FACULTY OF ECONOMICS & BUSINESS

SYLLABUS FOR THE BATCH FROM YEAR 2019 TO YEAR 2021
M.SC. (USHS) ECONOMICS
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

(SEMESTER: I –II)

SYLLABUS FOR THE BATCH FROM YEAR 2019 TO YEAR 2021
(Only for those students who admitted in Session 2019-20)

M.SC. (HONS. SCHOOL) ECONOMICS
(CREDIT BASED EVALUATION AND GRADING SYSTEM)
SYLLABUS FOR THE BATCH FROM YEAR 2018 TO YEAR 2020

(SEMESTER: III –IV)
Session: 2019-20

GURUNANAKDEVUNIVERSITY
AMRITSAR

M.SC. (USHS) ECONOMICS
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

SEMESTER–I:

Code	Paper	Credits	Mid Sem. Marks	Pr. Marks	Theory	End Sem. Marks	Total Marks
EOL401	Microeconomics–I	4	20	-	-	80	100
EOL402	Macroeconomics–I	4	20	-	-	80	10
EOL403	Mathematics for Economists	4	20	-	-	80	100
	Any two of the following options:						
EOL404	Money, Banking and Financial Institutions	4	20	-	-	80	100
EOL405	Public Finance	4	20	-	-	80	100
EOL406	International Economics	4	20	-	-	80	100
EOL407	Industrial Economics	4	20	-	-	80	100
EOL408	Labour Economics and Industrial Relations	4	20	-	-	80	100
EOL409	Agricultural Economics	4	20	-	-	80	100
EOL410	Computer Applications for Economists–I	4	20	20	60	-	100
EOL411	Economics of Public Enterprises	4	20	-		80	100
EOL412	Demography	4	20	-		80	100
EOL413	Rural Economics	4	20	-		80	100
EOL414	History of Economic Thought	4	20	-		80	100
EOL418	Economics of Infrastructure	4	20	-		80	100
EOL419	Economics of Gender and Development	4	20	-		80	100
EOL420	Economics of Social Sector	4	20	-		80	100
EOL421	Financial Institutions and Markets	4	20	-		80	100

SEMESTER–II:

Code	Paper	Credits	Mid Sem. Marks	Pr. Marks	Theory	End Sem. Marks	Total Marks
EOL415	Microeconomics–II	4	20	-	-	80	100
EOL416	Macroeconomics–II	4	20	-	-	80	100
EOL417	Statistical Techniques	4	20	-	-	80	100

Any two of the options under EOL 404 TO EOL 418 not already opted for in Semester-I

Note.

1. **PSL -053 ID Course Human Rights & Constitutional Duties (Compulsory ID Course) Students can opt. this paper in any semester except the 1st Semester. This ID Course is one of the total ID Course of this course.**

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SEMESTER–III :

Code	Paper	Credits	Mid Sem. Marks	Pr. Marks	Theory	End Sem. Marks	Total Marks
EOL501	Economics of Development	4	20	-	-	80	100
EOL502	Econometrics	4	20	-	-	80	100
	Any two/three of the following options under EOL404 to EOL414 and EOL418 to EOL421 (not already opted for) and from EOL504 to EOL509.						
EOL404	Money, Banking and Financial Institutions	4	20	-	-	80	100
EOL405	Public Finance	4	20	-	-	80	100
EOL406	International Economics	4	20	-	-	80	100
EOL407	Industrial Economics	4	20	-	-	80	100
EOL408	Labour Economics and Industrial Relations	4	20	-	-	80	100
EOL409	Agricultural Economics	4	20	-	-	80	100
EOL410	Computer Applications for Economists–I	4	20	-	-	80	100
EOL411	Economics of Public Enterprises	4	20	-	-	80	100
EOL412	Demography	4	20	-	-	80	100
EOL413	Rural Economics	4	20	-	-	80	100
EOL414	History of Economic Thought	4	20	-	-	80	100
EOL418	Economics of Infrastructure	4	20	-	-	80	100
EOL419	Economics of Gender and Development	4	20	-	-	80	100
EOL420	Economics of Social Sector	4	20	-	-	80	100
EOL421	Financial Institutions and Markets	4	20	-	-	80	100
EOL504	Theory of Statistics	4	20	-	-	80	100
EOL505	Operations Research	4	20	-	-	80	100
EOL506	International Trade and Investment (For those who opted for EOL 406 in Semester I/II)	4	20	-	-	80	100
EOL507	Computer Applications for Economists–II (for those who opted for EOL410 in semester I/II)	4	20	20	60	60	100
EOL508	Environmental Economics	4	20	-	-	80	100
EOL509	Econometrics and Forecasting Techniques	4	20	-	-	80	100

Note: From 2018-19, only those students of M.Sc. (H.S.) in Economics, Semester-IV will be allowed to write the Dissertation who score CGPA of 6.75 or more in M.Sc. (H.S.) in Economics, Semester I, II and III. The Dissertation will be opted in lieu of one of the options in M.Sc. (H.S.) in Economics, Semester-IV and will be evaluated on the basis of GPA (100 marks).

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SEMESTER–IV:

Code	Paper	Credits	Mid Sem. Marks	Pr. Marks	Theory	End Sem. Marks	Total Marks
EOL510	**Economics of Planning**	**4**	**20**	-	-	**80**	**100**
EOL511	**Indian Economics Development**	**4**	**20**	-	-	**80**	**100**
	Any two/three of the following options under EOL404 to EOL414 and EOL418 to EOL421 (not already opted for) and from EOL504 to EOL509.						
EOL504	Theory of Statistics	**4**	**20**	-	-	**80**	**100**
EOL505	Operations Research	**4**	**20**	-	-	**80**	**100**
EOL506	International Trade and Investment (for those who opted for EOL406 in semester I/II)	**4**	**20**	-	-	**80**	**100**
EOL507	Computer Applications for Economists–II (for those who opted for EOL410 in semester I/II)	**4**	**20**	**20**	**60**	-	**100**
EOL508	Environmental Economics	**4**	**20**	-	-	**80**	**100**
EOL509	Econometrics and Forecasting Techniques **AND**	**4**	**20**	-	-	**80**	**100**
EOD512	Dissertation	**4**	**20**	-	-	**80**	**100**
EOT513	Term Paper	**2**	**20**	-	-	**80**	**100**

(Relating to any subject being taught in M.Sc. (Hons. School) in Economics)

M.SC. (USHS) ECONOMICS SEMESTER–I
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

EOL401: MICROECONOMICS–I

Time: 3 Hrs.
Credits: 4–0–0
Total Marks: 100
Mid Semester Marks: 20
End Semester Marks 80
Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION A
Nature of economic theory. Theory of demand and supply. Elasticities of demand–theoretical and empirical aspects and their relationship, static and dynamic models of demand : Cobweb theorem. Utility approach, Indifference curve and revealed preference approach, Revision of demand theory by Hicks.

SECTION B
Production function–Isoquants, producer's equilibrium, returns to factor and returns to scale, factor substitution, Euler's theorem. Cobb–dougles, CES and Translog production functions. Technological progress and production functions.

SECTION C
Traditional and modern theories of costs– a comparison. Derivation of cost functions from production functions. Revenue analysis, price and output determination under perfect competition, monopoly, monopolistic competition.

SECTION D
Oligopoly–collusive and non–collusive models of oligopoly, Bilateral monopoly; workable competition – structure, conduct and performance norms.
Alternative theories of the firm–Baumol's sales maximization hypothesis, Marris model, Williamson's model, limit price model, full cost and behavioural models of the firm.

Suggested Readings:
1. Henderson & Quandt : Microeconomic Theory, A Mathematical Approach.
2. Koutsoyiannis A. : Modern Microeconomics.
3. Heathfield & Wibe : An Introduction to Cost and Production Functions.
4. Layard & Walters : Microeconomics Theory
5. Naylor & Vernon : Microeconomics and Decisions Models of the Firm.
6. Ferguson, C.E. : Microeconomics Theory.
7. Dacosta, G.C. : Value and Distribution, Himalaya, 1992.

M.SC. (USHS) ECONOMICS (SEMESTER–I)
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

EOL402: MACROECONOMICS–I

Time: 3 Hrs.   **Credits: 4–0–0**
Total Marks: 100
Mid Semester Marks: 20
End Semester Marks 80

Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION A
National income: Concept–Production vs. non–productive activities, final vs. intermediate activities, Measurement and difficulties. Domestic and national product and their components. National income at factor cost and at market prices. Real and nominal GNP, GNP and welfare.

SECTION B
Inter–temporal and international comparisons of national income. Social accounting and its significance.
The classical and Keynesian models of income determination, Balance budget multiplier. The full employment budget surplus. Equilibrium in the product and money markets. Adjustment towards equilibrium.

SECTION C
Fiscal and monetary effects on demand.
The demand for and the supply of labour. Labour supply and money wages. Unemployment and wage rigidity. Overall equilibrium in the basic static model (goods, labour and money markets).

SECTION D
Consumption: Keynesian consumption function. The consumption puzzle; Absolute income hypothesis, Relative income Hypothesis, Permanent Income Hypothesis, Life Cycle Hypothesis.

