures)

Dualism: Concepts and Definition; Theories of Dualism: Technical, economic, social, financial and structural.   (5 Lectures)

Poverty & Inequality: Measurement of Poverty: headcount ratio, poverty gap index, FGT index; Inequality measures: size distribution, Lorenz curve, Gini coefficients; Kuznets's Inverted-U Hypothesis; Growth and Poverty.   (8 Lectures)

Theories of Economic Development: Theories of Economic Development: Lewis theory of unlimited supply of labour, Rostow stages of economic growth, Low Level Equilibrium Trap- Nelson Model, Critical Minimum Effort Thesis, Theory of Big Push-Rosenstein Rodan, Theory of Balanced Growth- Ragner Nurkse, Unbalanced Growth Strategy- Hirschman, Harrod and Domar model of economic Growth, Solow model. (20 Lectures)

Selected Readings:

1. A.P.Thirlwall: Growth and Development, ELBS

2. D Ray: Development Economics, OUP.

3. S Ghatak: Introduction to Development Economics, Routledge.

4. Y Hayami and Y Godo: Development Economics, From the Poverty to the Wealth of Nations (3rd Edition), OUP

5. Meier and Rauch: Leading Issues in Economic Development (8th Edition), OUP

6. M.P.Todaro and S.C.Smith: Economic Development (8th Edition), Pearson.

7. **R.C.Agarwal: Economics of Development and Planning, Laxmi Narayan Agarwal**

8. **M.L.Jhingan: Economic Development and Planning, Vrinda**

Optional Paper-II (List-I)

Optional Papers	
ECB-605A	Econometrics-II
ECB-605B	Agriculture-II
ECB-605C	Population Studies-II
ECB-605D	Banking & Insurance-II

Semester-VI Eco (Hons) Optional Paper-II-List-I Econometrics
ECB-605A: Econometrics: II

Dynamic Econometric Models-Lags in Econometric Models; Distributed Lag Models; Autoregressive Models; Reasons for Lags; Estimation of Distributed-Lag Model: Koyck Approach, Adaptive Expectations, Partial Adjustment Model; Estimation of Autoregressive Models: Instrumental Variable; Causality in Economics; Granger Causality.   (15 Lectures)

Time Series Econometrics -Stochastic Process: Stationary and Non-Stationary; Spurious Regression; test of Non-Stationarity: Graphical Method, Correlogram and Unit Root Tests: Dickey Fuller and Augmented Dickey Fuller Tests; Transforming Nonstationary Time Series; Cointegration: Testing for Cointegration, Error Correction Mechanism.

Time Series Models: AR, MA, ARMA and ARIMA, Box-Jenkins Method of ARIMA Modelling.   (15 Lectures)

Panel Data Regression Model: Introduction to Panel Data; Constant Coefficient Model; Fixed Effect LSDV Model; Fixed Effect Within Group Model; Random Effects Model, Properties of Estimators.   (10 Lectures)

Carrying Out an Empirical Project: -Discussion on the methodology used on the Dissertations of the UG students.   (5 Lectures)

Selected Readings
1. **Gujarati, D. N. (2011).** *Econometrics by Example* **(1st ed.). New Delhi: Palgrave.**

2. **Salvatore, D. P. (2002). Schaums outline of theory and problems of statistics and econometrics, 2nd Edition, Mc. Graw- Hill.**

3. **Gujarati, D. N., Porter, D.C., (2009).** *Basic Econometrics.* **(5th ed.). New Delhi: McGrawHill.**

4. **Studenmund, A. H. (2014).** *Using Econometrics: A Practical Guide.* **(7th ed.). New Delhi: Pearson.**

5. **Wooldridge, J. M. (2018).** *Introductory econometrics: A modern approach*, **(7th Ed), CENGAGE.**

6. **Dougherty, C. (2016).** *Introduction to Econometrics* **(5th ed.). New York: Oxford University Press.**

7. **Greene, W. H. (2002).** *Econometric analysis*. **Pearson Education India, 5th Edition.**

