Department of Economics

GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR

(Established by State Legislature Act 17 of 1995)

'A+' Grade, NAAC Accredited

Scheme of Examination for Integrated Five Years Programme
[UG Four Years Programme (Single Major from First Semester) + PG One Year Programme]
Name of the Programme: Integrated B.Sc. (Hons/Hons with Research)-M.Sc. Economics
According to National Education Policy-2020
For the batch 2023-24 Onwards

THIRD YEAR (SEMESTER-V)						
Type of Course	**Course Code**	**Paper Nomenclature**	**Credits**	**Internal Marks**	**External Marks**	**Total Marks**
Discipline Specific Courses (Core)	**24ECO0501T**	Indian Economy-I	04	30	70	100
	24ECO0502T	Introductory Public Economics	04	30	70	100
Discipline Specific Courses (Elective)	**24ECO0503T(i)** OR **24ECO0503T(ii)**	Intermediate Labour Economics OR Issues in Development Economics	04	30	70	100
	24ECO0504T(i) OR **24ECO0504T (ii)** OR **24ECO0504T (iii)**	Agriculture Production Economics OR Industrial Strategies OR Econometrics-II	04	30	70	100
Minor Course/ Vocational Course	**(Theory)**	To be opted from the pool of MIC (VOC)	02	15	35	50
	(Practical)		02	15	35	50
Skill Enhancement Course	**24ECO0501I**	Internship	04	-----	-----	-----
Total			24	150	350	500

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THIRD YEAR (SEMESTER-VI)						
Type of Course	**Course Code**	**Paper Nomenclature**	**Credits**	**Internal Marks**	**External Marks**	**Total Marks**
Discipline Specific Courses (Core)	**24ECO0601T**	Indian Economy-II	04	30	70	100
	24ECO0602T	Economics of Money and Banking	04	30	70	100
Discipline Specific Courses (Elective)	**24ECO0603T(i)** OR **24ECO0603T(ii)**	Dynamics of Labour Market OR Economics of Social Sector	04	30	70	100
	24ECO0604T(i) OR **24ECO0604T (ii)** OR **24ECO0604T (iii)**	Agriculture for Sustainable Livelihood OR Corporate Finance OR Advanced Econometrics	04	30	70	100
Minor Course/ Vocational Course	**(Theory)**	**To be opted from the pool of the MIC (Voc)**	02	15	35	50
	(Practical)		02	15	35	50
Skill Enhancement Course	**SEC5@ 2 Credits**	**To be opted from the pool of SEC**	----	----	----	----
Total			24	150	350	500

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Department Courses offered for the respective pools of the University

w.e.f. 2023-24 & 2024-25 & 2025-26 Onwards

THIRD YEAR (SEMESTER-V)						
Department Courses offered for the pools (MIN/MDC/SEC, & VAC)						
Type of Course	**Course Code**	**Paper Nomenclature**	**Credits**	**Internal Marks**	**External Marks**	**Total Marks**
Minor Course/ Vocational Course	**24VOC0504T (i) 24VOC0504P (i)**	Econometrics Application in Social Sciences-I OR Quantitative Techniques in Social Sciences-I OR Financial Modelling Using Excel	02	15	35	50
	24VOC0504T (ii) 24VOC0504P(ii)		02	15	35	50
	24VOC0504T (iii) 24VOC0504P(iii)					
Internship	**Internship**	Internship	04	-------	------	------

THIRD YEAR (SEMESTER-VI)						
Department Courses offered for the pools (MIN/MDC/SEC, & VAC)						
Type of Course	**Course Code**	**Paper Nomenclature**	**Credits**	**Internal Marks**	**External Marks**	**Total Marks**
Minor Course/ Vocational Course	**24VOC0604T (i) 24VOC0604P (i)**	Econometrics Application in Social Sciences-II OR Quantitative Techniques in Social Sciences-II OR Statistics Using SPSS	02	15	35	50
	24VOC0604T (ii) 24VOC0604P (ii)		02	15	35	50
	24VOC0604T (iii) 24VOC0604P (iii)					
Skill Enhancement Course	**24SEC0611P**	Econometrics Applications	02	15	35	50

Note: Four Credits internship, earned by a student during summer internship after 2nd Sem or 4th Sem, will be taken into account in 5th Sem of a student who pursue 3 Years UG Programme without taking Exit option

SEMESTER V

Indian Economy-I

DSC-A11 (Core)

Course Code: 24ECO0501T

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objective: This course aims to analyse India's economic evolution by examining key reforms, policy frameworks, and sectoral strategies in agriculture, industry, and services, with a special focus on the post-liberalization period. Students will develop the ability to critically assess growth trajectories and evaluate the effectiveness of development policies.

Unit-I

History of Development and Planning: Major features of the economy since independence; growth and development under Planning-goals, constraints, institutions and policy framework; an assessment of performance, Performance of Indian economy after 1991—sustainability and regional contrasts; structural change, savings and investment. Structure transformation and attendant issues.

Unit-II

Major Economic Reforms in Indian Economy: Liberalization, Privatization and Globalization, Fiscal reforms, financial sector reforms, trade reforms.

Unit-III

Agriculture and rural development strategies: Technology and Institutions, Land relations and land reforms, Rural credit, Modern farm inputs and marketing- price policy and subsidies, Commercialization and diversification, Rural development programmes including poverty alleviation programmes, development of economic and social infrastructure, New rural employment Guarantee scheme.

Unit-IV

Industry as Strategy of development: Industrial policy reforms, Reservation policy relating to small-scale industries, Knowledge-intensive industries in India, Service sector, Competition policy, Sources of Industrial Finances, Bank, Share market, insurance companies, pension funds, non-banking sources, foreign direct investment, public sector reforms, Privatization and disinvestment

Course Outcomes: At the end of the course, the students would be able to
CO1. Comprehend the Evolution and Structural Transformation of the Indian Economy
CO2. Evaluate the Impact of Economic Reforms and Policy Measures
CO3. Analyze Sector-Specific Growth Strategies and Policy Frameworks

Suggested Readings List

1. Dhirendra Nath Konar, *Contemporary Issues of Indian Economy*, Akansha Publishing House, Delhi.
2. Uma Kapila, *Indian Economy (25th Edition): 2024-25*, Academic Foundation.
3. Reserve Bank of India, *Handbook of Statistics on Indian Economy 2022-23*.
4. Government of India, Ministry of Finance, *Economic Survey 2023-24*.
5. Government of India, Ministry of Finance, *Union Budget 2024-25*.
6. Government of India, Ministry of Commerce and Industry, *Foreign Trade Policy 2023*.
7. Government of India, Department for Promotion of Industry and Internal Trade, *FDI Fact Sheets*.
8. Timothy Besley, *Contemporary Issues in Development Economics*, Palgrave Macmillan.
9. Kaushik Basu, *The Oxford Companion to Economics in India*, Oxford University Press, New Delhi.
10. S. Mahendra Dev, *Inclusive Growth in India*, Oxford University Press, New Delhi.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-A12 (Core)

Introductory Public Economics

Course Code: 24ECO0502T

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objective: To introduce key principles of public economics, including the role of government, public goods, efficient and equitable taxation, and Indian public finance, in addressing market failures and economic efficiency.

Unit-I

Introduction to public Economics: Definition and scope of public economics. Role of Government in the economy. Public Goods: definition, models of efficient allocation, pure and impure public goods, free riding

Unit–II

Theory of Taxation; Direct and indirect taxes: Types and reforms, Indian tax system, GST, Dead weight loss, effect of Taxation Theories of taxation – ability and benefit principles of taxation, taxation capacity, tax incidence and shifting, characteristics of good tax system; non tax revenue, tax evasion and the black economy, taxation and monopoly.

Unit–III

Indian Public Finances, Tax System: structure and reforms, Expenditures, Budget, deficits and public debt

Unit–IV

Fiscal federalism in India-NITI Ayog, Finance Commissions, Centrally Sponsored Schemes (CSS).

Course Outcomes: At the end of the course, the students would be able to
CO1. Understand the foundational concepts of public economics and the rationale for government intervention.
CO2. Analyse the characteristics of public goods and their implications for resource allocation.
CO3. Evaluate taxation principles and Indian public finance policies in the context of economic development.

Suggested Readings List

1. J. Hindriks and G. Myles, *Intermediate Public Economics*, 2nd Edition, MIT Press, 2013.
2. Harvey S. Rosen and Ted Gayer, *Public Finance*, 10th Edition, McGraw-Hill Education, 2014.
3. Joseph E. Stiglitz and Jay K. Rosengard, *Economics of the Public Sector*, 4th Edition, W.W. Norton & Company, 2015.
4. Jonathan Gruber, *Public Finance and Public Policy*, 7th Edition, Worth Publishers, 2022.
5. David N. Hyman, *Public Finance: A Contemporary Application of Theory to Policy*, 12th Edition, Cengage Learning, 2020.
6. Kaushik Basu and A. Maertens (eds.), *The New Oxford Companion to Economics in India*, Oxford University Press, 2012.
7. M.M. Sury, *Government Budgeting in India*, 1990.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-A13 (First Option)

Intermediate Labour Economics

Course Code: 24ECO0503T (i)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objectives: To develop an understanding of labour economics by examining labour supply and demand, wage determination, labour mobility, industrial relations, and the role of labour in economic development.

Unit-I

Labour – Its Characteristics; Role of Labour in Economic Development, Mobility and productivity of labour. Supply of Labour: Static Labour-Leisure Choice, Effects of Social Programs and Income Taxes, The Life-Cycle Model, Investments in Human Capital, Collective Models of Household Labour Supply, Occupational Choice;

Unit-II

Demand of Labour: Static Cost, Profit and Labour Demand Functions, Elasticity of Derived Demand: the Hicks-Marshall Rules, Adjustment Costs and Dynamic Labour Demand; Equilibrium in Labour Market: Compensating Differences, Efficiency Wages, Segmented Labour Markets, Migration.

Unit-III

Classical, Neo-classical and Bargaining Theories of Wage Determination; Concepts of Minimum Wage, Living Wage and Fair Wage in Theory and Practice; Discrimination in Labour Markets; Productivity and Wage Relationship; Analysis of Rigidity in Labour Markets; National Wage Policy; Wages and Wage Boards in India; Bonus System and Profit Sharing.

Unit-IV

Theories of Origin and Growth of Labour Movement - Growth, Pattern and Structure of Labour Unions in India, Achievements and Failures of Labour Unions; Industrial Relations -Industrial Disputes and industrial Peace; Causes of industrial Disputes and their Settlement and Prevention Mechanism.

Course Outcomes: At the end of the course, the students would be able to
CO1. Analyse labour market dynamics, including labour supply, demand, and mobility, in the context of economic development.
CO2. Evaluate theories of wage determination, wage policies, and labour market discrimination.
CO3. Assess the role of labour unions, industrial relations, and dispute resolution mechanisms in shaping labour markets.

Suggested Readings List

1. Campbell R. McConnell, Stanley L. Brue, and David A. Macpherson, *Contemporary Labor Economics*, 12th Edition, McGraw-Hill Education, 2019.
2. George J. Borjas, *Labor Economics*, 9th Edition, McGraw-Hill Education, 2024.
3. Pierre Cahuc and André Zylberberg, *Labor Economics*, MIT Press, 2004.
4. Ronald G. Ehrenberg and Robert S. Smith, *Modern Labor Economics: Theory and Public Policy*, 15th Edition, Routledge, 2023.
5. Orley Ashenfelter and Kevin Hallock, *Labor Economics*, 7th Edition, Barnes & Noble Education, 2022.
6. Christopher A. Pissarides, *Equilibrium Unemployment Theory*, 2nd Edition, MIT Press, 2000.
7. CORE Econ, *The Economy 2.0*, 2023.
8. Benjamin Powell, *Out of Poverty*, 2nd Edition, Cambridge University Press, 2021.
9. Brianna L. Alderman and Roger D. Blair, *Monopsony in Labor Markets*, Cambridge University Press, 2022.
10. David Griffith, *The Cultural Value of Work*, Cambridge University Press, 2020.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-A13 (Second Option)
Issues in Development Economics

Course Code: 24ECO0503T (ii)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objective: The course aims to examine the impact of technology, capital, gender dynamics, population trends, and international trade on economic development through classical theories and global institutional frameworks.

Unit-I

Technology and Development: Capital Accumulation, Technological Progress, Classical Thinkers: Smith, Ricardo, Marx, Balanced growth, Harod-Domar and Low-level equilibrium trap.

Unit-II

Gender and Development: Gender, The Household, Power and Empowerment, 'Feminization and Flexibility, Caste, Class, Patriarchy, Gender and Planning- Gender and Micro finance, Women, Work and the Labour Market.
Population and Development: Trends and patterns of world population growth, Fertility and Nuptiality, Mobility and Mortality, Migration, Urbanization, Divergent views on population & development, Population and Health, Population and Aging.

Unit-III

Labor and Development: Unemployment and underemployment, Income distribution, income inequality and poverty Models, Globalization and labour market in India- Mobility: migration and turnover.

Unit-IV

International trade and Development: Role of international institutions like IMF, World Bank, WTO and WIPO in international trade and development.

Course Outcomes: At the end of the course, the students would be able to
CO1. Explain the influence of technological progress, demographic trends, and labor dynamics on economic development.
CO2. Assess gender disparities, income inequality, and labor market challenges in the context of development.
CO3. Critically evaluate the role of international trade and global institutions in shaping economic development policies.

Suggested Readings List

1. Y. Hayami and Y. Godo, *Development Economics: From the Poverty to the Wealth of Nations*, 3rd Edition, Oxford University Press, 2005.
2. K. Basu, *Analytical Development Economics: The Less Developed Economy Revisited*, MIT Press, 1997.
3. Debraj Ray, *Development Economics*, Oxford University Press, 1998.
4. Naila Kabeer, *Reversed Realities: Gender Hierarchies in Development Thought*, Verso, 1994.
5. Francine D. Blau, Marianne A. Ferber, and Anne E. Winkler, *The Economics of Women, Men, and Work*, 7th Edition, Oxford University Press, 2014.
6. Diane Elson (ed.), *Male Bias in the Development Process*, 2nd Edition, Manchester University Press, 1995.
7. Nancy Birdsall, Allen C. Kelley, and Steven W. Sinding (eds.), *Population Matters: Demographic Change, Economic Growth, and Poverty in the Developing World*, Oxford University Press, 2001.
8. David E. Bloom, David Canning, and Jaypee Sevilla, *The Demographic Dividend: A New Perspective on the Economic Consequences of Population Change*, RAND Corporation, 2003.
9. Robert Cassen, *Population and Development: Old Debates, New Conclusions*, Transaction Publishers, 1994.
10. Ronald G. Ehrenberg and Robert S. Smith, *Modern Labor Economics: Theory and Public Policy*, 13th Edition, Routledge, 2021.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-A14 (First Option)

Agriculture Production Economics

Course Code: 24ECO0504T (i)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objective: To explore agricultural production economics by analysing production functions, factor relationships, cost structures, technology adoption, efficiency measurement, and risk management for enhanced productivity and sustainability.

Unit– I

Nature, scope and significance of agricultural production economics- Agricultural Production processes, character and dimensions - spatial, temporal - Centrality of production functions, assumptions of production functions, commonly used forms - Properties, limitations, specification, estimation and interpretation of commonly used production functions.

Factors of production, classification, interdependence, and factor substitution - Determination of optimal levels of production and factor application - Optimal factor combination and least cost combination of production - Theory of product choice; selection of optimal product combination.

Unit–II

Factors of production, classification, interdependence, and factor substitution - Determination of optimal levels of production and factor application - Optimal factor combination and least cost combination of production - Theory of product choice; selection of optimal product combination

Unit–III

Cost functions and cost curves, components, and cost minimization - Duality theory - cost and production functions and its applications - Derivation of firm's input demand and output supply functions - Economies and diseconomies of scale.

Unit–IV

Technology in agricultural production, nature and effects and measurement - Measuring efficiency in agricultural production; technical, allocative and economic efficiencies - Yield gap analysis concepts-types and measurement - Nature and sources of risk, modelling and coping strategies.

Course Outcomes: At the end of the course, the students would be able to
CO1. Explain the principles of agricultural production economics, factor interdependence, and optimal production choices.
CO2. Analyse cost functions, economies of scale, and firm-level production decisions.
CO3. Critically evaluate technological advancements, efficiency measures, and risk management strategies in agricultural production.

Suggested Readings List

Andrew Barkley and Paul W. Barkley, *Principles of Agricultural Economics*, 4th Edition, Routledge, 2024.

