### **FACULTY OF ECONOMICS & BUSINESS**

### **SYLLABUS**

For

# Master of Science (Economics) Semester (I –II)

# (Under Credit Based Continuous Evaluation Grading System)



Session: 2024-2025

The Heritage Institution Kanya Maha Vidyalaya, Jalandhar (Autonomous)

# **Program Specific Outcome – Master of Science (Economics)**

M.Sc. Economics is two year post graduate course with five subjects in each semester. The basic objective of M.Sc. Economics is to develop strong theoretical base along with practical skills of students associated with economic theories and real world internal as well as international economic problems. This course will help to develop academicians, researchers, analysis, bankers and anchors

### Upon successful completion of this course, students will be able to:

PSO1: have in depth understanding of the basic concepts and theories of various streams of

Economics.

**PSO2:** learn basic and advance data analysis techniques and their theoretical base.

**PSO3:** learn and understand basic problems and issues of Indian and Punjab Economy.

**PSO4:** learn latest developments in different streams of Economics.

#### **Programme outcome:**

The advanced knowledge gained with the optimum combination of economic theory, quantitative techniques, computer & financial courses opens various advanced career options for the students

# Kanya Maha Vidyalaya, Jalandhar (Autonomous) SCHEME AND CURRICULAM OF EXAMINATION OF TWO YEAR DEGREE PROGRAM Master of Science (Economics) (Session 2024-2025) Credit Based Continuous Evaluation Grading System (CBCEGS)

Semester-I											
Course	Course Title	Course Type	Hours Per Week	Credits	Marks				Examination		
Code					Total	Th	Р	CA	- time (in Hours)		
MECL- 1171	Microeconomics- I	С	4	4-0-0	100	80	-	20	3		
MECL- 1172	Macroeconomics- I	С	4	4-0-0	100	80	-	20	3		
MECL- 1173	Mathematics for Economists	С	4	4-0-0	100	80	-	20	3		
MECL- 1174 (OPT- )	Option to be selected from Table No. 1 below	E	4	4-0-0	100	80	-	20	3		
MECL- 1175 (OPT- )	Option to be selected from Table No. 1 below	E	4	4-0-0	100	80	-	20	3		
Students	can opt any one of	IDE		4-0-0	100	80	-	20	3		
th	e following			2-0-2	100	80	-	20	3		
Interdis	ciplinary optional			4-0-0	100	80	-	20	3		
	courses			2-0-2	100	50	30	20	3+3		
TOTAL CREDITS			20 500								
IDEC-1101			Effective Communication Skills								
IDEM-1362			Basics of Music (Vocal)								
	IDEH-1313		Human Rights and Constitutional Duties								
	IDEI-1124		Basics of Computer Applications								
IDEW-1275			Indian Heritage: Contribution to the World								

# Kanya Maha Vidyalaya, Jalandhar (Autonomous) SCHEME AND CURRICULAM OF EXAMINATION OF TWO YEAR DEGREE PROGRAM Master of Science (Economics) (Session 2024-2025) Credit Based Continuous Evaluation Grading System (CBCEGS)

Semester-II									
Course	Course Title	Course	Hours	Credits	Marks				Examination
Code		Туре	Per Week		Total	Th	Р	CA	– time (in Hours)
MECL- 2171	Microeconomics- II	C	4	4-0-0	100	80	-	20	3
MECL- 2172	Macroeconomics- II	C	4	4-0-0	100	80	-	20	3
MECL- 2173	Statistical Techniques	C	4	4-0-0	100	80	-	20	3
MECL- 2174 (OPT- )	Option to be selected from Table No. 1 below	E	4	4-0-0	100	80	-	20	3
MECL- 2175 (OPT- )	Option to be selected from Table No. 1 below	Е	4	4-0-0	100	50	30	20	3
TOTAL CREDITS		20			500				

# List of optional papers

Code	Paper	Credits	CA	Р	Th	TotalMa
						rks
OPT-I	Money, Banking and Financial Institutions	4-0-0	20	-	80	100
OPT-II	Public Finance	4-0-0	20	-	80	100
OPT-III	InternationalEconomics	4-0-0	20	-	80	100
OPT-IV	Industrial Economics	4-0-0	20	-	80	100
OPT-V	Labour Economics and Industrial Relations	4-0-0	20	-	80	100
OPT-VI	Agricultural Economics	4-0-0	20	-	80	100
OPT- VII	Computer Applications for Economists–I	3-0-1	20	30	50	100
OPT- VIII	Economics of Public Enterprises	4-0-0	20	-	80	100
OPT-IX	Demography	4-0-0	20	-	80	100
OPT-X	Rural Economics	4-0-0	20	-	80	100
OPT-XI	History of Economic Thought	4-0-0	20		80	100
OPT- XII	Economics of Gender and Development	4-0-0	20	-	80	100
OPT- XIII	Economics of Social Sector	4-0-0	20	-	80	100
OPT- XIV	Financial Institutions and Markets	4-0-0	20	-	80	100
OPT- XV	Economics of Innovative	4-0-0	20	-	80	100
OPT- XVI	Theory of Statistics	4-0-0	20	-	80	100
OPT- XVII	Operations Research	4-0-0	20	-	80	100
OPT- XVIII	International Trade and Investment(For those who opted for OPT-III in	4-0-0	20	-	80	100
	earlier Semester)	2.0.1	20	20	FO	100
XIX	for Economist-II (For those who opted for OPT-VII in earlier Semester)	3-0-1	20	50	50	100
OPT- XX	Environmental Economics	4-0-0	20	-	80	100
OPT- XXI	Econometrics and Forecasting Techniques	4-0-0	20	-	80	100
OPT- XXII	Dissertation(Can be opted in Semester IV only)	4-0-0	-	-	-	100

# Master of Science (Economics) Semester – I Session 2024-2025 Course Code: MECL-1171 Microeconomics-I

## **Course outcomes:**

After passing this course students will be able to:

**CO1:** understand basic economic problems related to choice and scarcity and elasticity of demand and supply.

**CO2:** analyze and demonstrate knowledge of the basic theories and laws in Economics.

**CO3:** have an in-depth understanding of consumer behavior in risky and uncertain situations and how the negotiations are made under asymmetric information conditions.

**CO4:** study different laws of production, producer equilibrium and cost curves.

### Master of Science (Economics) Semester – I Session 2024-2025 Course Code: MECL-1171 Microeconomics–I

**Time: 3 Hours** 

L-T-P (Credits):4-0-0 Max. Marks: 100 Theory: 80 CA: 20

### **Instructions for the Paper Setters:**

Two questions, each carrying 16 marks, from each of the Units I-IV (i.e. a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

#### UNIT-I

**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.

#### **UNIT-II**

**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.

#### **UNIT-III**

**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.

#### UNIT-IV

**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.

#### **Course Outcomes:**

Through this course, the students will be able to infer the fundamentals of microeconomics and introduced with production and cost structure. This course also integrates the concepts of price and output decisions of firms under various market structures.

- 1. Henderson & Quandt: Microeconomic Theory, A Mathematical Approach, McGraw-Hill, Newyork, 1978.
- 2. Koutsoyiannis A.: Modern Microeconomics, Macmillan Press, London, 1979.
- 3. Heathfield & Wibe: An Introduction to Cost and Production Functions, Macmillan Press, London, 1979.
- 4. Layard & Walters: Microeconomics Theory, Mc G raw-Hill, New York, 1978.
- 5. Naylor & Vernon: Microeconomics and Decisions Models of the Firm, W.W. Norton, NewYork, 1996.
- 6. Ferguson, C.E.: Microeconomics Theory, Prentice Hall, 1978.
- 7. Dacosta, G.C.: Value and Distribution, Himalaya Publication, 1992.

