

# **FACULTY OF ECONOMICS & BUSINESS**

## **SYLLABUS**

**For**

**Master of Arts (Economics)**

**Semester (III –IV)**

**(Under Continuous Evaluation System)**

**Session: 2022-2023**



**The Heritage Institution  
Kanya Maha Vidyalaya,  
Jalandhar (Autonomous)**

**Kanya Maha Vidyalaya, Jalandhar (Autonomous)**  
**SCHEME OF STUDIES AND EXAMINATION OF TWO YEAR DEGREE PROGRAM**  
**MASTER OF ARTS (ECONOMICS)**  
**Session: 2022-2023**

Semester III							
Course Code	Course Name	Course Type	Marks				Examination time (in Hours)
			Total	Ext.		CA	
				L/D	P		
MECL-3171	Economics of Development	C	100	80	-	20	3
MECL-3172	International Economics-I	C	100	80	-	20	3
MECL-3173	Indian Economy	C	100	80	-	20	3
Optional Subjects							
MECL-3174 (OPT-__)	Option to be selected from Table below	E	100	80	-	20	3
MECL-3175 (OPT-__)	Option to be selected from Table below	E	100	80	-	20	3
MECD-3175 (OPT-__)			100	80	-	20	3
	Total		500				

**Any two of the following options:**

Sr. No.	Paper Title
OPT-I	Public Finance
OPT-II	Economics of Labour
OPT-III	Theory of Statistics
OPT-IV	Money, Banking and Finance
OPT-V	Industrial Economics
OPT-VI	History of Economic Thought
OPT-VII	Economics of Socialism
OPT-VIII	Econometrics
OPT-IX	Economics of Agriculture
OPT-X	Economics of Public Enterprises
OPT-XI	Computer Applications for Economists (Th.:50+ Pr.: 30+ Int. Ass.:20) = 100 Marks
OPT-XII	Operations Research
OPT-XIII	Economics of Environment and Demography
OPT-XIV	Economics of Infrastructure
OPT-XV	Dissertation* (*in lieu of one optional paper in MA Semester III and IV each). Marks=200

**Note: (i) Any two of the options not already opted for in Semester I and Semester II.**

**(ii) C- Compulsory Subject E –Elective, D-Dissertation**

**(iii) Only those students will be allowed to opt for dissertation in Semester III and IV, who have scored 60 percent marks in aggregate in semester II and III.**

**Kanya Maha Vidyalaya, Jalandhar (Autonomous)**  
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**MASTER OF ARTS (ECONOMICS)**  
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Sem. IV							
Course Code	Course Name	Course Type	Marks				Examination time (in Hours)
			Total	Ext.		CA	
L/D	P						
MECL-4171	Economics of Planning	C	100	80	-	20	3
MECL-4172	International Economics-II	C	100	80	-	20	3
MECL- 4173	Punjab Economy	C	100	80	-	20	3
Optional Subjects							
MECL -4174	Option to be selected from Table below	E	100	80	-	20	3
MECL -4175 (OPT-__)	Option to be selected from Table below	E	100	80	-	20	3
MECD -4175 (OPT-__)			100	80	-	20	3
	Total		500				

**Any two of the following options:**

<b>Sr. No.</b>	<b>Paper Title</b>
OPT-I	Public Finance
OPT-II	Economics of Labour
OPT-III	Theory of Statistics
OPT-IV	Money, Banking and Finance
OPT-V	Industrial Economics
OPT-VI	History of Economic Thought
OPT-VII	Economics of Socialism
OPT-VIII	Econometrics
OPT-IX	Economics of Agriculture
OPT-X	Economics of Public Enterprises
OPT-XI	Computer Applications for Economists (Th.:50+ Pr.: 30+ Int. Ass.:20) = 100 Marks
OPT-XII	Operations Research
OPT-XIII	Economics of Environment and Demography
OPT-XIV	Economics of Infrastructure
OPT-XV	Dissertation* (*in lieu of one optional paper in MA Semester III and IV each). Marks=200

**Note: (i) Any two of the options not already opted for in Semester I and Semester II.**

**(ii) C- Compulsory Subject E –Elective, D-Dissertation**

**(iii) Only those students will be allowed to opt for dissertation in Semester III and IV, who have scored 60 percent marks in aggregate in semester II and III.**

**MASTER OF ARTS (Economics)**  
**Semester - III**  
**Session 2022-2023**  
**Course Code: MECL-3171**  
**Course Title: Economics of Development**

**Course outcomes:**

After passing this course students will be able to:

- CO1:** relate and recognize the theoretical aspects of Economic Development and the various indicators of economic growth and development
- CO2:** understand the concept of sustainable economic development and its importance.
- CO3:** understand the role of planning and contribution of capital formation and choice of techniques in the development of UDCs and their changing landscape after globalization and liberalization
- CO4:** explain, analyze and assess the role of Human Resources and Capital in the process of Economic Growth and Development.

**MASTER OF ARTS (Economics)**  
**Semester - III**  
**Session 2022-2023**  
**Course Code: MECL-3171**  
**Course Title: Economics of Development**

**Time: 3 Hours**

**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**

Economic growth and Economic development – Meaning and measurement. Concept of Sustainable development. Human Development Index and Physical Quality of Life Index (PQLI). Obstacles to Economic development. Sources of Economic growth. Growth and Income Distribution: The Kuznets Hypothesis.  
Growth models – Harrod-Domar, Solow, Meade, Joan Robinson, Kaldor.

**Unit II**

Theories of Development – Classical, Marxian, Schumpeter, Stage theory. Approaches to Development – Myrdal's theory of circular causation, Social Dualism, Technological Dualism. Models of Dualistic growth (Lewis, Ranis and Fei and Jorgenson models).

**Unit III**

Strategies of development: Big push, Balanced growth, Unbalanced growth, Critical minimum efforts thesis, Low level equilibrium trap, Dependency theory. Agriculture and economic development.

**Unit IV**

Trade and development. Two-gap theory. Import substitution vs. Export-led strategies. Role of Capital formation; Internal and External sources of Capital formation; Human capital formation and Economic development. Role of Foreign capital in Economic development; Developmental aid; FDI; MNCs.

**Suggested Readings:**

1. Lekhi, R.K. and Singh, J. (2020), '*The Economics of development and planning*', Kalyani Publisher.
2. Puri, V.K. & Misra, S.K. (2020), '*Economics of Development and Planning - Theory & Practice*', Himalaya Publishing House, New Delhi.

