Proposed Programme for Two-year Masters Degree (MA/M.Sc) in Economics under CBCS

(As approved in the Meeting of the Post Graduate Board of Studies of Economics, University of Kalyani held on 6th April 2017)

April 2017
Department of Economics
University of Kalyani
West Bengal 741235

Curricula and Course Structure

1. For this two-year programme leading to Masters Degree in Economics of University of Kalyani, a student shall take up **course work** divided into four papers in each semester, out of which one paper in the second semester will be chosen by the students from the Inter Departmental Courses offered by other departments of the University under CBCS, making a total of 16 papers.

2. For assessment and evaluation of student's performance, each paper shall be assigned 100 marks, of which 80 marks will be kept for end-semester examination, and remaining 20 marks will be on continuous internal assessment in the form of class tests and assignments.

3. For each paper there shall be 40 hours of class lectures (excluding instructions for practical classes, assignments and class tests) forming direct contact teaching of 160 hours in a semester.

4. The estimated content of the contact teaching is designed such that for each one hour of direct contact teaching, a student, on an average, shall require further four hours of own study, including library-work, discussions with respective teachers outside the class, working on assignments/class tests, and preparations for end-semester examination. Thus, the curriculum of each paper would involve a course work of 200 hours (40 hours class plus 160 hours of study).

5. Taking 40 hours of course work per week by a student as the unit of course-credit, the course work done for each paper shall be 5 credit units, making a total of 20 credit units for a semester. Thus, the two-year Masters Degree programme entails a course work of 80 credits.

6. The course structure of the programme offers specialization as well as optional choice of papers by a student as indicated in the list of papers below:

Semester I	**Semester II**
1.1. Microeconomics I	2.1 Inter Departmental Course
1.2 Macroeconomics I	2.2 Microeconomics II
1.3 Econometrics with Computer Application I	2.3 Macroeconomics II
1.4 Mathematics for Economics	2.4 Econometrics with Computer Application II
Semester III	**Semester IV**
3.1 Economics of Growth	4.1 Indian Economic Issues
3.2 International Trade Theory and Policy	4.2 History of Economic Ideas
3.3 Development Economics	4.3 *Special Paper II*
3.4 *Special Paper I*	4.4 *Optional Paper*

7. Internal Assessment for each paper (excluding Paper 1.3 and Paper 2.3) is to be taken either (a) in the form of a written test (or two/three written tests which may be MCQ type depending upon the concerned teacher(s) in the concerned paper) or (b) in the form of a home assignment or term paper, or (c) in the form of seminar presentation by a student in the concerned paper. Note that at least one written test (which may be in form of MCQ) has to be taken for Internal Assessment. And total number of Internal Assessment Tests in either of the three forms mentioned above along with a compulsory written test is *three.* Each of these three Internal Assessment Tests would be 20 marks. And best two marks out of the marks obtained by a student in these three tests have to be considered as final Internal Assessment Mark for the student in a paper. In case of Paper 1.3 and Paper 2.3 since there will be a practical examination of 20 marks to test the computer application skill of a student, there will be two Internal Assessment Tests and best one of these two tests will be considered for award of Internal Assessment Mark (20 Marks) for a student in these two papers.

8. Kindly note that hours required to take Internal Assessment Tests are not included in the Class Lecture Hours mentioned against each unit in each paper.

9. Each paper in each semester will involve 40 class lecture hours. Only in Paper 1.3 and Paper 2.3 the class lecture hours may be up to 50 hours due to the practical classes required to teach a student computer application using econometric software(s).

10. For each 40 class hours' paper in each semester there will be *four* hours of class (theoretical) per week for 15 weeks in a semester. For papers requiring practical classes due to hand on training in computer application, total class hours per week (including the stipulated theoretical class hours) may exceed *four* class lecture hours limit in a week as and when required.

11. List of Special and Optional Papers is given below. Papers would be offered, from among the list below, at the beginning of the third and fourth semesters, as may be required by the students of the semester subject to availability teaching resources.

12. Special note for choosing Optional Paper (Paper 4.4) by a student in the Fourth Semester:

(a) A student taking Agricultural Economics as Special Paper can choose any one of the optional papers from the list below except optional paper number (16) below – Economic History of India.

(b) A student taking International Economics as Special Paper can choose any one of the optional papers from the list below except the optional paper number (8) below – International Finance and optional paper number (17) – International Monetary System.

(c) A student taking Advanced Econometrics as Special paper can choose any one of the optional papers from the list below except the optional paper number (14) – Linear Economic Models

(d) A student taking Economics of Development as special paper can choose any one of the optional papers from the list below except the optional paper number (7) – Political Economy of Development, optional paper number (13) – Growth and Development, optional paper number (18) – Health Economics, optional paper number (19) – Economics of Education and optional paper number (20) – Economics of Social Sector.

(e) A student taking Economics of Money, Banking and Finance as special paper can choose any one of the optional papers from the list below except the optional paper number (6) – Financial Economics and optional paper number (8) – International Finance.

(f) A student taking Environmental Economics as special paper can choose any one of the optional papers from the list below except the optional paper number (12) – Environmental Economics.

(g) A student taking Indian Economic Issues as special paper can choose any one of the optional papers from the list below except the optional paper number (15) – Economics of Globalization and the optional paper number (16) – Economic History of India.

(h) A student taking Advanced Economic Theory as special paper can choose any one of the optional papers from the list below except the optional paper number (3) – Industrial Organization, optional paper number (11) – Advanced Game Theory, optional paper number (13) – Growth and Development and optional paper number (14) – Linear Economic Models.