Suggested Readings:
1. Beckeman, W. An Introduction to National Income Analysis, London, E.L.B.S. 1976.
2. Studenski, Paul, A The Income of Nations part 2, Theory and Methodology, New York University Press, 1958.
3. U.N. The System of National Accounts, Series F no. 2, 1968.
4. Branson, W.H. Macroeconomics Theory and Policy, New York, Harper & Row, 1972.
5. Ackley G. Macroeconomics Theory, New York, Macmillan, 1969.
6. Dernbusch, E and S. Fischer Macroeconomics Auckland, McGraw Hill International, 1981
7. Levacic, R Macroeconomics: The State and Dynamic Analysis of a Monetary Economy, London, Macmillan, 1976.
8. Glahe, F.R. Macroeconomics: Theory and Policy.
9. Junankar, P.N. Investment: Theories and Evidence, London, Macmillan, 1972.
10. Crouch, R. L. Macroeconomics, New York, Harcourt, 1972.
11. Evans, M.K. Macroeconomics Activity, Harper & Row Publishers, New York, 1969.

M.SC. (USHS) ECONOMICS (SEMESTER–I)
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EOL403: MATHEMATICS FOR ECONOMISTS–I

Time: 3 Hrs.   **Credits: 4–0–0**
                                                   Total Marks: 100
                                          Mid Semester Marks: 20
                                          End Semester Marks 80

                                Mid Semester Examination: 20% weightage
                                End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION A
DIFFERENTIATION: Differentiation. Partial derivatives, Euler's theorem and total differentials. Maxima and minima with and without constraints. Economic applications of differentiation.

SECTION B
Differential and Difference Equations: Differential and difference equations of first and second order.
Integration: Simple integration, Integration by parts, partial fractions, Definite integral, Economic application of integration.

SECTION C
Linear Algebra: Matrix: Types, properties of determinants, inverse of matrix, Solution by Crammer's rule and matrix inverse method.
Characteristic roots and vectors, quadratic forms: Application of matrix in input–output analysis.

SECTION D
Linear Programming: Formulation of L.P.P.: simplex and graphical methods, two–phase simplex method and dual simplex method. Concept of duality.

Suggested Readings:

1. Yamane, Taro : Mathematics for Economists.
2. Chiang, A : Fundamental Methods of Mathematical Economics.
3. Chang Yan Chiou : Introduction to Input–output Economics.
4. Taha, H. A. : Operations Research: An Introduction.
5. Monga, G. S. : Mathematics for Management and Economics.

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EOL404: MONEY, BANKING AND FINANCIAL INSTITUTIONS

Time: 3 Hrs.   **Credits: 4–0–0**
Total Marks: 100
Mid Semester Marks: 20
End Semester Marks 80

Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION A
Money: Supply of money and its components. Determinants of money supply, high powered money, money multiplier.

Demand for money – Fisher and Cambridge versions, Approaches of Keynesian, Friedman, Patinkin, Baumol and Tobin.
SECTION B
Money and Capital Market: Role, constituents and functions.

SECTION C
Banking in India – Commercial banks, co–operative banks and regional rural banks.
SECTION D
RBI and its functions; Instruments of credit controls; Credit policy in India – recent developments.
Monetary policy : Objectives, targets and indicators. Monetary policy in India.

Suggested Readings:
1.   Bhole, L.M. Financial Institutions and Markets: Structure, Growth and Innovations, 2nd ed.

2.   Glahe, F. R. Macroeconomic Theory and Policy, 1973.

3.   Government of India Economic Survey (Annual.)

4.   Laidler, D.E.W. The Demand for Money: Theories and Evidence,1977

5.   R.B.I. Functions and Working, 1983.

6.   R.B.I. Report of The Committee to review the Working of The Monetary System, Chakrawarty Committee Report), 1985.

7.   R.B.I. Narasimhan Committee Report, 1991.

8.   Thorn, R.S. Introduction to Money and Banking, 1976.

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EOL405: PUBLIC FINANCE

Time: 3 Hrs.   **Credits: 4–0–0**
Total Marks: 100
Mid Semester Marks: 20
End Semester Marks 80
Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION A
Equity in Taxation: Principles of taxation; Taxable capacity; Tax effort; Buoyancy and Elasticity of taxes; Distinction between tax design and tax reforms; characteristics of a well–designed tax structure.

SECTION B
Incidence of taxation: Different concepts, Theories of Tax Shifting, Effects of taxation on production and distribution.

Direct vs. Indirect Taxes: Direct and Indirect taxes: Role and importance in developing countries; proportional vs. progressive taxes; specific vs. advalorem duties; Tax structure in India; Latest tax reforms in India : Implementation of GST.

SECTION C
Growth of Public Expenditure: Wagner's Law of Increasing State Activities; Peacock-Wiseman Hypothesis of public expenditure. Effects of public expenditure on production and distribution; Structure of public expenditure in India. Criteria of public investment decisions.

Public Debt: Forms, sources, effects, burden and its management, public debt sustainability. Different concepts of budgetary deficits.

SECTION D
Public Budget: Concept and types; Zero Base Budgeting.
Fiscal Responsibility and Budgetary Management Act.

Problems and Principles of Federal Finance: Union–state financial relations in India. Fiscal policy and Fiscal Reforms in India.

Suggested Readings:

1. Bhargava, R.N. : Theory and Working of Union Finance in India.

2. Bird, Richard, M.and Oliver Oldman: Readings on Taxation in Developing Countries.

3. Cedric Sandford : Economics of Public Finance.(Chapter 2)

4. Chelliah. R.J. : Fiscal–Policy in Underdeveloped Countries.

5. Dalton, Hugh : Principles of Public Finance.

6. Om Parkash : Center–State Financial Relations in India.

7. Om Parkash: Economics of Public Finance

7. Misra, B. : Fiscal Policy in the Context of Planning.

8. Musgrage, R.A. : Theory of Public Finance.

9. Prest, A.R. : Public Finance.

10. _____ : Public Finance in Underdeveloped Countries.

11. _____ : Public Finance in Theory and Practice.

12. Sahota, G.S. : Indian Tax Structure and Economic Development.

13. Thimmaih, G : Perspectives in Tax Design and Tax Reform (Chapter 1).

14. Tripathi Ram Niranjan & Mrs. M. Tripathi: Public Finance and Economics Development in India.

15. N.C.A.E.R. : Management of Public Debt in India.

16. National Institute of Public Finance and Policy: Trends and Issues in Indian Federal Finance.

17. Government of India. : Economic Survey.

18. _____ : Central Budget Documents.

19. _____ : Long–term Fiscal Policy.

20. _____ : Reports of Finance Commissions.

21. _____ : Tax Reforms Committee. (Chairman, Raja, J Chelliah) Interim Report (Dec, 1991) and final report, First part (August, 1992).

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EOL406: INTERNATIONAL ECONOMICS

Time: 3 Hrs.   **Credits: 4–0–0**
Total Marks: 100
Mid Semester Marks: 20
End Semester Marks 80
Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION A
Theory of International trade and commercial policy: Classical comparative cost theory, Heckescher–ohlin Model, Empirical test of classical and Heckscher–ohlin model, Terms of trade and economic growth– Secular deterioration Hypothesis – a critical view, Terms of trade and offer curve.

SECTION B
Balance of payments : Meaning, concept, equilibrium and disequilibrium in balance of payments, Traditional, Absorption and Monetary appoarches for adjustments in balance of payments. Foreign trade multiplier.

SECTION C
Forms of protection : Tariff and Quota.
Exchange Rates : Exchange rate and its determination. Theory of Foreign Exchange Markets – Exchange Trading, Arbitrage and Market Hedging.

SECTION D
International Monetary System: Special Drawing Rights; Breakdown of the Bretton wood system, Asian Financial Crisis of 1997, Global Financial Crisis of 2008 and Eurozone Crisis – Causes and Impact, Optimum Currency Areas – Theory and Impact in the developed and developing countries.

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Suggested Readings:

1. Argy, Victor The Post–War International Money Crisis, Allen & Unwin, 1980.

2. Bilson, J. The Monetary Approach to the Exchange Rates Some Empirical Evidence, IMF, Staff Papers, March 1978, pp. 48–75.

3. Caves, R.E. Flexible Exchange Rate, American Economic Review, May, 1963.

4. Fleming M.J. Domestic Financial Policies under Fixed and under Floating Exchange Rates, IMF, Staff Paper, Nov., 1962.

5. Gomes, Leonard International Economic Problems, Macmillan Press, Ltd.

6. Ingram, James, C. International Economic Problems, John Wiley & Sons, 1978.

7. Kindleberger, C. International Economics, Ontario Richard D. Irwin.

8. Lewis, W.Arthur The Evolution of the New International Economic Order, Princeton University Press, 1977.

9. Meade, J.E The Balance of Payments, Oxford University.

10. Mier, G.M. International Economics. The Theory of Policy, Oxford University Press.

11. Sodersten, B.O. International Economics, II Edition Macmillan Press Ltd.

M.SC. (USHS) ECONOMICS (SEMESTER–I)
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

EOL407: INDUSTRIAL ECONOMICS

Time: 3 Hrs.

Credits: 4–0–0
Total Marks: 100
Mid Semester Marks: 20
End Semester Marks 80
Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION A
Frame work and Problems of Industrial Economics; Concept, ownership, control and objectives of the firm; active and passive behaviour of the firm.

SECTION B
Market Structure : Meaning and determinants. Sellers' and Buyers'concentration; Product differentiation; entry conditions; economies of scale; market structure and innovation.