*Note: The latest edition of the books is recommended..*

**MASTER OF ARTS (Economics)**  
**Semester – III**  
**Session 2022-2023**  
**Course Code: MECL-3172**  
**Course Title: International Economics-I**

**Course outcomes:**

After passing this course students will be able to:

**CO1:** Understand the basis for and gains from international trade.

**CO2:** Understand the tariff and non-tariff barriers to international trade and their effects.

**CO3:** understand the Indian development strategies and dynamics of problems of different sectors of Indian Economy

**CO4:** understand latest developments in social, agriculture, industry and external sector in India..

**MASTER OF ARTS (ECONOMICS)**  
**Semester - III**  
**Session 2022-2023**  
**Course Code: MECL-3172**  
**Course Title: International Economics-I**

**Time: 3 Hours**

**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**

The pure theory of international trade – theories of Absolute advantage, Comparative advantage and Opportunity costs, Modern theory of international trade; Theorem of factor price equalization; Empirical testing of theory of absolute cost and comparative cost – Heckscher-Ohlin theory of trade.

**Unit – II**

Kravis and Linder theory of trade; Role of dynamic factors i.e. changes in tastes, technology and factor endowments in explaining the emergence of trade; The Rybinszynski theorem – concept and policy implications of immiserizing growth; Causes of emergence and measurement of intra industry trade and its impact on developing economies.

**Unit – III**

Measurements of gains from trade and their distribution; Concepts of terms of trade, their uses and limitations; Hypothesis of secular deterioration of terms of trade, its empirical relevance and policy implications for less developed countries; Trade as an engine of economic growth.

**Unit – IV**

The theory of interventions (Tariffs, Quotas and non-tariff barriers), Economic effects of tariffs and quotas on national income, output, employment, terms of trade, income distribution, balance of payments on trade partners both in partial and general equilibrium analysis; The political economy of non-tariff barriers and their implications; nominal, effective and optimum rates of tariffs – their measurement, impact and welfare implications.

**Suggested Readings:**

1. Bhagwati, J. (1981), '*International Trade: Selected Readings*', Cambridge University Press, Massachusetts.
2. Krugman, P.B. and M. Dkstfeld (1994), '*International Economics, Theory and Policy*', Glenview, Foresman.
3. Salvatore, D. (1997), '*International Economics*', Prentice Hall, Upper Saddle, NJJ, New York.
4. Soderston, B.O. (1991), '*International Economics*', The Macmillan Press Ltd., London.

*Note: The latest edition of the books is recommended.*

**MASTER OF ARTS (Economics)**  
**Semester – III**  
**Session 2022-2023**  
**Course Code: MECL-3173**  
**Course Title: Indian Economy**

**Course outcomes:**

After passing this course students will be able to:

**CO1:** understand the national income estimates and strategies adopted by India for development

**CO2:** understand the dynamics of problems of different sectors of Indian Economy.

**CO3:** understand latest developments and problems of Indian agriculture.

**CO4:** Understand the features of industry policy and elements of external trade of India.



**MASTER OF ARTS (Economics)**  
**Semester III**  
**Session 2022-2023**  
**Course Code: MECL-3173**  
**Course Title: Indian Economy**

**Time: 3 Hours**

**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 of India: Growth, Structure, Inter-state variations, limitations of national income estimates.

Indian Planning: Change in basic strategy, objectives; Decentralized planning: Need and objectives; Achievements and Appraisal of 11th and 12th Five Year Plan; NITI Aayog.

**Unit – II**

Major Economic Problems: Population, Unemployment, Poverty and inequalities, Inflation. Social sector: health sectors- its growth and problems, higher education- its policies and problems.

**Unit – III**

Agriculture: Production and productivity trends, Role of institutional (Land reforms) and technological factors, Second Green Revolution, Agriculture Price Policy, Food Security and sustainable agricultural development.

**Unit – IV**

Industrial sector: Major policy changes before and after 1991; State of micro, small and medium enterprises, large scale industry; Public-private partnership, disinvestment in public sector enterprises.

Foreign sector: Composition, growth and pattern of trade, Role of MNCs, Balance of payment position, W.T.O. and India.

**Suggested Readings:**

1. Dutt and Sundram(2016), *Indian economy*, S. Chand Publications, New Delhi.
2. Chakravarty, S. (1987), *Development Planning: The Indian Experience*, Oxford University Press, New Delhi.
3. Government of India, Economic Survey, (Annual), Various Issues, Ministry of Finance, New Delhi.
4. Dhar, P.K. (2016), *Indian Economy: Its Growth and Dimensions*, Kalyani Publications.

*Note: The latest edition of the books is recommended.*

**MASTER OF ARTS (Economics)**  
**Semester IV**  
**Session 2022-2023**  
**Course Code: MECL-4171**  
**Course Title: Economics of Planning**

**Course outcomes:**

After passing this course students will be able to:

**CO1:** recognize different planning systems and relevance of planning in modern era.

**CO2:** understand the concept of technology, appropriate technology for under developed countries and transfer of technology from developed countries to developing countries.

**CO3:** understand project characteristics and various stages of a project and recognize the different criteria for project evaluation

**CO4:** appreciate the importance and limitations of planning in India.

**MASTER OF ARTS (Economics)**  
**Semester IV**  
**Session 2022-2023**  
**Course Code: MECL-4171**  
**Course Title: Economics of Planning**

**Time: 3 Hours**

**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**

**Economic Planning:** Meaning, objectives, rationale and types of planning; different planning systems; requisites for successful planning. Planning in third world countries in the context of Globalization and Liberalization.

**Unit – II**

**Investment criteria:** Rationale and types. Choice of Technique: Sen-Dobb Thesis; labour intensive vs. capital intensive technology; Choice of technique in underdeveloped countries and appropriate technique for UDC's. International transfer of technology- channels, importance and problems in the transfer of technology.

**Unit – III**

**Project evaluation:** Meaning, origin, rationale; Project planning and commercial profitability criteria; Social cost benefit analysis- Meaning and technique; Shadow Prices- Meaning, importance and methods to compute shadow prices; Little Mirrless and UNIDO approaches – A comparison.

**Unit – IV**

**Indian plan models:** Harrod-Domar, Mahalanobis, Frisch and Sandee, Manne and Rudra, CELP model and its applications. Indian Planning- Objectives, strategy and evaluation of Indian planning; Resource mobilization for Indian plans; NITI Aayog- composition, Functions and strategy.