1. Oral Capps Jr., John Penson, Parr Rosson, and Richard Woodward, *Introduction to Agricultural Economics*, Revised 7th Edition, Cognella, 2024.
2. David L. Debertin, *Agricultural Production Economics*, 2nd Edition, Amazon Createspace, 2012.
3. George W. Norton, Jeffrey Alwang, and William A. Masters, *Economics of Agricultural Development: World Food Systems and Resource Use*, 3rd Edition, Routledge, 2021.
4. William A. Masters and Amelia B. Finaret, *Food Economics: Agriculture, Nutrition, and Health*, Palgrave Macmillan, 2024.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-A14 (Second Option)

Industrial Strategies

Course Code: 24ECO0504T (ii)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objective: The course aims to analyse competition principles, industrial policy, investment decisions, risk assessment, financial structures, public enterprise pricing, and social cost-benefit analysis to evaluate efficiency in industrial economics.

Unit-I

Competition and Industrial Policy: Competition policy: objectives and difficulties in design and implementation, Competition policy in practice, Policy towards research and development, Regulation of firms with market power under symmetric information, Regulation under asymmetric information, Extensions: dynamic issues and regulatory capture, Liberalisation and regulation

Unit–II

The Investment decision: Methods of investment appraisal, the investment decision in practice, An assessment of investment appraisal techniques Risk, uncertainty and decision making, Sources of finance, Company size and investment.

Unit–III

Public Enterprises –Pricing Policy of Public Enterprises; Theory of Second Best; Capacity Constraints and Peak Load Problem; Social Cost Benefit Analysis- Measuring Economic Benefits and Costs, Determining Shadow Prices, Decision Criteria, Problem of Risk and Uncertainty.

Unit–IV

Measurement of Economic Efficiency: Technical Efficiency, Pure Technical Efficiency, Scale Efficiency, Allocative and Cost Efficiency using SFA and DEA approaches (an overview).

Course Outcomes: At the end of the course, the students would be able to
CO1. Explain competition policies, regulatory mechanisms, and their impact on industrial dynamics.
CO2. Develop analytical skills to assess investment decisions, risk factors, and financial strategies in industries.
CO3. Critically evaluate efficiency measurement techniques, social cost-benefit analysis, and pricing strategies in public enterprises.

Suggested Readings List

1. I.J. Ahluwalia, *Industrial Growth in India*, Oxford University Press, 1985.
2. R.R. Barthwal, *Industrial Economics: An Introductory Textbook*, New Age International Publishers, 2022.
3. F. Cherunilam, *Industrial Economics: Indian Perspective*, 3rd Edition, Himalaya Publishing House, 1994.
4. B. Desai, *Industrial Economy of India*, 3rd Edition, Himalaya Publishing House, 1999.
5. P.J. Devine, N. Lee, R.M. Jones, and W.J. Tyson, *An Introduction to Industrial Economics*, Routledge, 2019.
6. Government of India, *Economic Survey*, Annual Publication.
7. D. Hay and D.J. Morris, *Industrial Economics: Theory and Evidence*, Oxford University Press, 1979.
8. S.C. Kuchhal, *Industrial Economy of India*, 5th Edition, Chaitanya Publishing House, 1980.
9. Paul R. Ferguson and Glenys J. Ferguson, *Industrial Economics: Issues and Perspectives*, 2nd Edition, NYU Press, 1994.
10. William G. Shepherd and Joanna M. Shepherd, *The Economics of Industrial Organization*, 5th Edition, Waveland Press, 2003.
11. Lynne Pepall, Dan Richards, and George Norman, *Industrial Organization: Contemporary Theory and Empirical Applications*, 5th Edition, Wiley-Blackwell, 2014.
12. Stephen Martin, *Advanced Industrial Economics*, 2nd Edition, Wiley, 2001.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-A14 (Third Option)

Econometrics-II

Course Code: 24ECO0504T (iii)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objective: To explore dynamic econometric models, time-series analysis, simultaneous equation models, estimation methods, and dummy variable regressions for comprehensive economic data analysis.

Unit-I

Dynamic Models: Lags in econometrics, Distributed and autoregressive lags, Koyck model, Adaptive Expectation and Partial Adjustment appraoches for rationalization of koyck model; Granger Causality and exogeneity.

Unit-II

Simultaneous Equation Models: Introduction and Examples, Simultaneous Equation Bias and Inconsistency of OLS Estimators; The Identification Problem; Rules of Identification- Order and Rank Conditions; Methods of Estimating Simultaneous Equation System, Macro Economic Model.

Unit-III

Dummy Variables Regression Models. The Nature of Dummy Variables, ANOVA Models, ANOVA Models with two qualitative variables, ANCOVA Models, uses of Dummy variables, The Dummy variable alternative to the chow test.

Unit-IV

Dummy Variable Regression in Dependent Variable: Linear Probability Model (LPM), LOGIT, PROBIT, TOBIT Model.

Course Outcomes: At the end of the course, the students would be able to
CO1. Explain the significance of dynamic models, lag structures, and causality in econometric analysis.
CO2. Develop analytical skills to apply simultaneous equation models and estimation techniques in macroeconomic modelling.
CO3. Critically assess the application of dummy variables in regression analysis, including qualitative response models.

Suggested Readings List

1. Takeshi Amemiya, *Advanced Econometrics*, Harvard University Press, 1985.
2. Arthur S. Goldberger, *Introductory Econometrics*, Harvard University Press, 1998.
3. Damodar N. Gujarati and Dawn C. Porter, *Basic Econometrics*, 5th Edition, McGraw-Hill Education, 2008.
4. R. Carter Hill, William E. Griffiths, and Guay C. Lim, *Principles of Econometrics*, 5th Edition, Wiley, 2018.
5. John Johnston and John DiNardo, *Econometric Methods*, 4th Edition, McGraw-Hill Education, 1997.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

MIC 5 (VOC) (First Option)

Econometrics Applications in Social Sciences-I

Course Code: 24VOC0504T (i)

Maximum Marks: 50
Internal Assessment: 15 Marks
External Assessment: 35 Marks

Total Credits: 02
(Theory)
Time Allowed: 2 Hours

Course Objective: To introduce econometric fundamentals, including data types, statistical inference, regression model assumptions, and diagnostic techniques for addressing multicollinearity, heteroskedasticity, and autocorrelation.

Unit-I

Definition, Scope, and Importance of Econometrics, Nature of Social Science Data: Cross-sectional, Time-series, and Panel Data, Basics of Statistical Inference: Hypothesis Testing, Confidence Intervals, and p-values.

Unit-II

Assumptions of the Classical Linear Regression Model, Ordinary Least Squares (OLS) Estimation and Properties, Interpretation of Regression Coefficients, Goodness of Fit: R-Squared and Adjusted R-Squared, Hypothesis Testing in Regression: t-test and F-test, Implementation of OLS in Social Science Data (Education, Health, Demographics), Diagnostic Testing using Statistical Software, Interpretation of Regression Output. Problems of Regression; Multicollinearity: Causes, Consequences, and Solutions, Heteroskedasticity: Detection (White's Test, Breusch-Pagan Test) and Remedies, Autocorrelation: Detection (Durbin-Watson Test) and Solutions.

Course Outcomes: At the end of the course, the students would be able to
CO1. Explain econometric concepts, regression analysis, and statistical inference in the context of social science data.
CO2. Develop practical skills in implementing regression models, hypothesis testing, and identifying econometric problems.
CO3. Critically assess and interpret regression outputs using statistical software for real-world applications in social sciences.

Suggested Readings List

1. Gujarati, D.N., & Porter, D.C. (2017). *Basic Econometrics* (5th ed.). McGraw-Hill.
2. Wooldridge, J.M. (2019). *Introductory Econometrics: A Modern Approach* (7th ed.). Cengage.
3. Kennedy, P. (2008). *A Guide to Econometrics* (6th ed.). Wiley.
4. Stock, J.H., & Watson, M.W. (2020). *Introduction to Econometrics* (4th ed.). Pearson.

Examiner's Note: The course contents of the courses having 02 credits will be distributed among 2 units and maximum marks will be assigned 50 marks (35 external: 15 internal). The maximum time duration for attempting the paper will be 2 hours. The examiner is required to set five questions in all. The first question will be compulsory consisting of Five short questions covering the entire syllabus of 03 marks each. In addition to that four more question will be set, two questions from each unit. The students shall be required to attempt any three questions in all selecting one question from each unit consisting of 10 marks in addition to compulsory question No. 1. All questions shall carry equal marks.

MIC 5 (VOC) (First Option)

Econometrics Applications in Social Sciences-I

Course Code: 24VOC0504P (i)

Maximum Marks: 50
Internal Assessment: 15 Marks
External Assessment: 35 Marks

Total Credits: 02
(Practical)

Course Objective: To introduce econometric fundamentals, including data types, statistical inference, regression model assumptions, and diagnostic techniques for addressing multicollinearity, heteroskedasticity, and autocorrelation.

Unit-I

Cross-sectional, Time-series, and Panel Data, Basics of Statistical Inference: Hypothesis Testing, Confidence Intervals, and p-values, Introduction to Statistical Software (R, Stata, or Python)

Unit-II

Assumptions of the Classical Linear Regression Model, Ordinary Least Squares (OLS) Estimation and Properties, Interpretation of Regression Coefficients, Goodness of Fit: R-Squared and Adjusted R-Squared, Hypothesis Testing in Regression: t-test and F-test, Implementation of OLS in Social Science Data (Education, Health, Demographics), Diagnostic Testing using Statistical Software, Interpretation of Regression Output. Problems of Regression; Multicollinearity: Causes, Consequences, and Solutions, Heteroskedasticity: Detection (White's Test, Breusch-Pagan Test) and Remedies, Autocorrelation: Detection (Durbin-Watson Test) and Solutions, Practical with Statistical Software (R, Stata, or Python)

Course Outcomes: At the end of the course, the students would be able to
CO1. Explain econometric concepts, regression analysis, and statistical inference in the context of social science data.
CO2. Develop practical skills in implementing regression models, hypothesis testing, and identifying econometric problems.
CO3. Critically assess and interpret regression outputs using statistical software for real-world applications in social sciences.

Suggested Readings List

1. Gujarati, D.N., & Porter, D.C. (2017). *Basic Econometrics* (5th ed.). McGraw-Hill.
2. Wooldridge, J.M. (2019). *Introductory Econometrics: A Modern Approach* (7th ed.). Cengage.
3. Kennedy, P. (2008). *A Guide to Econometrics* (6th ed.). Wiley.
4. Stock, J.H., & Watson, M.W. (2020). *Introduction to Econometrics* (4th ed.). Pearson.

Important Note: The practical exam will be taken by an outside examiner.

MIC 5 (VOC) (Second Option)

Quantitative Techniques in Social Sciences-I

Course Code: 24VOC0504T (ii)

Maximum Marks: 50
Internal Assessment: 15 Marks
External Assessment: 35 Marks

Total Credits: 02
(Theory)
Time Allowed: 2 Hours

Course Objectives: To understand propositional logic and argument validity, set theory, number systems, and equations, and evaluate functions with their properties and graphs.

Unit-I

Propositional Logic: Definition and examples of Propositions, Logical connectives, Compound (or complex) propositions, Tautology and contradiction; Open propositions and quantifiers; Arguments and Validity, Functions; Review of relations and functions, Real valued functions and their properties, Types of functions and inverse of a function, Polynomials, zeros of polynomials, rational functions and their graphs, Definition and basic properties of logarithmic, exponential, trigonometric functions and their graphs.

Unit-II

Correlation and regression analysis, Time series basics: plotting trends and calculating growth rates, Index numbers: construction and interpretation, Introduction to hypothesis testing (t-test, chi-square test)

Course Outcomes: At the end of the course, the students would be able to

CO1. Apply logical reasoning and propositional logic to mathematical problem-solving.

CO2. Elaborate set operations, number systems, and solving equations.

CO3. Critically assess and interpret various functions, their properties, and applications in mathematical modelling.

Suggested Readings List

1. Kenneth J. Arrow et al. (eds.), *Mathematical Methods in the Social Sciences, 1959: Proceedings*, Stanford University Press, 1960.
2. Shobha Bagai, Amber Habib, and Geetha Venkataraman, *Mathematics for Social Scientists: Learning Essential Foundational Skills*, Routledge, 2023.
3. R. Ecob and D.J. Bartholomew, *Mathematical Methods in Social Sciences*, Journal of the Royal Statistical Society Series A (General), 1982.
4. Lancelot Hogben, *Mathematics for the Million*, W.W. Norton & Company, 1968.
5. Jonathan Kropko, *Mathematics for Social Scientists*, SAGE Publications, 2016.

Important Note: The practical exam will be taken by an outside examiner.

Examiner's Note: The course contents of the courses having 02 credits will be distributed among 2 units and maximum marks will be assigned 50 marks (35 external: 15 internal). The maximum time duration for attempting the paper will be 2 hours. The examiner is required to set five questions in all. The first question will be compulsory consisting of Five short questions covering the entire syllabus of 03 marks each. In addition to that four more question will be set, two questions from each unit. The students shall be required to attempt any three questions in all selecting one question from each unit consisting of 10 marks in addition to compulsory question No. 1. All questions shall carry equal marks.

MIC 5 (VOC) (Second Option)

Quantitative Techniques in Social Sciences-I

Course Code: 24VOC0504P (ii)

Maximum Marks: 50
Internal Assessment: 15 Marks
External Assessment: 35 Marks

Total Credits: 02
(Practical)
Time Allowed: 2 Hours

Course Objectives: To understand propositional logic and argument validity, set theory, number systems, and equations, and evaluate functions with their properties and graphs.

Unit-I

Data Handling and Descriptive Statistics Using Excel: Introduction to Excel interface for data analysis: cells, functions, charts, tables, Data entry, cleaning, and validation in Excel, Creating frequency distributions and cross-tabulations, Measures of Central Tendency (Mean, Median, Mode), Measures of Dispersion (Range, Variance, Standard Deviation, Coefficient of Variation), Data visualization: Bar charts, histograms, pie charts, box plots.

Unit-II

Applied Quantitative Analysis with Excel: Correlation and regression analysis, Time series basics: plotting trends and calculating growth rates, Index numbers: construction and interpretation, Introduction to hypothesis testing using Excel (t-test, chi-square test), Using Data Analysis tool pack for statistical analysis.

Course Outcomes: At the end of the course, the students would be able to

CO1. Apply logical reasoning and propositional logic to mathematical problem-solving.

CO2. Elaborate set operations, number systems, and solving equations.

CO3. Critically assess and interpret various functions, their properties, and applications in mathematical modelling.

Suggested Readings List

1. Kenneth J. Arrow et al. (eds.), *Mathematical Methods in the Social Sciences, 1959: Proceedings*, Stanford University Press, 1960.
2. Shobha Bagai, Amber Habib, and Geetha Venkataraman, *Mathematics for Social Scientists: Learning Essential Foundational Skills*, Routledge, 2023.
3. R. Ecob and D.J. Bartholomew, *Mathematical Methods in Social Sciences*, Journal of the Royal Statistical Society Series A (General), 1982.
4. Lancelot Hogben, *Mathematics for the Million*, W.W. Norton & Company, 1968.
5. Jonathan Kropko, *Mathematics for Social Scientists*, SAGE Publications, 2016.

Important Note: The practical exam will be taken by an outside examiner.

MIC 5 (VOC) (Third Option)

Financial Modelling using Excel

Course Code: 24VOC0504T (iii)

Maximum Marks: 50 **(Total Credits: 02)**
Internal Assessment: 15 Marks **(Theory)**
External Assessment: 35 Marks **Time Allowed: 2 Hours**

Course Objective: This course aims to provide understanding about financial modelling fundamentals, Excel functions, and best practices, analyse financial statements, forecasting, and valuation, and evaluate advanced techniques like scenario analysis, project finance, and automation with Macros and VBA.

Unit-I

Overview of Financial Modelling: Purpose and Applications, Introduction to Excel for Financial Analysis, Cell Referencing (Relative, Absolute, and Mixed), Data Validation and Conditional Formatting, Pivot Tables and Data Tables, Essential Excel Functions for Financial Modelling; Mathematical & Statistical Functions (SUM, AVERAGE, COUNTIF, etc.), Logical Functions (IF, AND, OR, IFERROR), Lookup Functions (VLOOKUP, HLOOKUP, INDEX-MATCH), Best Practices in Financial Modelling (Model Structure, Transparency, and Accuracy)

Unit-II

Understanding Financial Statements (Income Statement, Balance Sheet, Cash Flow Statement), Linking Financial Statements: Building an Integrated 3-Statement Model, Forecasting Techniques: Revenue Forecasting, Cost and Expense Forecasting, Working Capital and Capital Expenditures, Circular References and Iterative Calculations in Excel, Sensitivity and Scenario Analysis Using Excel Data Tables, Time Value of Money; Net Present Value (NPV) and Internal Rate of Return (IRR), Loan Amortization Schedules, Discounted Cash Flow (DCF) Modelling, Estimating Free Cash Flows, Weighted Average Cost of Capital (WACC) Calculation, Terminal Value and Enterprise Valuation, Relative Valuation (Comparable Company Analysis, Precedent Transactions), Project Finance Modelling, Capital Budgeting Techniques, Debt and Equity Financing Considerations

Course Outcomes: At the end of the course, the students would be able to
CO1. Apply Excel-based financial modeling techniques for analyzing financial data and building integrated financial models.
CO2. Assess financial statements, perform valuation techniques, and conduct scenario analysis.
CO3. Critically evaluate and implement advanced financial modeling methods, including stress testing, portfolio optimization, and financial forecasting.

Suggested Readings List

1. Benninga, S. (2014). *Financial Modeling* (4th ed.). MIT Press.
2. Holden, C. (2019). *Excel Modeling in Corporate Finance* (6th ed.). Pearson.
3. Sengupta, C. (2010). *Financial Analysis and Modeling Using Excel and VBA* (2nd ed.). Wiley.
4. Day, A. (2018). *Mastering Financial Modelling in Microsoft Excel* (3rd ed.). Pearson.
5. Simon Benninga & Tal Mofkadi (2017). *Principles of Finance with Excel* (3rd ed.). Oxford University Press.

Important Note: The practical exam will be taken by an outside examiner.

Examiner's Note: The course contents of the courses having 02 credits will be distributed among 2 units and maximum marks will be assigned 50 marks (35 external: 15 internal). The maximum time duration for attempting the paper will be 2 hours. The examiner is required to set five questions in all. The first question will be compulsory consisting of Five short questions covering the entire syllabus of 03 marks each. In addition to that four more question will be set, two questions from each unit. The students shall be required to attempt any three questions in all selecting one question from each unit consisting of 10 marks in addition to compulsory question No. 1. All questions shall carry equal marks.

MIC 5 (VOC) (Third Option)

Financial Modelling using Excel

Course Code: 24VOC0504P (iii)

Maximum Marks: 50 **(Total Credits: 02)**
Internal Assessment: 15 Marks **(Practical)**
External Assessment: 35 Marks **Time Allowed: 2 Hours**

Course Objective: This course aims to provide understanding about financial modelling fundamentals, Excel functions, and best practices, analyse financial statements, forecasting, and valuation, and evaluate advanced techniques like scenario analysis, project finance, and automation with Macros and VBA.

Unit-I

Overview of Financial Modelling: Purpose and Applications, Introduction to Excel for Financial Analysis, Cell Referencing (Relative, Absolute, and Mixed), Data Validation and Conditional Formatting, Pivot Tables and Data Tables, Essential Excel Functions for Financial Modelling; Mathematical & Statistical Functions (SUM, AVERAGE, COUNTIF, etc.), Logical Functions (IF, AND, OR, IFERROR), Lookup Functions (VLOOKUP, HLOOKUP, INDEX-MATCH), Best Practices in Financial Modelling (Model Structure, Transparency, and Accuracy)

Unit-II

Understanding Financial Statements (Income Statement, Balance Sheet, Cash Flow Statement), Linking Financial Statements: Building an Integrated 3-Statement Model, Forecasting Techniques: Revenue Forecasting, Cost and Expense Forecasting, Working Capital and Capital Expenditures, Circular References and Iterative Calculations in Excel, Sensitivity and Scenario Analysis Using Excel Data Tables, Time Value of Money; Net Present Value (NPV) and Internal Rate of Return (IRR), Loan Amortization Schedules, Discounted Cash Flow (DCF) Modelling, Estimating Free Cash Flows, Weighted Average Cost of Capital (WACC) Calculation, Terminal Value and Enterprise Valuation, Relative Valuation (Comparable Company Analysis, Precedent Transactions), Project Finance Modelling, Capital Budgeting Techniques, Debt and Equity Financing Considerations

Course Outcomes: At the end of the course, the students would be able to
CO1. Apply Excel-based financial modeling techniques for analyzing financial data and building integrated financial models.
CO2. Assess financial statements, perform valuation techniques, and conduct scenario analysis.
CO3. Critically evaluate and implement advanced financial modeling methods, including stress testing, portfolio optimization, and financial forecasting.

Suggested Readings List

1. Benninga, S. (2014). *Financial Modeling* (4th ed.). MIT Press.
2. Holden, C. (2019). *Excel Modeling in Corporate Finance* (6th ed.). Pearson.
3. Sengupta, C. (2010). *Financial Analysis and Modeling Using Excel and VBA* (2nd ed.). Wiley.
4. Day, A. (2018). *Mastering Financial Modelling in Microsoft Excel* (3rd ed.). Pearson.
5. Simon Benninga & Tal Mofkadi (2017). *Principles of Finance with Excel* (3rd ed.). Oxford University Press.

Important Note: The practical exam will be taken by an outside examiner.

Course Code: 24ECO0501I

Internship @ 4 CREDITS

Semester-VI

DSC-A15

Indian Economy-II

Course Code: 24ECO0601T

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objectives: To examine India's foreign trade, balance of payments, and exchange rate policies while analyzing its financial sector, monetary policies, inflation trends, and the demographic and social factors influencing population dynamics.

Unit-I

Balance of payment: Salient features of India's Foreign Trade, Composition, Direction and Organization of Foreign Trade, Recent changes in Foreign Trade, Balance of Payment, Tariff Policy, India and WTO requirements, Bilateral Trade Agreements and their implications. Capital Account Dynamics: FDI, FPI etc. Foreign exchange market and Exchange rate management in India.

Unit-II

Money and Banking: Financial sector reforms, Organization of India's money market, Changing role of RBI, Commercial Banks Development Finance Institutions, Foreign Banks and Non-banking financial institutions, Indian capital market and SEBI, Development in Global financial markets and its relationship with Indian financial sector Commodity market in India-spot and future market, role of FMC.

Unit-III

Inflation: Definition, Trends, Estimates, Consequences and remedies (control), Wholesale price index: components and trends Consumer price index: components and trends.

Unit-IV

Demography of India: Population structure (age, sex), Population growth trends in India, factors influencing fertility and mortality rates, population policies, and impact of social factors like case and religion on demographics, analysis of census data related to India regional variations, Indices at global level like Happiness Index, Hunger Index.

Course Outcomes: At the end of the course, the students would be able to

CO1. Explain India's foreign trade structure, balance of payments, and the implications of trade agreements and exchange rate policies.

CO2. Develop analytical skills to assess financial sector reforms, banking structures, and the role of monetary policy in economic stability.

CO3. Critically evaluate inflation trends, demographic shifts, and their economic and social implications, using global indices for comparative analysis.

Suggested Readings List

1. Uma Kapila (Ed.), *Indian Economy Since Independence: A Comprehensive and Critical Analysis of India's Economy, 1947-2023*, 34th Edition, Academic Foundation, 2023.
2. Reserve Bank of India, *Handbook of Statistics on Indian Economy*, Latest Edition.
3. Government of India, Ministry of Finance, *Economic Survey*, Latest Edition.
4. Government of India, Ministry of Finance, *Union Budget*, Latest Edition.
5. Government of India, Ministry of Commerce and Industry, *Foreign Trade Policy*, Latest Edition.
6. Government of India, Department for Promotion of Industry and Internal Trade, *SIA Newsletters* and *FDI Factsheets*, Various Issues.
7. Timothy Besley, *Contemporary Issues in Development Economics*, Palgrave Macmillan.
8. Kaushik Basu and Annemie Maertens (Eds.), *The New Oxford Companion to Economics in India*, Oxford University Press, 2012.
9. S. Mahendra Dev, *Inclusive Growth in India*, Oxford University Press, New Delhi.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-A16

Economics of Money and Banking

Course Code: 24ECO0602T

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objectives: To understand the evolution, functions, and measures of money, analyse banking systems, financial markets, and monetary policies, and evaluate the impact of digital payments, financial innovations, banking reforms, and global financial crises.

Unit-I

Meaning, Evolution, and Functions of Money, Types of Money: Commodity Money, Fiat Money, Digital Currency, Money Supply and Measures (M1, M2, M3, M4), Theories of Money: Quantity Theory (Fisher and Cambridge Versions), Demand for Money: Keynesian, Classical, and Post-Keynesian Theories

Unit-II

Structure of the Banking System: Commercial Banks, Cooperative Banks, Development Banks, Functions of Commercial Banks: Credit Creation, Investment, and Financial Services, Banking Regulations: Basel Norms and RBI Guidelines, Non-Banking Financial Companies (NBFCs) and Their Role Financial Markets: Money Market and Capital Market

Unit-III

Role and Functions of a Central Bank (With Special Reference to RBI), Instruments of Monetary Policy: CRR, SLR, Repo, Reverse Repo, Open Market Operations, Inflation and Monetary Policy: Inflation Targeting Framework, Transmission Mechanism of Monetary Policy, Impact of Monetary Policy on Growth and Stability

Unit-IV

Digital Payments and FinTech Innovations: UPI, Cryptocurrency, CBDCs, Financial Inclusion and Banking Reforms in India, Global Financial Crises and Their Impact on Banking Systems, Role of International Financial Institutions: IMF, World Bank, BIS Challenges in Banking: NPAs, Banking Frauds, and Cybersecurity

Course Outcomes: At the end of the course, the students would be able to
CO1. Explain the role of money, its theoretical foundations, and its influence on economic stability.
CO2. Develop analytical skills to assess the banking system, financial regulations, and monetary policy frameworks.
CO3. Critically evaluate emerging financial technologies, banking challenges, and the role of global financial institutions in shaping monetary policies.

Suggested Readings List

1. Frederic S. Mishkin, *The Economics of Money, Banking, and Financial Markets*, 13th Edition, Pearson, 2022.
2. R. S. Sayers, *Modern Banking*, 7th Edition, Oxford University Press, 1979.
3. R. R. Paul, *Monetary Economics*, Kalyani Publishers, 2020.
4. Frank J. Fabozzi and Franco Modigliani, *Capital Markets: Institutions and Instruments*, 5th Edition, Pearson, 2018.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-A17 (First Option)
Dynamics of Labour Market

Course Code: 24ECO0603T (i)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objectives: To understand labour market evolution, dynamics, and policies, analyse labour demand-supply theories and market structures, and evaluate the impact of human capital, education, and wage differentials on labour outcomes.

Unit-I

Evolution and Growth of Labour Economics, Overview of Labour Market: The actors in the Labour Market; Need of Labour Market Theories, Dynamics of Labour Market.

Labour Market Dynamics in India: Employment, Unemployment and Labour Force Dynamics, Structural Changes in the Economy and Employment, Wage Patterns and Inequality, Increasing Informalization of Employment: Challenge of Social Security, Employment Strategies, Policies and Programmes

Unit-II

Labour Demand: Neoclassical Model of Labour Demand: Employment Decision in Short-run and Long-run, Elasticity of Demand for Labour and its Applications. Neoclassical Model of Labour Supply; Household Production Model of Labour Supply; Hours of Work Decision.

Unit-III

Labour Market Equilibrium (Competitive market): Equilibrium in a single Competitive Market, Competitive Equilibrium across Labour Markets; The Cobweb Model. Labour Market Equilibrium (Non-competitive market): Outcomes of Non-competitive Labour Markets: Monopsony, and Monopoly,

Unit-IV

Human Capital and Labour Market: Education in the Labour Market: The Schooling Model, Education and Earning, Estimating the Rate of Return to Schooling, The Wage Structure and Wage Differentials: Wage Structure; Compensating Wage Differential and Job Amenities.

Course Outcomes: At the end of the course, the students would be able to
CO1. Explain labour market theories, employment trends, and the challenges of informalization and social security.
CO2. Assess labour demand, supply models, and equilibrium conditions in competitive and non-competitive markets.
CO3. Critically evaluate the impact of education, human capital investment, and wage structures on labour market dynamics.

Suggested Readings List

1. Butler, A.D., *Labor Economics and Institutions*, American Publishing Company, 1972.
2. George, J.B., *Labour Economics*, McGraw Hill, 1996.
3. Marshall, F.R., Briggs, V.M., & King, A.G., *Labor Economics*, Richard D. Irwin Inc., 1984.
4. McConnell, C.R., Brue, S.L., & Macpherson, D.A., *Contemporary Labor Economics*, 12th Edition, McGraw Hill, 2019.
5. Burton, F.J., Benham, L.K., Vaughn III, W.W., & Hanagan, R.J. (Eds.), *Readings in Labor Market Analysis*, Holt, Rinehart and Winston, Inc., 1971.
6. Rees, A., *The Economics of Work and Pay*, 4th Edition, Harper and Row, 1986.
7. Sen, A.K., *Employment, Technology and Development*, Oxford University Press, 1975.
8. Solow, R.M., *The Labor Market as a Social Institution*, Basil Blackwell, 1990.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-A17 (Second Option)

Economics of Social Sector

Course Code: 24ECO0603T (ii)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objectives: To understand the economics of education, human capital theory, and its role in growth, educational planning and financing, and evaluate health economics, healthcare markets, and related public policies.

Unit-I

Economics of Education: Concept and scope of Economics of Education; Education as consumption and investment goods; Human capital-concept and components of human capital; Education and economic growth; Cost of education-Expenditure on education, private costs and social cost, direct and indirect cost; Benefits of education-Direct and indirect benefits, private and social benefits; Cost-Benefit analysis in education.

Unit-II

Educational Planning and Financing: Approaches to educational planning- Production function models; Manpower Requirement Approach, Input-Output model, Gender based Approach; Educational planning in developing countries with special reference to India, Role of financing in educational development, educational financing in India- equity and efficiency effects of financing education in India.

Unit-III

Health Economics: Concepts, definition and components, Measures of health status; Economic Evaluation of Health care; Health care markets, Demand for Health care, Supply side considerations, Market for health insurance.

Unit-IV

Public Policy on Health and Development Dimensions: Public policy in health care delivery- role of state; Health dimension of development –Poverty and Malnutrition; Inequalities in health – Class and gender perspectives, Health care in India: Post Reform Scenario.

Course Outcomes: At the end of the course, the students would be able to
CO1. Explain the role of education as an economic investment and assess the costs and benefits of education.
CO2. Examine educational planning models, financing mechanisms, and their impact on economic development.
CO3. Critically evaluate healthcare policies, health inequalities, and the relationship between health, poverty, and development.

Suggested Readings List

1. Berman, P. (Ed.), *Health Sector Reform in Developing Countries: Making Health Development Sustainable*, Harvard University Press, 1995.
2. Blaug, M., *Introduction to Economics of Education*, Penguin, 1972.
3. Cohen, E., & Gaske, T., *Economics of Education*, Pergamon Press, 1989.
4. Henderson, J. W., *Health Economics and Policy*, 8th Edition, Cengage Learning, 2022.
5. Klarman, H.E., *The Economics of Health*, Columbia University Press, 1965.
6. McMahon, W.W., *Education and Development: Measuring the Social Benefits*, Oxford University Press, 1999.
7. Psacharopoulos, G. (Ed.), *Economics of Education: Research and Studies*, Pergamon Press, 1987.
8. Tilak, J.B.G., *Education for Development in Asia*, Sage Publications, 1994.
9. Vaizey, J., *Economics of Education*, Faber and Faber, 1962.
10. Woodhall, M., *Cost-Benefit Analysis in Educational Planning*, UNESCO, 1992.
11. World Bank, *World Development Report 1993: Investing in Health*, Oxford University Press, 1993.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-A18 (First Option)

Agriculture for Sustainable Livelihood

Course Code: 24ECO0604T (i)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objectives: To understand agricultural livelihood options, business models, and smart farming technologies, sustainable practices and climate strategies, and evaluate horticulture, policies, and government programs for farm productivity and sustainability.

Unit-I

Livelihood options in Agriculture, existing business models and the structure of start-up solutions in agriculture and life skills. Integrating technological advancements in the farming sector, IoT applications in farming sector including crop planning, management, post-harvest and marketing. vertical farming, post-harvest food handling and product diversification.

Unit–II

Organic farming, Natural farming and Conservation Agriculture- their benefits and demerits, Climate change impact in agriculture, climate change mitigation and adaptation strategies. Role of agri-informatics in smart farming, minimising the impact of climate change and enhancing resource use efficiency.

Unit–III

Importance of horticulture in terms of economy, production, employment. Generation, environmental protection and human resource development. Scope for horticulture in India. Fruit and Vegetable zones of India.

Unit–IV

Agricultural policies that impact on farm productivity and profitability, existing policies and its impact on agriculture sector, existing government programs towards farmer's welfare and their merits and demerits. Agricultural credit Policy – Crop insurance -Policies of Natural Resources Use – Policies for sustainable Livelihoods – Virtual water and trade -Sustainable food Security Action Plan.

Course Outcomes: At the end of the course, the students would be able to
CO1. Explain modern farming technologies, startup models, and innovative agricultural practices for improving productivity.
CO2. Assess climate change impacts, adaptation strategies, and the role of agri-informatics in sustainable agriculture.
CO3. Critically evaluate agricultural policies, credit mechanisms, and sustainability initiatives for ensuring food security and farmer welfare.

Suggested Readings List

1. Gangadhar Banerjee and Srijeet Banerji, Economics of sustainable agriculture and alternate production systems, Ane Books Pvt Ltd., 2017
2. Palaniappan, S.P., & Annadurai, K. (2018). Organic Farming Theory and Practice. Scientific Publishers. ISBN 978-81-7233-537-3. p- 257.
3. B.K.Desai and Pujari, B.T. Sustainable Agriculture : A vision for future, New India Publishing Agency, New Delhi, 2007.
4. Saroja Raman, Agricultural Sustainability – Principles, Processes and Prospects, CRC Press, 2013
5. Gopal Chandra De. 1980., Fundamentals of Agronomy. Oxford and IBH Publishing Co. Ltd., Bangalore.
6. Fundamentals of Horticulture, Edmond, J.B., Sen., T.L., Andrews, F.S and Halfacre R.G, 1963. Tata McGraw Hill Publishing Co., New Delhi.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-A18 (Second Option)

Corporate Finance

Course Code: 24ECO0604T (ii)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objectives: To understand the financial system and its role in economic development, stock exchanges, trading mechanisms, and financial instruments, and evaluate capital budgeting, cost of capital, and corporate finance decisions.

Unit-I

Structure of Financial system - Financial institutions, Financial markets, Financial instruments and Financial services. Financial system and economic development. Indicators of financial development. Cautionary view of financial system in development-reasons

Unit-II

Stock exchanges - stock exchanges in India - BSE and NSE -auction trading and screen-based trading system - BOLT-Stock indices in India and abroad - BSE Sensitive index and Nifty indices; Dow Jones, NASDAQ, FTSE, Nikkei-kerb trading – stock split- derivatives-option trading-stock futures - exchange traded funds (ETF) - Credit ratings - credit rating institutions in India – CRISIL, ICRA and CARE.

Unit-III

Capital Budgeting: What is capital budgeting, need for capital budgeting, different steps in capital budgeting, Capital budgeting appraisal methods – payback method, accounting rate of return method, net present value method, interest rate of return method, benefit cost ratio method. Capital rationing, alternative methods of financing investments

Unit-IV

Cost of capital: Cost of debt capital, cost of share capital, cost of equity capital, cost of retained earnings; Capital structure and dividend policy decisions.

Course Outcomes: At the end of the course, the students would be able to
CO1. Explain the role of financial institutions, markets, and instruments in the economic development process.
CO2. Assess stock market operations, credit ratings, and financial instruments used for investment decisions.
CO3. Critically evaluate capital budgeting methods, cost of capital components, and financial strategies for corporate decision-making.

Suggested Readings List

1. M.Y. Khan and P.K. Jain, *Financial Management: Text, Problems and Cases*, 8th Edition, Tata McGraw Hill, 2018.
2. I.M. Pandey, *Financial Management*, 11th Edition, Vikas Publishing House, 2018.
3. Aswath Damodaran, *Corporate Finance: Theory and Practice*, 2nd Edition, John Wiley & Sons, 2001.
4. James C. Van Horne, *Fundamentals of Financial Management*, 13th Edition, PHI Learning, 2014.
5. Eugene F. Brigham and Michael C. Ehrhardt, *Financial Management: Theory and Practice*, 14th Edition, Cengage Learning, 2015.
6. Prasanna Chandra, *Financial Management: Theory and Practice*, 9th Edition, Tata McGraw Hill, 2017.
7. R.K. Srivastava and Anil Mishra, *Financial Management*, Oxford University Press, 2012.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-A18 (Third Option)

Advanced Econometrics

Course Code: 24ECO0604T (iii)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objectives: To understand econometric test procedures, model specification, and selection, regression models and their applications, and evaluate time series techniques, stationarity tests, co-integration, and forecasting methods.

Unit-I

Test Procedures and Model Selection: Tests of specification and mis-specification, measurement errors, encompassing models, and criteria for model selection.

Unit-II

Functional Forms of Regression Model: How to measure elasticity: The Log- Linear Model;comparing Linear and Log- Linear Regression Models; How to measure Growth Rate; The Semilog Model; The Lin- Log Model: When the explanatory variable is Logarithmic; Estimation of Cobb- Douglas Production function and consumption function

Unit-III

Stationary, Unit Roots; Dicky Fuller, Augmented Dicky Fuller, , Co-Integration, Difference Stationary, Trend Stationary.

Unit-IV

Forecasting Techniques: Linear, Exponential Smoothing, Moving Averages, ARIMA, VAR Modelling, Problems with VAR Modelling.

Course Outcomes: At the end of the course, the students would be able to
CO1. Apply model selection techniques, address specification issues, and understand measurement errors in econometrics.
CO2. Develop analytical skills to estimate and compare different regression models, including log-linear and Cobb-Douglas functions.
CO3. Critically assess time series properties, unit root tests, and forecasting techniques such as ARIMA and VAR modelling.
Suggested Readings List

1. Amemiya, T. - *Advanced Econometrics*, Harvard University Press, 1985.
2. Goldberger, A.S. - *Introductory Econometrics*, Harvard University Press, 1998.
3. Gujarati, D.N. - *Basic Econometrics*, 5th Edition, McGraw-Hill Education, 2009.
4. Hill, R.C., Griffiths, W.E., and Lim, G.C. - *Principles of Econometrics*, 5th Edition, Wiley, 2018.
5. Johnston, J. and DiNardo, J. - *Econometric Methods*, 4th Edition, McGraw-Hill, 1997.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

MIC 6 (VOC) (First Option)

Econometrics Applications in Social Sciences-II

Course Code: 24VOC604T (i)

Maximum Marks: 50 **(Total Credits: 02)**
Internal Assessment: 15 Marks **(Theory)**
External Assessment: 35 Marks **Time Allowed: 2 Hours**

Course Objectives: To understand dummy variable regression, interaction terms, and categorical models, time series econometric techniques; and evaluate panel data models, model selection, and forecasting methods in social science research.

Unit-I

Dummy Variable Regression and Interaction Terms, Logit and Probit Models for Binary Outcomes, Ordered and Multinomial Logit Models, Applications in Social Sciences, Dummy Variables and Panel Data; Fixed Effects vs. Random Effects Models, Hausman Test for Model Selection, Dynamic Panel Data Models (GMM Estimation), Applications in Social Sciences (Poverty, Education, Economic Growth).

Unit-II

Stationarity and Non-Stationarity (Unit Root Tests: ADF, PP), Autoregressive and Moving Average Models (ARMA, ARIMA), Vector Autoregression (VAR) and Impulse Response Functions, Cointegration and Error Correction Models

Course Outcomes: At the end of the course, the students would be able to
CO1. Apply logit, probit, and multinomial models for analyzing categorical data in social sciences.
CO2. Develop analytical skills to assess time series properties, estimate ARIMA and VAR models, and interpret impulse response functions.
CO3. Critically evaluate panel data techniques, dynamic models, and forecasting methods using statistical software like R or Stata.

Suggested Readings List

1. Wooldridge, J.M. (2010). *Econometric Analysis of Cross Section and Panel Data* (2nd ed.). MIT Press.
2. Enders, W. (2014). *Applied Econometric Time Series* (4th ed.). Wiley.
3. Greene, W.H. (2018). *Econometric Analysis* (8th ed.). Pearson.
4. Baltagi, B.H. (2021). *Econometric Analysis of Panel Data* (6th ed.). Springer.

Important Note: The practical exam will be taken by an outside examiner.

Examiner's Note: The course contents of the courses having 02 credits will be distributed among 2 units and maximum marks will be assigned 50 marks (35 external: 15 internal). The maximum time duration for attempting the paper will be 2 hours. The examiner is required to set five questions in all. The first question will be compulsory consisting of Five short questions covering the entire syllabus of 03 marks each. In addition to that four more question will be set, two questions from each unit. The students shall be required to attempt any three questions in all selecting one question from each unit consisting of 10 marks in addition to compulsory question No. 1. All questions shall carry equal marks.

MIC 6 (VOC) (First Option)

Econometrics Applications in Social Sciences-II

Course Code: 24VOC604P (i)

Maximum Marks: 50 **(Total Credits: 02)**
Internal Assessment: 15 Marks **(Practical)**
External Assessment: 35 Marks

Course Objectives: To understand dummy variable regression, interaction terms, and categorical models, time series econometric techniques; and evaluate panel data models, model selection, and forecasting methods in social science research.

Unit-I

Dummy Variable Regression and Interaction Terms, Logit and Probit Models for Binary Outcomes, Ordered and Multinomial Logit Models, Applications in Social Sciences, Dummy Variables and Panel Data; Fixed Effects vs. Random Effects Models, Hausman Test for Model Selection, Dynamic Panel Data Models (GMM Estimation), Applications in Social Sciences (Poverty, Education, Economic Growth), Practical applications with Excel, STATA and Phython

Unit-II

Stationarity and Non-Stationarity (Unit Root Tests: ADF, PP), Autoregressive and Moving Average Models (ARMA, ARIMA), Vector Autoregression (VAR) and Impulse Response Functions, Cointegration and Error Correction Models**,** Practical applications with Excel, STATA and Phython

Course Outcomes: At the end of the course, the students would be able to
CO1. Apply logit, probit, and multinomial models for analyzing categorical data in social sciences.
CO2. Develop analytical skills to assess time series properties, estimate ARIMA and VAR models, and interpret impulse response functions.
CO3. Critically evaluate panel data techniques, dynamic models, and forecasting methods using statistical software like R or Stata.

Suggested Readings List

1. Wooldridge, J.M. (2010). *Econometric Analysis of Cross Section and Panel Data* (2nd ed.). MIT Press.
2. Enders, W. (2014). *Applied Econometric Time Series* (4th ed.). Wiley.
3. Greene, W.H. (2018). *Econometric Analysis* (8th ed.). Pearson.
4. Baltagi, B.H. (2021). *Econometric Analysis of Panel Data* (6th ed.). Springer.

Important Note: The practical exam will be taken by an outside examiner.

MIC 6 (VOC) (Second Option)

Quantitative Techniques in Social Sciences-II

Course Code: 24VOC604T (ii)

Maximum Marks: 50 **(Total Credits: 02)**
Internal Assessment: 15 Marks **(Theory)**
External Assessment: 35 Marks **Time Allowed: 2 Hours**

Course Objectives: To understand vectors, matrices, and their operations, determinants, inverse matrices, and equation-solving methods, and evaluate limits, continuity, and differentiation with their applications in mathematical analysis.

Unit-I

Vectors and Matrices: Vectors, Types of Vectors, Vector Operations, Linear combination of vectors, Definition of a matrix, Matrix Algebra, Types of matrices, Determinant**;** Determinant and its properties, Adjoint and inverse of a matrix, System of linear equations, Gaussian elimination, Cramer's rule, Inverse method.

Unit-II

Limit and Continuity: Structuring of Averages (Mean, Median, Mode), Limit of a function, Fundamental theorems on limits, Methods of finding the limit of a function, Continuity of function, Discontinuity of function, Derivatives; The basics of Derivatives, Technique of Differentiation, Rules of Differentiation, and Application of simple derivatives.

Course Outcomes: At the end of the course, the students would be able to
CO1. Apply vector and matrix operations in solving mathematical and economic problems.
CO2. Develop analytical skills to determine matrix properties, solve linear equations, and evaluate determinants.
CO3. Critically assess the concepts of limits, continuity, and differentiation, applying them to mathematical and real-world scenarios.

Suggested Readings List

1. Amemiya, T. - *Advanced Econometrics*, Harvard University Press, 1985.
2. Goldberger, A.S. - *Introductory Econometrics*, Harvard University Press, 1998.
3. Gujarati, D.N. - *Basic Econometrics*, 5th Edition, McGraw-Hill Education, 2009.
4. Hill, R.C., Griffiths, W.E., and Lim, G.C. - *Principles of Econometrics*, 5th Edition, Wiley, 2018.
5. Johnston, J. and DiNardo, J. - *Econometric Methods*, 4th Edition, McGraw-Hill, 1997.

Important Note: The practical exam will be taken by an outside examiner.

Examiner's Note: The course contents of the courses having 02 credits will be distributed among 2 units and maximum marks will be assigned 50 marks (35 external: 15 internal). The maximum time duration for attempting the paper will be 2 hours. The examiner is required to set five questions in all. The first question will be compulsory consisting of Five short questions covering the entire syllabus of 03 marks each. In addition to that four more question will be set, two questions from each unit. The students shall be required to attempt any three questions in all selecting one question from each unit consisting of 10 marks in addition to compulsory question No. 1. All questions shall carry equal marks.

MIC 6 (VOC) (Second Option)

Quantitative Techniques in Social Sciences-II

Course Code: 24VOC604T (ii)

Maximum Marks: 50 **(Total Credits: 02)**
Internal Assessment: 15 Marks **(Theory)**
External Assessment: 35 Marks **Time Allowed: 2 Hours**

Course Objectives: To understand vectors, matrices, and their operations, determinants, inverse matrices, and equation-solving methods, and evaluate limits, continuity, and differentiation with their applications in mathematical analysis.

Unit-I

Vectors and Matrices: Vectors, Types of Vectors, Vector Operations, Linear combination of vectors, Definition of a matrix, Matrix Algebra, Types of matrices, Determinant**;** Determinant and its properties, Adjoint and inverse of a matrix, System of linear equations, Gaussian elimination, Cramer's rule, Inverse method.

Unit-II

Limit and Continuity: Structuring of Averages (Mean, Median, Mode), Limit of a function, Fundamental theorems on limits, Methods of finding the limit of a function, Continuity of function, Discontinuity of function, Derivatives; The basics of Derivatives, Technique of Differentiation, Rules of Differentiation.

Course Outcomes: At the end of the course, the students would be able to
CO1. Apply vector and matrix operations in solving mathematical and economic problems.
CO2. Develop analytical skills to determine matrix properties, solve linear equations, and evaluate determinants.
CO3. Critically assess the concepts of limits, continuity, and differentiation, applying them to mathematical and real-world scenarios.

Suggested Readings List

1. Amemiya, T. - *Advanced Econometrics*, Harvard University Press, 1985.
2. Goldberger, A.S. - *Introductory Econometrics*, Harvard University Press, 1998.
3. Gujarati, D.N. - *Basic Econometrics*, 5th Edition, McGraw-Hill Education, 2009.
4. Hill, R.C., Griffiths, W.E., and Lim, G.C. - *Principles of Econometrics*, 5th Edition, Wiley, 2018.
5. Johnston, J. and DiNardo, J. - *Econometric Methods*, 4th Edition, McGraw-Hill, 1997.

Important Note: The practical exam will be taken by an outside examiner.

Examiner's Note: The course contents of the courses having 02 credits will be distributed among 2 units and maximum marks will be assigned 50 marks (35 external: 15 internal). The maximum time duration for attempting the paper will be 2hours. The examiner is required to set five questions in all. The first question will be compulsory consisting of Five short questions covering the entire syllabus of 03 marks each. In addition to that four more question will be set, two questions from each unit. The students shall be required to attempt any three questions in all selecting one question from each unit consisting of 10 marks in addition to compulsory question No. 1. All questions shall carry equal marks

MIC 6 (VOC) (Second Option)

Quantitative Techniques in Social Sciences-II

Course Code: 24VOC604P (ii)

Maximum Marks: 50 **(Total Credits: 02)**
Internal Assessment: 15 Marks **(Practical)**
External Assessment: 35 Marks **Time Allowed: 2 Hours**

Course Objectives: To understand vectors, matrices, and their operations, determinants, inverse matrices, and equation-solving methods, and evaluate limits, continuity, and differentiation with their applications in mathematical analysis.

Unit-I

Vectors and Matrices: Vectors, Types of Vectors, Vector Operations, Linear combination of vectors, Definition of a matrix, Matrix Algebra, Types of matrices, Determinant**;** Determinant and its properties, Adjoint and inverse of a matrix, System of linear equations, Gaussian elimination, Cramer's rule, Inverse method, Economic Applications of Matrices using Excel, Stata softwares.

Unit-II

Limit and Continuity: Structuring of Averages (Mean, Median, Mode), Limit of a function, Fundamental theorems on limits, Methods of finding the limit of a function, Continuity of function, Discontinuity of function, Derivatives; The basics of Derivatives, Technique of Differentiation, Rules of Differentiation, and Application of simple derivatives in economics using excel.

Course Outcomes: At the end of the course, the students would be able to
CO1. Apply vector and matrix operations in solving mathematical and economic problems.
CO2. Develop analytical skills to determine matrix properties, solve linear equations, and evaluate determinants.
CO3. Critically assess the concepts of limits, continuity, and differentiation, applying them to mathematical and real-world scenarios.

Suggested Readings List

1. Amemiya, T. - *Advanced Econometrics*, Harvard University Press, 1985.
2. Goldberger, A.S. - *Introductory Econometrics*, Harvard University Press, 1998.
3. Gujarati, D.N. - *Basic Econometrics*, 5th Edition, McGraw-Hill Education, 2009.
4. Hill, R.C., Griffiths, W.E., and Lim, G.C. - *Principles of Econometrics*, 5th Edition, Wiley, 2018.
5. Johnston, J. and DiNardo, J. - *Econometric Methods*, 4th Edition, McGraw-Hill, 1997.

Important Note: The practical exam will be taken by an outside examiner.

MIC 6 (VOC) (Third Option)

Statistics using SPSS

Course Code: 24VOC604T (iii)

Maximum Marks: 50 **(Total Credits: 04)**
Internal Assessment: 15 Marks **(Theory)**
External Assessment: 35 Marks **Time Allowed: 2 Hours**

Course Objectives: To understand statistics and data management using IBM SPSS, descriptive and inferential methods, and evaluate regression techniques for data-driven decision-making.

Unit-I

Introduction to Statistics: Overview of statistics and its applications, Introduction to IBM SPSS software, SPSS interface: Data View and Variable View, defining variables and variable types, Data cleaning and handling missing values, **Descriptive Statistics:** Measures of central tendency (Mean, Median, Mode), Measures of dispersion (Range, Variance, Standard Deviation), Frequency distributions and cross-tabulations, Bar charts, histograms, and pie charts, Boxplots and scatterplots

Unit-II

Introduction to Inferential Statistics: Concept of population vs. sample, Sampling techniques and sampling distributions, Hypothesis formulation (Null and Alternative Hypothesis), Parametric Tests, t-Tests (Independent and Paired), One-way ANOVA, Correlation analysis (Pearson's correlation), Non-Parametric Tests, Chi-Square Test, Mann-Whitney U Test, Kruskal-Wallis Test, Regression Analysis: Simple linear regression, Multiple regression, Interpreting SPSS output for regression models,

Course Outcomes: At the end of the course, the students would be able to
CO1. Navigate SPSS, manage datasets, and generate descriptive statistics and visualizations.
CO2. Develop analytical skills to apply hypothesis testing, parametric, and non-parametric tests using SPSS.
CO3. Critically assess regression models, interpret SPSS outputs, and report statistical findings effectively.

Suggested Readings List

1. Pallant, J. (2020). *SPSS Survival Manual.* McGraw-Hill Education.
2. Field, A. (2018). *Discovering Statistics Using IBM SPSS Statistics.* Sage Publications.Ecob, R., & Bartholomew,
3. D. J. (1982). Mathematical Methods in Social Sciences. *Journal of the Royal Statistical Society Series a (General)*, *145*(4), 509.
4. Landau, S., & Everitt, B.S. (2004). *A Handbook of Statistical Analyses Using SPSS.* Chapman & Hall/CRC.
5. Tabachnick, B.G., & Fidell, L.S. (2018). *Using Multivariate Statistics.* Pearson

Important Note: The practical exam will be taken by an outside examiner.

Examiner's Note: The course contents of the courses having 02 credits will be distributed among 2 units and maximum marks will be assigned 50 marks (35 external: 15 internal). The maximum time duration for attempting the paper will be 2 hours. The examiner is required to set five questions in all. The first question will be compulsory consisting of Five short questions covering the entire syllabus of 03 marks each. In addition to that four more question will be set, two questions from each unit. The students shall be required to attempt any three questions in all selecting one question from each unit consisting of 10 marks in addition to compulsory question No. 1. All questions shall carry equal marks.

MIC 6 (VOC) (Third Option)

Statistics using SPSS

Course Code: 24VOC604P (iii)

Maximum Marks: 50 **(Total Credits: 04)**
Internal Assessment: 15 Marks **(Practical)**
External Assessment: 35 Marks

Course Objectives: To understand statistics and data management using IBM SPSS, descriptive and inferential methods, and evaluate regression techniques for data-driven decision-making.

Unit-I

Introduction to Statistics and SPSS: Overview of statistics and its applications, Introduction to IBM SPSS software, SPSS interface: Data View and Variable View, **Data Management in SPSS:** Importing and entering data in SPSS, Defining variables and variable types, Data cleaning and handling missing values, **Descriptive Statistics Using SPSS:** Measures of central tendency (Mean, Median, Mode), Measures of dispersion (Range, Variance, Standard Deviation), Frequency distributions and cross-tabulations, **Data Visualization in SPSS:** Creating bar charts, histograms, and pie charts, Boxplots and scatterplots

Unit-II

Introduction to Inferential Statistics: Concept of population vs. sample, Sampling techniques and sampling distributions, Hypothesis formulation (Null and Alternative Hypothesis), Parametric Tests in SPSS, t-Tests (Independent and Paired), One-way ANOVA, Correlation analysis (Pearson's correlation), Non-Parametric Tests in SPSS, Chi-Square Test, Mann-Whitney U Test, Kruskal-Wallis Test, **Regression Analysis Using SPSS:** Simple linear regression, Multiple regression, Interpreting SPSS output for regression models,

Course Outcomes: At the end of the course, the students would be able to
CO1. Navigate SPSS, manage datasets, and generate descriptive statistics and visualizations.
CO2. Develop analytical skills to apply hypothesis testing, parametric, and non-parametric tests using SPSS.
CO3. Critically assess regression models, interpret SPSS outputs, and report statistical findings effectively.

Suggested Readings List

1. Pallant, J. (2020). *SPSS Survival Manual.* McGraw-Hill Education.
2. Field, A. (2018). *Discovering Statistics Using IBM SPSS Statistics.* Sage Publications.Ecob, R., & Bartholomew,
3. D. J. (1982). Mathematical Methods in Social Sciences. *Journal of the Royal Statistical Society Series a (General)*, *145*(4), 509.
4. Landau, S., & Everitt, B.S. (2004). *A Handbook of Statistical Analyses Using SPSS.* Chapman & Hall/CRC.
5. Tabachnick, B.G., & Fidell, L.S. (2018). *Using Multivariate Statistics.* Pearson

Important Note: The practical exam will be taken by an outside examiner.

SEC 6 (Sixth Semester)

Econometrics Applications

Course Code: 24SEC0611P

Maximum Marks: 50 **(Total Credits: 02)**
Internal Assessment: 15 **(Theory)**
External Assessment: 35 **Time Allowed: 2 Hours**

Course Objectives: To understand econometrics, regression analysis, and CLRM assumptions, issues like multicollinearity and autocorrelation, and evaluate statistical methods and software applications for model diagnostics and estimation.

Unit-I

Nature and Scope of Econometrics, Types of Data: Cross-Sectional, Time Series, and Panel Data, Simple and Multiple Linear Regression Models, Assumptions of Classical Linear Regression Model (CLRM), Estimation using Ordinary Least Squares (OLS), Interpretation of Regression Output and Goodness-of-Fit Measures (R^2 and Adjusted R^2).

Practical: Data Handling in R/Python/Stata, Implementing OLS Regression in R/Python, Interpretation of Regression Results

Unit-II

Multicollinearity: Causes, Consequences, and Detection, Heteroscedasticity: Causes, Consequences, and Remedial Measures, Autocorrelation: Causes, Detection (Durbin-Watson Test), and Solutions, Model Specification and Functional Form Issues, Endogeneity and Instrumental Variable Approach

Practical: Detection of Multicollinearity (VIF test) in R/Python, Performing Heteroscedasticity Tests (Breusch-Pagan, White Test), Checking for Autocorrelation (Durbin-Watson Test), Model Specification Testing (Ramsey RESET Test)

Course Outcomes: At the end of the course, the students would be able to
CO1. Apply OLS regression techniques, interpret regression outputs, and assess goodness-of-fit measures.
CO2. Develop analytical skills to detect and address econometric problems such as multicollinearity, heteroscedasticity, and autocorrelation.
CO3. Critically assess model specification issues, perform diagnostic tests, and implement econometric techniques using R, Python, or Stata.

Suggested Readings List

1. Greene, W. H. (2018). *Econometric Analysis* (8th ed.). Pearson.
2. Kennedy, P. (2008). *A Guide to Econometrics* (6th ed.). Wiley-Blackwell.
3. Baum, C. F. (2006). *An Introduction to Modern Econometrics Using Stata*. Stata Press.

Important Note: The practical exam will be taken by an outside examiner.

Examiner's Note: The course contents of the courses having 02 credits will be distributed among 2 units and maximum marks will be assigned 50 marks (35 external: 15 internal). The maximum time duration for attempting the paper will be 2 hours. The examiner is required to set five questions in all. The first question will be compulsory consisting of Five short questions covering the entire syllabus of 03 marks each. In addition to that four more question will be set, two questions from each unit. The students shall be required to attempt any three questions in all selecting one question from each unit consisting of 10 marks in addition to compulsory question No. 1. All questions shall carry equal marks.

Department of Economics

GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR

(Established by State Legislature Act 17 of 1995)

'A+' Grade, NAAC Accredited

Scheme of Examination for Integrated Five Years Programme
[UG Four Years Programme (Single Major from First Semester) + PG One Year Programme)
Name of the Programme: Integrated B.Sc. (Hons/Hons with Research)-M.Sc. Economics
According to National Education Policy-2020
w.e.f. 2024-25 Onwards

FOURTH YEAR (SEMESTER-VII) (Hons.)/ M.Sc. Economics I SEM as per NEP-2020						
Type of Course	**Course Code**	**Paper Nomenclature**	**Credits**	**Internal Marks**	**External Marks**	**Total Marks**
Discipline Specific Courses (Core)	**24ECO0701T**	Economics of Growth	04	30	70	100
	24ECO0702T	Quantitative Techniques	04	30	70	100
	24ECO0703T	International Economics-I	04	30	70	100
Discipline Specific Courses (Elective)	**24ECO0704T(i)** **OR** **24ECO0704T(ii)** **OR** **24ECO0704T(iii)** **OR** **24ECO0704T(iv)**	Environmental Economics OR Indian Growth and Development OR Social Cost-Benefit Analysis **OR** **Advanced Micro Economics#**	04	30	70	100
	24ECO0705P(i) **OR** **24ECO0705P(ii)** **OR** **24ECO0705P(iii)**	Practices with Indian Public Finance (OR) Applied Econometrics **OR** **Research Methodology#**	04	30	70	100
Minor Course/ Vocational Course	**Mic 7**	**To be opted from the pool of MIC**	04	30	70	100
Total			24	150	350	500

 # Compulsory Paper for newly admitted Students in M.Sc. Economics

Department of Economics

GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR

(Established by State Legislature Act 17 of 1995)

'A+' Grade, NAAC Accredited

Scheme of Examination for Integrated Five Years Programme

[UG Four Years Programme (Single Major from First Semester) + PG One Year Programme)

Name of the Programme: Integrated B.Sc. (Hons/Hons with Research)-M.Sc. Economics

According to National Education Policy-2020

w.e.f. 2024-25 Onwards

FOURTH YEAR (SEMESTER-VIII) (Hons/Hons with Research) / M.Sc. Economics II SEM as per NEP-2020						
Type of Course	**Course Code**	**Paper Nomenclature**	**Credits**	**Internal Marks**	**External Marks**	**Total Marks**
Discipline Specific Courses (Core)	**24ECO0801T**	History of Economic Thoughts	04	30	70	100
	24ECO0802T	Labour Policies and Regulation	04	30	70	100
	24ECO0803T	International Economics-II	04	30	70	100
Discipline Specific Courses (Elective)	**24ECO0804T(i)** **OR** **24ECO0804T(ii)** **OR** **24ECO0804T(iii)** **OR** **24ECO0804T(iv)**	Economics of Infrastructure OR Comparative Economic Development OR Behavioral Economics **OR** **Advanced Macro Economics#**	04	30	70	100
	24ECO0805P(i) **OR** **24ECO0805P(ii)**	Practical on Indian Trade and Investment Behaviour **OR** **Fundamentals of Econometrics#**	04	30	70	100
Minor Course/ Vocational Course	**Mic 8**	**To be opted from the pool of MIC**	04	30	70	100
Total			24	150	350	500

 # Compulsory Paper for newly admitted Students in M.Sc. Economics

Department of Economics

GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR

(Established by State Legislature Act 17 of 1995)

'A+' Grade, NAAC Accredited

Scheme of Examination for Integrated Five Years Programme
[UG Four Years Programme (Single Major from First Semester) + PG One Year Programme)
Name of the Programme: Integrated B.Sc. (Hons/Hons with Research)-M.Sc. Economics
According to National Education Policy-2020
w.e.f. 2024-25 Onwards

FOURTH YEAR (SEMESTER-VII) (Hons.)/ M.Sc. Economics I SEM as per NEP-2020						
Department Courses offered for the pools (MIN/MDC/SEC, & VAC)						
Type of Course	**Course Code**	**Paper Nomenclature**	**Credits**	**Internal Marks**	**External Marks**	**Total Marks**
Minor Course/ Vocational Course	**24MIC0704T(i)** **24MIC0704T(i)** **24MIC0704T(i)**	Economics for Upsc Aspirants OR Economics in One Lesson OR Fundamentals of Economics	04	30	70	100
VAC @ 2 credits (For M.Sc. I Sem Students)	**24VAC0716T**	Philosophy of Economic Life in Indian Traditions#	02	15	35	50

 # Compulsory Paper for newly admitted Students in M.Sc. Economics

FOURTH YEAR (SEMESTER-VIII) (Hons.)/ M.Sc. Economics II SEM as per NEP-2020						
Department Courses offered for the pools (MIN/MDC/SEC, & VAC)						
Type of Course	**Course Code**	**Paper Nomenclature**	**Credits**	**Internal Marks**	**External Marks**	**Total Marks**
Minor Course/ Vocational Course	**24MIC0804T(i)** OR **24MIC0804T(ii)** OR **24MIC0804T(iii)**	Economics of Innovation OR Economics of Entrepreneurship OR Economics and Law	04	30	70	100
Seminar @ 2 credits (For M.Sc. II Sem Students)			02	-----	-----	-----

DSC-H1 (Core)

Economics of Growth

Course Code: 24ECO0701T

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objectives: To understand economic growth theories and their long-term implications, the role of technology, institutions, and structural change, and evaluate growth, inequality, and sustainability for inclusive development.

Unit -I

Introduction to Growth Theories: Harrod-Domar Growth Model: Assumptions, instability, knife-edge problem; Solow-Swan Growth Model: Capital accumulation, steady-state, golden rule of savings**;** Convergence Hypothesis: Absolute vs. conditional convergence, empirical evidence**;** Role of population growth and technological progress in long-run growth

Unit- II

Endogenous Growth and Technological Change: Endogenous Growth Theory: AK model and the role of knowledge accumulation**;** Romer's Model of Knowledge Spill-overs and R&D-based growth models**;** Schumpeterian Growth: Innovation, creative destruction, and productivity**;** The role of human capital, institutions, and policy in technological progress

Unit- III

Growth, Institutions, and Structural Change: Institutional Determinants of Growth: Theories of North, Acemoglu & Robinson; Governance, property rights, corruption, and economic development; Lewis Model of Dual Economy: Migration, labour shifts, and policy challenges; Structural Transformation: Industrialization, service sector growth, and informality

Unit- IV

Growth, Inequality, and Sustainability: Kuznets Curve: Empirical validity, critiques, and policy relevance; Inclusive Growth: Social and economic dimensions, redistributive policies; Environmental Constraints to Growth: Green growth models, limits to growth; Sustainable Development Goals (SDGs) and economic growth strategies

Course Outcomes: At the end of the course, the students would be able to
CO1. Explain classical and modern growth theories, their assumptions, and empirical relevance.
CO2. Develop analytical skills to assess the impact of technological progress, human capital, and institutional factors on economic growth.
CO3. Critically evaluate the interplay between economic growth, inequality, and sustainability, applying relevant policy frameworks and SDGs.

Suggested Readings List

1. Barro, R. & Sala-i-Martin, X. (2003). *Economic Growth* (2nd ed.). MIT Press.
2. Aghion, P. & Howitt, P. (2009). *The Economics of Growth.* MIT Press.
3. Acemoglu, D. & Robinson, J. (2012). *Why Nations Fail: The Origins of Power, Prosperity, and Poverty.* Crown Business.
4. Weil, D. (2013). *Economic Growth* (3rd ed.). Pearson.
5. Todaro, M. & Smith, S. (2020). *Economic Development.* Pearson.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-H2 (Core)

Quantitative Techniques

Course Code: 24ECO0702T

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objectives: To understand descriptive and inferential statistics, analyse optimization techniques in operations research, and evaluate advanced decision-making tools like Markov chains, simulations, and queuing models for practical applications.

Unit-I

Overview of Descriptive Statistics: Measures of Central Tendency and Dispersion, Skewness, and Kurtosis, Probability theory and probability distributions

Unit–II

Inferential Statistics: Hypothesis Testing (Z-test, t-test, Chi-square test, F-test), Regression and Correlation: Simple and Multiple Linear Regression, Rank Correlation, ANOVA, Time Series Analysis: Moving Averages, Exponential Smoothing, Trend Analysis.

Unit–III

Operations Research & Optimization Techniques: Linear Programming: Graphical and Simplex Methods, Duality, **Transportation and Assignment Problems**: Hungarian Method, Vogel's Approximation

Unit–IV

Advanced Decision-Making Tools: Markov Chains & Decision Analysis: Transition Probabilities, Steady-State Probabilities, Decision Trees, **Simulation Techniques**: Monte Carlo Simulation, Inventory, and Queuing Simulations.

Course Outcomes: At the end of the course, the students would be able to
CO1. Apply statistical methods for data analysis, hypothesis testing, regression modelling, and time series forecasting.
CO2. Develop analytical skills to solve optimization problems using linear programming, transportation, and assignment techniques.
CO3. Critically assess decision-making tools, including simulation techniques, Markov chains, and inventory management models for real-world applications.

Suggested Readings List

1. Taha, H.A. – *Operations Research: An Introduction*, 11th Edition, Pearson, 2021.
2. Hillier, F.S., & Lieberman, G.J. – *Introduction to Operations Research*, 2024 Release, McGraw-Hill.
3. Levin, R.I., & Rubin, D.S. – *Statistics for Management*, 7th Edition, Pearson, 1997.
4. Gupta, S.C., & Kapoor, V.K. – *Fundamentals of Mathematical Statistics*, 11th Edition, Sultan Chand & Sons, 2002.
5. Sharma, J.K. – *Operations Research: Theory and Applications*, 6th Edition, Macmillan, 2017.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-H3 (Core)

International Economics-I

Course Code: 24ECO0703T

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objectives: To understand international trade concepts and global economic issues, classical and modern trade theories, and evaluate trade policies, including tariffs, barriers, and protectionism.

Unit-I

International economics: introduction, international trade and Nation's standard of living, current international economic problems;

Unit-II

Trade theories: concept of international trade, basis for and gains from trade, trade based on Absolute Advantages, Comparative advantages, Comparative advantages and opportunity cost; standard theory of trade: production frontier with increasing costs, community indifference curve, equilibrium in isolation.

Unit-III

Factor endowments and Hecksher-Ohlin Theory: factor intensity, factor abundance, factor price equalization, and income distribution, Stopler Samuelson theorem, Leontief paradox; Modern trade theory: economies of scale, imperfect competition, product differentiation.

Unit-IV

International Trade Policy: Trade Restrictions; tariffs, partial equilibrium analysis of a tariff, theory of tariff structure, general equilibrium analysis of tariff in small country and large country, optimum tariff; non-tariff barriers: import quotas, other non-tariff barriers and new protectionism, political economy of protectionism.

Course Outcomes: At the end of the course, the students would be able to
CO1. Explain the role of international trade in economic development and assess trade theories in different economic contexts.
CO2. Develop analytical skills to examine factor endowment theories, income distribution effects, and the impact of trade restrictions.
CO3. Critically evaluate trade policies, tariff structures, and non-tariff barriers in shaping international economic relations.

Suggested Readings List

1. Jagdish N. Bhagwati (Ed.), "International Trade: Selected Readings," 2nd Edition, MIT Press, 1987.
2. Dominick Salvatore, "International Economics," 13th Edition, Wiley, 2019.
3. Charles P. Kindleberger, "International Economics," R.D. Irwin, Homewood.
4. Peter G. King, "International Economics and International Economic Policy: A Reader," McGraw-Hill International, Singapore.
5. Bo Sodersten, "International Economics," Macmillan Press Ltd, London.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-H4 (First Option)

Environmental Economics-I

Course Code: 24ECO0704T(i)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objectives: To understand the economy-environment interdependence and resource management, sustainability challenges and welfare economics, and evaluate resource allocation, environmental accounting, and optimal resource use.

Unit-I

An Introduction to Environmental Economics: Meaning of Natural Resources, Environment and Economics. The distinction between Environment, Natural Resources and Economics. Economy-environment interdependence. Chipko Movement, Narmada Bachavo Movement.

Unit-II

Economic development and environment issues, Pollution flows, stocks, and damage, Pollution policy with imperfect information, Concepts of sustainability: economists on sustainability, Welfare economics and environment: efficiency and optimality, allocation in a market economy.

Unit-III

The environment and development trade-off and the concept of sustainable development. Environment Kuznets curve, Deforestation and environmental problems, Agriculture Development and Environmental problems.

Unit-IV

The efficient and optimal use of natural resources, a non-renewable resource two-period model, Environmental indicators, Environmental accounting: theory, The social welfare function and an optimal allocation of natural resources.

Course Outcomes: At the end of the course, the students would be able to
CO1. Explain the relationship between natural resources, environmental issues, and economic development.
CO2. Develop analytical skills to assess environmental policies, sustainability concepts, and the trade-offs in economic growth.
CO3. Critically evaluate resource management strategies, environmental indicators, and the role of environmental accounting in policy decisions.

Suggested Readings List

1. Field, B. C., & Field, M. K. (2021). *Environmental economics: An introduction* (8th ed.). McGraw Hill.
2. Tietenberg, T., & Lewis, L. (2019). *Environmental and natural resource economics* (12th ed.). Routledge.
3. Kolstad, C. D. (2011). *Environmental economics* (2nd ed.). Oxford University Press.
4. Hanley, N., Shogren, J. F., & White, B. (2019). *Introduction to environmental economics* (3rd ed.). Oxford University Press.
5. Perman, R., Ma, Y., Common, M., Maddison, D., & McGilvray, J. (2011). *Natural resource and environmental economics* (4th ed.). Pearson Education.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-H4 (Second Option)

Indian Growth and Development

Course Code: 24ECO0704T(ii)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objectives: To understand India's economic growth since independence, sectoral performance and development challenges, and evaluate macroeconomic policies impacting inclusive growth, poverty, and stability.

Unit-I

Economic Growth since Independence: Major features of the economy at independence; growth under different policy regimes—goals, constraints, institutions and policy framework; an assessment of performance—sustainability and regional contrasts; structural change, savings and investment

Unit-II

Sectoral Performances and Concerns: Issues in agriculture, industry and services.

Unit-III

Inclusive Growth - trends and patterns, Distributional Issues and Policies Demography, Poverty and Unemployment

Unit-IV

Economic Policies and their Impact: Evolution of macroeconomic framework applied in Indian economy and its impact, fiscal policy; financial and monetary policies; trade and investment policy, five-year plans.

Course Outcomes: At the end of the course, the students would be able to

CO1. Explain India's economic growth patterns, policy regimes, and regional disparities since independence.
CO2. Develop analytical skills to assess sectoral challenges, distributional issues, and trends in inclusive growth.
CO3. Critically evaluate the impact of fiscal, monetary, trade, and investment policies on India's economic development.

Suggested Readings List

1. Ahluwalia, M. S. (2019), "India's economic reforms: Achievements and Next Steps", Asian Economic Policy Review, 14(1), 46-62.
2. Bosworth, B., Collins, S. M., & Virmani, A. (2007). Sources of growth in the Indian economy. Working Paper no. 12901, NBER.
3. Krishnamurty, K. (2002), Macroeconometric Models for India: Past, Present and Prospects Economic and Political Weekly, October 19, 2002.
4. Arvind Subramanian and Josh Felman (2021) India's Stalled Rise-How the State Has Stifled Growth, Foreign Affairs on 14.12.2021.
5. Shah, Mihir (2007), Rural Credit in 20th Century India: Overview of History and Perspectives, Economic and Political Weekly, Vol. 42, Issue No. 15 , 14 April 2007.
6. Chanda, R. (2019), India's Services Sector; trends, opportunities and challenges,in Uma Kapila(ed.), Indian economy-2: Macroeconomic policies, Sectoral Developments and Performance.
7. Jagdish Bhagwati and Arvind Panagariya, (2012), India's Tryst with Destiny, Collins Business, Noida, pp. 4-5, 32-38.
8. Panagariya A (2020), India Unlimited: Reclaiming the Lost Glory, Chapter 2.
9. Jean Dreze and Amartya Sen, (2013), India: An Uncertain Glory, Allen Lane, chapters 2, 3 (pp. 72-80 only).
10. Kumar, R., & Patibandla, M. (2009). Institutional dynamics and the evolution of the Indian economy, Springer.
11. Goyal, A. (Ed.). (2019). A Concise Handbook of the Indian Economy in the 21st Century. Oxford University Press.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-H4 (Third Option)

Social Cost-Benefit Analysis

Course Code: 24ECO0704T(iii)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objectives: To understand social benefits, costs, and accounting prices in cost-benefit analysis, externalities, discount rates, and opportunity costs, and evaluate project selection criteria, risk assessment, and public evaluation in private projects.

Unit-I

Concepts of Social Benefits and Costs – Direct and Indirect: Tangible and Intangible- Problems in the evaluation of Benefits and Costs. Accounting prices- Meaning of Accounting prices, accounting prices and Pareto Optimality, Marginal Cost and Willingness to pay, Limitations of Market Prices. The "Second Best" problem, accounting prices in the Absence of markets. Nature of Cost Benefit Analysis, Need for Cost Benefit Analysis; with, particular reference to the developing economies.

Unit-II

Externalities, Pecuniary and Technological externalities, the source or external effects externalities, alternative technologies and cost benefit analysis, Collective goods. The Social Rate of Discount, Social Time Preference Rate, The opportunity Cost, rate of Discount, Equilibrium, Social Time preference Rate and Social Opportunity Cost.

Unit-III

Decision formulae for project choice: Net present value and input constraints, Optimal time phasing, Internal Rate of Return, Present value versus Internal rate of return, other criteria. Risk and Uncertainty -Relevance of risk and Uncertainty, Uncertainty and Decision Criteria-Some rules of Thumb.

Unit-IV

Plans, Projects, choice and Project design, the selection of projects and the investment programme, Project design and decentralized evaluation. Private sector projects-The need for public evaluation of private projects, the method of evaluation of private projects: Some applications.

Course Outcomes: At the end of the course, the students would be able to
CO1. Explain cost-benefit analysis principles, including direct and indirect benefits, accounting prices, and market limitations.
CO2. Develop analytical skills to assess externalities, social discounting, and decision-making in project evaluation.
CO3. Critically evaluate project selection methodologies, risk management techniques, and public-private investment assessment frameworks.

Suggested Readings List

1. Ajit K. Dasgupta and D.W. Pearce, "Cost-Benefit Analysis: Theory and Practice," 1st Edition, Macmillan, 1972.
2. I.M.D. Little and J.A. Mirrlees, "Project Appraisal and Planning for Developing Countries," 1st Edition, Basic Books, 1974.
3. I.M.D. Little and J.A. Mirrlees, "Manual of Industrial Project Analysis: Social Cost Benefit Analysis," 1st Edition, Organisation for Economic Co-operation and Development (OECD), 1969.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-H4 (Fourth Option)

Advanced Micro Economics

Course Code: 24ECO0704T(iv)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objectives: This course aims to develop a rigorous understanding of advanced microeconomic theory by exploring consumer behavior, firm production, market structures, general equilibrium, and welfare economics. The emphasis is on formal modeling, mathematical tools, and real-world applications.

Unit-I

Prices, Markets, and Efficiency: Voluntary exchange, Pareto efficiency, quasilinear utility, cost functions, demand and supply, market equilibrium, comparative statics, taxes and subsidies, public goods, externalities.

Choice Theory and Consumer Demand: Axiomatic approach, utility representation, demand and expenditure functions, duality, Slutsky decomposition, testable implications.

Production, Costs, and the Firm: Production possibility sets, cost minimization, profit maximization, input demand, output supply, non-profit motives.

Unit-II

Monopoly: Profit maximization, deadweight loss, price discrimination, monopolistic screening.

Choice under Uncertainty: von Neumann-Morgenstern axioms, expected utility theory, risk aversion, portfolio choice.

Unit-III

General Equilibrium Analysis: Barter; core of exchange economy; market exchange; general equilibrium models of exchange and production; existence and stability of competitive equilibria; comparative statics.

Welfare Properties of Competitive Equilibria: First and Second Fundamental Theorems of Welfare Economics, efficiency and fairness of market wage, Factor Price Equalization Theorem.

Unit-IV

Welfare Economics: Welfare criteria (fairness, Pareto optimality, Kaldor efficiency), Scitovsky Criterion, Samuelson Criterion, cost-benefit analysis.
Social Choice: Social Welfare Function, Arrow's Impossibility Theorem, related results.
Market Failures: Sources and implications of market failure, externalities, public goods.
Course Outcomes: At the end of the course, the students would be able to
CO1. Analyze consumer and producer behavior using advanced mathematical tools and derive market outcomes under different competitive settings.
CO2. Evaluate the efficiency and equity implications of various economic institutions and market structures using welfare economics principles.
CO3. Critically assess the causes of market failure and the theoretical foundations of policy interventions.
Suggested Readings List

1. Hal R. Varian, *Microeconomic Analysis*, 3rd Edition, W.W. Norton & Company.
2. Andreu Mas-Colell, Michael D. Whinston, Jerry R. Green, *Microeconomic Theory*, Oxford University Press.
3. Jehle, Geoffrey A. and Reny, Philip J., *Advanced Microeconomic Theory*, 3rd Edition, Pearson.
4. Gravelle, Hugh and Rees, Ray, *Microeconomics*, 3rd Edition, Pearson Education.
5. Silberberg, Eugene and Suen, Wing, *The Structure of Economics: A Mathematical Analysis*, McGraw-Hill.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-H5 (First Option)

Practices with Indian Public Finance

Course Code: 24ECO0705P(i)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Practical)**
External Assessment: 70

Course Objectives: To understand public finance and fiscal federalism in India, taxation, fiscal policy, and debt management, and evaluate social sector expenditure, subsidies, and global public finance trends.

Unit-I

Nature and Scope of Public Finance: Meaning, Importance, and Role in Economic Development, Public Revenue: Sources of Revenue – Tax and Non-Tax Revenue, Public Expenditure: Classification, Growth, and Impact on Economic Development, Fiscal Federalism in India: Centre-State Financial Relations, Finance Commissions (Recommendations & Implementation).
Practical Component: Analysis of Union and State Budget Data, Case Studies on Public Expenditure Trends.

Unit-II

Taxation System in India: Direct and Indirect Taxes, Goods and Services Tax (GST) – Structure and Revenue Trends, Fiscal Policy and Economic Stability: Counter-Cyclical Measures, Deficit Financing, and Inflation Control, Tax Reforms in India: Changes in Tax Policy, Digital Taxation, and GST Implementation Issues, Black Money and Tax Evasion: Causes, Consequences, and Government Measures.
Practical Component: Computation of Tax Liabilities (Income Tax, GST), Case Study on Impact of GST on Different Sectors.

Unit-III

Government Budgeting in India: Types of Budgets – Union, State, and Local Government Budgets, Fiscal Deficit and Debt Management: Types of Deficits (Revenue, Fiscal, Primary), Debt Sustainability, Public Borrowing: Internal vs. External Borrowing, Crowding-Out Effect, Budget Analysis: Recent Budget Policies and Their Economic Implications.
Practical Component: Analyzing India's Union Budget (Current Year), Preparation of a Mock Budget for a State Government.

Unit-IV

Social Sector Expenditure: Health, Education, Employment, and Welfare Programs, Subsidies and Public Sector Enterprises (PSEs): Impact on Fiscal Deficit and Economic Growth, Monetary-Fiscal Coordination: Role of RBI in Fiscal Policy, Inflation Targeting, Global Perspective on Public Finance: Comparison with Other Emerging Economies.
Practical Component: Evaluation of Flagship Welfare Schemes (MNREGA, PM-KISAN, Ayushman Bharat, etc.), Estimation of Fiscal Multipliers using Public Finance Data.

Course Outcomes: At the end of the course, the students would be able to

CO1. Explain the role of public finance in economic development, fiscal federalism, and budgetary processes in India.
CO2. Develop analytical skills to assess taxation policies, fiscal reforms, deficit financing, and debt sustainability.
CO3. Critically evaluate social sector spending, monetary-fiscal coordination, and global public finance practices using data-driven analysis.

Suggested Readings List

1. Richard A. Musgrave & Peggy B. Musgrave – "Public Finance in Theory and Practice," 5th Edition, McGraw-Hill, 1989.
2. S.K. Singh – "Public Finance in Developed and Developing Countries," S. Chand, 1986.
3. Government of India – "Economic Survey," Latest Edition.
4. Government of India – "Union Budget and Finance Ministry Reports," Latest Editions.
5. Reserve Bank of India (RBI) – "Reports on State Finances," Latest Editions.
6. A.P. Thirlwall – "Growth and Development: With Special Reference to Developing Economies," 8th Edition, Palgrave Macmillan, 2006.
7. J. Raja & A. Sen – "Fiscal Federalism in India," Oxford University Press, 2010.

Important Note: The practical exam will be taken by an outside examiner.

DSC-H5 (Second Option)

Applied Econometrics

Course Code: 24ECO0705P(ii)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Practical)**
External Assessment: 70

Course Objectives: To understand empirical research steps and econometric modelling using Stata or R, analyze regression diagnostics and model specification issues, and evaluate cross-section, time series, and panel data techniques with applications in Indian statistics.

Unit-I

Steps in empirical research: Use of econometric models in empirical research – some basic concepts, The basic commands in Stata / R

Unit-II

Regression Diagnostics and Specification: Misspecification, Functional forms, Model selection, Application with Stata / R

Unit-III

Application of Regression Analysis: Cross section analysis – Linear regression model with two regressors (by using survey data like NSSO with Stata / R), Time series analysis (very preliminary level) – Basic concepts of time series, estimating linear trend (by using NAS with Stata / R), Panel data analysis – basic concepts of fixed effects model; random effects model – (Application with Indian Official Statistics using Stata / R) [12 lecture hours]

Unit-IV

Introduction to Econometric Software (EViews/ R /Stata: ANY ONE): Generation of data sets and data transformation; data analysis (Graphs and Plots, Summary Statistics, Correlation Matrix etc.), Running an OLS regression; Testing for Linear Restrictions and Parameter Stability, Regression Diagnostics: Collinearity, Autocorrelation, Heteroscedasticity, Normality of residuals, Estimation of Other Linear Models: Weighted Least squares, Cochran-Orcutt/ Hildreth Lu/ Prais-Winsten etc. v. Model Selection Criteria (AIC, SIC) and Tests (Adding and Omitting Variables, non-linearities: Squares, Cubes and Logs, Ramsey's RESET test)

Course Outcomes: At the end of the course, the students would be able to
CO1. Apply econometric models, use basic commands in Stata or R, and conduct empirical research.
CO2. Develop analytical skills to perform regression diagnostics, identify model specification errors, and select appropriate functional forms.
CO3. Critically assess econometric techniques for cross-section, time series, and panel data analysis using real-world datasets and software applications.

Suggested Readings List

1. Christopher F. Baum, (2006), An Introduction to Modern Econometrics Using Stata, Stata Press

2. Maddala, G. S. (2002), Introduction to Econometrics, Macmillan Publishing Company

3. Wooldridge, Jeffrey M. (2013), Introductory Econometrics – A Modern Approach, CENGAGE learning

4. Hamilton L. Statistics with Stata References STATA USER'S GUIDE RELEASE 13, https://www.stata.com/manuals13/u.pdf

Important Note: The practical exam will be taken by an outside examiner.

DSC-H5 (Third Option)

Research Methodology

Course Code: 24ECO0705P(iii)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Practical)**
External Assessment: 70

Course Objectives: To equip students with foundational and advanced research skills necessary for formulating research problems, designing research, collecting and analyzing data, and reporting research findings systematically.

Unit-I

Foundations of Research: Meaning and objectives of research; types of research; formulation of hypothesis, models, and theories; testing of theories and models; methodology versus methods; selection of research problems; literature review and its role in research.

Unit-II

Research Design and Sampling: Meaning and importance of research design; population, sample, and sampling techniques; random and non-random sampling methods; stratified, multistage, and systematic sampling designs**.**

Unit-III

Data Collection and Presentation: Primary and secondary data sources; introduction to Indian economic databases; nature of cross-section, time-series, and panel data; diagrammatic and tabular presentation (pie chart, bar diagram, histogram, scatter diagram, curve tracing, one-way and two-way tables), practical with Excel, STATA, Phython

Unit-IV

Data Analysis and Report Writing: Measures of central tendency and dispersion; hypothesis testing (parametric and non-parametric); simple and multiple regression; correlation techniques; multivariate analysis (factor, cluster, conjoint analysis, multidimensional scaling, discriminant analysis); analysis of variance (ANOVA), practical with Excel, STATA, Phython.

Course Outcomes: At the end of the course, the students would be able to
CO1. Formulate research problems, hypotheses, and design appropriate research frameworks.
CO2. Apply sampling techniques and data collection methods for practical research investigations.
CO3. Analyze quantitative data using appropriate statistical tools and present research findings effectively.

Suggested Readings List

1. C.R. Kothari, *Research Methodology*, Wiley Eastern Ltd., New Delhi.
2. Don. E. Ethridge, *Research Methodology in Applied Economics*.
3. W.G. Cochran, *Sampling Techniques*, John Wiley, New York.
4. W.J. Goode and P.K. Hatt, *Methods in Social Research*, McGraw Hill, New York.
5. T.S. Wilkinson and P.L. Bhandarkar, *Methodology and Techniques of Social Research*, Himalaya Publishing House, Bombay.

Important Note: The practical exam will be taken by an outside examiner.

MIC 7 (First Option)

Economics for UPSC Aspirants

Course Code: 24MIC0704T(i)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objectives: To understand economic concepts and national income, India's growth, sectoral contributions, and reforms, and evaluate monetary and fiscal policies, trade theories, exchange rates, and global economic trends.

Unit-I

Basic Concepts: Demand & Supply, Elasticity, Opportunity Cost, Production & Cost Analysis, Types of Economic Systems: Capitalism, Socialism, Mixed Economy, National Income: GDP, GNP, NNP, NDP (Real vs. Nominal GDP), Methods of Measuring National Income: Income, Expenditure, and Production Approach, Circular Flow of Income

Unit-II

Features of the Indian Economy: Demographic Trends, Sectoral Contribution, Economic Planning in India: Five-Year Plans & NITI Aayog, Inclusive Growth and Sustainable Development, Economic Reforms Since 1991: Liberalization, Privatization, Globalization (LPG), Government Schemes & Initiatives (PM-KISAN, Atmanirbhar Bharat, Make in India)

Unit-III

Functions of Money: Money Supply (M1, M2, M3, M4), Inflation: Causes, Effects, and Control Measures (CPI, WPI, Core Inflation), Banking System in India: Structure, Functions, and Role of RBI (Monetary Policy), Fiscal Policy: Budgeting, Types of Deficits, FRBM Act, Taxation: Direct & Indirect Taxes, GST, Tax Reforms in India

Unit-IV

International Trade Theories & WTO, Balance of Payments (BoP): Components, Deficit & Surplus, Exchange Rates: Fixed vs. Floating, Forex Reserves, Trade Agreements: FTA, RCEP, SAFTA, BRICS & Globalization Impact, Recent Economic Developments & Reports (World Bank, IMF, WEF)

Course Outcomes: At the end of the course, the students would be able to
CO1. Explain key economic principles, national income accounting, and different economic systems.
CO2. Develop analytical skills to assess India's economic reforms, banking system, taxation policies, and inflation control measures.
CO3. Critically evaluate international trade policies, balance of payments, exchange rate mechanisms, and recent global economic trends.

Suggested Readings List

1. Mishra & Puri (2022). *Indian Economy.* Himalaya Publishing House.
2. Ramesh Singh (2023). *Indian Economy.* McGraw Hill Education.
3. Uma Kapila (2023). *Indian Economy: Performance and Policies.* Academic Foundation.
4. Datt & Sundaram (2022). *Indian Economy.* S. Chand Publishing.
5. N. Gregory Mankiw (2020). *Principles of Economics.* Cengage Learning.
6. IMF & WTO Reports on Global Economy

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

MIC 7 (Second Option)

Economics in One Lesson

Course Code: 24MIC0704T(ii)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objectives: To understand economic principles like incentives and transaction costs, institutions and market mechanisms, and evaluate economic progress and the government's role in competition, rights protection, and public goods provision.

Unit-I

Key Elements of Economics-I, Incentives matter, No Free Lunch, Decisions Are Made at the Margin, Trade and Investment brings prosperity, Transaction Costs are costly, Profits is good.

Unit-II

Key Elements of Economics-II, Benevolence is beneficial, Better Ways of Doing Things, and Sound Economic Institutions, The *Invisible Hand* of Market Criticality of Sound Economic Institutions. Unintended and long-term consequences need deeper look.

Unit-III

Major Sources of Economic Progress, Contract enforcement ensures prosperity, Competition is key to low cost and Innovations, Inflation distort Prices, High taxes may lead to low yield to government, Free Trade is beneficial!

Unit-IV

Economic Progress and the Role of Government: the protector of Individuals Rights Government: the provider of public goods, the costs of government are not only taxes, Governments can be captured by Special-Interest Groups, Government try to help some people at the expense of others. Competition is equally important for government.

Course Outcomes: At the end of the course, the students would be able to
CO1. Explain key economic concepts such as incentives, trade, competition, and institutional frameworks.
CO2. Develop analytical skills to assess the impact of inflation, taxation, contract enforcement, and economic policies on growth.
CO3. Critically evaluate the role of government in economic progress, addressing market failures, public goods provision, and special-interest influence.

Suggested Readings List

1. Economics in One Lesson' by Henry Hazlitt, Ludwig von Mises Institute Auburn, Alabama. 2008.
2. 'Economics For Dummies', by Sean Masaki Flynn, 3rd Edition Published by: John Wiley & Sons, 2018
3. 'Economics made simple' by Whitehead, Geoffrey, Publisher: W.H. Allen London, 1973.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal mark.

MIC 7 (Third Option)

Fundamentals of Economics

Course Code: 24MIC0704T(iii)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objectives: To understand fundamental economic concepts, public finance, fiscal and monetary policies, and trade mechanisms, and evaluate India's economic development, planning, and the impact of liberalization, privatization, and globalization.

Unit-I

Basic Concepts Economics – micro and macro – deduction and induction – basic economic problems- production possibility curve. Utility - total and marginal. Law of Demand – elasticity of demand - price elasticity - types. Law of supply. National income – meaning - components of national income

Unit-II

Public Economics State vs Market - public revenue - public expenditure – tax and non-tax revenue – direct and indirect taxes – goods and service tax in India - budget – types - fiscal deficit - revenue deficit - public debt – trade cycle and its phases - fiscal and monetary policies as tools for combating inflation and deflation.

Unit-III

Financial System and International Trade Negotiable and non-negotiable instruments – cheques – drafts - bills of exchange – promissory notes-letter of credit - certificate of deposits – commercial papers - banking and non-banking institutions - commercial banks –– Core Banking, Internet Banking, Mobile Banking, ATM/Debit & Credit Cards, IFSC, NEFT, RTGS –NPA in Indian banking sector RBI – functions - money and capital market – major financial instruments – shares, debentures and bonds – Insurance: meaning, nature and types - stock exchange – BSE, NSE – stock market indices – SEBI - mutual funds. Terms of trade - balance of trade - balance of payments - foreign exchange - exchange rate – spot – forward – fixed – floating - IMF, World Bank – WTO.

Unit-IV

Indian Economic Development An overview of Planning in India - Planning Commission –NITI Aayog- Finance Commission – Green revolution – changing pattern of India's industrialisation - Liberalization - Privatization - Globalization (LPG)

Course Outcomes: At the end of the course, the students would be able to

CO1. Explain key economic principles, public finance concepts, and policy tools for managing inflation and economic cycles.
CO2. Assess financial instruments, banking systems, trade policies, and global financial institutions.
CO3. Critically evaluate India's economic planning, industrialization, and the role of policy reforms in shaping economic growth.

Suggested Readings List

1. R. R. Paul – *Monetary Economics*, Kalyani Publishers, Ludhiana, 2008.
2. V. K. Bhalla – *Investment Management*, S. Chand & Co., New Delhi, 2008.
3. Bo Södersten & Geoffrey Reed – *International Economics*, 3rd Edition, Palgrave Macmillan, 1994.
4. Paul A. Samuelson & William D. Nordhaus – *Economics*, 19th Edition, McGraw-Hill, 2010.
5. Gaurav Datt & Ashwani Mahajan – *Datt & Sundharam's Indian Economy*, S. Chand & Co., New Delhi, latest edition.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

VAC (For M.Sc. first Sem Students)

Philosophy of Economic Life in Indian Traditions

Course Code: 24VAC0716T

Maximum Marks: 50 **(Total Credits: 02)**
Internal Assessment: 15 **(Theory)**
External Assessment: 35 **Time Allowed: 2 Hours**

Course Objectives: To introduce students to the philosophical underpinnings of economic life as understood within Indian traditions, highlighting indigenous economic thought and its contemporary relevance.

Unit-I

Ancient and Classical Indian Economic Thought: Economic ideas in Vedic literature: concepts of wealth (Artha), prosperity (Lakshmi), and livelihood, Economic philosophy in Arthashastra: governance, taxation, market regulation, Buddhist and Jain perspectives on economic life: ethics of earning and consumption, minimalism, and wealth distribution.

Unit-II

Economic Life and Ethics in Indian Traditions: Dharma and economics: duties, rights, and wealth creation, Traditional Indian views on trade, commerce, and entrepreneurship, Gandhian economics: trusteeship model, self-sufficiency, village industries, and critique of industrialization.

Course Outcomes: At the end of the course, the students would be able to
CO1. Understand key concepts of wealth, prosperity, and ethical economic life in ancient Indian traditions.
CO2. Analyze how Indian philosophical thought influenced traditional practices of governance and economy.
CO3. Critically assess the relevance of Indian economic ideas in contemporary economic debates and policy.

Suggested Readings List

1. Rangrajan, Mahadevan, *Economics in the Indian Tradition: The Emergence of Economic Ideas in Ancient India*, Sage India.
2. Kautilya (Translated by L.N. Rangarajan), *Arthashastra*, Penguin Classics.
3. Gandhi, M.K., *Hind Swaraj* and *Economic and Political Writings*, Oxford University Press.
4. Altekar, A.S., *State and Government in Ancient India*, Motilal Banarsidass.
5. Dasgupta, Amartya, *Economics and Ethics*, Oxford University Press.

Examiner's Note: The course contents of the courses having 02 credits will be distributed among 2 units and maximum marks will be assigned 50 (35 external: 15 internal). The maximum time duration for attempting the paper will be of 2 hours. The examiner is required to set five questions in all. The first question will be compulsory consisting of five short questions covering the entire syllabus consisting of 3 marks each. In addition to that four more questions will be set, two questions from each unit. The students shall be required to attempt three questions in all selecting one question from each unit consisting of 10 marks each in addition to compulsory question No. 1.

Semester-VIII

DSC-H6 (Core)

History of Economic Thoughts

Course Code: 24ECO0801T

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objectives: To understand the evolution of economic thought, classical, neo-classical, and Keynesian theories, and evaluate modern schools of economics, including supply-side theories and contributions of Nobel laureates.

Unit-I

Early Period Economic thoughts: Plato and Aristotle — Doctrines of Just cost and Just price, Economic thoughts of Kautilya, Valluvar; Indian economic thoughts: Naoroji, Gandhi- Village, Swadeshi, J.K. Mehta-Wantlessness.

Unit–II

Mercantilism: main characteristics; Thomas Mun — Physiocracy: primacy of agriculture, taxation, Locke and Hume. Classical Period Adam Smith — division of labour, theory of value, capital accumulation, distribution, views on trade, economic progress; Thomas R. Malthus — theory of population, theory of gluts; Karl Marx - dynamics of social change, theory of value, surplus value, profit, and crisis of capitalism; Economic ideas of J.B. Say.

Unit–III

Neo-Classical and Keynesian Economic Thoughts: Marshall as a great synthesizer: role of time in price determination, Pigou: Welfare economics; Schumpeter: role of entrepreneur and innovations. Keynesian Ideas: the aggregate economy, underemployment equilibrium, role of fiscal policy, Friedman, Hayek.

Unit–IV

Neo-Classical synthesis, New Classical Economics: Market Clearing model, rational expectations and Lucas's critique, Supply Side Economics, Real Business Cycles, New Keynesian Economics, Economics of Nobel Laureates

Course Outcomes: At the end of the course, the students would be able to

CO1. Explain key economic ideas from early thinkers, classical economists, and Indian economic philosophers.

CO2. Assess the contributions of classical, neo-classical, and Keynesian economists to modern economic thought.

CO3. Critically evaluate contemporary economic theories, including rational expectations, real business cycles, and new Keynesian economics.

Suggested Readings List

1. Blaug, M. (1997), *Economic Theory in Retrospect: A History of Economic Thought from Adam Smith to J.M. Keynes* (5th Edition), Cambridge University Press, Cambridge.
2. Screpanti, E., & Zamagni, S. (2006), *An Outline of the History of Economic Thought*, Oxford University Press, Oxford.
3. Hunt, E.K., & Lautzenheiser, M. (2011), *History of Economic Thought: A Critical Perspective* (3rd Edition), PHI Learning, New Delhi.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-H7 (Core)

Labour Policies and Regulation

Course Code: 24ECO0802T

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objectives: To understand India's labour legislation framework, social security and worker welfare policies, and evaluate labour reforms, globalization's impact, and challenges in the informal and gig economy.

Unit-I

Evolution of Labour Policies in India: Pre-independence labour movements and policies, post-independence labour policies and Five-Year Plans, Role of International Labour Organization (ILO)

Constitutional Provisions Related to Labour: Fundamental Rights and Directive Principles of State Policy, Labour rights under the Indian Constitution

Unit-II

Overview of Labour Legislation in India: Objectives and classification of labour laws, Compliance and enforcement mechanisms

Laws Governing Industrial Relations: The Trade Unions Act, 1926, The Industrial Disputes Act, 1947

Laws Governing Wages and Employment Conditions: The Minimum Wages Act, 1948, The Payment of Wages Act, 1936, The Equal Remuneration Act, 1976

Unit-III

Concept and Importance of Social Security: Need for social security in India, Role of the state in ensuring social security

Major Social Security Legislations: The Employees' Provident Fund and Miscellaneous Provisions Act, 1952, The Employees' State Insurance Act, 1948, The Maternity Benefit Act, 1961, The Payment of Gratuity Act, 1972

Labour Welfare and Occupational Safety: The Factories Act, 1948, Workplace safety and health regulations

Unit-IV

Labour Reforms and Recent Developments: Code on Wages, 2019, Industrial Relations Code, 2020, Social Security Code, 2020, Occupational Safety, Health, and Working Conditions Code, 2020: Impact of Globalization on Labour Policies, changing labour market dynamics, Role of multinational corporations in labour standards, Informal Sector and Gig Economy, Challenges faced by informal workers, Regulation of gig and platform-based workers, Future of Work and Labour Rights: Automation and technological disruptions, Labour rights in the digital economy

Course Outcomes: At the end of the course, the students would be able to

CO1. Explain key labour laws, compliance mechanisms, and their role in industrial relations and employment conditions.

CO2. Develop analytical skills to assess social security policies, workplace safety regulations, and their impact on labour welfare.

CO3. Critically evaluate labour reforms, changing labour market dynamics, and the future of work in the context of technological advancements and globalization.

Suggested Readings List

1. Ramaswamy, E.A., & Ramaswamy, U. (2017). *Industry and Labour: An Introduction.* Oxford University Press.
2. Papola, T.S., & Pais, J. (2013). *Labour Regulation in Indian Industry.* Academic Foundation.
3. Mishra, S.N. (2022). *Labour and Industrial Laws.* Central Law Publications.
4. Malik, P.L. (2021). *Handbook of Labour and Industrial Law.* Eastern Book Company.
5. Sinha, P.R.N., Sinha, I.B., & Shekhar, S. (2021). *Industrial Relations, Trade Unions, and Labour Legislation.* Pearson.
6. Saxena, R.C. (2019). *Labour Problems and Social Welfare.* K. Nath & Co.
7. Srivastava, S.C. (2021). *Industrial Relations and Labour Laws.* Vikas Publishing.
8. International Labour Organization (ILO) Reports on Labour Market Trends.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-H8 (Core)

International Economics-II

Course Code: 24ECO0803T

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objectives: To understand exchange rate theories and systems, factors affecting exchange rates and trade policies, and evaluate contemporary issues in international trade, economic integration, digital trade, and multinational corporations.

Unit-I

Theories of exchange rate determination: Purchasing Power Parity (PPP), Interest Rate Parity (IRP), and the Asset Market Approach,fixed vs. flexible exchange rate systems

Unit-II

Factors influencing exchange rates in the short and long run, Exchange rate interventions and their effectiveness, Currency crises: causes and consequences.

Unit-III

Trade policies of major economies and their global impact, Contemporary issues in international trade: trade wars, protectionism, and globalization backlash, Economic integration: customs unions, free trade areas, and common markets,World Trade Organization (WTO): principles, agreements, and dispute settlement

Unit-IV

Global value chains and their implications for trade and development, Trade and environmental sustainability, Digital trade and the impact of technology on international economics, Labor migration and its economic effects, The role of multinational corporations in the global economy.

Course Outcomes: At the end of the course, the students would be able to
CO1. Explain exchange rate theories, interventions, and their implications for international finance.
CO2. Develop analytical skills to assess trade policies, economic integration mechanisms, and challenges in global trade.
CO3. Critically evaluate global value chains, digital trade, environmental sustainability, and the economic effects of labor migration.

Suggested Readings List

1. Bhagwati, J. (Ed.) – *International Trade: Selected Readings* (2nd Edition, 1987), MIT Press, Cambridge, Massachusetts.
2. Kindleberger, C.P. – *International Economics* (7th Edition, 1987), R.D. Irwin, Homewood.
3. King, P.G. – *International Economics and International Economic Policy: A Reader* (5th Edition, 2005), McGraw-Hill International, Singapore.
4. Salvatore, D. – *International Economics* (13th Edition, 2020), Wiley, New York.
5. Södersten, B.O., & Reed, G. – *International Economics* (3rd Edition, 1994), Macmillan Press Ltd, London.
6. Reinert, K.A. – *An Introduction to International Economics: New Perspectives on the World Economy* (2nd Edition, 2020), Cambridge University Press.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-H9 (First Option)

Economics of Infrastructure

Course Code: 24ECO0804T(i)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objectives: To understand infrastructure's role in economic development, economic principles in transportation, energy, and telecommunications, and evaluate pricing strategies, demand factors, and policy challenges in utilities and energy resources.

Unit-I

Infrastructure and economic development– Infrastructure as a public good; Social and physical infrastructure; Special characteristics of public utilities. The peak load, Off load problem; Dual principle controversy; Economies of scale of joint supply; Marginal cost pricing vs. other methods of pricing in public utilities; Cross subsidization – free prices, equity and efficiency.

Unit-II

The structure of transport costs and location of economic activities; Demand for transport – Models of freight and passenger demand; Model choice; Cost functions in the transport sector; Principle of pricing; Special problems of individuals modes of transport; Inter-model condition in the Indian situation.

Unit-III

Rate making in telephone utilities; Principles of decreasing costs in telephone industry –Measurement of standards of service in telephone and postal utilities.

Primacy of energy in the process of economic development; Factors determining demand for energy; Effects of energy shortages; the search for an optimal energy policy in the Indian context.

Unit-IV

Bulk supply and pricing of electricity – The relative economics of thermal, hydel and nuclear power plants – The case for a National Power Grid, financing water utilities - Urban and rural water supply; The exploitation of National Gas; Pricing problem.

Course Outcomes: At the end of the course, the students would be able to
CO1. Explain the significance of infrastructure as a public good and its contribution to economic growth.
CO2. Develop analytical skills to assess pricing principles, cost structures, and policy challenges in transport, energy, and communication sectors.
CO3. Critically evaluate infrastructure financing, energy policies, and optimal strategies for managing public utilities in India.

Suggested Readings List

1. National Council of Applied Economic Research – *India Infrastructure Report: Policy Implications for Growth and Welfare* (Latest Report), New Delhi.
2. Parikh, K.S. (Ed.) – *India Development Report* (1997), Oxford University Press, New Delhi.
3. Crew, M.A., & Kleindorfer, P.R. – *Public Utility Economics* (1979), Macmillan, New York.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-H9 (Second Option)

Comparative Economic Development

Course Code: 24ECO0804T(ii)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objectives: To understand the economic development of major economies, key growth drivers in agriculture, industry, and technology, and evaluate state intervention and lessons for India from global growth experiences.

Unit-I

Economic Development of Britain: Basic features of British Economy and Trends (Industrial Revolution, Transport and Communication)

Economic Development of USA: Basic features of US Economy and Trends (infrastructure, trade), Role of USA in world economic cooperation; Indo-US economic cooperation.

Unit-II

Economic Development of Japan: Agriculture, Industry; role of entrepreneurship; and technology.

Economic development of China: Agriculture, Industry and Trade; Cultural Revolution; and Economic reforms.

Unit-III

Economic Development of USSR: Basic Features of USSR economy, Industry & Trade, Indo – USSR economic Cooperation, Glasnost, Prestorika & Disintegration of USSR economy.

Growth miracle of Newly Industrialised countries: Taiwan, South Korea, and Singapore.

Unit-IV

Role of State in economic development (regulatory and developmental role): USA, USSR, China and Japan, Lesson for India from the growth experience of these countries.

Course Outcomes: At the end of the course, the students would be able to

CO1. Explain the economic transformations of Britain, the USA, Japan, China, and the USSR, along with their global economic roles.

CO2. Develop analytical skills to assess industrialization, entrepreneurship, trade policies, and economic reforms in leading economies.

CO3. Critically evaluate state-led development strategies, regulatory policies, and their applicability to India's economic growth.

Suggested Readings List

1. W.H.B. Court – *A Concise Economic History of Britain: From 1750 to Recent Times*, 2nd Edition, Cambridge University Press, 1965.
2. Roderick Floud and Donald McCloskey (Eds.) – *The Economic History of Britain since 1700*, 2nd Edition, Cambridge University Press, 1994.
3. Stuart Kirby – *An Introduction to the Economic History of China*, Routledge, 1954.
4. Maurice Dobb – *Soviet Economic Development Since 1917*, 6th Edition, Routledge & Kegan Paul, 1972.
5. W.W. Lockwood – *The Economic Development of Japan: Growth and Structural Change, 1868-1938*, Expanded Edition, Princeton University Press, 1966.
6. Chalmers Johnson – *MITI and the Japanese Miracle: The Growth of Industrial Policy, 1925-1975*, Stanford University Press, 1982.
7. Alec Nove – *An Economic History of the USSR: 1917-1991*, 3rd Edition, Penguin Books, 1992.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-H9 (Third Option)

Behavioural Economics

Course Code: 24ECO0804T(iii)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objectives: To understand the foundations and evolution of behavioural economics, decision-making processes, heuristics, and biases, and evaluate models like prospect theory, loss aversion, and modifications to expected utility theory.

Unit-I

Behavioural Economics and the Standard Model, History and Evolution of Behavioural Economics, Relationship with Other Disciplines, Objectives, Scope, and Structure, Theories in Behavioural Economics, Evidence in Behavioural Research, Consilience in Behavioural Economics

Unit-II

Standard Model of Preferences, Axioms, Assumptions, and Definitions, The Evolutionary Biology of Utility, Broadening Rationality, Types of Utility, The Neuroscientific Basis of Utility, Policy Implications

Unit-III

Understanding heuristics: Representativeness, availability, and anchoring; Biases: Overconfidence, optimism bias, and hindsight bias; The Standard Model of Beliefs, Probability Estimation, Self-Evaluation Bias, Projection Bias, Magical Beliefs, Causes of Irrationality

Unit-IV

Background of Decision-Making Theories, Conventional Approaches to Modifying Expected Utility Theory (EUT), Prospect Theory, Reference Points and Loss-Aversion, Shape of the Utility Function, Decision-Weighting, Criticisms of Prospect Theory, Recent Theories and Conclusions

Course Outcomes: At the end of the course, the students would be able to
CO1. Explain the key principles, theories, and empirical evidence in behavioral economics.
CO2. Develop analytical skills to assess heuristics, biases, and irrational decision-making in economic contexts.
CO3. Critically evaluate behavioral decision-making theories and their implications for policy-making and economic modeling.

Suggested Readings List

1. Wilkinson, N., & Klaes, M. (2012). *An introduction to behavioral economics* (2nd ed.). Palgrave Macmillan.
2. Camerer, C. F. (2003). *Behavioral game theory: Experiments in strategic interaction*. Princeton University Press.
3. Fehr, E., & Schmidt, K. M. (2006). The economics of fairness, reciprocity, and altruism: Experimental evidence and new theories. In S.-C. Kolm & J. M. Ythier (Eds.), *Handbook of the economics of giving, altruism and reciprocity: Foundations* (Vol. 1, pp. 615–691).
4. Thaler, R. H., & Sunstein, C. R. (2008). *Nudge: Improving decisions about health, wealth, and happiness.* Yale University Press.
5. Sunstein, C. R. (2016). *The ethics of influence: Government in the age of behavioral science*. Cambridge University Press.
6. Laibson, D., & List, J. A. (2020). *Behavioral economics*. Edward Elgar Publishing.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-H9 (Fourth Option)

Advanced Macro Economics

Course Code: 24ECO0804T(iv)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objectives: To equip students with an advanced understanding of macroeconomic theory, policy analysis, and contemporary debates through rigorous theoretical models and empirical applications.

Unit-I

Foundations of Modern Macroeconomics: Evolution of macroeconomic thought: Classical, Keynesian, and New Classical Schools, Micro-foundations of macroeconomics: Intertemporal choices, consumption, and investment, Rational expectations and critique of traditional policy effectiveness, Dynamic stochastic general equilibrium (DSGE) basics.

Unit-II

Economic Growth and Development Models: Solow-Swan Growth Model: Steady-state analysis, transitional dynamics, Endogenous Growth Theories: AK model, Romer model, learning-by-doing, Growth empirics: Cross-country differences, convergence vs. divergence, Role of institutions, technology, and innovation in macroeconomic performance.

Unit-III

Monetary Theory and Policy: Demand for and supply of money: Post-Keynesian and Monetarist views, Interest rate theories: IS-LM model extensions and critiques, Inflation targeting, monetary rules vs. discretion, Central banking frameworks: unconventional monetary policies.

Unit-IV

Macroeconomic Policy, Crises, and Globalization: Fiscal policy: Ricardian equivalence, government debt dynamics, fiscal multipliers, Financial crises and macroeconomics: Role of liquidity, credit cycles, and systemic risk, Open economy macroeconomics: Mundell-Fleming model, exchange rate regimes, Globalization, trade imbalances, and macroeconomic policy coordination.

Course Outcomes: At the end of the course, the students would be able to

CO1. Analyze advanced macroeconomic models explaining economic fluctuations and growth.

CO2. Evaluate the effectiveness of monetary and fiscal policies in different macroeconomic frameworks.

CO3. Critically interpret macroeconomic data and policy debates in a globalized world.

Suggested Readings List

1. David Romer, *Advanced Macroeconomics*, McGraw Hill.
2. Olivier Blanchard and David Johnson, *Macroeconomics*, Pearson.
3. Robert Barro and Xavier Sala-i-Martin, *Economic Growth*, MIT Press.
4. Stephen D. Williamson, *Macroeconomics*, Pearson.
5. Raghuram G. Rajan, *Fault Lines: How Hidden Fractures Still Threaten the World Economy*, Princeton University Press.
6. Maurice Obstfeld and Kenneth Rogoff, *Foundations of International Macroeconomics*, MIT Press.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-H10 (First Option)

Practical on Indian Trade and Investment Behaviour

Course Code: 24ECO0805P(i)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Practical)**
External Assessment: 70

Course Objectives: To understand India's trade evolution, balance of payments, and foreign exchange management, analyze trade policies, agreements, and sectoral performance, and evaluate future strategies, digital trade, sustainability, and geopolitical impacts.

Unit-I

Introduction to Indian Trade and Global Positioning: Historical Evolution of India's Trade: Pre-Independence to Post-Liberalization, Composition and Direction of India's Trade (Major Trading Partners & Sectors), India's Position in Global Trade: WTO, UNCTAD, and Trade Rankings, Balance of Payments (BoP) and Trade Deficit Trends, Foreign Exchange Management and Exchange Rate Movements

Practicum Component: Case Study: India's Export and Import Trends (1991-Present), Trade Data Analysis using RBI and Ministry of Commerce Databases

Unit–II

India's Trade Policies and Agreements: Trade Liberalization and India's Export-Import (EXIM) Policy, Key Trade Agreements: WTO, SAFTA, RCEP, and FTAs with ASEAN, EU, USA, Role of SEZs, Industrial Corridors, and Export Promotion Councils, India's Trade Policy vs. Protectionism: Tariffs, Subsidies, and Non-Tariff Barriers, Trade Facilitation and Logistics in India

Practicum Component: Comparative Analysis: India's FTA with ASEAN vs. EU, Policy Evaluation: India's Trade Response to WTO Disputes

Unit–III

Sectoral Trade Behaviour and Challenges: Key Export Sectors: IT, Pharmaceuticals, Textiles, Agriculture, and Automobiles, Import Dependence: Crude Oil, Gold, Electronics, and Capital Goods, MSMEs and Their Role in India's Trade Competitiveness, Trade in Services: ITES, Tourism, and Financial Services, Challenges in Indian Trade: Dumping, Trade Wars, and Supply Chain Disruptions

Practicum Component: Industry Report: Export Potential of an Emerging Indian Sector, Field Visit: Interaction with Exporters and Industry Experts (Optional)

Unit–IV

Future of India's Trade and Policy Recommendations: India's Shift Towards Digital Trade and E-Commerce Exports, Sustainability in Trade: Green Trade, Carbon Tariffs, and ESG Compliance, Impact of Geopolitics on India's Trade Behavior (China, USA, EU), