REDUCED SYLLABUS FOR ECONOMICS HONOURS COURSES
SEM I, SEM III & SEM V
FOR THE YEAR 2020-21

INTRODUCTORY MICROECONOMICS

Total number of tutorial hours:15

Topics

1. Exploring the subject matter of Economics **(8 hours)**
Why study economics? Scope and method of economics; the economic problem: scarcity and choice; Distinction between Microeconomics and Macroeconomics; the question of what to produce, how to produce and how to distribute output; the basic competitive model; prices, property rights and profits;incentives and information; rationing; opportunity sets; economic systems.

2. Supply and Demand: How Markets Work, Markets and Welfare **(12 hours)**
Markets and competition; determinants of individual demand/supply; demand/supplyschedule and demand/supply curve; market versus individual demand/supply; shifts in thedemand/supply curve, demand and supply together; how prices allocate resources;elasticity and its application; controls on prices; taxes and the costs of taxation; consumersurplus; producer surplus and the efficiency of the markets.

3. The Households **(30 hours)**
The consumption decision - budget constraint, consumption and income/price changes, demand for all other goods and price changes; description of preferences (representingpreferences with indifference curves); properties of indifference curves; consumer'soptimum choice; income and substitution effects (Hicks &Slutsky); Ordinary and Compensated demand curves, Inferior goods and Giffen goods, Price consumption and income consumption curves

4. Production and Cost **(15 hours)**
Production function, Total, Average and Marginal products, Isoquants and economic regions of production, Cost minimization and expansion path, Elasticity of substitution, Economies of scale, Cobb Douglas, Fixed coefficient and CES functions, Short run and long run costs, Derivation of the cost function from production function.

5. Market Structure **(10 hours)**
Different types of market structures- Perfect competition, Monopoly, Monopolistic Competition and Oligopoly **(concepts only)**

[Note: *Values in parentheses indicate number of Lecture hours for the corresponding unit*]

Suggested Readings:
Lipsey-Positive Economics
Maddala& Miller – Microeconomics
Koutsoyiannis – Modern Microeconomics
Ryan & Pearce – Price Theory
Henderson &Quandt – Microeconomic Theory- A Mathematical Approach (3rd Edition)
Ferguson & Gould – Microeconomics Theory

MATHEMATICAL METHODS FOR ECONOMICS-I
Total number of Lecture hours: 75
Total number of tutorial hours:15

Topics

1. Preliminaries (10 hours)
Concept: Sets and set operations; relations; functions and their properties; number systems.
Set Theory: Definition of a set and discussion of related concepts; Set types; Operations on sets; Nested sets; Cartesian product; Concept of Euclidean Space
Functions and Relations: Definitions; Concepts of 'range', 'domain' and 'mapping'; Explicit and implicit functions; Types of functions and correspondences (polynomial, exponential, logarithmic, power)

2. Brief Review of Differential and Integral Calculus: (15 hours)
Concepts of 'limits and continuity', 'derivative', 'partial derivative', 'total differential' and 'integral' (stress on both intuitive and mathematical understanding); differentiable functions: Applications of differential and integral calculus to the study of functions: level curves; slope and curvature of functions, area under a curve etc. second and higher order derivatives: properties and applications.
Applications: Expenditure function and its properties; Shepherd's Lemma; Indirect Utility Function; Roy's Identity; Slutsky equation and decomposition of price effect; Properties of demand functions. Work-leisure choice; savings function, Total average and marginal Cost & Production, Consumption function, saving & investment function.

3.Simultaneous Linear Systems and Related Applications of Matrix Algebra: (12 hours)
Vector spaces: algebraic and geometric properties, scalar products, norms, orthogonality; linear transformations: properties, matrix representations and elementary operations; systems of linear equations: properties of their solution sets; determinants: characterization, properties and applications.

4. Other Topics: (8 hours)
Concepts of various types of series (arithmetic, geometric, logarithmic, exponential, Taylor's and McLaurin's); Brief review of trigonometric functions and associated curves.

5. Single-variable optimization (15 hours)
Geometric properties of functions: convex functions, distinction between concave and convex functions; their characterizations and applications; local and global optima (maxima and minima); geometric characterizations, characterizations using calculus and applications.
Applications: Equilibrium under cardinal utility theory; Maximization of Revenue and Profit, Minimization of cost of production in short run.

6. Multi-variable optimization (15 hours)

Free and constrained optimization; Examples of constrained optimization from consumer and producers theories; Static and dynamic optimization problems; applications
Applications: Equilibrium under cardinal and ordinal utility theory; Maximization of Profit in different market form; Minimization of cost of production in long run.