**Suggested Readings:**

1. Lekhi, R.K. and Singh, Joginder.(2020), '*The Economics of development and planning*', Kalyani Publisher.
2. Puri, V.K.& Misra, S.K.(2020), '*Economics of Development and Planning - Theory & Practice*', Himalaya Publishing House, New Delhi.
3. Todaro, P.(2016) , '*Development Planning : Models & Methods*', Oxford University press.

*Note: The latest edition of the books is recommended.*

**MASTER OF ARTS (Economics)**  
**Semester - IV**  
**Session 2022-2023**  
**Course Code: MECL-4172**  
**Course Title: International Economics-II**

**Course outcomes:**

After passing this course students will be able to:

CO1: to understand the concept of BOP and process of adjustment in BOP.

CO2: to understand how rate of exchange is determined along with relative merits and demerits of fixed and flexible exchange rate.

CO3: 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 and role of international economics institutions.

**MASTER OF ARTS (Economics)**  
**Semester – IV**  
**Session 2022-2023**  
**Course Code: MECL-4172**  
**Course Title: International Economics-II**

**Time: 3 Hours**

**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**

Meaning and components of balance of payments; Equilibrium and disequilibrium in the balance of payments; The process of adjustment under systems of gold standard: Price Specie Flow Mechanism, fixed exchange rates and flexible exchange rates; Expenditure-reducing and expenditure-switching policies and direct controls for adjustment; Policies for achieving internal and external equilibrium simultaneously under alternative exchange rate regimes.

**Unit – II**

Exchange rate; meaning and theories for the determination of exchange rate (PPP, monetary, Portfolio, and balance of payments). A critical review of the monetary approach to the theory of balance of payments adjustment. Relative merits and demerits of fixed and flexible exchange rates in the context of growth and development in developing countries.

**Unit – III**

Forms of economic cooperation; Reforms for the emergence of trading blocs at the global level; Static and Dynamic effects of a custom union and free trade area; Regional Economic grouping: EU, SAARC, NAFTA and BRICS; Multilateralism and WTO; Theory of short-term capital movements and East-Asian Crisis and lessons for developing countries. Global Financial Crisis of 2008

**Unit – IV**

The Bretton Woods System: its working and reasons for its collapse, Emerging International Monetary System with special reference of Post-Maastricht developments and developing countries; Reform of the International Monetary System, Portfolio and Foreign Direct Investments; International Debt Crisis. International economic institutions – Functions and achievements of GATT/WTO (TRIPS, TRIMS), UNCTAD/IMF: Need, adequacy and determinants of international reserves World Bank and Asian Development Bank – Their achievements and failures.

**Suggested Readings:**

1. Bhagwati, J. (1981), '*International Trade: Selected Readings*', Cambridge University Press, Massachusetts.
2. Kindleberger, C.P. (1965), '*International Economics*', R.D. Irwin, Homewood.
3. Krugman, P.B. and M. Dkstfeld (1994), '*International Economics, Theory and Policy*', Glenview, Foresman.
4. Salvatore, D. (1997), '*International Economics*', Prentice Hall, Upper Saddle, NJJ, New York.
5. Soderston, B.O. (1991), '*International Economics*', The Macmillan Press Ltd., London.
6. Godstein, M. (1998), '*The Asian Financial Crisis: Causes and Systematic Implication*', Institute for International Economics, Washington, D.C.

*Note: The latest edition of the books is recommended..*

**MASTER OF ARTS (Economics)**

**Semester – IV**

**Session 2022-2023**

**Course Code: MECL-4173**

**Course Title: Punjab Economy**

**Course outcomes:**

After passing this course students will be able to:

**CO1:** understand the dynamics of various problems of Punjab economy

**CO2:** examine the causes of agrarian crisis in Punjab and find out ways to rejuvenate agriculture.

**CO3:** analyse the issues involved in the slow growth of industries and suggest ways to tap the potentials for the growth of industries in Punjab.

**CO4:** critically examine the financial parameters for financial stability.

**MASTER OF ARTS (Economics)**  
**Semester – IV**  
**Session 2022-2023**  
**Course Code: MECL-4173**  
**Course Title: Punjab Economy**

**Time: 3 Hours**

**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**

**Introduction to Punjab Economy**

Structure of the economy, Population problem, Unemployment, Physical Infrastructure: Power, irrigation, transport and urbanization.

**Unit – II**

**Agriculture:** Output and cropping pattern; Green Revolution: Its impact and implication, Agricultural Diversification: Need, potential and constraints, Rural credit, Agricultural marketing, Contract farming: Need, growth and problems and Impact of W.T.O. on Agriculture.

**Unit – III**

Industrial Development: Pattern, performance and potential, State and Industrial development; Recent development in Industrial Policy in Punjab; Disinvestments in industries.

**Unit – IV**

Financial relations between centre and states, Recommendations of the latest Finance Commissions, Pattern of devolution of resources from Centre to Punjab, State Finances: Emerging pattern of revenue and expenditure in Punjab, Fiscal crisis in Punjab: Causes, impact, solutions.

**Suggested Readings:**

1. Singh. S., Singh, I. and Singh, L. (2014), *Punjab's Economics Development In The Era of Globalization*, AB Distributors Prakash book depot.
2. Bawa, R.S. and Raikhy, P.S.(2000), *Punjab Economy: Emerging Issues*, G.N.D.U. Amritsar.
3. Punjab Government, Statistical abstract of Punjab.
4. Punjab Government, Punjab Budget

*Note: The latest edition of the books is recommended.*

**MASTER OF ARTS (Economics)**  
**Session 2022-2023**  
**OPT-I (Public Finance)**

**Course outcomes:**

After passing this course students will be able to:

- CO1: analyze the functioning of modern public finance and to analyze critically tax reforms and policy choices in developed and developing countries.
- CO2: understand the effects of government expenditure on behaviour of individuals, households and firms.
- CO3: to analyze the instruments and objectives of budgetary policy and the role of public debt in economic development.
- CO4: understand the role of fiscal federalism and fiscal policy principles to demonstrate a good understanding of the fiscal framework for taxing and spending.



**MASTER OF ARTS (Economics)**  
**Session 2022-2023**  
**OPT-I: Public Finance**

**Time: 3 Hours**

**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**

Meaning and scope of Public Finance, Role of Public Finance in developing countries. Distinction between public, private and merit goods.

Public revenue: sources, taxation, tax elasticity and buoyancy, taxable capacity and tax effort; Theory of incidence; equity in taxation; principles of taxation; direct and indirect taxes; effects of taxation on production and distribution; major taxes in India; recent tax reforms in India.