SECTION C
Market Conduct : Weber and Sargent Florence theories of location; Product pricing in practice; Investment decisions and risk adjustment; Merger and diversification; Advertising expenditure and decisions; Finance : Capital structure; pay–out and retention ratios.

SECTION D
Market Performance : Growth of the firm and constraints; Concepts and measurement of industrial productivity and capacity of utilization; profitability.
Structural transformation of Indian industries; industrial competitiveness and recent industry policy initiatives, Role of manufacturing industries in economic development.

Suggested Readings:

1. Hay, D.D.A & D.J. Morris : Industrial Economic Theory and Evidence, Oxford University Press, 1979.
2. Devine, P.J. & R.M. Jones (et. al.) : An Introduction to Industrial Economics, George Allen & Unwin Ltd., London, 1979.
3. Patel, S.J. : Technological Transformation in the Third World, Aldershot Avebury, 1993.
4. Kamien, M.T. & N.L.Schwartz : Market Structure and Innovation, Cambride University Press, Cambridge, 1982.
5. Bains, J.S Industrial Organization, Cheltenham, U.K.:An Elgar Critical Writings Reader, 1996.
6. Barthwal, R.R. : Industrial Economics, New Delhi: Wiley Eastern Ltd, 1985.
7. Kirkpatrick, C.M. N. Lee & E.I. Nixon : Industrial Structure and Policy in Less Developed Countries, ELBS/George Allen & Unwin, 1984.
8. Herndeen, J.B. : The Economics of the Corporate Economy, Dunellin Publishing Co. New York, 1975.
9. Ramamurti, R. & R.Vernon(ed.) : Privatization and Control of Stateowned Enterprises, Washington. The World Bank, Washington, 1991

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EOL408 : LABOUR ECONOMICS AND INDUSTRIAL RELATIONS

Time: 3 Hrs.   **Credits: 4–0–0**
Total Marks: 100
Mid Semester Marks: 20
End Semester Marks 80

Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION A
Concept of labour, characteristics of labour, labour markets – definition and characteristics, theories of labour. Market – Classical, Neo–classical and Dualistic labour markets. Structured and unstructured market, Internal and external labour market.

SECTION B
Features and characteristics of Indian labour market.
Industrial Relations: Trade Unions, objectives and functions. Indian Trade Unions. Growth and problems.

SECTION C
Industrial displutes, Indsutrial disputes in India, Dispute sedttlement machinery in India.
Wages; Concepts of minimum, living and fair wage, Wage, productivity and inflation relationship, Wage policy in India – Minimum Wages Act and Payment of Wages Act.

SECTION D
Social Security: Definition and scope, Social security measures in India, Problems of child labour in Inida, Women labour and their problems. Major recommendations of Second National Commission on labour, Labour market reforms.

Suggested Readings:

1. Dobb, Maurice : Wages
2. Dunlop, J. T.(ed.) : Industrial Relations System
3. _____ : Wage Determination under Trade Unionism.
4. Giri, V.V. : Labour Problems in Indian Industry.
5. Mitra, A. : Share of Wages in National Income.
6. Papola, T.S. : Principles of Wage Determination.
7. Rama Swami E.A. and Rama Swami Uma : Industry and Labour.
8. Reynolds, L.G. : Labour Economics and Labour Relations.
9. Rothchild : Theory of wages.
10. Saxena, S.R.and Saxena, R.C. : Labour Problems and Social Welfare.
11. Government of India : Indian Labour Year Book (Various Issues)
12. _____ : Labour Investigation Reports (Main Reports)
13. _____ : Report on National Commission on Labour, 1969.
14. _____ : Economics Surveys.
15. I.L.O. : Approaches to social society.

M.SC. (USHS) ECONOMICS (SEMESTER–I)
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

EOL409 : AGRICULTURAL ECONOMICS

Time: 3 Hrs.   **Credits: 4–0–0**
Total Marks: 100
Mid Semester Marks: 20
End Semester Marks 80

Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION A
Agricultural Economics: Meaning, scope and role in economic development; changing importance of agriculture in the process of economic development; characteristics of subsistence agriculture. Schultz's prescription of transforming traditional agriculture; Interface between agriculture and industry.

SECTION B
Institutional Structure: Land reforms – nature, progress and assessment, impact on agrarian structure; subdivision and fragmentation, consolidation of land holdings.
Nature of emerging agrarian structure, farm size and Productivity in Indian agriculture; Agricultural finance and credit. Problem of rural indebtedness.

SECTION C
New agricultural technology and its impact on production, employment, labour absorption and income distribution; Growth and Productitvity trends in Indian agriculture.
Price Instability in Agriculture: Methods to stabilize income and prices in agriculture; Acreage and output response to prices in agriculture. Diversification of Indian agriculture : objectives, incentives and disincentives.

SECTION D
Agricultural marketing in India.
Agricultural Taxation: Inter–sectoral terms of trade; Agricultural subsidies – nature, trends and distributional implications; WTO and Indian agriculture.

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Suggested Readings:

1. Sourth Worth, H.M. and John Sten, B.F. (ed.) : Agricultural Development and Economics Growth (1967).

2. Schultz, T. W. Transforming Traditional Agriculture (1964).

3. Mellor, J.W. The Economics of Agriculture Development (1960).

4. Desgupta, B. The New Agriculture Technology in India, Macmillan (1980).

5. Peter, Domer Land Reforms and Economics Development (1972).

6. Eicher, C.K. and Witt, L.W. : Agriculture in Economic Development.

7. Mamoria, G.B. Indian Agricultural Development.

8. Chaudhari, Pramit Readings in Indian Agriculture Development.

9. Mier,G. M. Leading Issues in Economic Development.

10. Hayani, Y & V. Rutan : Agriculture Development: An International Perspective, John Hopkins, Baltimore, 1971.

11. Rudra, A. Indian Agriculture Economics; Myths and Realities, Allied Publishers, N. Delhi–1982.

12. Bhalla, G.S. & D.S. Tyagi : Patterns in Indian Agricultural Development, ISID, New Delhi, 1989.

13. Dentwala, M.L. (eds.) : Agriculture Growth in India, Indian society for Agriculture Economics Bombay, 1986.

14. Haque, T & A.S. Sirohi : Agrarian Reforms and Institutional change in India, Concept Publishing Co., Delhi., 1986.

15. Soni, R.N. Leading Issues in Agriculture Economics, Arihant press, Jalandhar, 1995.

16. Wasriner, D Land Reforms in Principles and Practice, Oxford University Press, 1960.

17. Bhalla, G.S.(Eds.) Economics Liberalization and Indian Agriculture, ISID, New Delhi, 1994.

18. Bharduria, A The Economics Structure of backward Agriculture, Macmillan, Delhi, 1984.

M.SC. (USHS) ECONOMICS (SEMESTER–I)
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

EOL410: COMPUTER APPLICATIONS FOR ECONOMISTS–I

Time: 3 Hrs.   **Credits: 4–0–0**
Total Marks: 100
Mid Semester Marks: 20
Practical Marks: 20
End Semester Marks 60

Mid Semester Examination: 20% weightage
Practical: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four
Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are
required to attempt five questions, selecting at least one question from each Section. The fifth
question may be attempted from any Section.

SECTION A
Introduction to Computer: Computer System Characteristics, Hardware – CPU, Memory,
Input, Output and Storage devices, Organization of Secondary Storage Media, Software –
System and Application, Types of processing Batch and On-line.

Programming Paradigms and Development Tools: Problem Analysis, Program Constructs
(Sequential, Decision, Loop), Algorithms, Flowcharts, Pseudocode, Decision table, Modular
Programming, Top-down and Bottom-up Approaches, functional, Procedural object-oriented,
and logic programming, Programming Languages – Syntax and Semantics.

Operating System Concepts: Role of an Operating System, Types of operating systems, Batch
processing, Multiprogramming, timesharing, real time, mobile, portable etc., Booting procedure
and its types, Components and functions of operating system.

SECTION B
Data Communication and Internet: Introduction to Data Communication, Types of Networks,
Transmission Media, Internet and its applications, Working knowledge of Search engines and
use of electronic mail, Virus, Information level threats, Network level threats, Classification of
threats, Hacking Prevention Mechanism: Anti-Viruses, Firewalls, Biometrics Controls for
security, cryptography and encryption.

Introduction to Cloud Computing: Overview of distributed computing: Trends of computing,
introduction to parallel/distributed computing, Introduction to Cloud Computing including
benefits, challenges, and risks, Different types of clouds, Security and Privacy issues in the
Cloud.

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SECTION C

Introduction to Program Development: Problem Analysis, Designing a solution.

Overview of C: Brief history of C, Introduction to different versions of C. General Structure of a C program, stages in the development of a C program.

Data Types, Operators and Expressions: Constants and variables, data types, declaring variables, storage classes, different types of expressions and their evaluation, conditional expression, assignment statement, enumerated data type, redefining/creating data types, types casting.

Console Input/Output: Standard input/output devices, unformatted input/output functions (character I/O functions and string I/O functions), formatted input/output functions (*scanf*() function and *printf*() function.

SECTION D

Control Statements: Decision making using *if, if-else, elseif* and *switch* statements, Looping using *for, while* and *do – while* statements, transferring program control using break and continue statements.

Arrays and Strings: Introduction to arrays, declaring arrays, initializing arrays, processing of arrays, introduction to strings.

Structures and Unions: Introduction to structures, declaring structures, initializing structures, accessing elements of structure, array of structures, nested structures, passing structures as arguments to a function, introduction to unions.