[Note: *Values in parentheses indicate number of Lecture hours for the corresponding unit*]

Suggested Readings:

K. Sydsaeter and P. Hammond, *Mathematics for Economic Analysis*, Pearson Educational Asia: Delhi, 2002.

Blume, Lawrence and Carl Simon (1994), *Mathematics for Economists*, Norton. Chiang, Alpha and Kevin Wainwright (2005), *Fundamental Methods of Mathematical Economics*, Fourth Edition, McGraw-Hill

Baldani, Bradfield and Turner, An Introduction to *Mathematical Economic*, CengageLeaening: 2007.

INTERMEDIATE MICROECONOMICS – I
Total number of Lecture hours:75
Total number of Tutorial hours:15

Topics

1. Consumer Theory Revisited   **(25 hours)**

(i) ~~Preference; utility; budget constraint; choice; demand~~
(ii) ~~Application of indifference curve approach: Derivation of labour supply and intertemporal choice- Saving and borrowing~~
(iii) Choice under risk: Describing Risk, Preferences towards risk, Reducing risk, the demand for Risky assets-the trade-off between Risk & Return
(iv) Revealed Preference – the weak axiom and substitution effect.

2. Market Structure: Perfect Competition   **(15 hours)**

Features, Short run and long run equilibrium of the firm, Short run supply function, Industry equilibrium; Long run industry supply with or without external economies or diseconomies.

3. Imperfect Market Structure: Monopoly (25 hours)
(i) Monopoly and anti-trust policy; government policies towards competition; Sources of monopoly power, Index of monopoly power.
(ii) Equilibrium with single plant, multiple plants, Constrained revenue maximisation, Natural monopoly; Dead-weight loss of Monopoly
(iii) Price discrimination; peak-load pricing; bundling; two-part tariff.
(iv) Monopsony.

4. Imperfect Market Structure: Monopolistic Competition (10 hours)
Concept: Product diversification; Short-run & Long-run equilibrium; Excess Capacity.

[Note: *Values in parentheses indicate number of Lecture hours for the corresponding unit*]

Suggested Readings:
1. Hal R. Varian, *Intermediate Microeconomics, a Modern Approach,*
2. Pindyck&Rubinfeld – Microeconomics
3. Koutsoyiannis – Modern Microeconomics
4. Henderson &Quandt – Microeconomic Theory- A Mathematical Approach (3rd Edition)

*Sem-3: Core Course-6 (*ECOACOR06T*)*

INTERMEDIATE MACROECONOMICS – I
Total number of Lecture hours:75
Total number of Tutorial hours:15

Topics

1. The classical system (15 hours)
The Classical view of macroeconomics in respect of the determination of employment, output and prices.
Say's law and Walras' law – The dichotomy between the real sector and monetary sector – neutrality of money.

2. The Complete Keynesian model (20 hours)
• Derivation of aggregate demand and aggregate supply curve – Keynesian labour supply function – determination of equilibrium – wage rigidity – involuntary unemployment – Underemployment equilibrium – effects of change in money supply and other factors on complete Keynesian model – money illusion.
• Comparison with the Classical system – price flexibility – Real balance effect.

3. Inflation, Unemployment and Expectations (20 hours)

(i) Phillips curve; adaptive and rational expectations; policy ineffectiveness debate.

(ii) Aggregate supply and Phillips curve; Inflation, unemployment and Phillips curve, Shift of Phillips curve, Disinflation and sacrifice ratio.

4. Open Economy Models (20 hours)
Short-run open economy models; Mundell-Fleming model; exchange rate determination; purchasing power parity; asset market approach; Dornbusch's overshooting model; monetary approach to balance of payments; international financial markets.

[Note: *Values in parentheses indicate number of Lecture hours for the corresponding unit*]

Suggested Readings:
1. N. Gregory Mankiw. *Macroeconomics,* Worth Publishers, 7th edition, 2010.
2. Dornbusch, Fischer and Startz, *Macroeconomics*, McGraw Hill, 11th edition, 2010.
3. Olivier Blanchard, *Macroeconomics*, Pearson Education, Inc., 5th edition, 2009.
4. Errol D'Souza, *Macroeconomics*, Pearson Education, 2009
5. Branson, Macroeconomics (2nd) edition
6. SoumyenSikdar - Principles of Macroeconomics (OUP)
6. R. T. Froyen. *Macroeconomics*-Theories and Policies, Prentice Hall; 9th Edition, 2008.

MATHEMATICAL METHODS FOR ECONOMICS-II
Total number of Lecture hours:75
Total number of Tutorial hours:15

Topics

1. Multi-variable function: some concepts   **(12hours)**
Convex sets; geometric properties of convex functions, their characterizations, properties and applications; quasiconvex functions, their characterizations, properties and applications; the implicit function; homogeneous and homothetic functions: characterizations and application to comparative statics problems: Maximum (and Minimum) Value Functions; Envelope Theorem; Shadow prices; envelope theorem and applications.

2. Classical Optimization   **(12hours)**
First Order condition for optimum; Second Order Condition and sufficiency requirement; Local and Global Optima and Local-Global Theorem; Constraint qualification and Kuhn Tucker condition; Lagrangean Technique for optimization and its interpretation.

3.Linear Programming and Duality   **(10 hours)**
Basic concepts and solution methods (graphical and simplex); Duality theorem.

Applications: Duality in Consumer Thoery: Producer's Theory: Wong-Viner Theorem: Properties of cost functions.

4. Simultaneous Equation Systems: (15hours)
Systems of linear equations: properties of their solution sets: determinants: characterization, properties and applications. Linear and non-linear simultaneous systems.Eigen Values, Eigenvectors and Jacobean Transformations.

Applications: Simple Linear Input-Output models with fixed coefficients and their Solutions (open and closed model). Two good general equilibrium systems: existence of equilibrium, and comparative statics.

5. Dynamical Methods: algebraic and geometric exposition.   (15hours)
Single Equation linear Difference and Differential equations systems: Monotonic and oscillatory convergence ,divergence and Lyapunov stability.

Applications: Cobweb models. Simple small open economy trade models, and the existence of equilibrium and comparative statics

6. Game Theory and its Applications   (11hours)
Constant and non-constant sum game, two person zero sum game, concept of pure strategy and mixed strategy, Nash equilibrium method and method of dominance.
Application:Cournot model, problem of prisoner's dilemma.

[Note: *Values in parentheses indicate number of Lecture hours for the corresponding unit*]

Suggested Readings:
1. Intrilligator, Mathematical Optimization and Economic Theory, (1971).
2. A. Dixit, Optimization in Economic Theory, OUP, (1995).
3. Dorfman, Samuelson and Solow, Linear Programming and Economic Analysis.
4. Simon and Blume, Mathematics for Economists, Norton and Company, 1994.
5. K. Sydsaeter, P Hammond, Mathematics for economic analysis, Pearson Education, (2002).
6. A.C. Chiang, Mathematical Economics, McGraw Hill, 1995.

INTRODUCTORY ECONOMETRICS
Total number of Lecture hours:75
Total number of Tutorial hours:15

Topics

1. Classical Statistical Inference: **(20 hours)**
Basic concepts of Estimation: Desirable properties of estimators-Unbiasedness, Minimum Variance- Simple methods of point Estimation-Maximum Likelihood, Estimators and their properties
Testing of hypothesis: Confidence intervals- Testing of Hypothesis- p-values- Type-I and Type-I errors- Simple applications of tests for the mean and variance of Univariate Normal Population. Non-parametric tests.

2. Linear Regression: **(15 hours)**
Specifications of the model- Assumptions- Ordinary Least Squares (OLS) Estimation-Gauss Markov Theorem- Estimation of the Error Variance- Statistical Inference in the Linear Regression Model- Confidence Intervals for the Estimated Parameters and the Testing of Hypotheses- Coefficient of Determination- Prediction with the Simple Regression model.

3. Problems in OLS Method: (20 hours)

Violation of assumptions and simple least-squares methods in two variable linear regression models: Analysis of Residuals and consequences of applying OLS under autocorrelation, heteroscedasticity, test of autocorrelation and heteroscedasticity, multicolinearity problem, consequences and testing

4. Multiple Regression with qualitative information: (15hours)

Describing qualitative information, single and multiple dummy independent variable, interaction of dummy independent variables, A binary Dependent variable: the linear probability model.

5. Specification Analysis: (5hours)

Omission of a relevant variable; inclusion of irrelevant variable; tests of specification errors.

[Note: *Values in parentheses indicate number of Lecture hours for the corresponding unit*]

Suggested Readings

1. G.S.Maddala, Introduction to Econometrics, 3rd edition, John Wiley & Sons Ltd (2005).
2. Jan Kmenta, Elements of Econometrics, Macmillan Publishing company(1991)
3. D. Gujrati, Basic Econometrics, McGrawhill Higher Education (2003)
4. Greene W.H. : Econometric Analysis, 4th edition, Pearson Education (2000)

*Sem-5: Core Course-12 (***ECOACOR12T***)*

DEVELOPMENT ECONOMICS
Total number of Lecture hours:75
Total number of Tutorial hours:15

Topics

1. Basic concepts of development **(20 hours)**
Different concepts of development –Sustainable development, Participatory development, Inclusive development, Human development, Growth and Development– Broad Indicators of Economic Development–Per capita Income–Human Development Index–Gender Development Index–Gender Empowerment Measure–Human Poverty Index. International variations in development measures; Comparing development trajectories across nations and within them. Dependency school of development.Theory of unequal exchange and development.

2. Persistence of Underdevelopment and Strategies of Development   (25 hours)

Characteristics of underdevelopment – Obstacles tounderdevelopment – Trap Models – Vicious circle of poverty – Critical minimum effort thesis – Low level equilibrium trap – Process of cumulative causation – Big push argument targeting the big push-balanced vs. unbalanced growth; Hirschman model, Choice of technique and investment criteria, Concept of surplus labour – Surplus labour as potential saving – Economic developmentwith unlimited supplies of labour (Lewis Model). Harris-Todaro model.

3. Poverty and Inequality   (20 hours)

Meaning of inequality, Inequality measures: Lorenz Curve, Range, Coefficient of variation, Gini-coefficient, Poverty, relative and absolute deprivation with respect to income, Poverty line, Poverty measures – Head count ratio, Poverty gap ratio, Income gap ratio, Human Poverty Index,hunger index etc.. Tackling Poverty – The World Bank Approach

4. Globalization   (10 hours)

Globalization in historical perspective- Brettonwoods and its after math.the economics and politics of multilateral agreements; trade, production patterns and world inequality; financial instability in a globalized world.

[Note: *Values in parentheses indicate number of Lecture hours for the corresponding unit*]

Suggested Readings
1.Thirlwall: Growth and Development
2.Debraj Roy: Development Economics
3. G.M. Meier and J.E. Rauch.Leading Issues in Economic Development. Oxford University Press. (8th edition or latest)
4.K. Basu: Analytical Development Economics, OUP
5.Debesh Bhattacharya: Political Economy of Development
6.Todaro and Smith: Economic Development, Pearson Education, 2009
7. Y. Hayami, "Development Economics", (Oxford University Press)
8. DaniRodrik, *The Globalization Paradox: Why Global Markets, States and Democracy Can't Coexist*, Oxford University Press, 2011.
9.SoumyenSikdar(2013) Contemporary Issues in Globalization: An Introduction to Theory and Policy in India,OUP

APPLIED ECONOMETRICS
Total number of Lecture hours:75
Total number of Tutorial hours:15

Topics

1. Stages in Empirical Econometric Research **(10hours)**
Research Methodology

2. Essential steps in Primary data collection **(10 hours)**
Problem selection, designing of questionnaire, sample design, pre-testing of questionnaire for collection of primary data, introduction to secondary data sources.

3. Application of Statistics **(15hours)**
Estimation of descriptive statistics: mean, median, mode, standard deviation, simple correlation, rank correlation. Graphical representation of data sets: pie-chart, bar chart, linear and nonlinear curve fitting.
Introduction to probability theory, random sampling using random number, Testing of hypothesis.

4. Application of Econometrics **(30hours)**
Linear regression model and test for linear restriction on parameters test of heteroscedasticity, autocorrelation, multicolinearity, application of dummy variable models.
Interpretation: Estimated parameters; goodness of fit - R^2 and adjusted R^2; partial regression coefficients; testing hypotheses – individual and joint.

Dummy variables, dummy variable for changes in intercept term, slope coefficient, dummy variable trap, dummy variables for testing in the regression coefficient

5.Introduction to Econometric Software Package   **(10 hours)**
SPSS; E-VIEWS; STATA (any one)

[Note: *Values in parentheses indicate number of Lecture hours for the corresponding unit*]

Suggested Readings:
1. Maddala, G, Introduction to Econometrics, Willey, (2002).
2. Hadley, Linear Programming, Addison-Wesley Pub Co (1962)
3. Cochrane, Sampling Techniques , Wiley; 3rd edition (1977)
4. Wooldridge, J.W : Introduction to Econometrics, South-Western, Division of Thomson Learning; International ed edition (2005)
5. Kenney and Keeping: Mathematics of Statistics, Part1& II, D. Van Nostrand Company Inc; 2nd edition (1951).
6. Madnani, Introduction to Econometrics, S. Chand, (2000).

PUBLIC ECONOMICS
Total number of Lecture hours:75
Total number of Tutorial hours:15

Topics

1. Nature and Scope of Public Economics   **(15 hours)**
Definition and Scope of Public Economics; Externalities, Market Failure and Government
Intervention; Coase Theorem; Fiscal functions: an overview.

2. Theory of Public Good   **(20 hours)**
Definition of Public Good; Characteristics of Pure Public Good; Distinction between Pure
Public Good, impure public good and Private Good; Free riding problem;Market Failure in
case of Pure Public Good; Optimal provision of Public Goods; Private Provision and Public
Provision of Public Goods; Lindahl Equilibrium; Voting Equilibrium.

3. Taxation   **(20 hours)**
Classification of Taxes; Canons of Taxation; Benefit Principle; Equal Sacrifice Principle;
Ability to Pay Principle; Incidence and Burden of Taxes; Effects of taxation on income
distribution, work efforts, and on savings; dead weight loss and distortion, efficiency and
equity considerations, tax incidence, optimal taxation; the Laffer curve.

4. Public Expenditure and Public Debt (20 hours)

Meaning and Classification of Public Expenditure; government budget and its types; government expenditure and tax multipliers, balanced budget multiplier; Fiscal Federalism in India; Meaning of Public Debt; Sources of Public Borrowings: internal and external borrowing; Effects of Public Debt.

[Note: *Values in parentheses indicate number of Lecture hours for the corresponding unit*]

Suggested Readings:

1. J. Hindriks, G. Myles: *Intermediate Public Economics*, MIT Press, 2006.
2. H. Rosen, T. Gayer: *Public Finance*, 9th ed., McGraw-Hill/Irwin, 2009.
3. J. E. Stiglitz, *Economics of the Public Sector*, W.W. Norton & Company, 3rd edition, 2000.
4. R.A. Musgrave and P.B. Musgrave, *Public Finance in Theory &Practice,*McGraw Hill Publications, 5th edition, 1989.
5. Mahesh Purohit, *Value Added Tax: Experiences of India and Other Countries,*2007.
6. 7. M.M. Sury, *Government Budgeting in India,* 1990.
8.A.B.Atkinson and J.E.Stiglitz,Lectures on Public Economics, McGraw-Hill Inc.,US, 1980.
9. J. F. Due and A. F. Friedlander. Government Finance-Economics of Public Sector, AITBS Publishers and Distributors, 1994
10. AmareshBagchi (ed), Readings in Public Finance, OUP
11. R.J. Chelliah (ed), Towards Sustainable Growth, OUP, 2009
12. A Ghosh and C. Ghosh, Public Finance, Prentice Hall India Learning Private Limited; 2nd Revised edition (2014)

ECONOMICS OF HEALTH & EDUCATION
Total number of Lecture hours:75
Total number of Tutorial hours:15

Topics

1. Role of Health and Education in Human Development (15hours)
Importance in poverty alleviation, health and education outcomes and their relationshipwith macroeconomic performance.

2. Microeconomic Foundations of Health Economics (15hours)
Demand for health, ~~uncertainty and health insurance market; alternative insurancemechanisms, market failure and~~ rationale for public intervention; equity and inequality.

3. Evaluation of Health Programs (15hours)
~~Costing,~~ cost effectiveness and cost-benefit analysis; burden of disease.

4. Health Sector in India: An Overview(10hours)
Health outcomes, health systems, health financing.

5. Education: Investment in Human Capital (10hours)

21

Rate of return to education: private and social; ~~quality of education; signaling or humancapital; theories of discrimination;~~ gender and caste discrimination in India.

6. Education Sector in India: An Overview (10hours)
Literacy rates, school participation, school quality measures.

[Note: *Values in parentheses indicate number of Lecture hours for the corresponding unit*]

Suggested Readings:
1. William, Jack, *Principles of Health Economics for Developing Countries*, World Bank Institute Development Studies, 1999.
2. World Development Report, *Investing in Health*, The World Bank, 1993.
3. The economics of socialDeterminants of healthAnd health inequalities:World Health Organization 2013
4. Ronald G., Ehrenberg and Robert S., Smith, *Modern Labor Economics: Theory and Public Policy*, Addison Wesley, 2005.
5. Encyclopedia of Health Economics (1st Ed.) 2014, Editor-in-Chiefs: A J. Culyer
6. Economics Of Social Sector And Environment Paperback, 2006, SangyaSrivastava (Author), S. C. Srivastava (Author)
7. Social Sector in India: Issues and Challenges, HimanshuSekhar Rout, Padmaja Mishra Cambridge Scholars Publishing, 2015