**Unit– II**

Public expenditure: structure and growth of public expenditure, reasons for growth in public expenditure; Wagner’s law, Peacock and Wiseman’s hypothesis; Effects of public expenditure on production and distribution; Role of public expenditure in developing countries.

**Unit– III**

Public budgets: kinds of budget, programme budgeting and zero-base budgeting; different concepts of budget deficits, latest budget of Union Government in India.

Public debt: classification, significance and burden of public debt, principles of debt management, external debt servicing, Public debt in India.

**Unit– IV**

Fiscal federalism – theory and problems; Criteria for resource transfer from Union to States. Centre-State financial relations in India; recommendations of the latest Finance Commission. Fiscal policy– objectives, interdependence of monetary and fiscal policies.

**Suggested Readings:**

1. Musgrave, R.A. (1989), “The Theory of Public Finance”, McGraw Hill, Kogakusha, Tokyo.
2. Tyagi, B.P. (2004), “Public Finance”, Jai Prakash Nath & Company, Meerut.
3. Srivastava, D.K. (2000), “Fiscal Federalism in India”, Har-Anand Publications Ltd., New Delhi.
4. Government of India (1992), Reports of the Tax Reforms Committee – Interim and Final (Chairman: Raja J. Chelliah).

*Note: The latest edition of the books is recommended.*

**MASTER OF ARTS (Economics)**  
**Session 2022-2023**  
**OPT-II (Economics of Labour)**

**Course outcomes:**

After passing this course students will be able to:

**CO1:** understand the concept of labour economics and labour markets.

**CO2:** understand the concept of unemployment, employment policies and concept of wages.

**CO3:** understand the role of trade union, industrial disputes and its settlement.

**CO4:** understand social security policies and State policies with respect to labour welfare in India.

**MASTER OF ARTS (Economics)**  
**Session 2022-2023**  
**OPT-II: Economics of Labour**

**Time: 3 Hours**

**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**

Nature, scope and subject matter of labour economics; Labour Market: Concept, characteristics, Nature and characteristics and growth of labour markets in India. Theories of Labour markets: Classical, Neo-classical, Dualistic Labour Markets.

**Unit– II**

Employment and Unemployment – Concept, types and measurements; nature of unemployment in India, Employment policy in five year plans, Casualization of employment in India, Employment in organized and unorganized sector, MGNREGA Scheme .

Wages: classical and neo-classical and bargaining theories of Wages. Concept of Wages – minimum wage, living wage and fair wages in India, Wages and productivity.

**Unit– III**

Trade Unions; Objectives and functions, Trade unions in India. Industrial Relations in India. Industrial Disputes – Causes and extent, Dispute settlement, Machinery in India in the framework of Industrial Disputes Act.

**Unit– IV**

Social Security – social assistance, social insurance and social security policy in India. Labour Welfare: State policies with respect to labour welfare in India, Labour Pension Scheme, Labour market reforms in India, exit policy and measures to make labour market flexible; Second National Commission on labour; Globalization and labour markets.

**Suggested Readings:**

1. Datar, B.N.(1968): Labour Economics, Allied Publisher, Bombay.
2. Dunlop J.T. (ed) : Theory of Wages Determination, Palgrave Macmillan.
3. Report of the National Commission on Labour in India, 1969.
4. I.L.O. : Approaches to Social Security, various Issues.
5. Pant, S.C.(1965): Indian Labour Problems, Chaitanya Publishing House.
6. Papola, T.S., P.P. Ghosh and A.N. Sharma (Eds.)(1992) , Labour, Employment and Industrial Relation in India, B.R. Publishing Corporation, New Delhi.
7. Tyagi, B.P.(2017) Labour Economics and Social Welfare, Jai Prakash Nath and Co., Meerut.

*Note: The latest edition of the books is recommended..*

**MASTER OF ARTS (Economics)**  
**Session 2022-2023**  
**OPT-III (Theory of Statistics)**

**Course outcomes:**

After passing this course students will be able to:

**CO1:** understand the various probability distributions, importance of its underlying assumptions and its applications

**CO2:** understand the concepts of point and interval estimation and various tests based distributions and its applications

**CO3:** learn the procedure of hypothesis testing and identify appropriate parametric tests for analyzing data.

**CO4:** identify appropriate non-parametric tests for analyzing data.

**MASTER OF ARTS (Economics)**  
**Session 2022-2023**  
**OPT-III: Theory of Statistics**

**Time: 3 Hours**

**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, Chebychev's inequality, meaning of theoretical probability distributions; derivation of main properties of binomial, poisson, normal, gamma and beta distributions.

**Unit – II**

Meaning of sampling distribution of a statistic; desirable properties of point estimators; internal estimation; derivation of main properties of  $\chi^2$ , t and F distributions; maximum likelihood estimation (properties without derivation) and applications.

**Unit – III**

Basic concepts of hypotheses testing; tests of significance based upon Z,  $\chi^2$ , t and F distributions.

**Unit – IV**

Non-parametric tests (without derivations; stress on numerical examples): Ordinary sign test, Wilcoxon's signed rank test, test of randomness, Wald-Wolfowitz run test, Mann-Whitney test, Kruskal-Wallis test, Kendall's concordance test.

**Suggested Readings:**

1. Goon, A.M., Gupta, M.K. and Das Gupta, B. (1977), *An Outline of Statistical Theory*, Vols. I & II, The World Press Ltd., Calcutta.
2. Gupta and Kapoor(2014) , *Fundamentals of Mathematical Statistics* , Sultan Chand & Sons , New Delhi
3. Kapur, J.N. and Saxena, H.C. (1997), *Mathematical Statistics*, S. Chand & Co., New Delhi.

*Note: The latest edition of the books is recommended..*

**MASTER OF ARTS (Economics)**  
**Session 2022-2023**  
**OPT-IV (Money, Banking and Finance)**

**Course outcomes:**

After passing this course students will be able to:

- CO1:** demonstrate an understanding of nature of money and the role of banks in modern monetary economies.
- CO2:** to understand the role of financial Intermediation and internet banking in economic development of a country..
- CO3:** understand the main policy challenges central banks face in choosing appropriate goals, instruments and targets in the conduct of monetary policy.
- CO4:** understand the main determinants of interest rates in money market and capital market..

**MASTER OF ARTS (Economics)**  
**Session 2022-2023**  
**OPT-IV: Money, Banking and Finance**

**Time: 3 Hours**

**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:** Definition, functions, kinds of money, Inside and Outside money, Neutrality of money- Don Patinkin's, Meltzer's and Gurley and Shaw's analysis. Supply of money in India: concepts, significance and determinants, mechanics of money supply in India. Demand for Money: The traditional quantity theory; Fisher's equation of exchange; Cambridge cash balance approach. Keynesian, Friedman's and Neo-Keynesian theories of demand for money, empirical evidence.

**Unit– II**

**Financial System:** Commercial Banks: Systems, Theories of banking, Portfolio behaviour, Innovative banking, Credit creation, Role in economic development. Non-Bank Financial Intermediaries (NBFI's), Credit creation by NBFI's and monetary policy, Development banking and its lending activities with special reference to India.

**Unit– III**

**Banking in India;** Structure of Commercial Banks; Regional Rural Banks (R.R.B.'s); Cooperative Banks, Nationalization of banks in India, Banking Sector reforms.

**Central Banking:** Functions with special reference to developing countries, Monetary policy: Objectives, Targets and Indicators. Transmission Mechanism, Lags in Monetary policy; Reserve Bank of India, limitations of RBI.

**Unit– IV**

**Rate of Interest:** Determination; Theories of the term structure of interest rates, Nature and Structure of interest rates in India; Money and Capital markets: Structure, Treasury Bills Market, Call money market and Stock markets in India(Introductory), Mutual Funds (concept), Dichotomy in Indian money market; Interest rate policy in India: Recent developments; Financial sector reforms (recent developments).

**Suggested Readings:**

1. Thorn, Richard S., (1976), Introduction to Money and Banking, New York, Harper & Row.
2. Luckett, D.G., (1976), Money and Banking, McGraw Hill, New York.
3. Bhole, L.M., (1998), Financial Institutions and Markets Structure, Growth and Innovations, 2nd ed.
4. Paul, R.R., ( 2018), Monetary Economics, Kalyani Publishers, New Delhi.
5. Reserve Bank of India (1985), Report of the Committee to review the working of the Monetary System.
6. (Narasimha Committee Report).

*Note: The latest edition of the books is recommended..*

**MASTER OF ARTS (Economics)**  
**Session 2022-2023**  
**OPT-V (Industrial Economics)**

**Course outcomes:**

After passing this course students will be able to:

- CO1:** understand concepts and problems of industrial economics and the theories of market structure
- CO2:** learn about industrial conduct and performance
- CO2:** understand the Industrial policy in India – evolution and paradigm shift, recent trends in Indian Industrial growth.
- CO4:** comprehend different criteria's of project appraisal
- CO5:** understand the nature, problems and exit policy regarding industrial labour.



**MASTER OF ARTS (Economics)**  
**Session 2022-2023**  
**OPT-V: Industrial Economics**

**Time: 3 Hours**

**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**

**Framework and Problems of Industrial Economics:** Concept and organization of a firm – ownership, control and objectives of the firm;

**Market Structure:** Product differentiation; Entry conditions; Economies of Scale; Market structure and innovation; Theories of industrial location – Weber and Sargent Florence; Factors affecting location.

**Unit– II**

**Market Conduct:** Product Pricing - Theories and evidence; Investment expenditure – Methods of evaluating investment expenditure; Mergers and Acquisitions; diversification.

**Market Performance:** Growth of the firm – Theory and evidence; Constraints on firm's growth; Productivity, efficiency and capacity utilization – Concept and measurement including evidence from Indian Economy.

**Unit– III**

**Indian Industrial Growth and Pattern:** Industrial Policy in India – evolution and paradigm shift; Recent trends in Indian industrial growth; MNCs, transfer of technology and issues related with TRIMS; Privatization: Forms and global and Indian evidence; Regional industrial growth and concentration in India; economic concentration and remedial measures; Issues in Industrial proliferation and environmental preservation.

**Unit– IV**

**Project Appraisal:** Cost benefit analysis – Net Present Value (NPV) and internal rate of return (IRR) criteria – balancing private and social returns.

**Industrial Labour: Structure** of industrial labour; Globalization and labour; Exit Policy and safety nets.

**Suggested Readings:**

1. Bains, J.S (1996) Industrial Organization, Cheltenham, U.K: “*An Elgar critical Writing Reader*”.
2. Barthwal R.R.,(2010),”*Industrial Economics: An Introductory Text*”, Wiley Eastern, New Delhi.
3. Chadha, V. and G.S. Bhalla (1999),”*Industrial Development in India: The Post-Reform Scene*”, Kalyanai Publishers, New Delhi
4. Dutt and Sundram (2016), *Indian economy*, S.Chand Publications, New Delhi.
5. Dhar, P.K. (2016), *Indian Economy: Its Growth and Dimensions*, Kalyani Publications.

*Note: The latest edition of the books is recommended.*

**MASTER OF ARTS (Economics)**  
**Session 2022-2023**  
**OPT-VI (History of Economic Thought)**

**Course outcomes:**

After passing this course students will be able to:

**CO1:** understand key models and concepts of the history of economic thought.

**CO2:** have a historical consciousness of economic ideas.

**CO3:** understand the development of economic thought in the context of the evolving global economy and from a historical perspective.

**MASTER OF ARTS (Economics)**  
**Session 2022-2023**  
**OPT-VI: History of Economic Thought**

**Time: 3 Hours**

**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 content - economic ideas of Petty, Cantillon, Locke and Hume.

**Physiocracy:** Natural order, primacy of agriculture, social classes and circulation of wealth.

**Unit – II**

**The Classical System:** Adam Smith- Division of Labour, theory of value and distribution, economic growth and international trade; David Ricardo- Theory of value and distribution, foreign trade, economic development and theory of rent; T.R. Malthus- Theory of Population, theory of gluts; J.S. Mill- Laissez faire and protection; J.B. Say- Law of Markets; Karl Marx: dynamics of social change, theory of value and surplus value, theory of capitalist competition.

**Unit – III**

**The Marginalists and Neo-Classicism:** Precursors to marginalism- Gossen, Jevons, Menger and Walras; The Austrian School- Wiser and Bohm-Bawerk: Theory of capital and distribution; K. Wicksell and the Swedish School; Wicksteed on laws of distribution; The American Contribution: Clark, Walker and Schumpeter on the theory of growth and business cycles; Marshallian Economics: Price determination and elasticities, consumer surplus, costs and economies, rent and profit.

**Unit – IV**

**Keynes and Post Keynesian developments:** Marginal efficiency of capital and investment, theory of wages and interest, underemployment equilibrium and the role of fiscal policy, theory of multiplier and business cycles; Post Keynesian developments in consumption function, quantity theory of money, inflation, business cycles and economic growth.

**Suggested Readings:**

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 ARTS (Economics)**  
**Session 2022-2023**  
**OPT-VII (Economics of Socialism)**

**Course outcomes:**

After passing this course students will be able to:

- CO1:** understand different types of economic system understand the process of socialism, its crisis and problem of socialistic economy in the context of Marxian theory of surplus.
- CO2:** learn different forms of planning, resource allocation in Planning and relevance of balanced approach and unbalanced approaches of planning.
- CO3:** understand the system pricing, consumption, management decision in industry and Agriculture and international economic relations in socialistic pattern

**MASTER OF ARTS (Economics)**  
**Session 2022-2023**  
**OPT-VII: Economics of Socialism**

**Time: 3 Hours**

**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**

Economic system; meaning and features; Distinguishing features of different economic systems pre-capitalist, capitalism, socialism and mixed economy.

**Unit – II**

Marxian Theory of surplus value, crisis, breakdown and socialism, Pre-requisites, Problems and processes of socialist transformation, Economic problems of socialist economies.

**Unit – III**

Organizational forms of planning, indicators of planning, development priorities and resource allocations. Balance approach; inter-sectoral and inter-regional balances.

**Unit – IV**

Pricing, consumption, management of industry and agriculture, International economic relations between socialist and developing economies; breakdown of socialist system.

**Suggested Readings:**

1. Lavinge, M., Socialist Economies of Soviet Union and Europe.
2. Lange, O., Political Economy, Vols. I and II (relevant portions).
3. Leontive, L., A Short Course of Political Economy.
4. Willzynski, J., Economics Theory of Socialism.
5. Lange, O. & Taylor, F.M., Economics Theory of Socialism (1964, First Edition).
6. Nova, A., Soviet Economy (Third Edition).
7. Nova, A., Socialist Economies (1975), Nutti, D.M. (ed.).
8. Dobb, M., On Economics Theory of Socialism, 1965.
9. Halzman, F. (ed.), Readings in Soviet Economy.

*Note: The latest edition of the books is recommended..*

**MASTER OF ARTS (Economics)**  
**Session 2022-2023**  
**OPT-VIII (Econometrics)**

**Course outcomes:**

After passing this course students will be able to:

- CO1:** understand the nature and methodology of econometrics and understand the OLS procedure of estimation of regression model.
- CO2:** understand the nature and solutions of problems associated with estimation of regression.
- CO3:** understand the basic issues of time series data while estimating regression models.
- CO4:** understand the basics dummy variables and introductory panel data models.

**MASTER OF ARTS (Economics)**

**Session 2022-2023**

**OPT-VIII: Econometrics**

**Time: 3 Hours**

**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**

Nature, meaning and scope of econometrics. Simple and general linear regression model – Assumptions, estimation (through OLS approach) and properties of estimators, Gauss-Markov's theorem (Two variable and k-variable), Concepts and derivation of  $R^2$  and adjusted  $R^2$ . Estimation of regression using SPSS and Interpretation of Output.

**Unit – II**

Concept of analysis of variance approach and its applications in regression analysis. Nature, test, consequences and remedial steps of the problems of Heteroscedasticity and Multicollinearity.

**Unit – III**

Nature, test, consequences and remedial steps of the problem of auto-correlation. Concepts of stationarity, random walk model, unit roots-Dicky-Fuller test and Augmented Dicky-Fuller test, Cointegration, Causality analysis (Granger and Sim's test).

**Unit – IV**

Introduction to panel data models: Fixed effect and random effect models. Dummy variables techniques: Alternative applications – Testing structural stability of regression models, comparing two regression equations, interaction effect, seasonal analysis.

**Suggested Readings:**

1. Gujarati, D.N (2002), *Basic Econometrics*, McGraw Hill, New Delhi.
2. Koutsoyiannis, A (2001), *Theory of Econometrics*, The Macmillan Press Ltd., London.

*Note: The latest edition of the books is recommended.*

**MASTER OF ARTS (Economics)**  
**Session 2022-2023**  
**OPT-IX: Economics of Agriculture**

**Course outcomes:**

After passing this course students will be able to:

CO1: understand the various theories of agriculture economics.

CO2: analyze trends in production & productivity and recognize the challenges in green revolution and post green revolution era

CO3: understand the ways and means of sustainability in agriculture through institutional reforms and technical reforms

CO4: learn about the price and marketing policies of agriculture and its implications .



**MASTER OF ARTS (Economics)**  
**Session 2022-2023**  
**OPT-IX: Economics of Agriculture**

**Time: 3 Hours**

**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 Agricultural Economics** – Production functions in agriculture: Input-input and product-product relationship; Inter-sectoral linkages of agriculture (Backward and forward linkages). Models of agricultural development – Lewis, Fei-Ranis, Jorgenson's, Mellor, Schultz and Boserp's model.

**Unit II**

**Basic Inputs** – Irrigation, HYV seeds, mechanization, distribution mechanism of inputs, New agricultural strategy and its impact on employment and income distribution. Food security and international trade, concept, threat, indicators and mechanism to food security. Food assistance programme (Domestic and International).

**Unit III**

**Institutional Structure** – Nature of emerging agrarian structure – co-operative farming and its evaluation with reference to productivity, employment and income distribution, Environment and soil erosion, sustainable development. Organic farming– meaning, techniques of organic farming and its scope in India.

**Unit IV**

**Marketing and Prices** – Nature of supply and demand for agricultural products; income and price elasticity of demand and supply, Agriculture marketing in India, Rationale for state intervention, Agricultural price policy (recent), Terms of trade between agriculture and industry. Main features of International trade in Agri-products. WTO – subsidies and Indian agriculture.

**Suggested Readings:**

1. Barkey .A. and Barkey.P.(2016), *Principles of Agriculture Economics*, Taylor and Francis
  2. Bhalla, G.S. and Tyagi, D.S. (1989), *Patterns in Indian Agricultural Development*, RSID
  3. Dantwala, M.L. (1992), *Indian Agriculture Development Since Independence: A collection of Essays*, South Asian Books
  4. Dasgupta, B. (1980), *The New Agricultural Technology in India*, Mcmillan.
  5. Economic and Political Weekly, *Regular Features on Review of Agriculture*.
- Note: The latest edition of the books is recommended.*

**MASTER OF ARTS (Economics)**  
**Session 2022-2023**  
**OPT-X (Economics of Public Enterprises)**

**Course outcomes:**

After passing this course students will be able to:

**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:** explain the costs and benefit analysis –Net Present Value and Internal rate of return criteria.

**CO4:** discuss the role of bureau of public enterprises and special committees on public enterprises.

**MASTER OF ARTS (Economics)**  
**Session 2022-2023**  
**OPT-X: Economics of Public Enterprises**

**Time: 3 Hours**

**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. Cost-benefit analysis, shadow prices, social rate of discount, practical approaches in project selection.

**Unit– II**

Organizational Pattern of public enterprises. Management of Public enterprises: Personal Management in Public Enterprises, Financial management in Public enterprises.

**Unit– III**

Evaluation of performance of public enterprises, Measurement of efficiency in public enterprises, Pricing Policy of Public Enterprises. Public sector reforms and privatization strategies.

**Unit– IV**

Accountability of Public Enterprises, Relationship with the government, Auditing of Public Enterprises. Role of Bureau of Public Enterprises, Special Committees in Public Enterprises. Case study of public sector steel industry in India-growth performance, pricing and management.

**Suggested Readings:**

1. Jagdishprakash (2010), "*Administration of Public Enterprises in India*", Himalaya Publishing House .
2. Khera, S.S. (1964), "*Management and Control in Public Enterprises*".
3. NarainLaxmi (1981), "*Principles and Practice of Public Enterprises Management*", Ajanta Publications, New Delhi.
4. Sinha, J.B.S. (1974), "*Some Problems of Public Sector Organisation*".

*Note: The latest edition of the books is recommended..*

**MASTER OF ARTS (Economics)**  
**(Session 2022-2023)**  
**Course Code: MECM- 2125 (OPT - XI)**  
**Computer Applications for Economists**

**COURSE OUTCOMES**

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

**CO1:** Comprehend the organization of Computer System, functioning of various units and storage.

**CO2:** Demonstrate the use of Mobile as computing device and apply new technology in day to day activities.

**CO3:** Apply features of word processing and spreadsheet software for data manipulation, data entry, worksheet formatting, functions and formulae.

**CO4:** Comprehend and apply SPSS for economics related calculations.

**MASTER OF ARTS (Economics)**  
**(Session 2022-2023)**  
**Course Code: MECM- 2125 (OPT - XI)**  
**Computer Applications for Economists**

**Examination Time: (3+3) Hrs.**

**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**

**Fundamentals of Computer:** Introduction to computer, Applications of computer, Input and Output devices, Memory – Primary and Secondary.

**Latest trends and Technologies in IT:** Digital Camera, Smart finger: Distance measuring tool, Nipper, Stylus, Tiny cube speaker, AirPods, Mobile as a computing device, Payment gateway, Payment methods: Net-banking, m-Banking, UPI, Debit/Credit Card, Mobile Wallets.

**UNIT II**

**Word Processing:** Introduction to word processing & its features, parts of window of word processing (Title bar, menu bar, status bar, and ruler), understanding the ribbon, use of office button and quick access toolbar, creation of new documents, opening document, insert a document into another document. Page setup, margins, gutters, font properties, alignment, page breaks, header & footer, deleting, moving, replace, editing text in document, saving a document, spell checker, printing a document. Creating a table, entering and editing text in tables, changing format of table, height and width of row/column editing, adding and deleting rows/columns. Adding picture, page colors and watermarks, borders, shading, drawing objects.

**UNIT –III**

**Spreadsheet:** Introduction to worksheet/spreadsheet, features, creating a new workbook, different functions on different data in excel, creation of chart, creation of worksheet, adding, deleting, moving the text in worksheet, linking, sorting the data, querying the data, filtering the data (auto and advance filters), open an already existing workbook, saving workbook, printing a worksheet, closing the workbook & exiting.

**UNIT -IV**

**SPSS:** Introduction, Data editor Window, Syntax, Output basics, If command, Filter command, Entering and modifying data, Creating a chart, using interactive chart function, difference between excel and SPSS.

**References/Textbooks:**

1. Prof. Satish Jain, M. Geetha, Kratika, BPB's Office 2010 Course Complete Book, BPB Publications (2017).
2. Rachhpal Singh, Gurminder Singh, Windows based computer courses, Kalyani Publishers (2011).
3. Anshuman Sharma, A book of Fundamentals of Information Technology, Lakhanpal Publishers (2016), 5<sup>th</sup>ed..
4. E. Balagurusamy, Programming in ANSI C, Tata McGraw-Hill (2002), 5<sup>th</sup> ed.
5. Yashwant Kanetkar, Let us C, BPB Publications (2020), 17<sup>th</sup> ed.
6. Anshuman Sharma, Learn programming in C, Lakhanpal Publishers (2016), 7<sup>th</sup> ed.
7. Lokesh Jasrai, Data Analysis using SPSS, SAGE Publications Pvt. Ltd. (2020), 1<sup>st</sup> Edition

*Note: The latest edition of the books is recommended..*

**MASTER OF ARTS (Economics)**  
**Session 2022-2023**  
**OPT-XII: Operations Research**

**Course outcomes:**

After passing this course students will be able to:

- CO1:** gain proficiency with tools from optimization techniques like advanced linear programming, transportation, queuing models and assignment problems.
- CO2:** understand and propose the best strategy among various strategies of game theory under uncertainty.
- CO3:** understand the basic replacement models to maximize firms profit or minimize losses.
- CO4:** use CPM and PERT techniques, to plan, schedule, and control project activities.

**MASTER OF ARTS (Economics)**  
**Session 2022-2023**  
**OPT- XII: Operations Research**

**Time: 3 Hours**

**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**

Definition, significance, scope and limitations of operations research, Linear Programming: Assumptions, formulation and solution by graphic method, simplex and two phase simplex method.

**Unit – II**

Transportation Problems, Assignment Problems. Game Theory: Competitive games, Pure strategy, by Dominance, Mixed strategy (2x2, mx2 and 2xm), Two persons zero sum games, 'n' persons zero sum games, Solution of Game problems with Linear Programming.

**Unit – III**

Queuing Models: Characteristics Single channel Queuing models:

- Model I (M/M/I) : (FCFS/¥/¥)
  - Model II (M/M/I) : (SIRO/ ¥/¥)
  - Model III (M/M/I) : (FCFS/N/¥) – (Finite Queue Length Model)
  - Model IV (M/M/I) : (FCFS/n/N) - (Limited Source Model)
- Inventory Model with Deterministic Demand and Probabilistic Demand.