# Master of Science (Economics) Semester – I Session 2024-2025 Course Code: MECL-1172 Macroeconomics-I

# **Course outcomes:**

- **CO1:** understand the basics of national income accounting.
- **CO2:** understand the basics of theoretical classical and Keynes Economics.
- **CO3:** understand the conditions of static equilibrium in the labour markets
- **CO4:** understand the introductory theories of consumption

### Master of Science (Economics) Semester - I Session 2024-2025 Course Code: MECL-1172 Macroeconomics-I

### **Time: 3 Hours**

L-T-P (Credits):4-0-0 Max. Marks: 100 Theory: 80 CA: 20

# Note: Instructions for the Paper-Setter:

Two questions, each carrying 16 marks, from each of the Units I-IV (i.e. a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

#### **UNIT-I**

**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 factorcostand atmarketprices. Real and nominal GNP, GNP and welfare.

#### **UNIT-II**

Inter-temporal and international comparisons of national income. Social accounting and its significance. The classical and Keynesian models of income determination, Balance budget multiplier. Foreign budget Multiplier. Equilibrium in the product and money markets. Adjustment towards equilibrium.

#### UNIT-III

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).

#### **UNIT-IV**

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

- 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. Dornbusch, Eand S. Fischer Macroeconomics Auckland, McGraw Hill International, 1981
- 7. Levacic,RMacroeconomics:The State and Dynamic Analysis of a Monetary Economy, London, Macmillan, 1976.
- 8. Glahe, F.R. Macroeconomics: Theory and Policy, Harcourt Brace Jovanovich, New York, 1973.
- 9. Junankar, P.N. Investment: Theories and Evidence, London, Macmillan, 1972.
- 10. Crouch, R. L. Macroeconomics, New York, Harcourt Brace Jovanovich, New York, 1972.
- 11. Evans, M.K. Macroeconomics Activity, Harper & Row Publishers, New York, 1969.

# Master of Science (Economics)Semester – I Session 2024-2025 Course Code: MECL-1173 Mathematics for Economists –I

### **Course outcomes:**

- **CO1:** Recognize the concept of functions and rules of differentiation and apply this to find out revenue, cost, demand, supply function, elasticity and their types.
- **CO2:** To learn the concept of differential equations and the concepts of integration and its applications to consumer's surplus and producer's surplus.
- **CO3**: To learn the matrix algebra and solve the system of equations using matrices. Students will also able to understand the concept of quadratic forms, Eigen roots and Eigen vectors.
- **CO4:** to learn linear programming problem, its formulation and solution through and simplex methods. graphical

### Master of Science (Economics)Semester – I Session 2024-2025 Course Code: MECL-1173 Mathematics for Economists –I

**Time: 3 Hours** 

L-T-P (Credits):4-0-0 Max. Marks: 100 Theory: 80 CA: 20

### Note: Instructions for the Paper-Setter:

Two questions, each carrying 16 marks, from each of the Units I-IV (i.e. a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

### UNIT-I

**DIFFERENTIAT ION:** Differentiation. Partial derivatives, Euler's theorem and total differentials. Maxima and minima with and without constraints. Economic applications of differentiation.

### UNIT-II

**Differential and Difference Equations:** Differential and difference equations of first and second order. Integration: Simple integration, Integration by parts, partialfractions, Definite integral, Economic application of integration.

### UNIT-III

**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.

### UNIT-IV

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

**Course Outcome:** This course focuses on fundamental mathematical tools , which have wide applications in economics, This course helps students to understand mathematical economics.

- 1. Yamane, Taro: Mathematics for Economists, Printice Hall, Latest Edition
- 2. Chiang, A: Fundamental Methods of Mathematical Economics, McGraw Hill Ltd. 1974
- 3. Chang Yan Chiou : Introduction to Input–output Economics.
- 4. Taha, H.A.: Operations Research: An Introduction, Pearsons Publications Latest Edition.
- 5. Monga, G.S.: Mathematics for Management and Economics. S. Chand and Co. 2017.
- 6. Sancheti, D.C. & V.K. Kapoor, Business Mathematics, S. Chand & Sons. 2018.
- 7. BalwantKandoi,: Mathematics For Business & Economics, Volume I & II Himalya Publication

## Master of Scieńce (Economics) Semester – II Session 2024-2025 Course Code: MECL-2171 Microeconomics-II

#### **Course outcomes:**

- **CO1:** learn the production decisions of a producer in different market structures and also in price discrimination.
- **CO2:** understand and apply the concepts of micro economics in different markets such as monopsony, bilateral monopoly and oligopoly.
- **CO3:** to understand the role of managerial theories of firm, game theory.
- **CO4:** To explain what is meant by economic efficiency and the mechanism by which competitive markets lead to an efficient allocation of resources, role of market imperfections and basics of social welfare.

## Master of Scieńde (Economics) Semester – II Session 2024-2025 Course Code: MECL-2171 Microeconomics-II

**Time: 3 Hours** 

L-T-P (Credits):4-0-0 Max. Marks: 100 Theory: 80 CA: 20

# Note: Instructions for the Paper-Setter:

Two questions, each carrying 16 marks, from each of the Units I-IV (i.e. a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

#### UNIT-I

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 maximization, optimality conditions.

#### **UNIT-II**

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.

#### **UNIT-III**

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.

#### **UNIT-IV**

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.

- 1. American Economic Assocation: Readings in Income Distribution, George Allen & Unwin, 1950.
- 2. Bronfen brenner, M.: Income Distribution Theory, Macmillan, 1971.
- 3. Henderson & Quandt: Microeconomics Theory A Mathematical Approach, McGraw Hill, 1978.
- 4. Koutsoyiannis, A.: Modern Microeconomics, Mac mill an Press, London, 2003.
- 5. Layard & Walters: Microeconomics Theory, McGraw Hill New York, 1982.
- 6. Naylor & Vernon: Microeconomics and Decision Models of the Firm, W.W. Norton, New York, 1996.
- 7. Weintraud, E.R.: General Equilibrium Theory, Prentice Hall, UK, 1978.
- 8. Hanson, E.: A Survey of General Equilibrium Systems, George Allan, 1992.

### Master of Science (Economics) Semester – II Session 2024-2025 Course Code: MECL-2172 Macroeconomics-II

### **Course outcomes:**

After studying this course, students will be able to understand:

**CO1:** basic theories of investment and trade cycles

**CO2**: factors responsible for and theories of economic growth

- **CO3:** factors affecting demand and supply of money understand and causes and process of inflation.
- **CO4:** rules and framework of macroeconomic policy and basic of various schools of economic thought.

## Master of Science (Economics) Semester – II Session 2024-2025 Course Code: MECL-2172 Macroeconomics-II

**Time: 3 Hours** 

L-T-P (Credits):4-0-0 Max. Marks: 100 Theory: 80 CA: 20

### Note: Instructions for the Paper-Setter:

Two questions, each carrying 16 marks, from each of the Units I-IV (i.e. a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

#### UNIT-I

Investment: Keynesian, Post-Keynesian, Neo-Keynesian, (Jorgenson approach). Lags in investment function.

Trade Cycles: Samuelson, Hicks and Kaldor Models

#### **UNIT-II**

Economic growth: Model: Harrod and Domar conditions for equilibrium growth. Neo-classical growth model (with or without technical progress) savings, Consumption and factorsshares in neo-classical model. The golden rule of accumulation.

#### UNIT-III

Mechanics of money supply expansion. Demand for money –classical, Keynesian, Friedman an d neo-Keynesian approaches. Inflation – causes, consequences and cures. Inflation–unemployment trade–off. The natural ratehypothesis.

#### **UNIT-IV**

Macroeconomics 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).

- 1. Ackley, G. : Macro Economic Theory, Macmillan Press, 1961.
- 2. Branson, W.B.: Macro Economics Theory and Policy, Harper & Row, 2005.
- 3. Brooks J & Evans, R.W.: Macro Economics policy in Theory and practice, Allen and Unwin, 1978.
- 4. Edgemond, M.F.: Macro Economics: Theoryand Policy, Prentice Hall, Inc. London, 1987.
- 5. Evans, M.K.: Macro Economics Activity, Theory Forecasting and Control, Joanna Cotterbooks, 1969.
- 6. Glahe, F.R.: Macro Economics: Theoryand policy, Harcourt Brace Jovanovich, 1985.
- 7. Gordon, J.: Macro Economics, Pearson, 2008.
- 8. Junankar, P.N. : Investment: Theories and Evidence, Macmillan Studies in Economics, Macmillan Education London, 1972.
- 9. Laidler, D.E.W.: Demandfor Money: Theories, Evidenceand Problems, Harperand Row, 1985.
- 10. Levacic, R.: Macro Economics: The Staticanddynamic Analysisofa Monetary Economy, Macmillan Press, London, 1976.
- 11. McConnell, C. R.: Economics Principles, Problems and Policies, McGraw Hill, New York, 2018.
- 12. Sayer, S. : An Introduction to Macro Economics policy, Butterworth Scientific, 1982.
- 13. Solow, R.M.: Growth Theory An Exposition, Oxford University Press, 1970.
- 14. Thirlwall, A.P.: Growth and Development, Macmillan Press, 1989.
- 15. Froyen, Richard T.: Macroeconomics Theories and Policies, Pearson Edu., 2005.

# Master of Science (Economics) Semester – II Session 2024-2025 Course Code: MECL-2173 Quantitative Methods for Economists-II

### **Course outcomes:**

- **CO1:** understand the co-variability among variables by using statistical techniques simple, partial and multiple correlation and prediction of dependent variable by using simple regression.
- **CO2:** learn the techniques for forecasting and prediction by using multiple regression and nonlinear growth curves
- **CO3:** understand the concepts of probability in detail and theoretical distributions and also moment generating function
- **CO4:** understand the methods of drawing a sample and procedure for hypothesis testing.

### Master of Science (Economics) Semester – II Session 2024-2025 Course Code: MECL-2173 Quantitative Methods for Economists-II

**Time: 3 Hours** 

L-T-P (Credits):4-0-0 Max. Marks: 100 Theory: 80 CA: 20

#### Note: Instructions for the Paper-Setter:

Two questions, each carrying 16 marks, from each of the Units I-IV (i.e. a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

#### UNIT-I

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 –efficient.

#### **UNIT-II**

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.

#### **UNIT-III**

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, passion and normal distributions.

#### **UNIT-IV**

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.

- 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)

# Master of Science (Economics) Session 2024-2025 OPT-I (Money, Banking and Financial Institutions)

# **Course outcomes:**

- **CO1:** understand the concept of demand for and supply of money.
- **CO2:** understand of the working of money and capital markets in India.
- **CO3:** understand the mechanism as well as working of banking sector in Indian Economy
- **CO4:** understand the main policy challenges central banks face in choosing appropriate goals, instruments and targets in the conduct of monetary policy.

# Master of Science (Economics) Session 2024-2025 OPT-I (Money, Banking and Financial Institutions)

### **Time: 3 Hours**

L-T-P (Credits):4-0-0 Max. Marks: 100 Theory: 80 CA: 20

# Note: Instructions for the Paper-Setter:

Two questions, each carrying 16 marks, from each of the Units I-IV (i.e. a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

### UNIT-I

**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.

### UNIT-II

Money and Capital Market: Role, constituents and functions.

### **UNIT-III**

Banking in India –Commercial banks, co–operative banks and regional rural banks.

# UNIT-IV

RBI and its functions; Instruments of credit controls; Credit policy in India and recent developments. Monetary policy: Objectives, targets and indicators. Monetary policy inIndia.

# **Suggested Readings:**

1. Bhole, L.M. (2004) Financial Institutions and Markets: Structure, Growth and Innovations, 2nded.

- 2. Glahe, F. R. (1973) Macroeconomic Theory and Policy.
- 3. Government of India Economic Survey (Annual.)
- 4. Laidler, D.E.W. (1977) The Demand for Money: Theories and Evidence, 1977
- 5. R.B.I. (1983) Functions and Working.
- 6. R.B.I. (1985) Report of The Committee to review the Working of The Monetary System, Chakrawarty Committee Report).
- 7. R.B.I. (1991) Narasimhan CommitteeReport.
- 8. Thorn, R.S. (1976) Introduction to Money and Banking.
- 9. Cherunilam Francis (2012), Business Environment, Himalaya Publishing House Pvt. Ltd.
- 10. Sarma NityanandaV.(2011) Bankingand Financial System, Cambridge University Press IndiaPvt. Ltd. New Delhi.

# Master of Science (Economics) Session 2024-2025 OPT-II (Public Finance)

### **Course outcomes:**

- **CO1:** understand the basic principles and concepts of taxation system and tax structure.
- **CO2:** analyze critically tax reforms and policy choices in developed and developing countries
- **CO3:** understand the effects of government expenditure and the role of public debt in economic development.
- **CO4:** analyze the instruments and objectives of budgetary policy and understand the role of fiscal federalism and fiscal reforms on production and distribution.

**Time: 3 Hours** 

L-T-P (Credits):4-0-0 Max. Marks: 100 Theory: 80 CA: 20

### Note: Instructions for the Paper-Setter:

Two questions, each carrying 16 marks, from each of the Units I-IV (i.e. a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

#### UNIT-I

**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.

#### **UNIT-II**

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; La test tax reforms in India: Implementation of GST.

#### UNIT-III

**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.

#### UNIT-IV

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

**Problems and Principles of FederalFinance:** Union-state financial relations inIndia. Fiscal policy and Fiscal Reforms inIndia.

- 1. Bhargava, R.N.: Theory and Working of Union Finance in India, George Allen and Unwin, London, UK.
- 2. Bird, Richard, M. and Oliver Oldman: Readingson Taxation in Developing Countries, Johns Hopkins University Press.
- 3. Cedric Sandford : Economics of Public Finance. (Chapter 2) Pergamon Press.
- 4. Chelliah. R.J.:Fiscal–Policyin Underdeveloped Countries, George Allen and Unwin, London, UK.
- 5. Dalton, Hugh : Principles of Public Finance, Allied Publishers Pvt Ltd.
- 6. OmParkash: Center–StateFinancialRelationsinIndia,AtlanticPublishersandDistributers Pvt Ltd.
- 7. Om Parkash: Economics of Public Finance, Vishal Publishing Co.
- 8. Musgrage, R.A. : Theory of Public Finance, Mc Graw Hill, New York.
- 9. Prest, A.R. : Public Finance, Weidenfeld & Nicolson.
- 10. \_\_\_\_: Public Finance in Underdeveloped Countries, Weidenfeld & Nicolson.

- 11. \_\_\_\_: Public Finance in Theory and Practice, Weidenfeld& Nicolson.
- 12. Rosen H. S. and Ted Gayer: Public Finance, Mc Graw Hill Education (India) Pvt. Ltd.
- 13. Sahota, G.S.: Indian Tax Structure and Economic Development, Asia Publishing House, London.
- 14. Stiglitz, J. E.: Economics of Public Sector, W. W. Norton & Company, New York.
- 15. Thimmaih, G: Perspectives in Tax Design and Tax Reform(Chapter 1), Ashish Publishing House, New Delhi.
- 16. N.C.A.E.R. : Management of Public Debt in India.
- 17. National Institute of Public Finance and Policy: Trends and Issues in Indian Federal Finance.
- 18. Government of India. : Economic Survey.
- 19. \_\_\_\_: Central Budget Documents.
- 20. \_\_\_\_: Reports of Finance Commissions.
- 21. \_\_\_\_: Tax Reforms Committee. (Chairman, Raja, JChelliah) Interim Report (Dec, 1991) and final report, First part (August, 1992).

# Master of Science (Economics) Session 2024-2025

# **OPT-III (International Economics)**

- **CO1:** to develop a conceptual understanding of key concepts and practical applications of international trade and of trade related policies.
- **CO2:** to understand the concept of BOP and process of adjustment in BOP.
- **CO3:** to understand the various forms of protection and how rate of exchange is determined along with relative merits and demerits of fixed and flexible exchange rate.
- **CO4:** to understand forms of economic co-operation along with static and dynamic effects of custom union and role of short term capital in financial crisis.
- **CO4:** understanding of Bretton woods system, financial crisis in trade and the role of international institutions.

# Master of Science (Economics) Session 2024-2025

# **OPT-III (International Economics)**

Time: 3 Hours

L-T-P (Credits):4-0-0 Max. Marks: 100 Theory: 80 CA: 20

# Note: Instructions for the Paper-Setter:

Two questions, each carrying 16 marks, from each of the Units I-IV (i.e. a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

#### UNIT-I

**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.

#### UNIT-II

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

### **UNIT-III**

#### Formsofprotection: Tariffand Quota.

**Exchange Rates:** Exchange rate and its determination. Theory of Foreign Exchange Markets– Exchange Trading, Arbitrage and Market Hedging.

### **UNIT-IV**

**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. BREXIT: Issues and Implications.

- 1. Argy, Victor (1980) The Post–War International Money Crisis, Allen & Unwin.
- Bilson, J. (1978) The Monetary Approach to the Exchange Rates Some Empirical Evidence, IMF, Staff Papers, pp. 48–75.
- 3. Caves, R.E. (1978) Flexible Exchange Rate, American Economic Review, May.
- 4. FlemingM.J.(1962)DomesticFinancialPoliciesunderFixedandunderFloatingExchange Rates, IMF, StaffPaper.
- 5. Gomes, Leonard International Economic Problems, Macmillan Press, Lt d.
- 6. Ingram, James (1978) C. International Economic Problems, John Wiley & Sons.
- 7. Kindleberger, C. International Economics, Ontario Richard D. Irwin.
- 8. Lewis, W.Arthur (1977) The Evolution of the New International Economic Order, Princeton University Press.
- 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.

# Master of Science (Economics) Session 2024-2025 OPT-IV (Industrial Economics)

# **Course outcomes**:

- **CO1:** understand concepts and objectives of firm and problems of industrial economics.
- **CO2**: learn about meaning and determinants of market structure.
- **CO3:** understand different criteria's of project appraisal and the theories of market conduct.
- **CO4:** concepts and measurement of industrial productivity, capacity of utilization, profitability and Industrial policy in India.

**Time: 3 Hours** 

L-T-P (Credits):4-0-0 Max. Marks: 100 Theory: 80 CA: 20

### Note: Instructions for the Paper-Setter:

Two questions, each carrying 16 marks, from each of the Units I-IV (i.e. a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit .

#### UNIT-I

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

#### **UNIT-II**

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

#### **UNIT-III**

**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.

#### **UNIT-IV**

**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.

- 1. Hay, D.D.A & D.J. Morris: Industrial Economic Theory and Evidence, Oxford UniversityPress, 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, Cambridge University Press, Cambridge, 1982.
- 5. Bains, J. SIndustrial 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.):PrivatizationandControlofStateownedEnterprises, Washington. The World Bank, Washington, 1991

# Master of Science (Economics) Session 2024-2025 OPT-V (Labour Economics and Industrial Relations)

# **Course outcomes:**

- **CO1:** understand the concept of labour economics and theories and types of labour markets.
- **CO2:** understand the role of trade unions, their growth and problems.
- **CO3:** understand concept of wages, industrial disputes and its settlement.
- **CO4:** understand social security policies and State policies with respect to labour welfare in India.

#### Master of Science (Economics) Session 2024-2025 OPT-V (Labour Economics and Industrial Relations)

**Time: 3 Hours** 

L-T-P (Credits):4-0-0 Max. Marks: 100 Theory: 80 CA: 20

# Note: Instructions for the Paper-Setter:

Two questions, each carrying 16 marks, from each of the Units I-IV (i.e. a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

### UNIT-I

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.

### UNIT-II

Features and characteristics of Indian labour market.

**Industrial Relations:** Trade Unions, objectives and functions. Indian Trade Unions. Growth and problems.

### UNIT-III

Industrial disputes, Industrial disputes in India, Dispute settlement 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.

### **UNIT-IV**

**Social Security:** Definition and scope, Social security measures in India, Problems of child labour in India. Major recommendations of Second National Commission on labour, Labour market reforms.

- 1. Bhagoliwal, T.N.: Economics of Labour and Industrial Relations, Sahitya Bhawan, 1982.
- 2. Hajela, P.D. (1998), Labour Restructuring in India: A Critique of the New Economic Policies, Commonwealth Publisher, New Delhi.
- 3. Lester, R.A. (1964), Economics of Labour, (2nd Edition), Macmillan, New York
- 4. McConnell, C.R. and S.L.Brue (1986), Contemporary Labour Economics, McGraw–Hill, NewYork.
- 5. Papola, T.S., P.P. Ghosh and A.N. Sharma (Eds) (1993), Labour, Employment and Industrial Relations in India, B.R. Publishing Corporation, New Delhi.
- 6. Venkata Ratnam, C.S.(2001), Globalization and La bour–Management Relations : Dynamics of Change, Sage Publications / Response Books, New Delhi.
- 7. McCormickm B. and Smith (Eds) (1968), The Labour Market, Penguin, Harmondsworth.
- 8. Das, N.(1960), Unemployment, Full Employment and India, Asia Publishing House, Bombay.
- 9. Deshpande L.K. and J.C. Sandesara, (Eds) (1970), Wage Policy and Wages Determination in India, Bombay University Press, Bombay.
- 10. Hicks J.R. (1932), The Theory of Wages, Clarendon Press, Oxford.
- 11. Mazumdar, D.(1989), Micro-economic Issues of Labour Markets in Developing Countries, EDI Services Paper No.40, World Bank, Washington D.C.
- 12. Memoria, C.B. (1966), Labour Problems & Social Welfare in India, Kitab Mahal, Allahabad.

- 13. Punekar, S.D.(1978), Labour Welfare, Trade Union ism and Industrial Relations, Himalaya Publishing House, Bombay.
- 14. Singh V.B. (Ed) (1970), Industrial Labour in India, Popular Parakashan, Bombay.
- 15. Misra, L. (2000), Child Labour in India, Oxford University Press, New Delhi.
- 16. Reynolds, L.G.: Labour Economics and labour Relations, Prentice Hall, 1974.
- 17. Riveros, L.(1990), Labour Market Policies and Labour Market Reforms in Socialist Economies, World Bank, Washington D.C.

# Master of Science (Economics) Session 2024-2025 OPT-VI (Agriculture Economics)

### **Course outcomes:**

After passing this course students will be able to:

- **CO1:** understand importance and transformation of agriculture economics.
- **CO2:** a) understand the institutional reforms and agriculture finance

b)learn the agrarian structure and relationship between farm size and productivity

- **CO3:** analyze trends in production & productivity and recognize the challenges in green revolution and price instability
- **CO4:** learn about the marketing policies, taxation and subsidies in agriculture and impact of WTO on agriculture

# Master of Science (Economics) Session 2024-2025 OPT-VI (Agriculture Economics)

**Time: 3 Hours** 

L-T-P (Credits):4-0-0 Max. Marks: 100 Theory: 80 CA: 20

# Note: Instructions for the Paper-Setter:

Two questions, each carrying 16 marks, from each of the Units I-IV (i.e. a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

### UNIT-I

**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.

### **UNIT-II**

**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.

#### UNIT-III

New agricultural technology and its impact on production, employment, labour absorption and income distribution; Growth and Productivity 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.

#### **UNIT-IV**

Agricultural marketing in India .

**Agricultural Taxation:** Inter-sectoral terms of trade; Agricultural subsidies-nature, trends and distributional implications; WTO and Indian agriculture.

- 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, ConceptPublishing 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.

# Master of Science (Economics) Session 2024-2025 OPT-VII (Computer Applications for Economists-I)

### **COURSE OUTCOMES**

- **CO1:** Comprehend about computer hardware, operating system concepts and various system software.
- **CO2:** Comprehend basics of internet and email along with their effective use. Articulate the main concepts, key technologies, strength and limitations of cloud computing.
- **CO3:** Comprehend the working of various programming constructs involved in C programming.
- **CO4:** Design C program and control its sequence using various control statements. Also work with pointers, structures and union.

### Master of Science (Economics) Session 2024-2025 OPT-VII (Computer Applications for Economists–I)

Time: 3+3 Hours

L-T-P (Credits):3-0-1 Max. Marks: 100 Theory: 50 Practical: 30 CA: 20

### Note: Instructions for the Paper-Setter:

Two questions, each carrying 10 marks, from each of the Units I-IV (i.e. a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

#### UNIT-I

**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.

### UNIT-II

**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.

#### **UNIT-III**

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 (*scanif*() function and *printif*() function.

### UNIT-IV

**Control Statements:** Decision making using *if, if-else, else if* 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 argumentsto a function, introduction to unions.

- 1. Kernigean, B.W. & Ritchie, P.M.: The C Programming LANGUAGE, Prentice Hall, 2000
- 2. Kaicker, S.: Programming in C, BPB Publications, 2003
- 3. Subramaniam, N.:Introductiontocomputer;FundamentalsofComputerScience,Tata McGraw Hill, 2005
- 4. Gurvinder Singh and Rachhpal Singh : Windows Based Computer System, KalyaniPublications, 2016
- 5. P.K. Sinha, PreetiSinha : Computer Fundamentals, BPB Publications 2010
- 6. E. Balagursamy : Programming in Ansi C, India Higher Educations, 2000
- 7. Yashwant Kanetkar : Let Us C, BPB Publications 2017

# Master of Science (Economics) Session 2024-2025 OPT-VIII (Economics of Public Enterprises)

# **Course outcomes:**

- **CO1:** understand the role of public sector in economic development, objectives scope and growth of public sector in India.
- **CO2:** understand the management of public enterprises and personnel management in public enterprises.
- **CO3:** discuss the role of bureau and pricing policy of public enterprises.
- **CO4:** explain growth, Performance of public sector in India and Public sector reforms and privatization strategies.

### Master of Science (Economics) Session 2024-2025 OPT-VIII: Economics of Public Enterprises

**Time: 3 Hours** 

L-T-P (Credits):4-0-0 Max. Marks: 100 Theory: 80 CA: 20

### Note: Instructions for the Paper-Setter:

Two questions, each carrying 16 marks, from each of the Units I-IV (i.e. a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

#### UNIT-I

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.

#### UNIT-II

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

#### **UNIT-III**

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.

# UNIT-IV

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

**Course outcome:** This course helps in understanding the crucial role of public enterprises in a mixed developing economy like India. It highlights important issues pertaining to Indian public sector.

- 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 Organization.
- 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.

# Master of Science (Economics) Session 2024-2025 OPT-IX (Demography)

### **Course outcomes:**

- **CO1:** understand the inter-linkage between environment, populations and economic development.
- **CO2:** understand the concepts of population growth rate, factors responsible for the demographic changes and reasons for migration.
- **CO3:** understand various theories of population growth and various factors explaining mortality.
- **CO4:** learn the causes and consequences of population growth on different aspects.

# Master of Science (Economics) Session 2024-2025

### **OPT-IX (Demography)**

**Time: 3 Hours** 

L-T-P (Credits):4-0-0 Max. Marks: 100 Theory: 80 CA: 20

### Note: Instructions for the Paper-Setter:

Two questions, each carrying 16 marks, from each of the Units I-IV (i.e. a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

#### UNIT-I

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

#### **UNIT-II**

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.

#### **UNIT-III**

**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 d ifferent OECD countries, and South East Asia.

#### UNIT-IV

**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.

- 1. Srinivasan K(1998), Basic Demographic Techniquesand 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 Policyin India, Kanishka Publications, New Delhi.
- 5. Bogue, D.J (1971) Principles of Demography, John Wiley, New York.
- 6. DuttRuddra and Sundram K.P.M., Indian Economy
- 7. Visaria V."Infant Mortalityin Indian: Level Trendsand Determinants" Economicand Political Weekly, Vol.20, No.32, August 10, 1985.
- 8. NathV."1991PopulationCensus:SomefactsandPolicyIssues",EPW,Vol.26September 14,1991.
- 9. Gopalan C"Population Problem: Needfora Total Views EPW. Vol. 26, September 14, 1991.
- 10. Dandekar, V.M."Population Frontof India's Economic Development" EPW, Vol.22, No.17, April 23, 1998, pp.837–842
- 11. RajanIsudaya.S."FamilyPlanningProgrammeinIndia:An EconomicEvaluation",The Indian Economic Journal, Vol.34, No.4, April June, PP 79–86.
- 12. Cocharane, Susan, H."Childrenis ByProduct" Investment Goods: AReviewof Some

MicroEconomics Models of Fertility" Population Studies, Vol.29, No.3, pp 373 – 390.

- 13. EhsanualHaq, "Sociology of Population", Macmillan, New Delhi, 2007.
- 14. Prithvish Nag, "Atlas of Population Change in India (1951–2001)", National Atlas and Thematic Mapping Organization, Ko lkata, 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.

# Master of Science (Economics) Session 2024-2025 OPT-X (Rural Economics)

## **Course outcomes:**

- learn the role of reforms in land utilization, agriculture and industry in rural development .
- understand the rural unemployment and the role of capital formation in rural development. In additions, students will also learn the agricultural development took place as for as agriculture production is concerned.
- learn the agricultural price policy and different marketing systems of agricultural produce.
- Comprehend the various schemes for rural industrialization and the role of social and economic overhead for rural development.

# Master of Science (Economics) Session 2024-2025 OPT-X (Rural Economics)

**Time: 3 Hours** 

L-T-P (Credits):4-0-0 Max. Marks: 100 Theory: 80 CA: 20

# Note: Instructions for the Paper-Setter:

Two questions, each carrying 16 marks, from each of the Units I-IV (i.e. a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

### UNIT-I

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

# UNIT-II

**Rural Labour and employment:** Disguised unemployment, Extent, causes and estimates ofrural 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.

# UNIT-III

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

### UNIT-IV

**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.

- 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 RuralDevelopment.
- 8. Raghava Rao, D.V. : Panchayats and Rural Development.
- 9. D.S. Tyagi : Public Distribution inIndia.
- 10. Sukhpal Singh: Contract Farming and the State: Experience of Thail and India, Kalpaz Publications, 2006.

# Master of Science (Economics) Session 2024-2025 OPT-XI (History of Economic Thought)

### **Course outcomes:**

After passing this course students will be able to:

**CO1:** understand the basics of Mercantilism school of economic thought.

**CO2:** understand the basics of classical economic thoughts.

**CO3:** understand the Marxian and historical economic thought.

**CO4:** understand the economic thought associated with basic concepts of Neo classicism and post

Keynesian economics.

# Master of Science (Economics) Session 2024-2025 OPT-XI (History of Economic Thought)

**Time: 3 Hours** 

L-T-P (Credits):4-0-0 Max. Marks: 100 Theory: 80 CA: 20

### Note: Instructions for the Paper-Setter:

Two questions, each carrying 16 marks, from each of the Units I-IV (i.e. a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

#### UNIT-I

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

#### UNIT-II

**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.

#### UNIT-III

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.

#### **UNIT-IV**

**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.

- 1. Hanley, L.H.: History of Economic Thought, 1949.
- 2. Blaug, M. : Economic Theory in Retrospect, 1968.
- 3. Schumpeter, J.A. : History of Economic Analysis, 1954.
- 4. Spiegel, H.W. : The Growth of Economic Thought, 1971.
- 5. Roll, E. : A History of Economic Thought, 1956.
- 6. Friedman, M. : A Theory of Consumption Function, 1957.
- 7. Hicks, J.R. : A Contribution to the Theory of Business Cycles, 1960.
- 8. Domar, E. : Essays in the Theory of Economic Growth, 1957.
- 9. Gide, C. and C. Rist : A History of Economic Doctrines, 1948. *Note: The latest edition of the books is recommended..*

# Master of Science (Economics) Session 2024-2025

# **OPT-XII (Economics of Gender and Development)**

### **Course outcomes:**

- CO1: Lean the demography of the female population and its access to various facilities.
- CO2: Understand women rights and the factor affecting economic status of women
- CO3: Comprehend female participation and labour force, wage differential and its determinants.
- CO4: Learn the social security mechanism regarding women and the role of NGOs, gender biases and gender development policies.

# Master of Science (Economics) Session 2024-2025

# **OPT-XII (Economics of Gender and Development)**

**Time: 3 Hours** 

L-T-P (Credits):4-0-0 Max. Marks: 100 Theory: 80 CA: 20

### Note: Instructions for the Paper-Setter:

Two questions, each carrying 16 marks, from each of the Units I-IV (i.e. a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

#### UNIT-I

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.

#### **UNIT-II**

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.

#### UNIT-III

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; Determinantsofwagedifferentials;gender,education,skill,productivity,efficiency,opportunity.

#### **UNIT-IV**

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.

- 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). Sexratioin Indian Population: A Fresh Exploration, Sag ePublications, New Delhi.
- 3. Amsden, A.H. (Ed.) (1980), The Economics of Women and Work, Penguin, Harmondsworth.
- 4. Dantwala, M.L., H. Sethiand P. Visaria (1998), Social Changethrough Voluntary Action, SagePublications, New Delhi.
- 5. Desai, N. and M.K. Raj (Eds.) (1979), Womenand Securityin India, Research CentreforWomen Studies, SNDT University, Bombay.
- 6. Dwyer, D. and J. Bruce (Eds.) (1988), A Home Divided: Women and Income in the ThirdWorld, 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, SagePublications, New Delhi.
- 10. Gupta, J.A. (2000), New Reproductive Technologies, Women's Health and Autonomy, IndoDutch 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.andR.K.Subramanya(2000)(Eds.) TheUnorganizedSector:Work Security andSocial Protection, Sage Publications, New Delhi.
- 13. Kabeer, N. (1994), Reversed Realities: Gender Hierarchies in Development Though, Kalifor Women, New

Delhi.

- 14. Krishnaraj, M., R.M. Sudarshanand A. Shariff (1999), Gender, Populationand Development, Oxford University Press, New Delhi. \
- 15. Kuhn, A. and A.N. Wolpe (Eds.) (1978), Feminismand Materialism, Routledgeand Kegan Paul, London.
- 16. Seth, M. (2000), Womenand Development: The Indian Experience, Sage Publications, New Delhi.
- 17. Mishra, S. (2000<Voluntary Action in Healthand Population: The Dynamicsof Social Transition, Sage Publications, NewDelhi.
- 18. Mitra, A. (1979). Implications of Declining Sex Ratio in India's Population, Allied, NewDelhi.
- 19. Papola, T.S. and A.N. Sharma(Eds.) (1999), Genderand Employmentin India, Vikas Publishing House, New Delhi.
- 20. Redcliff, N. and E. Mingione, (Eds.) (1985), Beyond Employment: Household, GenderandSubsistence, 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 Gapin Basic Education: NGOsasChangeAgents, SagePublications, New Delhi.

# Master of Science (Economics) Session 2024-2025

# **OPT-XIII (Economics of Social Sector)**

### **Course outcomes:**

- **CO1:** Role of education in economic growth, its determinants and costs involved
- **CO2:** Educational financing, its effects on income distribution and effects of education on the conditions in labour markets.
- **CO3:** Basic models of educational planning in general and with reference to India; and health sectors, its determinants and economic dimensions.
- **CO4:** Financing of Health care, inequalities, its basic theories.

# Master of Science (Economics) Session 2024-2025

# **OPT-XIII (Economics of Social Sector)**

**Time: 3 Hours** 

L-T-P (Credits):4-0-0 Max. Marks: 100 Theory: 80 CA: 20

### Note: Instructions for the Paper-Setter:

Two questions, each carrying 16 marks, from each of the Units I-IV (i.e. a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

#### UNIT-I

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.

#### UNIT-II

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.

#### **UNIT-III**

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 healthcare.

#### **UNIT-IV**

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.

- 1. Baru, R.V. (1998), Private Health CareinIndia: SocialCharacteristicsandTrends, 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 Benefits, 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.

# Master of Science (Economics) Session 2024-2025 OPT-XIV (Financial Institutions and Markets)

### **Course outcomes:**

After passing this course students will be able to:

**CO1:** understand the functioning of leading financial institutions in India.

**CO2:** understand the working of Non-banking financial intermediaries and mutual funds.

**CO3:** understand the mechanism as well as working of Insurance sector in India.

**CO4:** understand of the working of money and capital markets their structures and role of SEBI.

# Master of Science (Economics) Session 2024-2025

# **OPT-XIV (Financial Institutions and Markets)**

**Time: 3 Hours** 

L-T-P (Credits):4-0-0 Max. Marks: 100 Theory: 80 CA: 20

### Note: Instructions for the Paper-Setter:

Two questions, each carrying 16 marks, from each of the Units I-IV (i.e. a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

#### UNIT-I

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

### UNIT-II

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.

# UNIT-III

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

### UNIT-IV

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, TataMcGraw Hill, NewDelhi.
- 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 Del hi.
- 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.
- 7. Cherunilam Francis (2012), Business Environment, Himalaya Publishing House Pvt. Ltd.

# Master of Science (Economics) Session 2024-2025 OPT-XV (Economics of Innovation)

# **Course outcomes:**

- After passing this course students will be able to:
- **CO1:** meaning and basic concepts innovation.
- **CO2:** basis and types network between different innovators.
- **CO3:** elements of innovation process and role university industry linkages.
- **CO4:** approached to national innovation system and relationship between innovation, growth and employment.

# **Master of Science (Economics)** Session 2024-2025

### **OPT-XV** (Economics of Innovation)

Time: 3 Hours

L-T-P (Credits):4-0-0 Max. Marks: 100 Theory: 80 CA: 20

#### Note: Instructions for the Paper-Setter:

Two questions, each carrying 16 marks, from each of the Units I-IV (i.e. a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

#### UNIT-I

Basic Concepts: Innovation, Invention, Technology, Radical and Incremental innovation, Tacit Knowledge, Pavitttaxanomy: High-tech verses Low Tech, Knowledge and Growth Theories: Neoclassical verses Evolutionary approach.

#### UNIT-II

Innovative Firms, Network of Innovators: varieties of network, Formal Ties and Informal Ties, strong and weak ties, structural holes and redundant ties, Knowledge Transfer: Information and Uncertainty. Measuring Innovation: Major Indicators.