Suggested Readings:

1. Kochan, Stephens, G. : Programming in C.
2. Kenneth,A. : Problem Solving and Programming.
3. Kernigean, B.W. & Ritchie, P.M.: The C Programming LANGUAGE.
4. Kaicker, S. : Programming in C.
5. Copper, Mallish : The spirit of C; An Introduction to Modern Programming.
6. Carver, D.K. : Introduction to Business Data Processing.
7. Subramaniam, N. : Introduction to computer; Fundamentals of Computer Science.
8. Dromey, G. : How to solve it by computer. Manuals of PC Software.
9. Gurvinder Singh and Rachhpal Singh : Windows Based Computer System.
10. Coffron, J.W. : The IBM PC Connect.
11. P.K. Sinha : Computer Fundamentals.
12. E. Balagursamy : Programming in Ansi C.
13. Yashwant Kanetkar : Let Us C.

M.SC. (USHS) ECONOMICS (SEMESTER–I)
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

EOL411 : ECONOMICS OF PUBLIC ENTERPRISES

Time: 3 Hrs.

Credits: 4–0–0
Total Marks: 100
Mid Semester Marks: 20
End Semester Marks 80

Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION A
Role of public sector in economic development; objectives scope and growth of public sector in India. Criteria for project selection, Cost–benefit analysis, shadow prices, social rate of discount.

SECTION B
Organizational pattern of public enterprises, Management of public enterprises, personnel management in public enterprises.

SECTION C
Financial and material management in public enterprises.
Pricing policy of public enterprises.
Accountability of public enterprises, Auditing of public enterprises, role of bureau of public enterprises.

SECTION D
Case study of public steel industry in India– growth, performance, pricing and management.
Public sector reforms and privatization strategies.

Suggested Readings:

1. Institute of Public Enterprises : Pricing and Investment in Public enterprises.

2. Khera, S. S. : Management and Control in Public Enterprises.

3. Sinha, J.B. P. : Some Problems of Public Sector Organisation.

4. Sharma. B. S. : Financial Planning in Indian Public Sector.

5. Govt. of India : Annual Reports on the Working of Industrial and Commercial Undertakings of The Central Govt.

6. Narayn Laxmi. : Management of Public Enterprises.

7. Aggarwal, G.C. : Public Sector Steel Industry in India.

M.SC. (USHS) ECONOMICS (SEMESTER–I)
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

EOL412: DEMOGRAPHY

Time: 3 Hrs.   **Credits: 4–0–0**
Total Marks: 100
Mid Semester Marks: 20
End Semester Marks 80

Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION A
Demography: Meaning and its scope, Population and Economic Development: Interdependence between population, development and environment.

SECTION B
Demography and related concepts: macro–micro dynamics of population.

Social structure its components and influence on demographic factors; migration, meaning, causes and consequences for economic development.

SECTION C
Population Theories: Malthusian theory of population, post Malthusian transition, optimum theory of population, theory of demographic transition.

Mortality: Death rate, Infant Mortality Rate, Factors for decline in mortality in recent past, Methods of population projection. Pattern of mortality for different OECD countries, and South East Asia.

SECTION D
Changing Characteristics of Population in India: Population growth rates and trends, density of Population, age structure, life expectancy, sex ratio and occupational structure of population, population policy of India and its evaluation. An analysis of trend of India's population after independence.

M.SC. (USHS) ECONOMICS (SEMESTER–I)
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

Suggested Readings:

1. Srinivasan K (1998), Basic Demographic Techniques and Applications,Sage, New Delhi.

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

3. Novell. C (1988), Methods and Models in Demography, Bellhaven Press,London.

4. Choubey, P .K. (2000), Population Policy in India, Kanishka Publications, New Delhi.

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

6. Dutt Ruddra and Sundram K.P.M., Indian Economy

7. Visaria V. "Infant Mortality in Indian: Level Trends and Determinants" Economic and Political Weekly, Vol.20, No.32, August 10, 1985.

8. Nath V. "1991 Population Census: Some facts and Policy Issues", EPW, Vol.26 September 14,1991.

9. Gopalan C "Population Problem: Need for a Total Views EPW. Vol. 26, September 14, 1991.

10. Dandekar, V.M. "Population Front of India's Economic Development" EPW, Vol.22, No.17, April 23, 1998, pp.837–842

11. Rajan Isudaya. S. "Family Planning Programme in India: An Economic Evaluation", The Indian Economic Journal, Vol.34, No.4, April– June, PP 79–86.

12. Cocharane, Susan, H. "Children is By Product" Investment Goods: A Review of Some MicroEconomics Models of Fertility" Population Studies, Vol.29, No.3, pp 373–390.

13. Ehsanual Haq, "Sociology of Population", Macmillan, New Delhi, 2007.

14. Prithvish Nag, "Atlas of Population Change in India (1951–2001)", National Atlas and Thematic Mapping Organization, Kolkata, 2001.

15. Parul Dave and Pallavi Mehta, "Mental Health and Aging Women: Important Correlates" (edited), Delhi, Kalpaz, p.522, 2008.

16. Anil Bagchi, "The Ageing World", Longman, Delhi, 2006.

17. Ishwar Modi, "Ageing and Human Development: Global Perspectives" (Edited), Rawat, New Delhi, p. 406, 2001.

M.SC. (USHS) ECONOMICS (SEMESTER–I)
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

EOL413: RURAL ECONOMICS

Time: 3 Hrs.   **Credits: 4–0–0**
Total Marks: 100
Mid Semester Marks: 20
End Semester Marks 80

Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION A
Concept: Nature and Scope, Agriculture industry interaction: theories and empirical evidences.
Land: Utilisation, Land reform, supply and pricing of inputs.

SECTION B
Rural Labour and employment: Disguised unemployment, Extent, causes and estimates of rural poverty, Interstate labour migration : factors and implications.
Capital formation in rural sector: Savings and assets formation, credit–institutional and non–institutional special role of NABARD and RRBS.
Production: Agricultural growth in India; Production function, Farm budgeting, Technical changes: Green revolution.

SECTION C
Rural marketing: Traditional marketing, regulated markets, co–operative marketing and contract farming.
Agricultural prices: Price behaviour; cobweb cycle; public distribution system; terms of trade, agriculture price policy.

SECTION D
Rural Industrialisation: Concept and scope, Government policy, KVIC, Mini–industrial estates. Industrial cooperatives. TRYSEM.
Economic and social infrastructure: Transport & Communications, power, education, drinking water, health, Sanitation and rural housing, social forestry and environment. Strategies of rural development in plans. Poverty alleviation programmes.

Suggested Readings:
1. Aziz, Sartaj : Rural Development Learning from China.
2. Hirschman,A,O. : The Strategy of Economic Development.
3. Singh, Radha Raman : Studies in Regional Planning and Rural Development.
4. Shah, S.M.,Whitby, M.C. D.L.J. : Rural Development, Planning and Reforms.
5. Robins, A.N. Tensery, K.G.Wills. : Rural Resources Development .
6. Nangundappa, D.M. : Area Planning and Rural Development.
7. Arora, R.C : Integrated Rural Development.
8. Raghava Rao, D.V. : Panchayats and Rural Development.
9. D.S. Tyagi : Public Distribution in India.
10. Sukhpal Singh : Contract Farming and the State: Experience of Thailand and India, Kalpaz Publications, 2006.

M.SC. (USHS) ECONOMICS (SEMESTER–I)
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

EOL414: HISTORY OF ECONOMIC THOUGHT

Time: 3 Hrs.
Credits: 4–0–0
Total Marks: 100
Mid Semester Marks: 20
End Semester Marks 80

Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION A
Mercantilism: Its origin and contents. Economic growth and International Trade. Outline of Physiocratic Doctrine– The Natural Order; The Net Product: The Circulation of Wealth.

SECTION B
The classical system: A smith–division of Labour; International Trade; Theory of value and distribution. D. Ricardo– Theory of value and distribution and Foreign Trade.
T.R. Malthus–Theory of population and gluts. J.B.say– The Law of Markets.

SECTION C
K.Marx– Theory of value; Theory of Capitalist Competition.
The Historical School– Main Ideas; Subjectivism and Marginalism: Gossan and Jevaons; The Austrian school: Manger and Bohm–Bowerk; K. Wicksell and the Swedish School.

SECTION D
Neo classicism & After: A. Marshall & his system of equilibrium; Contribution of J. Robinson; E.H. Chamberlin and J.M Keynes and his Policies; Major Post–Keynesian Developments– Consumption and Investment.

M.SC. (USHS) ECONOMICS (SEMESTER–I)
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

EOL418 : ECONOMICS OF INFRASTRUCTURE

Time: 3 Hrs.

Credits: 4–0–0
Total Marks: 100
Mid Semester Marks: 20
End Semester Marks 80

Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION A

Infrastructure and economic development; Social and physical infrastructure; Public utilities: meaning and characteristics; The peak load problem, off–peak load problem, Dual principle controversy.

SECTION B

Transport: Structure of transport cost. Demand for transport models of freight and passenger demand. Cost function in transport sector.

Telephone: Rate making. Principle of decreasing costs in telephone industry.

SECTION C

Energy: Energy and economic development; Energy efficiency and conservation; energy pricing.

Pricing of electricity; economics of thermal, hydrel and nuclear power plants. National power Grid.

SECTION D

Infrastructure in India: Structure, problems and policies.

Public–private partnership (PPP) and infrastructure. BOT approach.

M.SC. (USHS) ECONOMICS (SEMESTER–I)
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

Recommended Readings

1. Aschauer, David Alan (1989a) "Is public Expenditure Productive"? Journal of Monetary Economics, Vol.23, pg.177–200.

2. Asian Development Bank (2009): 'Energy Infrastructure Priorities, Constraints and Strategies for India, Oxford.

3. Chantler, Philips (1933): 'The Economic Nature of Public Utilities', The Manchester School, Vol.2, Issue 2, 109–114.

4. Crew, M., Fernando C. and Kleindorfer (1995): 'The Theory of Peak–Load Pricing: A Survey', Journal of Regulatory Economics, Vol.8, pp.215–248.

5. Fariss, M.T. and R. Sampson (1975): Public Utilities', Houghton Mifflin, Boston.

6. India Infrastructure Report 2010 Infrastructure Development in a Low carbon Ecnomy,3iNetwork.

7. Maniar Megha (2012): 'The Infrastructure Sector in India', In India Infrasturcture Report, IDFC Foundation, Routledge.

8. Stephane Straub (2008): 'Infrastructure and Development: A Critical Appraisal of the Macro Level Literature." The World Bank, Policy Research Working Paper 4590.

9. Todaro, Micheal P. (1981): "Economic Development in The Third World" published by the Longman (New York & London), 1981 (2nd Edition).

10. World Bank "World Development Report 1994; Infrastructure for Development." Published by Oxford University Press.

11. Lakshmanan, L. (2008) 'Public–Private Partnership in Indian Infrastructure Development: Issues and option, Reserve Bank of India Occasional Papers, Vol.29(1).

M.SC. (USHS) ECONOMICS (SEMESTER–I)
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

EOL419 : ECONOMICS OF GENDER AND DEVELOPMENT

Time: 3 Hrs.   **Credits: 4–0–0**
                                                                          Total Marks: 100
                                                              Mid Semester Marks: 20
                                                                 End Semester Marks 80

                                                     Mid Semester Examination: 20% weightage
                                                     End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION A
Importance and concepts of women studies, Demography of female population: Age structure, mortality rates, and sex ratio – Causes of declining sex ratios and fertility rates in LDCs particularly India – Theories and measurement of fertility and its control; Women and their access to nutrition, health, education, and social and community resources.

SECTION B
Factors affecting decision making by women: property rights, access to and control over economic resources, assets; Economic status of women and its effect on work–participation rate, income level, health, and education in developing countries and India.

SECTION C
Factors affecting female entry in labour market; Supply and demand for female labour in developed and developing countries, particularly India; Wage differentials in female activities; Determinants of wage differentials; gender, education, skill, productivity, efficiency, opportunity.

SECTION D
Social security of women:entitlements, ensuring economic independence and risk coverage, access to credit and insurance markets; Role of voluntary organizations self help groups in providing social security; Labour market biases and gender discrimination; Gender and development indices.

Recommended Readings

1. Agarwal, B. (1994), A Field of One's Own: Gender and Land Rights in South Asia, Cambridge University Press, Cambridge.
2. Agnihotri, S.B. (2000). Sex ratio in Indian Population: A Fresh Exploration, Sage Publications, New Delhi.
3. Amsden, A.H. (Ed.) (1980), The Economics of Women and Work, Penguin, Harmondsworth.

4. Dantwala, M.L., H. Sethi and P. Visaria (1998), Social Change Through Voluntary Action, Sage Publications, New Delhi.
5. Desai, N. and M.K. Raj (Eds.) (1979), Women and Security in India, Research Centre for Women Studies, SNDT University, Bombay.

6. Dwyer, D. and J. Bruce (Eds.) (1988), A Home Divided: Women and Income in the Third World, Stanford University Press, Stanford.
7. Evans, H. and C. Ungerson, (Eds.) (1983), Sexual Divisions, Patterns and Processes, Tavistock, London.
8. Government of India (1974), Towards Equality – Report of the Committee on the Status of Women in India, Department of Social Welfare, Ministry of Education and Social Welfare, New Delhi.
9. Gulati, S.C. (1998), Fertility in India: An Econometric Analysis of a Metropolis, Sage Publications, New Delhi.
10. Gupta, J.A. (2000), New Reproductive Technologies, Women's Health and Autonomy, Indo Dutch Studies on Development Alternatives, Sage Publications, New Delhi.
11. ILO (1978), Women's Participation in the Economic Activity of Asian Countries, ILO, Geneva.
12. Jhabwala, R. and R.K. Subramanya (2000) (Eds.) The Unorganized Sector: Work Security and Social Protection, Sage Publications, New Delhi.
13. Kabeer, N. (1994), Reversed Realities: Gender Hierarchies in Development Though, Kali for Women, New Delhi.
14. Krishnaraj, M., R.M. Sudarshan and A. Shariff (1999), Gender, Population and Development, Oxford University Press, New Delhi.\
15. Kuhn, A. and A.N. Wolpe (Eds.) (1978), Feminism and Materialism, Routledge and Kegan Paul, London.
16. Seth, M. (2000), Women and Development: The Indian Experience, Sage Publications, New Delhi.
17. Mishra, S. (2000< Voluntary Action in Health and Population: The Dynamics of Social Transition, Sage Publications, New Delhi.
18. Mitra, A. (1979). Implications of Declining Sex Ratio in India's Population, Allied, New Delhi.
19. Papola, T.S. and A.N. Sharma (Eds.) (1999), Gender and Employment in India, Vikas Publishing House, New Delhi.
20. Redcliff, N. and E. Mingione, (Eds.) (1985), Beyond Employment: Household, Gender and Subsistence, Basil Blackwell, Oxford.
21. Sen, A.K. (1990), 'Gender and Cooperative Conflicts' in Tinker (Ed.) Persistent Inequalities : Women and World Development, Oxford University Press, New York.
22. Srinivasan, K. (1998), Basic Demographic Techniques and Applications, Sage Publications, New Delhi.
23. Young, K. et al (Eds.) (1987), Serving Two Masters, Routledge & Kegan Paul, London.
24. Wazir, R. (2000), The Gender Gap in Basic Education : NGOs as Change Agents, Sage Publications, New Delhi.

M.SC. (USHS) ECONOMICS (SEMESTER–I)
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

EOL420 : ECONOMICS OF SOCIAL SECTOR

Time: 3 Hrs.   **Credits: 4–0–0**
Total Marks: 100
Mid Semester Marks: 20
End Semester Marks 80

Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION A
Education as an instrument for economic growth; Human capital – components of human capital; Demand for education – private demand and social demand, Determinants of demand; Cost of Education – Expenditure on education, private costs and social costs and wastage and stagnation; Benefits of education – Direct and indirect benefits, private and social benefits.

SECTION B
Educational financing – Resource mobilization and utilization, pricing and subsidies and effects of educational financing on income distribution; Education and labour market – Effects of education, ability and family background on earnings, poverty and income distribution, education and employment.

SECTION C
Educational planning and economic growth – Cost–benefit analysis, production function models, growth accounting equations of Schultz and Denison, Economics of educational planning in developing countries with special emphasis on India.
Health dimensions of development; Determinants of health – poverty, malnutrition and environmental issues; Economic dimensions of health care – demand and supply of health care.

SECTION D
Financing of health care and resource constraints; The concept of human life value; Theory and empirical studies of production of health care; Inequalities in health – class and gender perspectives; Institutional issues in health care delivery. Manpower requirements approach, programming and input–output models.

M.SC. (USHS) ECONOMICS (SEMESTER–I)
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

Recommended Readings

1. Baru, R.V. (1998), Private Health Care in India : Social Characteristics and Trends, Sage Publications, New Delhi.

2. Berman, P. and M.E. Khan (1993), Paying for India's Health Care, Sage Publications, New Delhi.

3. Becker, G.S. (1974). Human Capital (2nd Edition), National Bureau of Economic Research, New York.

4. Klarman, H.E. (1965), The Economic of Health, Columbia University Press, New York.

5. McMohan, W.W. (1999), Education and Development: Measuring the Social Beneifts, Oxford University Press.

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

7. Padmanabhan, C.B. (1984). Financial Management in Education, Select Books, New Delhi.

8. Panchamukhi, P.R. (1980), Economics of Health : A Trend Report in ICSSR, A Survey of Research in Economics, Vol.VI, Infrastructure, Allied, Delhi.

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

10. Vaizey, J. (1962), Economics of Education, Faber and Faber, London.

11. Woodhall, M. (1992), Cost Benefit Analysis in Educational Planning, UNESCO, Paris.

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

M.SC. (USHS) ECONOMICS (SEMESTER–I)
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

EOL421 : FINANCIAL INSTITUTIONS AND MARKETS

Time: 3 Hrs.

Credits: 4–0–0
Total Marks: 100
Mid Semester Marks: 20
End Semester Marks 80

Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION A
Development financial institutions: Evolution of development banks, changing role, IFCI, IDBI, ICICI, NABARD, SIDBI, State Industrial Development Corporations, State Financial Corporations, Performance of All Indian Financial Institutions.

SECTION B
Non–banking financial intermediaries: Definition and types of NBFIs. Mutual Funds: Growth of mutual funds in India, Types of mutual funds schemes, SEBI guidelines relating to mutual funds.

SECTION C
Insurance: Origin and development of insurance. LIC, GIC; Role and functions of Insurance Regulatory and Development Authority (IRDA).

SECTION D
Role and structure of money and capital markets: Call money market, commercial bill market, discount market – Government Securities Market, Primary and Secondary Market for Securities, SEBI – its impact on working of capital market in India.

Recommended Readings

1. Bhole, L.M. (2004), Financial Institutions and Markets: Structure, Growth and Innovation, Tata McGraw Hill, New Delhi.
2. Palande, P.S. et al (2003), Insurance in India: Changing Policies and Emerging opportunities, Sage Publications, New Delhi.
3. Pendharkar, V.G. (2003), Unit Trust of India: Retrospect and Prospect, UBS Publishers' Distributors Ltd., New Delhi.
4. Pathak, B.V. (2008), The Indian Financial System Markets, Institutions and Services, Dorling Kinderslay (India) Pvt. Ltd., New Delhi.
5. Gutpa, S.B. (2006), Monetary Economics Institutions, Theory and Policy, S. Chand & Co. Ltd., New Delhi.
6. Reserve Bank of India, Handbook of Statistics on Indian Economy, Various Issues.

M.SC. (USHS) ECONOMICS (SEMESTER–II)
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

EOL415: MICROECONOMICS-II

Time: 3 Hrs.

Credits: 4–0–0
Total Marks: 100
Mid Semester Marks: 20
End Semester Marks 80

Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION A
Distribution: Product exhaustion theorem, factor shares and technical progress. Modern theory of Distribution. Macro Theories – Ricardian, Marxian, Kalecki's theories.
Welfare Economics – Individual and social welfare, Pigou's concept of welfare.
Problem of welfare maximisation, optimality conditions.

SECTION B
Market failure- imperfections, decreasing cost, externalities, Methods of solving problems of externalities – taxes and subsidies, Property rights, Coase theorem, direct government regulation. Public good externalities – Free rider problem. Socialism and Pareto optimality. Theory of second best.

SECTION C
Criteria for welfare improvement- Pareto criterion, General ethical criterion, Kaldor's criterion; A.K. Sen's Social Welfare Function; measure of welfare cost. Arrow's Impossibility theorem, equity-efficiency trade off.
Applications of welfare economics.

SECTION D
Meaning of general equilibrium: interdependence of markets, General equilibrium and Macroeconomics, partial versus general equilibrium approach.
Classical, neo – classical and input-output approaches to general equilibrium. Existence, stability and uniqueness of equilibrium. General Equilibrium and Pareto optimality.

Suggested Readings

1. American Economic Assocation : Readings in Income Distribution, George Allen & Unwin, 1950.
2. Bronfenbrenner, M. : Income Distribution Theory, Macmillan, 1971.
3. Henderson & Quandt : Microeconomics Theory A Mathematical Approach.
4. Koutsoyiannis, A. : Modern Microeconomics.
5. Layard & Walters : Microeconomics Theory.
6. Naylor & Vernon : Microeconomics and Decision Models of the Firm.
7. Bruce. N. and R. Boadway : Welfare Economics.
8. Weintraud, E.R. : General Equilibrium Theory.
9. Hanson, E. : A Survey of General Equilibrium Systems.

M.SC. (USHS) ECONOMICS (SEMESTER–II)
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

EOL416: MACROECONOMICS-II

Time: 3 Hrs.   **Credits: 4–0–0**
                                                    Total Marks: 100
                                                    Mid Semester Marks: 20
                                                    End Semester Marks 80

                                    Mid Semester Examination: 20% weightage
                                    End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION- A
Investment: Keynesian, Post–Keynesian, Neo–keynesian, (Jorgenson approach). Lags in investment function.
Trade cycles: Samuelson, Hicks and Kaldor models.

SECTION B
Economic growth: Harrod and Domar conditions for equilibrium growth.
Neo–classical growth model (with or without technical progress) savings, Consumption and factors shares in neo–classical model. The golden rule of accumulation.

SECTION- C
Mechanics of money supply expansion. Demand for money–classical, Keynesian, Friedman and neo–keynesian approaches.
Inflation – causes, consequences and cures.
Inflation–unemployment trade–off. The natural rate hypothesis.

SECTION- D
Macro–economics policy; meaning and objectives. Targets and Instruments – fixed and flexible Targets approaches.
Uncertainty and economic policy. Lags in the effect of policy. Rules vs. discretion. The Mundell–Fleming model.
Rational expectations and short–run effectiveness of macroeconomics policy.Keynesianism vs. Monetarism. New Keynesianism(elementary)

Suggested Readings:

1. Ackley,G. : Micro Economic Theory.

2. Branson, W.B. : Macro Economics Theory and Policy.

3. Brooks J & Evans, R.W. : Macro Economics policy in Theory and practice.

4. Edgemond, M.F. : Macro Economics: Theory and Policy.

5. Evans, M.K. : Macro Economics Activity.

6. Glahe, F.R. : Macro Economics: Theory and policy.

7. Gordon, J. : Macro Economics.

8. Rogendron, J.S. : Economic Development Ch.II.

9. Junankar, P.N. : Investment: Theories and Evidence.

10. Laidler, D.E.W. : Demand for Money: Theories and Evidence.

11. Leveoice, R. : Macro Economics: The Static and dynamic Analysis of a Monetary Economy.

12. McConnell,C.R. and H.C.Gupta : Introduction to Macro economics.

13. Sayer,S. :An Introduction to Macro Economics policy.

14. Solow, R.M. : Growth Theory An Exposition.

15. Thirlwall, A.P. : Growth and Development.

16. Froyen, Richard T. : Macroeconomics Theories and Policies.

M.SC. (USHS) ECONOMICS (SEMESTER–II)
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

EOL417: STATISTICAL TECHNIQUES

Time: 3 Hrs.   **Credits: 4–0–0**
Total Marks: 100
Mid Semester Marks: 20
End Semester Marks 80

Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION A
Correlation and Regression: Meaning, assumptions and limitations of simple correlation and regression–analysis ; pearson's product moment and spearman's rank Correlation coefficients, and their properties; partial and multiple correlation. Simple regression – basic idea about least – squares principle, lines of regression and properties of regression co–efficients.

SECTION B
Multiple linear regression equation and co–efficient of multiple determination (application only). Method of estimation of second degree parabolic, exponential and modified exponential curves; Method of computing average annual rate of growth.

SECTION C
Elements of probability: Deterministic and non–deterministic experiments, various types of events.Classical and empirical definitions, laws of addition and multiplication of probability, conditional probability and the concept of independence of events, elementary concept of a random variable, probability mass and density functions.
Expectations, moments and moments generating function of a random variable.
Properties and applications of binomial, possion and normal distributions.

SECTION D
Sampling: Concepts uses in sampling, difference between random and non–random sampling, simple random sampling, stratified random sampling and p.p.s. sampling. Concept of a statistic and its sampling distribution.
Elementary tests based upon the distribution of Z, t, and F statistics.

Suggested Readings:

1. Chou Ya–Lun : Statistical Analysis.
2. Croxton, Cowden and Klein: Applied General Statistics.
3. Gupta S.C. and Kapur V.K.: Fundamentals of Applied Statistics, Sultan Chand & Sons (1993).
4. Miller, Jane : Statistics for Advanced Level, Cambridge University Press (1996).
5. Spiegal, M.R. : Theory and Problems of Statistics.
6. Hogg, R.V. and Craig A.T.: Introduction to Mathematical Statistics (3rd Ed.), Macmillan Publishing Co., New Delhi.
7. Sukhatme, P.V. and Sukhatme B.V.: Sampling Theory of Surveys with Applications, Lowa State University Press, Ames, Lowa (1970)

M.SC. (HONS. SCHOOL) ECONOMICS (SEMESTER–III)
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

501: ECONOMICS OF DEVELOPMENT

Time: 3 Hrs.

Credits: 4–0–0
Total Marks: 100
Mid Semester Marks: 20
End Semester Marks 80

Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION A
Economic development – meaning, development and underdevelopment, development gap, measuring development, indices of development and quality of life, international comparisons of development.

Sources of economics growth, economic development and technological change. Redistribution with growth, measurement of inequality.

SECTION B
Models of surplus labour. Lewis, Ranis and Fei and Jorgenson Models.
Todaro's Model of rural-urban migration. Employment and unemployment in underdeveloped countries.
Theories and models of economics development– Rostow's stage theory. Schumpeter, Harrod–Domar, Solow, Kaldor, Joan Robinson.

SECTION C
Optimal Growth Models. Growth models with technical progress. Endogenous Growth Theory and Macro determinants of growth. Strategies of economic growth–balanced vs. unbalanced growth and their tests, agricultural strategy for economic development, role of agriculture in development.

SECTION D
Capital formation: Two gap theory, domestic and external sources, foreign investment, foreign aid, trade vs. aid, inflation and economic growth. Role of human capital in economic development.
Trade and development, dependency theory, theory of unequal exchange, trade policy – import substitution vs. export promotion.

Suggested Readings

1. Higgins, B. : Economic Development Problems – Principles and Policies.
2. Meier, G. : Leading Issues in Economic Development.
3. Yotopoulous P.A. & Nugent : Economics of Development.
4. Chenery, H.B. : Redistribution and Growth.
5. Ghatak, S. : An Introduction to Development Economics.
6. Thirlwall, A.P. : Growth and Development.
7. Thrilwall,A.P. : Financing Economic Development.
8. Todaro, M.P. : Economic Development in the Third World.
9. Kindleberger, C.P. : Economic Development.
10. Dension, E.P. : Why Growth Rates Differ?
11. Scott, M.F. : A New View of Economic growth.
12. Singh, S.P.(ed.) : From Underdevelopment to Development.

M.SC. (HONS. SCHOOL) ECONOMICS (SEMESTER–III)
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

EOL502: ECONOMETRICS

Time: 3 Hrs.

Credits: 4–0–0
Total Marks: 100
Mid Semester Marks: 20
End Semester Marks 80

Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION A
Nature, meaning and econometrics, Simple and general linear regression model: assumptions, estimation (OLS methods); Gauss–Markov theorem; concepts and analysis of variance approach and its application in regression analysis.

SECTION B
Estimation of non–linear equations: Semi–log, double–log and Cobb–Douglas and their applications.

Problems in regression analysis: Nature, test, consequences and remedial steps of problems of heteroscedasicity, multicollinearity and auto–correlation; Problem of specification bias.

SECTION C
Dummy variables and their uses; Regression with dummy dependent variables; The LPM, Logit, Probit and Tobit models – Applications.

SECTION D
Simultaneous equations models: The simultaneous equation bias and inconsistency of OLS estimators; The identification problem; Rules of identification– order and rank conditions; Methods of estimating simultaneous equations system ; Recursive methods ; Indirect Least Squares (ILS), 2 SLS, 3 SLS and ML methods.

Suggested Readings

1. Johnston, J. : Econometric Methods–(1972)

2. Koutsoyiannis : Theory of Econometrics (1978)

3. Gujrati, D. : Basic Econometrics (1978)

4. Chow G.C. : Econometrics, McGraw Hill

5. Madala, G.S : Econometrics

6. Polock, Beg : The Algebra of Econometrics.

7. Judge, C.G.et. al. : Theory and Practice of Eonometrics.

M.SC. (HONS. SCHOOL) ECONOMICS (SEMESTER–III)
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

EOL504: THEORY OF STATISTICS

Time: 3 Hrs.   Credits: 4–0–0
                                                    Total Marks: 100
                                              Mid Semester Marks: 20
                                              End Semester Marks 80

                                    Mid Semester Examination: 20% weightage
                                    End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION A
Axiomatic definition of probability, Properties of probability function, laws of addition and multiplication of probability, conditional probability, independence of events, Baye's theorem.

SECTION B
Chebychev's inequality, moments generating function of a random variable and its properties. Theoretical probability distribution; derivation of the properties of exponential, gamma, beta and log normal distribution.

SECTION C
Properties of good estimaters; methods of estimation with emphasis on maximum likelihood method.
Sampling distributions; Derivation of the properties of z, χ^2, t and F– distributions and their applications.

SECTION D
Basic concepts regarding testing of hypotheis: tests of hypotheses based upon z, t, F and χ^2 distributions : Analysis of variance with one–way and two–way classifications and their applications.

Suggested Readings

1. Fisz, Marek : Mathematical Statistics.

2. Goon, A.M., Gupta, M.K. and Dass Gupta, B.: An Outline of statistical Theory (Vol. 1 and 2).

3. Mood, A.M., Gray Bill, F.A. and Boes : An Introduction to the Theory of Statistics.

4. Parzen, A : Probability Theory.

5. Yalun Ghou : Statistical analysis.

M.SC. (HONS. SCHOOL) ECONOMICS (SEMESTER–III)
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

EOL505: OPERATIONS RESEARCH

Time: 3 Hrs.   **Credits: 4–0–0**
Total Marks: 100
Mid Semester Marks: 20
End Semester Marks 80

Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION A
Operations Research: Definition, scope and limitations; Transportation Models .

SECTION B
Dynamic programming and Assignment Problem. Sequencing models: 'n' jobs '2' machines, 'n' jobs '3' machines,'2' jobs 'm' machine, and 'n' jobs 'm' machines.

SECTION C
Game Theory: Competitive games, pure strategy by dominance, mixed strategy (2x2, 2xn, mx2).
Two persons zero sum game, 'n' persons zero sum game.
Project scheduling by PERT and CPM.

SECTION D
Queuing models: characteristics, single channel queuing models: (M/M/I) : (FCFS/ /), (M/M/1):(FCFS/N/), (M/M/1): (FCFS/n/N) Multichannel queuing model: (M/M/C), (FCFS/ /).
Inventory models with deterministic demand.

Suggested Readings
1. Wagner, H.M.: Principles of Operations Research with Applications to Managerial Decisions, Prentice Hall of India, New Delhi, 1980, 2nd Ed.
2. Levin, R.I. and Kirkpatrick, C.A.: Quantitative Research: A Managerial Emphasis.
3. Handy A.Taha: Operations Research – An Introduction. Macmillan Publishing Co., New York.
4. Harper, W.M.: Operations Research, ELBS, London, 1979.
5. Hiller, F.S. & Lieberman, G.J.: Introduction to operations Research, Holden Day Inc., San Francisco, 1981.

M.SC. (HONS. SCHOOL) ECONOMICS (SEMESTER–III)
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

EOL506: INTERNATIONAL TRADE AND INVESTMENT

Time: 3 Hrs.   Credits: 4–0–0
Total Marks: 100
Mid Semester Marks: 20
End Semester Marks 80

Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION A
Linder's trade intensity thesis and its empirical testing, Product–cycle theory. Imperfect markets and Technology in international trade. Strategic Trade policy.

SECTION B
Terms of trade and economic growth; Terms of trade and offer curve.
Rationale for protection: Infant industry argument; concept of effective protection; Political economy of Non–Trade Barriers (NTB).

SECTION C
Regionalism versus Multilateralism; import substitution and industrialisation.
Foreign Investment: Portfolio and direct foreign investment; determination of direct foreign investment; benefits and cost issues in foreign direct investment; multinational corporations.

SECTION D
Exports and economic growth; Export instability; Trade liberalisation – meaning and its effects, WTO : TRIMS, TRIPS and Domestic measures.

Suggested Readings
1. R.E. Caves and R.W Jones : World Trade & Payments.
2. Grant, L. Reuber : Private Foreign Investment in Development, Chapters 2–6, Clarendon press, Oxford.
3. W.M.Corden : The Theory of Protection.
4. R.Findlay : Trade and specialisation chapters 5 & 6.
5. K.Kojema : Direct Foreign Investment .
6. D.Salvatore : International Economics, McGraw–Hill Book Company.
7. R.E.Caves : Multinational Firms, Competition and Productivity in Host Country Markets.
8. B.O. Sodersten : International Economics, IInd Edition, Macmillan Press Ltd. 1980.
9. T.W. Sailors,U.S.Qureshi and E.M.Cross : Empirical Verification of Linder's Trade Hypothesis.
10. H.Askari : A Note on the empirical testing of the Ricardian Theory of Comparative advantage, Southern Economics Journal, June 1972.
11. Paul R. Krugman and : International Economics Theory and Policy, Sixth Maurice Obstfeld Edition, Pearson Education.
12. Bath V. Yarbrough, : The World Economy Trade and Finance, Thomson, Robert M. Yarbrough Sixth (2007) Edition.

M.SC. (HONS. SCHOOL) ECONOMICS (SEMESTER–III)
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

EOL507: COMPUTER APPLICATIONS FOR ECONOMISTS-II

Time: 3 Hrs.

Credits: 4–0–0
Total Marks: 100
Mid Semester Marks: 20
Practical:20
End Semester Marks 60

Mid Semester Examination: 20% weightage
Practical : 20% weightage
End Semester Examination: 60% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION A
Introduction: What are numerical methods? Numerical methods versus numerical analysis, software and hardware, Mathematical subroutine Libraries, Functions and subroutines, arrays as parameters in subroutines Algorithm Development.
Errors: Round off, Truncation, cancellation.

SECTION B
Linear Algebraic Equation: Gaussian elimination, LU factorisation, Iterative methods, Gaues–seidel methods, Successive overrelaxation, Gradient methods, Methods of striper descent, comparison of direct and iterative methods.
Non–Linear Equations: Iterative solutions, Multiple roots and other difficulties, Interpolation methods, Methods of bi–section, False position method. Extrapolation methods, Newton Raphson methods, A modified newton– Raphson method for systems.

SECTION C
Interpolation & Curve fitting. An Interpolation problem, Legrangian Polynomials, Divided Difference, Numerical differentiation, Least square Approximations.
Numerical Differentiation & Numerical Integration : Getting Derivatives and Integrals Numerically Derivatives from Difference Tables; Extrapolation Technique, Newton–cotes Integration Formulas, Gaussian quadrature.

SECTION D
Numerical solutions of ordinary differential Equations: Definitions & Types of ordinary differential Equation, Initial value problems, Euler's Modified Euler's methods. The Runge–Kutta methods, predictor carrector method. Euler trapezoidal method, Milne's method.
Curve fitting: Methods of least squares, curve fitting, fitting of straight line, fitting of parabola of second degree, fitting of exponential curves, most plausible solution of system of linear equations.