**Unit – IV**

Replacement models of items that deteriorate (money value constant and changes), For items that fail suddenly (Individual replacement policy and Group replacement policy) Project Scheduling by PERT and CPM

**Suggested Readings:**

1. Wagner, H.M. (1973), Principles of Operations Research with Applications to Managerial Decisions.
2. Levin, R.I. and Kirk Patrick, C.A., (1978), Quantitative Approaches to Management.
3. Hartley, R.V., (1976), Operations Research : A Managerial Emphasis.
4. Hardy, A. Taha, (1976), An Introduction to Operations Research, 2nd ed.

*Note: The latest edition of the books is recommended..*



**MASTER OF ARTS (Economics)**  
**Session 2022-2023**  
**OPT-XIII: Economics of Environment and Demography**

**Course outcomes:**

After passing this course students will be able to:

**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 ARTS (Economics)**  
**Session 2022-2023**  
**OPT-XIII: Economics of Environment and Demography**

**Time: 3 Hours**

**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**

Environment-economy-population linkage, environment as a public good, common property resources. Environmental Economics and Ecological Economics Environmental benefits – use value and non-use values, methods of measurement, costs of environmental protection, environment and development trade-off, sustainable development, neo-classical and ecological views, integrated environmental and economic accounting.

**Unit – II**

Environmental policies, Pigouvian taxes and subsidies, marketable pollution permits, Coase theorem, environmental regulations – command and control, incentive based, promoting clean technology, energy policy. Global issues – poverty, population and environment, global agreements, trade and environment under WTO regime.

**Unit – III**

Demography and its concepts, population and economic development, theories of population – Malthus, optimum theory, theory of demographic transition. Factors affecting fertility, nuptiality-concept and analysis, mortality-concepts and factors affecting, Concept of Gender Issues.

**Unit – IV**

Population policy in India – shift in population control to family welfare to women empowerment, population and human development issues, new population policy, tasks before National Population Commission.

**Suggested Readings:**

1. Goodstein, E.S. (2002), Economics and the Environment, John Wiley, New York.
2. Bhattacharya, R.N. (ed) (2001), Environmental Economics: An Indian Perspective, Oxford, New Delhi.
3. Sengupta, R.P. (2001), Ecology and Economics: An Approach to Sustainable Development, Oxford, New Delhi.
4. Kadekodi, G.K. (2004), Environmental Economics in Practice, Oxford, New Delhi.
5. Bogue, D.J. (1971), Principles of Demography, John Wiley, New York.
6. Novell, C. (1988), Methods and Models in Demography, Bellhaven Press, London.
7. Srinivasan, K. (1998), Basic Demographic Techniques and Applications, Sage, New Delhi.
8. Simon, J.L. (1992), Population and Development in Poor Countries, Princeton University Press.
9. Bose, A (1996), India's Basic Demographic Statistics, B.R. Publishing Corporation, New Delhi.
10. Agarwala S.N. (1972), India's Population Problem, Tata McGraw-Hill, Bombay.
11. Chaubey, P.K. (2000), Population Policy in India, Kanisha Publications, New Delhi.

*Note: The latest edition of the books is recommended..*

**MASTER OF ARTS (Economics)**

**Session 2022-2023**

**OPT-XIV: Economics of Infrastructure**

**Course outcomes:**

After passing this course students will be able to:

- CO1:** understand the relevance of infrastructure in economic development of country.
- CO2:** understand key issues and problems with respect to regulation, governance and policies for the infrastructure sector.
- CO3:** apply key principles, concepts and tools relevant to the economic regulation of infrastructure industries.
- CO4:** explain how infrastructure solutions affect society, environment, and health.
- CO5:** apply this knowledge to the analysis of specific energy issues and policies in India.
- CO6:** understand the concepts of Cost- Benefit analysis and its application in the transport sector.
- CO7:** analyse different government policies for regulation and reform of the infrastructure sector.

**MASTER OF ARTS (Economics)**  
**Session 2022-2023**  
**OPT-XIV: Economics of Infrastructure**

**Time: 3 Hours**

**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**

Infrastructure and economic development – Infrastructure as a public good; Social and physical infrastructure; Special characteristics of public utilities. The peak-load, Off-peak load problem, Dual principle controversy; Economies of scale of joint supply.

**Unit – II**

The structure of transport costs and location of economic activities. Demand for transport models of freight and passenger demand. Cost functions in the transport sector. Principles of pricing. Special problems of individual modes of transport; Inter-model condition in the Indian situation. Rate-making in telephone utilities. Principles of decreasing costs in telephone industry.

**Unit – III**

Primacy of energy in the process of economic development. Factors determining demand for energy; Effect of energy shortages. Energy conservation, Renewable and non-conventional sources of energy, Energy modelling, Energy policy in the Indian context. Bulk supply and pricing of electricity. The relative economics of thermal, hydel and nuclear power plants. National power grid. Financing water utilities. Urban and rural water supply. The exploitation of natural gas. Pricing problem.

**Unit – IV**

Organization and financing of supply of social services. Private vs. public sector financing; Recent debate about the fixation of prices of social services. Development of social services in the successive Indian plans. Education and economic growth. Approaches to education planning. Social demand. Rate of return and manpower balance approaches. The case for universal and free primary education; Structure of higher education and problems of its financing in India; Human resources and human capital development. The issues in education policy; Health dimensions of development; Determinants of health – poverty, malnutrition, illiteracy and lack of information; Economic dimensions of health care – Demand and supply of health care; Financing of health care and resource constraints; Inequalities in health – class and gender perspectives; Institutional issues in health care delivery.

**Suggested Readings:**

1. Berman, P. and M.E. Khan (1993), Paying for India's Health Care, Sage Publications, New Delhi.
2. Centre for Monitoring Indian Economy (1996), India : Energy Sector, CMIE, Mumbai.
3. Eckstein, O. (1958), Water Resource Development, Harvard University Press, Cambridge.

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*Note: The latest edition of the books is recommended..*

**MASTER OF ARTS (Economics)**  
**Session 2022-2023**  
**Course Code: MECD-3175, 4175**  
**Course Name: Dissertation**

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

CO1: understand and formulate research problems.

CO2: understand the basic econometric techniques to analyse the articulated problem.

CO3: analyse and draw the significance of the problem under study.

**MASTER OF ARTS (Economics)**  
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**Course Name: Dissertation**

**Total Marks=200**

**(\*in lieu of one optional paper in MA  
Semester III and IV each).**