8. Mukherjee, C., White, H., & Wuyts, M. (2013). *Econometrics and data analysis for developing countries*. Routledge.

Semester-VI Eco (Hons) Optional Paper-II-List-I Agriculture
ECB-605B: Agriculture-II
(With special reference to Indian Agriculture)

<u>Demand and Supply of Farm Products</u>: Demand for Farm Products: Characteristics of demand for farm products – Concept and measurement of own-price and cross –price; Price and income elasticity of demand and their interrelationship; Growth in demand for food in developing and developed countries; Rationale for and types of government intervention for food and nutrition security in developing countries.   (10 Lectures)

Supply of Farm Products: Characteristics of supply of farm products; Issues relating to Supply response; Supply response in Indian agriculture – Price vs. non-price factors in inducing aggregate supply growth.   (7 Lectures)

<u>India's Agricultural Development</u>: since Independence: Recent trends in agricultural growth in India; Inter-regional variations in growth of output and productivity; Cropping pattern shifts; Supply of inputs; pricing of inputs and role of subsidies.   (10 Lectures)

Role of public investment and capital formation in Indian agriculture; Strategy of agricultural development and technological progress; Sustainable agriculture.
                                                    (7 Lectures)
<u>Polices for Indian Agriculture Development</u> - Agrarian Reforms: Objectives and Instruments – Economic and extra-economic factors influencing enactment and implementation – Evaluation of reforms affecting agrarian structure and relations, Price policy.   (8 Lectures)
New agricultural strategy and Green Revolution: Economic benefits, Gaps and Fall-outs.   (3 Lectures)

Selected Readings:

1. Bhaduri, A. (1984): The Economic Structure of Backward Agriculture, Macmillan, Delhi.

2. Bilgram, S. A. R. (1996): Agricultural Economics, Himalaya Publishing House, Delhi.

3. Rudra, A. (1982): Indian Agricultural Economics: Myths and Reality, Allied Publishers, New Delhi.

4. Ghatak, S. and K. Ingerscent (1984): Agriculture and Economic Development, Select books, New Delhi.

5. Soni, R. N. (2017): Leading Issues in Agricultural Economics, 12th modified edition Vishal Publication

Semester-VI Eco (Hons) Optional Paper-II-List-I Population Studies
ECB-605-C   Population Studies-II
Population Censuses in India and the Salient Features of 2011 Census; New Challenges for census 2021, National Family Health Survey 3, 4 & 5, District Level Household Survey-3 & 4.   (6 Lectures)

Characteristics of Indian Population: Birth Rate, Death Rate, Literacy, Life Expectancy etc. Infant and Maternal Mortality in India, Population and Economic Development.
(9 Lectures)

Migration: Concept, types, patterns, and Push and pull factors: Lees theory of migration, Harris-Todaro model. (6 Lectures)

Urbanization: Meaning, patterns, types and its importance, urbanization and industrialization.
(6 Lectures)

Population Policies in the context of growth, structure, distribution and quality of life.
(3 Lectures)

Evolution of Population Policy in India – The shift in policy from population control to family welfare, to women empowerment, The New Population Policy, Tasks before the National Population Commission. (10 Lectures)

Evolution of Family Welfare Programmes in India; Family Planning Strategies and their outcomes. (5 Lectures)

Semester-V Eco (Hons) Optional Paper-II-List-I Banking and Insurance

ECB-605D: Banking & Insurance-II

Nature and Significance of Insurance-Introduction to Risk and Insurance, Importance of Insurance, Types and Functions of Insurance, Basic Principles of an Insurance Contract. Insurance and Economic Development. (5 Lectures)

Insurance and Risk Management- Concept and Nature of Risk, Classification of Risk, Insurance as a Risk Management Tool, Principles of Risk Management, Risk Management Strategies/Process. (5 Lectures)

Life and Health Insurance- Fundamentals of life and health insurance, Mathematical basis of life insurance, Selection and Classification of risks; Basics of premium construction; Principles of underwriting of life and health insurance, LIC & other Life Insurance Companies in India. (11 Lectures)

General Insurance- Fundamental Principles of General Insurance contracts, Physical and Moral hazard, marketing strategies and Information Technology of general insurance business. General Insurance business in India-GIC and its subsidiaries.

Property Insurance- Marine Insurance: Nature and Significance of Marine Insurance Contracts, Types of Marine Insurance Policies, Marine Insurance Clauses, Fire Insurance: Nature and Significance of Fire Insurance, Types of Fire Insurance Policies. (12 Lectures)

Insurance Regulatory Framework in India- Purpose of government intervention in insurance markets; Nationalization and Regulation of Insurance business in India, Insurance Business before and after Liberalisation, The Insurance Act, 1938 (as amended), Life Insurance Corporation Act, 1956, General Insurance Business (Nationalisation) Act, 1972, Insurance Regulatory and Development Authority, IRDA

Act. Role of IRDA in Development of Insurance Sector, Recent Changes in Insurance business in India.   (12 Lectures)

Selected Readings:

1. Bailey, R. (Ed.) (1999): Underwriting in Life and Insurance, Loma, Atlanta,Ga.

2. Black, K and J. Skipper (2000): Life and Health Insurance, Prentice Hall, New Jersey.

3. Bickelhaupt, D.L. (1992): General Insurance, Irwin Inc., Burr Ridge, III.

4. Head, G.L. AND S. Horn II (1991): Essentials of Risk Management, Management Volume I Insurance Institute of America, Malvem.

5. Dionne, G. and S. E. Harrington (Eds.) (1997): Foundations of Insurance Economics, Kluwer Academic Publishers, Boston.

6. Mishra, M. N: Insurance Principles and practice, S. Chand and Co. New Delhi.

7. Mishra, M. N: Life Insurance Corporation of India. Vol. I, II, III. Jaipur.

8. Pteffer, I. And D.R. Klock (1974): Perspectives on Insurance, Prentice Hall Inc., Engleword, Cliffs.

9. Black, Jr. Kenneth and Horold Skipper: Life and Health Insurance (13th Edition), Pearson (Indian Economy Edition)-.

10. Rejda, George: Principles of Risk Management and Insurance, (13th Edition) (Economy Edition)

Optional Paper-II (List-II)

Optional Papers	
ECB-606A	Operations Research-II
ECB-606B	Computers in Economics-II
ECB-606C	Industrial Economics-II
ECB-606D	Financial Market-II

Semester-VI Eco (Hons) Optional Paper-II-List-II Operations Research
ECB-606A: Operations Research

<u>Introduction to Games theory</u>: two person zero -sum game, pay off matrix, optimal strategy, maximin & mini-max strategies, value of game, pure strategy, dominance rule. Mixed strategy: Nash equilibrium, Solution of Game problems with Linear Programming: Graphical methods and Simplex method.   (14 Lectures)

<u>Input-Output Analysis</u>: Concepts, Features, Assumptions, Importance and Uses; Types of Input- Output Model: Static and Dynamic; Method of the Input-Output analysis: the Open Input-Output model, Input-Output Transaction Table, Input Coefficient, Input-Output Technological coefficient, Determination of Equilibrium Prices, the Hawkin-Simon Conditions, the Closed Input-Output model. (15 Lectures)

<u>Dynamic Optimisation & Optimal Control Theory</u>:
<u>Dynamic Optimisation</u>: Discrete time – Deterministic and Stochastic Model, Continuous Time.
<u>Optimal Control Theory</u>: Calculus of variation and optimal control problem, control, state, and co-state variables, Hamiltonian – current value and present value, transversality conditions; Economic applications.   (16 Lectures)

Selected Readings:

1. Sharma J.K.: "*Operations Research:Theory and application*",S. Chand, second edition

2. Chiang, Alpha C. (2005): "*Fundamental Methods of Mathematical Economics*", 4th edition, McGraw-Hill.

3. Natarajan, Balasubramani and Tamilarasi: "*Operations research*" Pearson

4. Thijs Ten Raa (2006), The Economics of Input-Output Analysis, Publisher: Cambridge University Press

5. William Peterson (1991), Advances in Input-Output Analysis: Technology, Publisher: Oxford US.

6. Ronald E. Miller and Peter D. Blair (2009), Input-output Analysis: Foundations and Extensions, 2nd revised edition, Publisher: Cambridge University Press