Innovation	Process:	Production	of	Scientific	and	Technological
Knowledge,	Vertical	disintegration	in	Production	Techniques,	University-Industry
Linkages.						

#### **UNIT-IV**

National Innovation System: concept, strength and weakness of system of innovation approach, learning in system approach.

Industrial Revolution: First, Second, Third and Fourth (IR 4.0), Relationship between Innovation, Growth and Employment.

#### **References:**

- Fagerberg, Jan., David. C. Mowery 1. andRichardR.Nelson(2005),TheOxfordHandbookofInnovation, OxfordUniversityPress.
- Edquist, Charles (edited) (1997) Systems of Innovation Technologies, Institutions 2. andOrganizations,Pinter: London.
- Lundvall, B. A. (edited) (1992) National System of Innovation: Towards a Theory of 3. InnovationandInteractive Learning, Pinter: London.
- Pavitt. K (1984) Patterns of Technical Change: Towards a Taxonomy and a Theory, 4. ResearchPolicy.13: 343-74.
- Rosenberg, N. (1982) Inside the Black Box: Technology and Economics, Cambridge 5. UniversityPress,NewYork.
- Schumpeter. J (1934) The Theory of Economic Development, Harvard University 6. Press,Cambridge.
- OECD (2002) The Measurement of Scientific and Technological Activities. Proposed Standard 7. practicefor surveys on Research and Experimental Development: Frascati manual, Paris:OECD.
- Edguist, C. Hommen, L and McKelvey (2001) Innovation and Employment: Process verses 8. ProductInnovation, Cheltenham: Edward Elgar.
- Etzkowitz, H. and Leytesdorff. L (1997) University in Global Economy: A Triple Helix of 9. Academic-Industry – Government Relations, Croom Helm:London,
- 10. Malerba, F. and L. Orsenigo (1996) Schumpeterian Pattern of Innovation, Cambridge JournalofEconomics, 19: 47-65.

# Master of Science (Economics) Session 2024-2025 OPT-XVI (Theory of Statistics)

# **Course outcomes:**

- **C01:** learn the basic concepts of probability, its theorem and properties
- **CO2**: understand the various probability distributions, importance of its underlying assumptions and its applications
- **CO3:** understand the concepts of point and interval estimation and various tests based distributions and its properties and applications
- **CO4:** learn the procedure of hypothesis testing and identify appropriate parametric tests for analyzing data.

# Master of Science (Economics) Session 2024-2025 OPT-XVI (Theory of Statistics)

### **Time: 3 Hours**

L-T-P (Credits):4-0-0 Max. Marks: 100 Theory: 80 CA: 20

### Note: Instructions for the Paper-Setter:

Two questions, each carrying 16 marks, from each of the Units I-IV (i.e. a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

#### UNIT-I

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

#### UNIT-II

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.

#### UNIT-III

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

### **UNIT-IV**

Basic concepts regarding testing of hypothesis:tests of hypotheses based upon z, t, F and chi-square distributions: Analysis of variance with one-way and two-way classifications and their applications.

- 1. Fisz, Marek: Probability Theoryand Mathematical Statistics, Krieger Publishing Co.
- 2. Goon, A.M., Gupta, M.K. and Dass Gupta, B.: An Outline of statistical Theory (Vol. 1 and 2), WorldPress Pvt., Calcutta.
- 3. Mood, A.M., Gray Bill, F.A. and Boes: An Introduction to the Theory of Statistics, TataMcGraw Hill.
- 4. Parzen, Emanuel: Modern Probability Theoryandits Applications, John Wileyand Sons.
- 5. Ya-lunChou:Statisticalanalysis, withBusinessandEconomicApplications, Holt, Rinehart and Winston, 1975.

# Master of Science (Economics) Session 2024-2025 OPT-XVII (Operations Research)

# **Course outcomes:**

- **C01:** optimization techniques like transportation,
- **CO2:** assignment problems and use CPM and PERT techniques, to plan, schedule, and control project activities.
- **CO3:** understand and propose the best strategy among various strategies of game theory under uncertainty.
- **CO4:** queuing and inventory models

# Master of Science (Economics) Session 2024-2025 OPT-XVII (Operations Research)

**Time: 3 Hours** 

L-T-P (Credits):4-0-0 Max. Marks: 100 Theory: 80 CA: 20

# Note: Instructions for the Paper-Setter:

Two questions, each carrying 16 marks, from each of the Units I-IV (i.e. a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

### UNIT-I

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

### UNIT-II

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

### UNIT-III

**Game Theory:** Competitive games, pure strategy by dominance, mixed strategy(2x2, 2xn, mx2). Variousmethods of solving mixed strategy games. Project Analysis – PERT and CPM. Project scheduling by PERT and CPM.

UNIT-IV

Queuing Theory- Features and Characteristics.

# Basic Queuing Models-Queuing equations.

# Solution of Queuing Model (M/M/I: $\infty$ /FIFO).

**Inventory Models –** Inventory central, Inventory Costs, Types of Inventory, Inventory Central. Concept of EOQ, Derivation of EOQ.

- 1. Wagner,H.M.:Principles of Operations ResearchwithApplications to ManagerialDecisions, Prentice Hall of India, New Delhi, 1980, 2nd Ed.
- 2. Levin, R.I. and Kirkpatrick, C.A.: Quantitative Research: A Managerial Emphasis.
- 3. HandyA. Taha: Operations Research An Introduction. Macmillan PublishingCo., New York.
- 4. Harper, W.M.: Operations Research, ELBS, London, 1979.
- 5. Hiller, F.S.& Lieberman, G.J.: Introduction to operations Research, Holden DayInc., San Francisco, 1981.
- 6. Sharma, J.K,: Operations Research- Theory and Applications, McMillan, Latest edition.
- 7. Gupta , P.K. and D.S. Hira, : Operations Research S. Chand, Latest Edition.

# Master of Science (Economics) Session 2024-2025 OPT-XVIII (International Trade and Investment)

### **Course outcomes:**

After passing this course students will be able to:

- **CO1:** to understand basic understanding of multidisciplinary and interdisciplinary approaches in international trade and investment issues.
- **CO2:** to understand concept of terms of trade and rationale of protection in terms of tariff and non-tariff barriers.
- **CO3:** to understand the investment policies and role of MNCs at national and global level.

**CO4:** understand the role of libralisation and WTO in international trade.

# Master of Science (Economics) Session 2024-2025 OPT-XVIII (International Trade and Investment)

### **Time: 3 Hours**

L-T-P (Credits):4-0-0 Max. Marks: 100 Theory: 80 CA: 20

### Note: Instructions for the Paper-Setter:

Two questions, each carrying 16 marks, from each of the Units I-IV (i.e. a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

#### UNIT-I

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

#### **UNIT-II**

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).

### UNIT-III

Regionalism versus Multilateralism; import substitution and industrialisation.

Foreign Investment: Portfolio and direct foreign investment; determinants of direct foreign investment; benefits and cost issues in foreign direct investment; multinational corporations.

#### UNIT-IV

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

- 1. R.E. Caves and R.W Jones : World Trade & Payments.
- 2. Grant, L. Reuber: PrivateForeignInvestmentin 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 PressLtd. 1980.
- 9. T.W. Sailors, U.S. Qureshi and E.M. Cross : Empirical Verification of Linder's TradeHypothesis.
- 10. H.Askari : A Note on the empirical testing of the Ricardian Theory of Comparativeadvantage, Southern Economics Journal, June 1972.
- 11. Paul R. Krugmanand: International Economics Theoryand Policy, Sixth Maurice ObstfeldEdition, Pearson Education.
- 12. Bath V. Yarbrough,: The World Economy Tradeand Finance, Thomson, Robert M. Yarbrough Sixth (2007) Edition.
- 13. Thompson Henry (2010): International Economics, Global Markets and Competition, World Scientific Publishers and Cambridge University Press India Pvt. Ltd., New Delhi.
- 14. ML Bhatia HL (2010) :International Economics, Vikas Publishing House Pvt.
- 15. <u>www.IMF.org.in</u>
- 16. Ingo Walter (1975): International Economics, Ronald Press, New York, 1975.

# Master of Science (Economics) Session 2024-2025 OPT-XIX (Computer Applications for Economists -II)

# **COURSE OUTCOMES**

# After passing this course the student will be able to:

**CO1:** Understand data, database and database models.

**CO2:** Learn about data model creation and explore, analysis, and visualize data.

**CO3:** Understand the Big Data platform and its use cases.

**CO4:** Identify the application of programming and security model in cloud computing.

# Master of Science (Economics) Session 2024-2025 OPT-XIX (Computer Applications for Economists -II)

**Time: 3 Hours** 

L-T-P (Credits):3-0-1 Max. Marks: 100 Theory: 50 Practical: 30 CA:20

# Note: Instructions for the Paper-Setter:

Two questions, each carrying 10 marks, from each of the Units I-IV (i.e. a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

### UNIT-I

Introduction: Concept of data, database, DBMS and data science. Its advantages and applications. Threelevel architecture of DBMS, data independence, Data models: relational, hierarchical and network. Working knowledge of DDL, DML and DCL. Datafication, Digitalization, Digital transformation.

Relational Database Desig n: Concepts of functional dependencies, multivalued dependencies, 1NF, 2NF, 3NF and Boyce-CODD normal form. Introduction to SQL, data types, operators and functions. Implementation of queries in SQL: create, insert, delete, modify and alter, constraints inSQL.

### UNIT-II

Data Analysis: Sources, acquisition and interpretation of data, primary and secondary data, quantitative and qualitative data, graphical representation of data with histogram, pie chart, bar chart, column chart and line chart.

Data Visualization and Report Writing: Characteristics of effective graphical display, ideas and tools for data visualization, different steps in report writing, layout of the research report, types of reports, APA, MLA and Chicago reference styles.

### UNIT-III

IntroductiontoBig Data:StructuredandUnstructureddata,Data Analytics,Bigdatamanagement and big data analytics techniques of data management, storage and analysis of data, extraction of relevant information.

Exploring the Use of Big Data: Use of big data in detecting fraudulent activities in financial transactions,e-commerceandininsurancesector,Useofbigdatainsocialnetworking.Useofbig data in retail industry, healthcare industry and Government sector.

### UNIT-IV

Cloud Computing Architecture: Service Models, Deployment Models, Cloud Entities, Cloud Clients, ServiceLevelAgreement(SLA) and Quality of Service(QoS) in Cloud Computing.

Cloud Security: Infrastructure security, data security, identity and access management, privacy management, Security as a Service in cloud, cloud forensics.

# Suggested Readings:

1.C.J. Date, "An Introduction of Database System", The Systems Programming Series,6/Ed, Addison–Wesley Publishing Company, Inc., 2016

- 2.Silberscatz, Korth and Sudarshan, "Database System Concepts", Third Ed., McGraw Hill International Editions, Computer Science Series. McGraw Hill 2013
- 3.Desai.Bipin C, "An Introduction to Database Systems", West Publishing Company, St.Paul, Minnesota, USA.
- 4. Michael Minelli, Michele Chambers, AmbigaDhiraj, "Big Data. Big Analytics", JohnWiley.
- 5.Cathy O'Neil and Rachel Schutt. Doing Data Science, Straight Talk from TheFrontline. O'Reilly, 2017

- 6.Barrie Sosinsky, Cloud Computing Bible, Wiley India Pvt. Ltd., ISBN-13: 978-8-12-652980-3, New Delhi, India 2016
- 7.Dr. Saurabh Kumar, Cloud Computing: Insights Into New–Era Infrastructure, WileyIndia Pvt. Ltd, ISBN–13: 978–8–12–652883–7, New Delhi, India, 2011.
- 8.Fern Halper, Hurwitz, Robin Bloor, Marcia Kaufman, Cloud Computing for Dummies, Wiley India Pvt. Ltd, ISBN-13: 978-0-47-059742-2, New Delhi,India, 2011.
- 9.Cloud Computing: Principles and Paradigms 2013 by RajkumarBuyya, JamesBroberg, Andrzej Goscinski.

# Master of Science (Economics) Session 2024-2025 OPT-XX (Economics of Environment)

# **Course outcomes:**

- **CO1:** understand environmental policies & regulations and their impact on economic development.
- **CO2:** analyse trends in population growth rate, death rate, birth rate and urbanisation.
- **CO3:** understand various theories of population growth.
- **CO4:** learn the causes and consequences of population growth on different aspects.

# Master of Science (Economics) Session 2024-2025 OPT-XX (Economics of Environment)

**Time: 3 Hours** 

L-T-P (Credits):4-0-0 Max. Marks: 100 Theory: 80 CA: 20

### Note: Instructions for the Paper-Setter:

Two questions, each carrying 16 marks, from each of the Units I-IV (i.e. a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

#### UNIŤ-I

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.

#### **UNIT-II**

Environmental and development trade-off, concept of sustainable development, sustainability – neoclassical and ecological views. Integrated environmental and economic accounting a nd measurement of environmentally correctedGDP.

#### **UNIT-III**

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 cleantechnology. Energy policy and environment.

#### **UNIT-IV**

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; Recent policy instruments for controlling pollution environmental standards; social forestry – rationale and benefits.

- 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.andC.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) Environmental 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.

# Master of Science (Economics) Session 2024-2025 OPT-XXI (Econometrics and Forecasting Techniques)

### **Course outcomes:**

- **CO1:** the estimation and problem of distributive lag models
- **CO2:** the estimation of GLS method and procedure involving dynamic lag models.
- **CO3:** the basic issues of time series data while estimating regression models.
- **CO4:** the basics of multivariate analysis.

### Master of Science (Economics) Session 2024-2025 OPT-XXI (Econometrics and Forecasting Techniques)

**Time: 3 Hours** 

L-T-P (Credits): 4-0-0 Max. Marks: 100 Theory: 80 CA: 20

### Note: Instructions for the Paper-Setter:

Two questions, each carrying 16 marks, from each of the Units I-IV (i.e. a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

#### UNIT-I

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

#### **UNIT-II**

Instrumental variables; Almon approach to distribute – 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.

#### **UNIT-III**

**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, Forecastingwith ARIMA modelling; Box – Jenkins methodology.

#### **UNIT-IV**

Vector autoregression ; Problems with VAR modelling applications only. Multivariate Analysis :Mahalanobis D2 – Analysis and Fisher's linear discriminant analysis. Methodology for estimating productionfunctions.

- 1. Koutsoyiannis, A. : Theory of Econometrics (2ndEdition)
- 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 Ap plications, 1978.
- 6. Holden, K. Peel D.A. and Thompson, J.L.: Economic Forecasts: An Introduction, 1974.
- 7. 0, Donoven: Short-term Forecasts: An Introduction to the Box-Jenkins Approach, 1983.
- 8. Pindyck, R.S. and RubinfeldD.L : Economic Models and Economic Forecasts, 1985.
- 9. Heathfield, D.F, and Wibe, S.: An Introduction to cost and production functions, 1982.

### Master of Arts(Economics) Session 2024-2025 OPT XXII: Dissertation

L-T-P (Credits): 4-0-0 Max. Marks: 100 Theory: 80 CA: 20

# After the completion of this course students will be capable to:

CO1: to formulate research problems and skills of research write ups.

CO2: understand the basic issues of research methodology.

CO3: Collection and management of data.

CO4: understand and interpret the output generated using analytical tools.