Suggested Readings:
1. D.V. Griffiths & J.M. Smith : Methods for Engineers: A Programming Approach.
2. Action Foreman : Numerical Method that Works Colub, Gene H. and Van Loan, Charies, F. Matrix Computations.
3. V. Rajarman : Computer Oriented Numerical Methods.
4. E.Balagurusamy : Computer Oriented Statistical and Numerical Methods.
5. A.A. Affi : Statistical Analysis : A Computer Oriented Approach.
6. Curtis F. Geral, Patsick Q : Applied Numerical Methods, 5th Edition, Addison Weatley Wesley.

M.SC. (HONS. SCHOOL) ECONOMICS (SEMESTER–III)
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

EOL508: ENVIRONMENTAL ECONOMICS

Time: 3 Hrs.   **Credits: 4–0–0**
Total Marks: 100
Mid Semester Marks: 20
End Semester Marks 80

Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION A
Environment : Basic concepts, Environment and economics, Distinction between Environmental economics and Ecological Economics. Externalities, common property resources, public goods. Environmental externalities – Piguvian taxes and subsidies, marketable pollution permits, Coase theorem, monitoring and enforcement of environmental regulation.

SECTION B
Environmental and development trade–off, concept of sustainable development, sustainability– neo–classical and ecological views. Integrated environmental and economic accounting and measurement of environmentally corrected GDP.

SECTION C
Measurement of benefits and costs of environmental protection and benefit–cost analysis.
Environmental regulation and legislation–air, water, land, chemicals and pesticides, endangered species protection, incentive based regulation, promoting clean technology. Energy policy and environment.

SECTION D
Global issues – poverty, population and environment, global agreements on environment, political economy of sustainable development, trade and policy environment under WTO regime. Rio Convention, Bali Action Plan, Green Climate Fund.
Mechanism for environment regulation in India ; environmental laws and their implementation; policy instruments for controlling pollution environmental standards; social forestry– rationale and benefits.

Suggested Readings
1. Baumol, YAN and W.R. Ostes (1998). The Theory of Environmental Policy, Cambridge University Press.
2. Bromely, D.W. (ed) (1995). Handbook of Environmental Economics, Blackwell, London.
3. Hanley, N. and C.J. Roberts (ed.) (2002). Issues in Environmental Economics, Blackwell, Oxford, Macmillan.
4. Kolstad, C.D. (1999) Environmental Economics, Oxford, New Delhi.
5. Sankar, U. (ed.) (2001) Enviromental Economics An Indian Perspective, Oxford, New Delhi.
6. Sengupta, R.P. (2001) Ecology and Economics: An approach to Sustainable Development, Oxford, New Delhi.
7. Chadha, G.K. (ed.) (2001) WTO and Indian Economy, Deep & Deep, New Delhi.
8. Goodstein, E.S. (2002) Economics and the Environment, John Wiley, New York.
9. Kadekodi, G.K. (2004) Environmental Economics in Practice, Oxford, New Delhi.

M.SC. (HONS. SCHOOL) ECONOMICS (SEMESTER–III)
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

EOL509: ECONOMETRICS AND FORECASTING TECHNIQUES

Time: 3 Hrs.   **Credits: 4–0–0**
Total Marks: 100
Mid Semester Marks: 20
End Semester Marks 80

Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION A
Dynamic Econometric Model: Autoregressive and distributed lag models – Koyck model, partial adjustment model, adaptive expectations.

SECTION B
Instrumental variables; Almon approach to distributed– lag model : Error correlation mechanism, Granger's causality test and applications.
Generalized least–square method : Estimation; properties of GLS estimators; pooling of cross–sectional and time series data.

SECTION C
Time Series Analysis : Stationary time series and their properties ; Time series forecasting methods: based on moving averages and exponential smoothing and applications.
Unit root testing, co–integration–squrious regression, tests of stationarity ; Random walk model, Forecasting with ARIMA modelling; Box–Jenkins methodology.

SECTION D
Vector autoregression ; Problems with VAR modeling applications only.
Multivariate Analysis : Mahalanobis D2 – Analysis and Fisher's linear discriminant analysis. Methodology for estimating production functions.

Suggested Readings

1. Koutsoyiannis, A. : Theory of Econometrics (2nd Edition)
2. Gujarati, D. : Basic Econometrics (3rd Edition).
3. Intrilligator, M.D : Econometric Models, Techniques and Applications (1978).
4. Kmenta, Jan : Elements of Econometrics (1971).
5. Makridakis, S and Wheel Right, S.C.: Forecasting and Applications, 1978.
6. Holden, K. Peel D.A. and Thompson, J.L.: Economic Forecasts: An Introduction, 1974.
7. O, Donoven : Short–term Forecasts: An Introduction to the Box–Jenkins Approach, 1983.
8. Pindyck, R.S. and Rubinfeld D.L : Economic Models and Economic Forecasts, 1985.
9. Heathfield, D.F, and Wibe, S.: An Introduction to cost and production functions, 1982.

M.SC. (HONS. SCHOOL) ECONOMICS (SEMESTER–IV)
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

EOL510 : ECONOMICS OF PLANNING

Time: 3 Hrs.   **Credits: 4–0–0**
Total Marks: 100
Mid Semester Marks: 20
End Semester Marks 80

Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION A
Planning: Framework and concept; rationale and types of planning; features of planned economies; planning in third world countries in the context of Globalisation and Liberalisation.
Time horizon in planning: Long term, medium term, short term and rolling plan, choice element in planning, techniques of planning; investment criteria: rationale, types and application in project planning.

SECTION B
Choice of technique; labour intensive vs. capital intensive controversy; choice of appropriate technology for agriculture and industrial sector in the context of third world countries. Capital output ratio: types and rationale; intermediate technology case for and against; international transfer of technology– channels and salient features in India.

SECTION C
Project evaluation: meaning, rationale; social cost benefit analysis–meaning and technique; shadow prices; social rate of discount; Little Mirrless and UNDIO approaches – a comparison.
Plan models: Theoretical foundations and consistency in plan models, static and dynamic input–output analysis.

SECTION D
Indian plan models: Harrod–Domar, Mahalanobis, Frisch and Sandee, Manne and Rudra, CELP model and its application. Indian Planning: Strategy, objectives, priorities, financing and investment pattern, implementation and evaluation in the context of targets and achievements.

Recommended Readings:
1. Griffin, K.D. and Enos, J. L. : Planning and Development.
2. Eckaus, P.S. and Parikh, K.S. : Planning for Growth.
3. Ahluwalia, I.J. and I.M.D. Little : India's Economic Reforms and Development: Essays for Manmohan Singh (Selected readings) Oxford University Press, New Delhi, 1998.
4. Rudra, Ashok :Indian plan models.
5. Todaro, P. : Development Planning : Models & Methods
6. Sen, A.K. : Choice of Techniques.
7. United Nations : Guidelines for project Evaluation.
8. Bhathacharya,D. : India's five year plans: Economic Analysis.
9. Yotopoulous, P.A. and Nugent, G. : Economics of Development and Planning: An Empirical Analysis.
10. Meier, G(ed.) : Leading Issues in Economic Development (Selected Readings).

M.SC. (HONS. SCHOOL) ECONOMICS (SEMESTER–IV)
(CREDIT BASED EVALUATION AND GRADING SYSTEM)

EOL511 : INDIAN ECONOMICS DEVELOPMENT

Time: 3 Hrs.

Credits: 4–0–0
Total Marks: 100
Mid Semester Marks: 20
End Semester Marks 80

Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION A

Agriculture sector: Production and productivity trends; regional variation in production; technological change and distribution of gains, agriculture price policy, New Economic Reforms and agriculture : Agriculture and WTO, Public expenditure and agricultural growth.

SECTION B

Structural changes and growth of Indian economy: Sources of economic growth; growth and inequalities; New Economic policy and employment : Employment and poverty, MNREGA, NFSA (National Food Security Act – 2013), Physical infrastructure for economic development, Public-Private Partnership in infrastructure.

SECTION C

Industrial sector: Pattern of growth and performance: New Industrial policy: Instruments, impact and implications: public sector/private sector, Role of FDI in Industrial Development. Role and Potential of Public-Private Partnership in India.

SECTION D

Foreign sector: New EXIM Policy: trends in foreign trade of India. Foreign collaborations and MNC's, TRIPS, TRIMS and GATS.

RECOMMENDED READINGS:
1. Wadhwa, C.D.(ed.), Some Problems of India's Economic Policy, 1987.

2. Choudhary, Pramit (ed.), Aspects of Indian Economic Development, 1971.

3. Rao, Hanumantha, C.H., Technological change and Distribution of Gains in Indian Agriculture, 1980.

4. Ahluwalia, I.J., Industrialising Growth in Indian Stagnation since Mid 60's 1985.

5. Kapila, Uma (ed.) Indain Economy Since Independence, 1993.

M.SC. (HONS. SCHOOL) ECONOMICS (SEMESTER–IV)
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6. Dholkia, B.H., Sources of Economic Growth.

7. Jalan, Bimal (ed.), The Indian Economy Problems and Prospects.

8. Chaudhari, Pramit. The Indian Economy : Poverty and Development, 1978.

9. Brahamanda, P.R. and Panchmukhi, V.R.(ed.) The Development Process of the Indian Economy, Himalaya Publishing House, Bombay, 1987.

10. Dantwala, M.L., Indian Agriculture Development since Independence, Oxford, IBH Pub. Co., New Delhi, 1991.

11. Uppal, J.S. Indian Economic Problems- An Analytical Approach (ed.), Tata McGraw Hill, New Delhi (reprint), 1987.

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