7. Scott H. Bierman, Luis Fernandez (1998), Game Theory with Economic Applications, Publisher: Pearson Education

8. Jurgen Eichberger (1992), Game Theory for Economists, Publisher: Harcourt College

9. Martin J. Osborne and Ariel Rubinstein (1994), A Course in Game Theory, Publisher: MIT Press.

10. Fernando Vega-Redondo (2003), Economics and the Theory of Games, Publisher: Cambridge University Press

11. Osborne M J (2006), An Introduction to Game Theory, Oxford University Press New Delhi

12. Chiang, Alpha C. *Elements of Dynamic Optimization*. Long Grove, IL: Waveland Press, 1999. ISBN: 9781577660965.

Semester-VI Eco (Hons) Optional Paper-II-List-II Computers in Economics
ECB-606 B: Computers in Economics-II

SPSS and E-views Basics: Basic components, Start and exit, Window manipulation, Create and save a new work file, Open an existing work file, Select a subset (sample) of observations in the work file, Create new series, Delete a series, Create groups of objects and edit data, Rename, copy and delete objects, Create a new object out of current view (freeze), Printing objects, Import data from Excel file, Create different types of graph of series, Display summary statistics for series.

(15 Lectures)

Statistics-I: Bivariate Data: Scatter Diagram, principle of least square and fitting of polynomial and exponential curves, regression, coefficient of determination, lines of regression, auto-regression; Correlation and auto-correlation; Covariance and Auto covariance. (15 Lectures)

Statistics-II: Hypothesis testing: Simple, composite, null, and alternate hypotheses, level of significance, tests of significance based on chi-square, t and F statistics, confidence intervals, confidence intervals for mean and variance of the normal population, confidence interval for proportions. (15 Lectures)

Semester-VI Optional Paper-II-List-II Industrial Economics
ECB-606 C: Industrial Economics-II

Indian Industrial Growth and Pattern-Classification of Indian Industries, Shift in Industrial policy since 1991, Recent initiatives, Growth and Trends, Role and performance of Public and Private sectors; Emergence of PPP model, Index for Industrial production, Performance Indicators in Ease of Doing Business, Sector -wise evaluation of Indian industry.   (10 Lectures)

MSMEs & Large Scale Industries Performance - Economic Ideas of Pt. Madan Mohan Malviya, Mahatma Gandhi in development of Micro, Small & Medium Enterprises, Industrial Policies for MSMEs -Structural shift , Problem of Unemployment, Wages, Marketing, Sales and challenges posed by globalization, Recent Initiatives, Key performance indicators for Small Business, Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012, Government Schemes for MSMEs, Corporate Governance and Business Ethics   (12 Lectures)

Market and Distribution Channels -Development of Mass market, Marketing Concepts, Marketing Channels and Intermediaries, Evolution of Marketing Channels, Manufacturing Sector in India-Market size, Investment, Government initiatives–Make in India, Skill India Digital India, Start-up India and road ahead, Role of Advertising and new market strategies, Ecommerce & M-Commerce. Empirical case studies.
                              (10 Lectures)

Industrial Challenges & Initiatives - Privatization of PSUs – concept, scope and relevance; Disinvestment Policy; Corporate Social Responsibility Act 2005 & 2013, Social Security and Reforms in India, Issues in Industrial Proliferation and Environment Preservation; Urban –Rural Migration   & Reverse Migration, National Manufacturing Policy, 2011 and Recent Initiatives.   (13 Lectures)

Suggested Readings

1. Barthwal R.R. (2017) Industrial Economics: An Introductory Textbook, New Age Internationals

2. Marshall, A. and Marshall, M. P. (2012): The Economics of Industry, Ulan Press, UK

3. Singh Manoj Kumar, (2011) Industrial Economics and Principles of Management, New Age International (P) Ltd., Publishers

4. Singh, S. P. (2008) Industrial Economics and Management, AITBS publisher

5. Marshall, A. (2003): Elements of Economics of Industry, Simon Publications, UK

6. Desai, B. (1999), Industrial Economy in India (3rd Edition), Himalaya Publishing House, Mumbai.

7. Bains, J. S. (1996). Industrial Organization, Cheltenham, U.K. An Elgar Critical Writings Reader.

8. Cherunilam, F. (1994), Industrial Economics: Indian Perspective (3rd Edition), Himalaya Publishing House, Mumbai.

9. Hay, D. A and Morris, D. J. (1991). Industrial Economic: Theory and Evidence. Oxford University Press.

10. Singh, A. and A. N. Sadhu (1988), Industrial Economics, Himalaya Publishing House, Bombay

11. Lee, N., Jones, R. M., and Tyson, W. J. (1985). An Introduction to Industrial Economics. London: Allen and Unwin.

12. Kamien, M. T. and N. L. Schwartz (1982), Market Structure and Innovation, Cambridge, University Press, Cambridge

13. Kuchhal, S. C. (1980), Industrial Economy of India (5th Edition), Chaitanya Publishing House, Allahabad

14. Divine, P. J. and R. M. Jones et. al. (1976), An Introduction to Industrial Economics, George Allen and Unwin Ltd., London

Semester-VI Optional Paper-II-List-II Financial Market
ECB-606 D: Financial Market- II

Concept of Financial Services– meaning – features – importance, Financial instruments- types and recent innovation, Organization and Growth of Financial Services in India, Elementary knowledge of some important financial services-viz- merchant banking, factoring, leasing, credit rating etc. Regulation of Financial Services Market-SEBI & RBI.   (11 Lectures)

Development Financial Institutions (DIIs) and Investing Institutions: Concept of Development Banking, All India and State Level DFIs – Their Objective and Functions, Financial and Promotional Assistance to Industry – An Aggregative View   (8 Lectures)

Life Insurance Corporation, GIC and UTI – Their Role in Savings Mobilization, Investment Policies and Role in Subscriptions to Corporate Securities.   (8 Lectures)

Types of Non-Banking Financial Corporation's (NBFCs) Growth of NBFC Types, Maturity and Purpose of Deposits with NBFCs, Growth of Deposits with NBFCs and their role in a globalised world.   (8 Lectures)

Different Types of Foreign Capital Investment in India – Foreign Capital Investment, NRI Investment by Foreign Institutional Investors (FIIs), Euro-issues-Study of Recent Trends, Measures for Attracting Foreign Capital to India.   (10 Lectures)

ECB-607: Field Survey/Project Work/Dissertation
This paper will consist of Dissertation/Project Work/Field Work. Dissertation submitted by the students would be internally evaluated by experts committee constituted by the Department for marks of 50 (Fifty). Remaining 50 (Fifty) marks would be for end semester written examination.

The syllabus for end semester examination shall be as follows-
Overview of Research Steps and Research Ethics.   (4 Lectures)
Selection of Research Specialization Area.   (2 Lectures)
How to Review the Literature on Proposed Topic -and Identify Literature Gap.

(4 Lectures)
Finalization of Research Topic   and Framing of Research Objectives/Hypotheses /Research Questions.   (4 Lectures)
Selection of Suitable Research Methodology, Data Sources and collection of data.
(4 Lectures)
Data Processing and Analysis of the Results.   (4 Lectures)
Drafting of Dissertation.   (2 Lectures)
Referencing Styles.   (2 Lectures)

Selected Readings:

1. Kothari, C. R. (2004). Research methodology: Methods and techniques. New Age International.

2. Ethridge, D. (2004). Research methodology in applied economics: organizing, planning, and conducting economic research (No. BOOK). Blackwell publishing.

3. Kumar, R. (2018). Research methodology: A step-by-step guide for beginners. Sage.

4. Panneerselvam, R. (2011). Research Methodology PHI Learning Private Limited New Delhi.

5. Sarangi, P. (2010). Research Methdology,Taxman Publications Private Limited, New Delhi.