(i) A student taking Economics of Rural and Urban Development as special paper can choose any one of the optional papers from the list below except the optional paper number (20) – Economics of Social Sector.

(j) A student taking Mathematical Economics as special paper can choose any one of the optional papers from the list below except the optional paper number (10) – Input-Output Analysis, the optional paper number (11) – Advanced Game Theory and the optional paper number (14) – Linear Economic Models.

13. Kindly note that a student has to give his/her rank-wise preferences for the special papers in the third semester from the list of special papers offered in that particular year subject to the availability of the teaching resources in the Department as mentioned in point

number (11) above. In a special paper according to the first and subsequent preferences made by a student along with the marks by him/her in the first two semesters the special paper will be offered to him/her. In this regard, the decision of the Departmental Committee will be final. A student can change his/her special paper within two weeks of the commencement of classes. However, he/she will be allotted an alternative special paper of his/her choice subject to the availability of vacant seat(s) in that special paper. A special paper will only be offered if at least *five* students opt for it. And the maximum in-take in a special paper will be 10. However, this upper limit of intake in a special paper may vary from year to year subject to the availability of the teaching resources and/or the decision of the Departmental Committee in this regard.

14. Kindly note that a student has to give his/her rank-wise preferences for the optional papers in the fourth semester from the list of optional papers offered in that particular year subject to the availability of the teaching resources in the Department as mentioned in point number (11) above and also, *subject to the note (12) above*. In an optional paper according to the first and subsequent preferences made by a student along with the marks by him/her in the first three semesters the optional paper will be offered to him/her. In this regard, the decision of the Departmental Committee will be final. A student can change his/her optional paper within two weeks of the commencement of classes. However, he/she will be allotted an alternative optional paper of his/her choice subject to the availability of vacant seat(s) in that optional paper. An optional paper will only be offered if at least *three* students opt for it. And the maximum in-take in an optional paper will be 8. However, this upper limit of intake in an optional paper may vary from year to year subject to the availability of the teaching resources and/or the decision of the Departmental Committee in this regard.

List of Special Papers (Paper 3.4 and Paper 4.3):

1. Agricultural Economics
2. International Economics
3. Advanced Econometrics
4. Economics of Development
5. Economics of Money, Banking and Finance
6. Environmental Economics
7. Indian Economic Issues
8. Advanced Economic Theory
9. Economics of Rural and Urban Development
10. Mathematical Economics
11. Financial Economics

List of Optional Papers (Paper 4.4):

1. Comparative Economic System

2. Data Envelopment Analysis
3. Industrial Organization
4. Labour Economics
5. Public Economics
6. Financial Economics
7. Political Economy of Development
8. International Finance
9. Derivatives and Risk Management
10. Input-Output Analysis
11. Advanced Game Theory
12. Environmental Economics
13. Growth and Development
14. Linear Economic Models
15. Economics of Globalization
16. Economic History of India
17. International Monetary System
18. Health Economics
19. Economics of Education
20. Economics of Social Sector

Detailed lecture hour-wise unitized syllabus of the papers in each semester is appended below:

Syllabus of Papers for Course-work
Two-year Masters Programme in Economics under CBCS
University of Kalyani
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Semester 1:

Paper 1.1 - Microeconomics – I 100 Marks

Unit 1: Consumer choice and Demand – Axioms and Utility and Demand, Cost minimization and the cost function, properties of demand, duality in the theory of demand.
6 Lecture Hours

Unit 2: Technology – specification of technology, parametric and non-parametric representations of technology, elasticity of substitution, returns to scale, homogeneous and homothetic technologies, distance function and efficiency 6 Lecture Hours

Unit 3: Cost Minimization – Analysis of cost minimization, conditional factor demand functions, factor prices and cost functions; Elasticity of scale and scope, X-efficiency

6 Lecture Hours

Unit 4: Profit – profit maximization, Properties of profit functions, supply and demand functions from profit function.

6 Lecture Hours

Unit 5: Monopoly – pricing behaviour, cost distortions, rent-seeking behaviour, perfect price discrimination, multi-market price discrimination.

6 Lecture Hours

Unit 6: Short-run price competition – the Bertrand paradox, solution, decreasing returns to scale, capacity constraints, traditional Cournot analysis, concentration indices and industry profitability.

5 Lecture Hours

Unit 7: Product differentiation – monopolistic competition, product differentiation, perfect contestable market, efficient market hypothesis 5 Lecture Hours

References:

1. Microeconomic Analysis – Hal Varian
2. Economics and Consumer Behaviour – A. Deaton and J. Muellbauer
3. Microeconomics – H. Gravelle and R. Rees
4. An Introduction to Efficiency and Productivity Analysis – T. Coelli, D.S.P. Rao and G. Battese
5. Microeconomic Theory – A. Mascollel, M.D. Whinston and J.R. Green

Paper 1.2 - Macroeconomics – I 100 Marks

Unit 1: Definition and Scope of Macroeconomics; Classical Macroeconomics

5 Lecture Hours

Unit 2: Keynesian Macroeconomics, Some Basic Ideas of Post-Keynesian Economics and Some Alternative Macroeconomic Approaches

15 Lecture Hours

Unit 3: New Classical Economics, and Business Cycle Theories including Real Business Cycle Theories

15 Lecture Hours

Unit 4: New Keynesian Economics 5 Lecture Hours

References:

1. General Theory of Employment, Interest and Money – J. M. Keynes
2. A Modern Guide to Macroeconomics – Snowdon and Vane (ed.)
3. Reflection of the Development of Modern Economics - Snowdon and Vane (ed.)
4. Macroeconomics – N. G. Mankiw
5. Macroeconomics – Amit Bhaduri
6. Some Unconventional Essays in Economics – Amit Bhaduri
7. Readings in Macroeconomics – Mueller
8. Advanced Macroeconomics – David Romer
9. New Keynesian Economics – Mankiw and Romer

Paper 1.3 - Econometrics with Computer Application – I 100 Marks

Unit 1: Economic Questions and Data- Hypothesis Testing , Estimators and Inference – Causal Effects and Forecasting

(Introduction to EXCEL and Econometric/Statistical Packages -Data Management and -Descriptive statistics –Tests of Hypotheses –Distributional plots)

5 Lecture Hours

Unit 2: Simple Linear Regression Model-Economic Model and Econometric Model-Estimation and Interpretation of Regression Parameters-Sampling distribution of the OLS estimators-Interval estimation and hypothesis testing-Prediction and Goodness of Fit

10 Lecture Hours

Unit 3: Multiple Linear Regression Model-Specification and OLS estimation-Properties of Multiple Regression Coefficients-Measuring Goodness of Fit-R^2 and $\overline{R}^2$-Problems of Inference in Multiple Linear Regression Model-Individual and Overall significance of regression parameter(s)-Testing Linear Equality restrictions-Chow test-Indicator variables

(OLS and ANOVA using Econometric/Statistical Packages -Saving regression estimates-Case Studies)

10 Lecture Hours

Unit 4: Regression Diagnostics- Heteroskedasticity, Multicollinearity and Autocorrelation-Consequence, Detection and remedial measures

(Regression diagnostics using Econometric/Statistical Packages -robust and hc3 standard error corrected estimates)

10 Lecture Hours

Unit 5: Dummy variables –Interaction Dummy-Structural Break and Dummy variable

(Creating dummy variables and interaction terms using Econometric/Statistical Packages -case studies)

5 Lecture Hours

References:

1. Stock J, Watson M. Introduction to Econometrics (3rd edition). Addison Wesley Longman; 2011.
2. G S Maddala (2003), Introduction to Econometrics , John-Wiley, 3rd Edition
3. Hill, R. Carter. , Griffiths, W. E. & Lim, Guay C. (2008). *Principles of Econometrics*. Hoboken, NJ: Wiley.
4. D Gujarati (2003), Basic Econometrics, McGrawHill, 4th Edition.
5. Cameron, A. C., & Trivedi, P. K. (2009). *Microeconometrics using stata* (Vol. 5). College Station, TX: Stata Press.

Notes:

1. This paper includes theoretical as well as practical class lectures involving students in basic computer application using some statistical and econometric software like STATA.
2. The examination of the part pertaining to computer application will be in the form of a practical examination where two faculty members (one who has taught the computer application and the other from the remaining faculty members) will take the examination for one hour for each student and marks allotted for this practical examination will be 20 which will form the part of the internal assessment marks of 40 in this paper.
3. The internal assessment for the theoretical part will be 20 marks only. Hence, the instructor(s) of the paper is(are) required to take two internal assessment tests of 20 marks each – the method of these tests will depend on the instructor(s). And best of the two internal assessment tests marks for each student will be considered as final.
4. Kindly note that the practical examination for computer application in this paper will be taken on a date after the written examination of 80 marks is over.

5. Since this paper involves practical classes involving instructions for software application in Econometrics total lecture hours for this paper may exceed the stipulated 40 lecture hours and the maximum class/lecture hours may be 50 hours which will depend on the concerned instructor(s) of the paper in each semester depending on the number of students in that semester for the paper in that particular year.

Paper 1.4 - Mathematics for Economics 100 Marks

Group A – Optimization and Linear Algebra

Unit 1: Optimization techniques in Economics including basic understanding of functions, differential equation systems, static optimization and dynamic optimization techniques in Economics.

15 Lecture Hours

Unit 2: Elements of Linear Algebra with some basic and fundamental understanding of Matrix Algebra in Economics 5 Lecture Hours

References:

1. Fundamental Methods of Mathematical Economics – A. C. Chiang
2. Basic Mathematics for Economics – Mike Rosser, Routledge; http://www.railassociation.ir/Download/Article/Books/Basic%20Mathematics%20for%20Economists.pdf
3. Mathematical Economics - M. Bray, R. Razin, and A. Sarychev, London School of Economics and Political Science, http://www.londoninternational.ac.uk/sites/default/files/programme_resources/lse/lse_pdf/subject_guides/ec3120_ch1-3.pdf
4. Dynamic Optimization – A.C. Chiang
5. Mathematics Of Economics Analysis - Peter J. Hammond Knut Sydsaeter
6. The Structure of Economics: A Mathematical Analysis - Eugene Silberberg and Wing Suen
7. Mathematical Analysis for Economics – R.G.D. Allen
8. Mathematical Economics – R.G.D. Allen
9. Optimization in Economic Theory – A. Dixit
10. Mathematical Analysis – K.G. Binmore

Group B - Game Theory

Unit 1: Introduction to Basic Game Theory; Notions of Game, Concept of Expected Utility and its Applications in Economics 3 Lecture Hours

Unit 2: Strategic Forms of Games (I) – Two Person Zero Sum Game; Principle of Dominance, Minimax Principle, Mathematical Method of Solving 2X2 Games, Diagrammatic Representation of mX2 or 2Xn games 7 Lecture Hours

Unit 3: Strategic Forms of Games (II) – Two Person Non-Constant Sum Game; Concepts of Minimax and Dominance, Concept of Best Response and Rationalizable Strategy, Nash Equilibrium in Pure and Mixed Strategies, Prisoners' Dilemma with examples. 7 Lecture Hours

Unit 4: Extensive forms of Game – Backward Induction and Sub-game perfection 3 Lecture Hours

References:

1. Economics and the Theory of Games – M. Bacharach
2. Elements of Game Theory – Y.S. Venttisel

3. An Introduction to Game Theory – M.J. Osborne
4. Microeconomic Theory – A.M. Mascolell, M.D. Whinston and J.R. Green

Semester II

Paper 2.1 - Inter Departmental Course under CBCS 100 Marks

(to be chosen by the students from courses offered by other Departments of the University under CBCS)

Issues in Indian Economic Development

Full Marks-100 Total no. of Class Hours – 40

Any ***Five*** of the Following Topics

1. National Income:
   (a) National Income-concept and measurement
   (b) Indian National Income- trend and growth
   (c) Sectoral composition of Indian National Income No. of class hours-8

2. Agricultural Sector:
   (a) Role of agriculture in economic development
   (b) A brief overview of the growth of agricultural sector in India
   (c) Food Security- public distribution system No. of class hours-8

3. Industrial Sector :
   (a) A brief overview of the industrialization process in India
   (b) Industrial policy changes in India since 1990-impact on public sector industries
   (c) Informal Sector-A brief overview No. of class hours-8

4. Service Sector:
   (a) Features and growth of the service sector in India
   (b) Emerging significance of the service sector in Indian economic growth

   No. of class hours-8

5. External Sector:
   (a) Concept of Exchange Rate and Devaluation
   (b) Trends and composition of Indian exports and imports

(c) Foreign trade policies-impact of trade liberalisation since 1991
(d) Concept of Balance of Payments
(e) Trends in Balance of Payments after 1991 No. of class hours-8

6. Financial Intermediaries, Money and Capital Markets:
   (a) Process of credit creation by commercial banks-money multiplier
   (b) Structure of banking in India
   (c) Monetary policies of the Reserve Bank of India-concepts of CRR, SLR, Repo and OMO
   (d) Debt and Equity Instruments No. of class hours- 8

7. Public Economy-The Indian Scenario
   (a) Objectives of budget
   (b) Definition of different deficits-revenue deficit, fiscal deficit, primary deficit
   (c) Indian tax structure-(i) direct taxes-personal income tax and corporate tax
   (ii) indirect taxes- excise and sales tax, VAT, GST No. of class hours-8

8. Social Sector:
   (a) Concept of Human Development Index
   (b) Education
   (c) Health
   (d) India vis a vis the rest of the world No. of class hours-8

9. Natural Resources
   (a) Land
   (b) Water
   (c) Forest No. of class hours-8

References:

Sl. No.	Author	Name of the Book	Publisher
1.	Dornbush & Fischer	Macroeconomics Indian ed	McGrawhill
2.	Chanda Ghosh & Ambar Ghosh	Macroeconomics	PHI
3.	Samuelson & Nordhous	Economics	McGrawhill
4.	Sampat Mukherjee & Amitabha Ghosh	Principles of Macroeconomics	New Central Book Agency

5.	Ramesh Singh	Indian Economy	McGrawhill
6.	Sanjiv Verma	The Indian Economy	Unique Publisher
7.	S. Natarajan	Indian Banking	S.Chand
8.A.N.	Agarwal & Kundan Lal	Agricultural Problems of India	Bikash Publishing House
9.	Sampat Mukherjee	Samakalin Arthya Vidya	
10.	Basak, Chakraborty	Bharater Arthaniti Parichay	
11.	Kapila, Uma	Indian Economy since Independence	McGrawhill
12.	Subrata Gupta	Bharater Arthaniti	S. Chand
13.	A. N. Agarwal	Indian Economy	New Age
14.	Swapan Roy & Joydeb Sarkhel	Bharater Arthaniti	
15.	Debesh Mukherjee	Samakalin Bharatiya Arthaniti	
16.	Chittabrata Mazumder	Bharater Arthaniti Parichay	
17.	Mishra S.K. & V.K. Puri	Indian Economy	

Paper 2.2 - Microeconomics-II

Group A - Uncertainty and Asymmetric Information

Unit 1: Choice under uncertainty: concept of prospect, properties of utility function, measures of risk aversion 5 Lecture Hours

Unit 2: Production under uncertainty: competitive firm under uncertainty, comparison with the certainty case 3 Lecture Hours

Unit 3: Exchange under uncertainty: demand for insurance, risk spreading and Arrow-Lind theorem risk pooling and diversification 5 Lecture Hours

Unit 4: Asymmetric information in insurance markets- adverse selection and moral hazard Asymmetric information in labour markets- concept of 'lemons', market signaling, Separating and pooling equilibrium 7 Lecture Hours

Group B - General Equilibrium Analysis and Welfare Economics

Unit 1: Equilibrium in Exchange-Core and Walrasian Equilibrium-Equivalence Theorem Existence and stability of equilibrium in Competitive Markets-Pareto Efficiency

6 Lecture Hours

Unit 2: Equilibrium in Production-Fundamental Theorems of Welfare Economics

4 Lecture Hours

Unit 3: Market Failure and externalities-Efficiency conditions in presence of externalities-Public Good-Compensation Mechanism 3 Lecture Hours

Unit 4: Social Choice and Welfare-Arrow's Theorem-Measurability and Comparability-Rawlsian and Utilitarian form - Gibbard Satterthwaite Theorem. 7 Lecture Hours

References:

1. Microeconomic Theory – Gravelle and Rees
2. Microeconomics - Pyndick and Rubenfield
3. Advanced Microeconomic Theory – G. A. Jehle and P. J. Reny - Pearson Education India, 2006.
4. Microeconomic analysis (Volume 2) – H. R. Varian. New York: Norton, 1992.
5. Walrasian and Non-Walrasian General Equilibrium Analysis – Anjan Mukherjee, OUP

Paper 2.3 - Macroeconomics – II 100 Marks

Group A – Monetary Economics

Unit 1: Evolution of Money – Structure of Banking and Money Market – Money and National Wealth 5 Lecture Hours

Unit 2: Monetarism – Friedman's Re-statement of the Quantity Theory of Money – Expectation-Augmented Phillips Curve 5 Lecture Hours

Unit 3: Rational Expectations, Neutrality of Money and Monetary Policy

5 Lecture Hours

Unit 4: International Financial System 5 Lecture Hours

Group B - Open Economy Macroeconomics

Unit 1: Income Determination in an Open Economy; Foreign Trade Multiplier with and without Repercussion Effect 4 Lecture Hours

Unit 2: Exchange Rate Determination in the Foreign Exchange Market – Exchange Rate Regimes 4 Lecture Hours

Unit 3: Internal and External Balance and Efficacy of Fiscal and Monetary Policy; Mundell-Fleming Model under Fixed and Flexible Exchange Rate and Different Degrees of Capital Mobility 4 Lecture Hours

Unit 4: Interest Rate, Expectations and Exchange Rate 4 Lecture Hours

Unit 5: Price Level and Exchange Rate in the Long Run – Purchasing Power Parity (PPP) 4 Lecture Hours

References:

1. Essays in Economics (Volume I) – James Tobin
2. Macroeconomics – O. Blanchard
3. Critical Essays in Monetary Theory – J. Hicks
4. Readings in Macroeconomics – Mueller
5. International Economics – P. Krugman and M. Obstfeld
6. International Open Economy Macroeconomics – Batiz and Batiz
7. International Economics – D. Salvatore
8. International Economics – Sodersten and Reed
9. International Economics – Peter Kenen
10. World Trade and Payments – Caves, Frankel and Jones

Paper 2.4 - Econometrics with Computer Application – II

100 Marks

Unit 1: Simultaneous Equation System-Reduced form and structural form equation-failure of least square-Identification problem-Two Stage Least Square and Instrumental Variable (IV) regression. 12 Lecture Hours
(Econometric software exercises and case studies)

Unit 2: Introduction to Stochastic and Deterministic Processes – Different Time Series Processes 8 Lecture Hours
(Econometric software exercises and case studies)

Unit 3: Concepts of Stability and Stationarity 8 Lecture Hours
(Econometric software exercises and case studies)

Unit 4: Box-Jenkins Methodology 8 Lecture Hours
(Econometric software exercises and case studies)

Unit 5: Cointegration and Basic Error Correction Econometric Techniques

4 Lecture Hours

(Econometric software exercises and case studies)

References:

1. Basic Econometrics – D. Gujrati
2. Econometrics – Pyndick and Rubenfield
3. Applied Econometric Time Series – Walter Enders, Wiley
4. Introductory Econometrics: A Modern Approach (With CD): 4th Edition - Wooldridge
5. Introduction to Econometrics (4th Edition) - Christopher Dougherty, OUP.
6. Time Series Analysis and Forecasting by Example - Søren Bisgaard and Murat Kulahci, Wiley
7. Time Series Analysis and Its Applications: With R Examples (Springer Texts in Statistics) - Robert H. Shumway and David S. Stoffer, Springer

Notes:

1. This paper includes theoretical as well as practical class lectures involving students in basic computer application using some statistical and econometric software like STATA.
2. The examination of the part pertaining to computer application will be in the form of a practical examination where two faculty members (one who has taught the computer application and the other from the remaining faculty members) will take the examination for one hour for each student and marks allotted for this practical examination will be 10 which will form the part of the internal assessment marks of 20 in this paper.
3. The internal assessment for the theoretical part will be 10 marks only. Hence, the instructor(s) of the paper is(are) required to take two internal assessment tests of 10 marks each – the method of these tests will depend on the instructor(s). And best of the two internal assessment tests marks for each student will be considered as final.
4. Kindly note that the practical examination for computer application in this paper will be taken on a date after the written examination of 60 marks is over.
5. Since this paper involves practical classes involving instructions for software application in Econometrics total lecture hours for this paper may exceed the stipulated 40 lecture hours and the maximum class/lecture hours may be 50 hours which will depend on the concerned instructor(s) of the paper in each semester depending on the number of students in that semester for the paper in that particular year.

Paper 3.1 - Economics of Growth 100 Marks

Unit 1: Harrod-Domar Model 2 Lecture Hours

Unit 2: Neo-Keynesian Distribution Theory and Growth – Kaldor, Passinetti and Kalecki Models 6 Lecture Hours

Unit 3: Neoclassical Model of Economic Growth – Solow-Swan Model, the Fundamental Dynamic Equation for Capital Stock; the Steady-State; the Golden Rule of Capital Accumulation and Dynamic Inefficiency; Transitional Dynamics and Policy Experiments 8 Lecture Hours

Unit 4: Absolute and conditional convergence and dispersion of per capita income, speed of convergence, technological progress 5 Lecture Hours

Unit 5: Endogenous Growth Models – the AK Model, endogenous growth mode with transitional dynamics, CES economy, growth models with poverty traps; One sector endogenous growth model – the AK Model (incorporating the behaviour of households and firms), equilibrium, the steady-state and transitional dynamics. 10 Lecture Hours

Unit 6: Growth models with consumer optimization – the Ramsey Model – equilibrium, the steady state and the transitional dynamics 4 Lecture Hours

Unit 7: Growth models with learning by doing and knowledge spillovers, government and growth, transitional dynamics in an endogenous growth model. 5 Lecture Hours

References:

1. Growth Economics – A.K. Sen (edited)
2. Economic Growth – R.J. Barrow and X. Sala-i-Martin
3. A Critique of Economic Theory – E.K. Hunt and Schwartz (edited)
4. The Economics of Michael Kalecki – M.C. Sawyer
5. Introduction to Economic Growth – C.I. Jones

Paper 3.2 - International Trade Theory and Policy 100 Marks

Unit 1: Balance of Payments accounting with special reference to India

2 Lecture Hours

Unit 2: Trade Theories:

a) A detailed analysis of two- country-two good Ricardian Model and its extensions to non-traded goods, two country many goods, many country-two goods models and the relevant comparative static Analyses

b) The Heckscher–Ohlin Model, The Stolper-Samuelson, Rybczinsky and Factor Price Equalization Theorems

c) Effect of growth in a standard trade model

d) The Specific Factor Model and the effects of change in price and growth in factor of production on factor payments

e) New Trade theory: Intra Industry Trade in identical and differentiated goods

20 Lecture Hours

Unit 3: International Trade Policy

a) Tariff, Quota and Export Subsidy and their effects

b) Optimum tariff

c) Effects of tariff and quota on monopoly

8 Lecture Hours

Unit 4: WTO – Why it was necessary – Structure of WTO – Agreements- GATT, GATS, TRIPS –Dispute Settlements 5 Lecture Hours

Unit 5: Multilateralism versus Regionalism: Types of Regional Trade Blocks, Effects of Economic Integration on welfare 5 Lecture Hours

References:

1. Economic Survey of India, Government of India
2. World Trade and Payments – Caves, Frankel and Jones
3. International Economics – P. Krugman and M. Obstfeld
4. International Economics – Marrewijck
5. International Economics – Sodersten and Reed
6. International Economics _- R. Acharya
7. World Trade Organization: http://en.wikipedia.org/wiki/World_Trade_Organization
8. International Trade Agreements of India: http://commerce.nic.in/trade/international_ta.asp
9. India's Experiences on Preferential Trade Agreements (PTAs) - http://www.cuts-citee.org/pdf/Indias_Experiences_On_Preferential_Trade_Agreements.pdf

Paper 3.3 -Development Economics 100 Marks

Unit 1: A synoptic view of Economic Development; Structural Features of Underdevelopment; Concept of Economic Development; Human Development Index (HDI); Inequality, Savings, Investment and Development, Inequality and Human Capital Formation.

10 Lecture Hours

Unit 2: Poverty and Development; Measures of Poverty; Poverty and its Functional Impact

10 Lecture Hours

Unit 3: Rural-Urban Interaction and Market for Agricultural Labour; Interdependence between Industry and Agriculture; Rural-Urban Migration; Nutrition and Casual Labour Markets; Permanent Labour Market

10 Lecture Hours

Unit 4: Markets for Land and Credit in the Agricultural Sector; Land Rental Contracts, Risk Tenancy and Share Cropping; Screening and Share Cropping; Theories of Informal Credit; Interlinked Transactions; Alternative Credit Policy

10 Lecture Hours

References:

1. Development Economics – Debraj Roy
2. Analytical Development Economics – Kaushik Basu
3. Poverty and Famines – Amartya Sen
4. Development as Freedom – Amartya Sen
5. Reflections on Human Development – Mahbub Ul Haq
6. Human Development Report, UNDP (Various years)

Paper 3.4 - Special Paper – I 100 Marks

(To be chosen by a student from the list of Special Papers mentioned above and according to the condition (11) and (13) mentioned above for choosing a special paper. Note that a student has to take the same special paper in the Fourth Semester (Paper 4.3). He/she cannot change his/her special paper in the Fourth Semester.)

Semester IV

Paper 4.1 - Indian Economic Issues 100 Marks

Unit 1: Structure of Indian Economy- an overview 2 Lecture Hours

Unit 2: Public Finance 8 Lecture Hours

(a) Union Budget
(b) Definitions of Revenue Deficit, Effective Revenue Deficit, Fiscal Deficit, Primary Deficit and the policy Debates thereon
(c) Direct and Indirect Taxes- VAT, GST
(d) Major Items of Government Expenditure
(e) Centre State Financial Relationships

Unit-3: Prices and Monetary Management 3 Lecture Hours

(a) Inflation and Inflation Targeting by RBI
(b) Monetary Policy of RBI, Instruments of Monetary Policy

Unit 4: Financial Intermediation 10 Lecture Hours

(a) Banking Sector in India: Structure of the Banking Sector, Prudential Norms
(b) Money Markets: Structure, Institutions and Instruments
(c) Capital Markets: Structure, Institutions and Instruments

Unit 5: Balance of Payments and International Trade 4 Lecture Hours

(a) Balance of Payments and Balance of Trade
(b) Direction and Composition of Trade
(c) Foreign Capital Flows
(d) Exchange Rate
(e) External Debt

Unit 6: Agriculture and Food Management 7 Lecture Hours

(a) Green Revolution and its Positive and Negative Impacts, New Green Revolution
(b) Land Reforms-A Brief Overview
(c) Agricultural Pricing
(d) Agricultural Marketing
(e) Food Security and Public Distribution System
(f) Effect of Climate Change on Food Security

Unit 7: Industries 3 Lecture Hours

(a) Index of Industrial Production
(b) Industial Policy
(c) Performance of the Industrial Sector

Unit 8: Services 3 Lecture Hours

(a) Performance of the Service Sector
(b) Employment in Services
(c) Trade in Services

References:

1. Indian Economy since Independence – Uma Kapila (edited)
2. Economic Survey, Government of India (various years)
3. Selected articles on relevant topics on Indian Economy from *Economic and Political Weekly*
4. Economy of India - http://en.wikipedia.org/wiki/Economy_of_India
5. Mishra, S.K and V.K Puri: Indian Economy
6. Economic Survey of India: OUP

Notes:

1. In each unit the concerned instructor(s) is(are) supposed to give a very brief historical background of the concerned topic.
2. It is desirable that in this paper the mode of internal assessments may be devised in terms of home assignments/term papers to each student which each one of them is supposed to present in the class.
3. It is desirable that on each unit a small 5-10 pages handout is prepared by the concerned instructor(s) to circulate among the students.
4. It is further desirable that in each handout a very brief historical background of the topic is included at the onset followed by an outline of the basic issues and policy debates in the concerned topic. Emphasis should be on the contemporary issues and these contemporary issues must be related with those issues during the planning era (1951-91)

Paper 4.2 - History of Economic Ideas 100 Marks

Unit 1: A brief description of evolution of economic ideas in ancient period.
2 Lecture Hours

Unit 2: Pre-classical economic ideas – William Petty, mercantilism and physiocracy
6 Lecture Hours

Unit 3: Advent of classical economic ideas – Adam Smith, David Ricardo and Thomas Malthus
12 Lecture Hours

Unit 4: Socialist Economic Ideas – Early socialist thinkers, Karl Marx and recent trends in socialist economic ideas. 15 Lecture Hours

Unit 5: Emergence and evolution of neoclassical economic ideas and its critiques
5 Lecture Hours

References:

1. Economic Theory in Retrospect – Mark Blaug
2. History of Economic Thought - Eric Roll
3. An Outline of the History of Economic Thought – Ernesto Screpanti and Stefano Zamagni
4. Development of Economic Ideas – Ingrid Hahne Rima

Paper 4.3 - Special Paper – II 100 Marks

(To be chosen by a student from the list of Special Papers mentioned above and according to the condition (11) and (13) mentioned above for choosing a special paper. Note that a student has to take the same special paper in the Fourth Semester (Paper 4.3). He/she cannot change his/her special paper in the Fourth Semester.)

Paper 4.4 - Optional Paper 100 Marks

(To be chosen by a student from the list of Optional Papers mentioned above and according to the condition (12) and (14) mentioned above for choosing an optional paper.)

Financial Economics – I

Paper 3.4 (Special Paper) Full Marks 100

MA/M.Sc in Economics (Third Semester)

1. Introduction to Corporate Finance: The Balance Sheet Model of Firm – Capital Structure – Corporate Securities as Contingent Claims on Total Value of Firm – The Corporate Firm – Sole Proprietorship, Partnership and Corporation – Goals of Corporate Firm – Financial Markets 2 Hour Lectures
2. Accounting Statements and Cash Flows: The Balance Sheet – The Income Statement – Net Working Capital – Financial Cash Flow – The Accounting Statement of Cash Flows – Market Value Added and Economic Value Added – Ratio Analysis 3 Hour Lectures
3. Time Value of Money: Future Value (of a Single Amount and Annuity) – Present Value (of a Single Amount and Annuity) – Perpetuity 2 Hour Lectures
4. Risk and Return: Risk and Return of A Single Asset – Portfolio Risk and Return 2 Hour Lectures
5. Portfolio Analysis: The Efficient Set Theorem – Efficiency Frontier – Portfolio Diversification – The Markowitz Model – Risk Free Borrowing and Lending 3 Hour Lectures
6. Valuation of Securities: Basic Valuation Model – Bond Valuation – Equity Valuation – Dividend Capitalisation Approach – Other Approaches of Equity Valuation – Capital Asset Pricing Model (CAPM) – Arbitrage Pricing Theory – Bond Portfolio Management (Bond Market Efficiency, Bond Pricing Theorems, Convexity, Duration, Immunization, Active Management) – Bonds versus Stocks 10 Hour Lectures
7. Basics of Capital Budgeting: Capital Budgeting Process – Costs and Benefits – Different Investment Criteria (Net Present Value, Benefit Cost Ratio, Internal Rate of Return, Payback Period, Accounting Rate of Return) 2 Hour Lectures

8. Cost of Capital: Basic Concepts – Determination of Component Costs – Determination of the Proportions – Weighted Average Cost of Capital (WACC) – Weighted Marginal Cost of Capital Schedule 2 Hour Lectures
9. Risk Analysis in Capital Budgeting: Measurement of Risk – Analytical Derivation (Hillier Model) – Sensitivity Analysis – Scenario Analysis – Break-Even Analysis – Selection of A Project – Capital Budgeting Under Constraints – Decision Tree Analysis. 4 Hour Lectures
10. Capital Structure and Cost of Capital: Assumptions and Definitions – Net Income Approach – Net Operating Income Approach – Traditional Position – Modigliani and Miller Position – Taxation and Capital Structure – Other Imperfections in Capital Structure 5 Hour Lectures
11. Dividend Policy and Share Valuation: Traditional Position – Walter Model – Gordon Model – Miller and Modigliani Position 2 Hour Lectures
12. Efficient Capital Markets: Market Efficiency – Different Types of Efficiency – The Evidence – The Behaviourial Challenge to Market Efficiency – Empirical Challenges to Market Efficiency – Implications for Corporate Finance 3 Hour Lectures

References:

1. Stephen A. Ross, Randolph W. Westerfield and Jeffrey Jaffe, Corporate Finance, Tata-McGraw-Hill, Seventh Edition, 2004.
2. Richard A. Brealey, Stewart C. Myers, Franklin Allen and Pitabas Mohanty, Principles of Corporate Finance, Eighth Edition, Tata-McGraw Hill (Special Indian Edition), 2007.
3. William F. Sharpe, Gordon J. Alexander and Jeffery V. Bailey, Investments, Prentice Hall India (Eastern Economy Edition), Fifth Edition, 1999.
4. Michael C. Ehrhardt and Eugene F. Brigham, Corporate Finance – A Focused Approach, Thomson – South-Western, 2004
5. Prasanna Chandra, Fundamentals of Financial Management, Tata-McGraw-Hill, 2001.

Financial Economics – II Full Marks 100

Paper 4.3 (Special Paper)

MA/M.Sc in Economics (Fourth Semester)

1. Introduction to Derivatives: Futures Contracts – History of Futures Markets – Option Markets – History of Option Markets – Hedgers – Speculators – Arbitrageurs – Over-the-Counter Derivatives-Derivatives Markets in India
   2 Hour Lectures
2. Mechanics of Futures and Forward Markets: Closing Out Positions – The Specification of the Futures Contract – The Operation of Margins – Forward Contracts – Difference between Futures and Forward Contracts – The Determination of Forward and Futures Prices 2 Hour Lectures
3. Hedging Strategies Using Futures: Basic Principles – Arguments for and against Hedging – Minimum Variance Hedge Ratio with the proof of the Minimum Variance Hedge Ratio Formula – Stock Index Futures – Rolling the Hedge Forward
   3 Hour Lectures
4. Interest-Rate Futures: Preliminary ideas – Treasury Bond and Treasury Note Futures – Treasury Bill and Eurodollar Futures – Duration – Duration-based Hedging Strategies 3 Hour Lectures
5. Swaps: Mechanics of Interest-Rate Swaps – Valuation of Interest rate Swaps – Currency Swaps – Valuation of Currency Swaps – Other Swaps – Credit Risk
   4 Hour Lectures
6. Mechanics of Option Markets: Types of Options – Option Positions – The Underlying Assets – Specification of Stock Options – Warrants and Convertibles – OTC Markets Factors Affecting Option Prices – Upper and Lower Bounds of Option Prices (European and American Options) – Put-Call Parity – Effect of Dividends
   4 Hour Lectures
7. Trading Strategies Involving Options: Strategies Involving a Single Option and a Stock – Spreads – Combinations – Other Payoffs 4 Hour Lectures
8. Option Pricing Using Binomial Trees: A One-Step Binomial Model – Risk-Neutral Valuation – Two-Steps Binomial Trees – American Options – Delta – Using Binomial Trees in Practice 4 Hour Lectures
9. Option Pricing Using Black-Scholes Formula: The Lognormal Assumption – Assumptions Underlying Black-Scholes – The Black-Scholes Analysis - Risk-Neutral Valuation – Implied Volatilities – The Causes of Volatility – Dividends – The Early Exercise of American Call Options on Dividend Paying Stocks
   5 Hour Lectures
10. Hedging Positions in Options and the Creation of Options Synthetically: Options Offered by Financial Institutions – Naked and Covered Positions – A Stop-Loss Strategy – More Sophisticated Hedging Schemes – Delta Hedging – Theta – Gamma – The Relationship between Delta, Theta and Gamma – Vega – Rho – Hedging Option Portfolios in Practice – Portfolio Insurance – Stock Market Volatility
    9 Hour Lectures

References:

1. John C. Hull, Introduction to Futures And Options Markets, Prentice Hall India (Eastern Economy Edition), Second Edition, 1995
2. John C. Hull and Sankarshan Basu, Options, Futures and Other Derivatives, Pearson, Seventh Edition, 2010
3. Keith Redhead, Financial Derivatives – An Introduction to Futures, Forwards, Options And Swaps, Prentice Hall India (Eastern Economy Edition), 2003.
4. Don M. Chance and Robert Brooks, Derivatives and Risk Management Basics, Cengage Learning, India Edition, 2008.
5. Jayanth Rama Verma, Derivatives and Risk Management, Tata McGraw Hill, 2008.
6. Robert A. Jarrow and Arkadev Chatterjea, An Introduction to Derivative Securities, Financial Markets, and Risk Management, W. W. Norton and Company, 2013.
7. Rajiv Srivastava, Derivatives and Risk Management, Oxford University Press, 2010.

Note:

Those who opt for Financial Economics as their Special Field in Third and Fourth Semester of MA/M.Sc in Economics of University of Kalyani cannot opt for Derivatives and Risk Management as their optional field in the Fourth Semester.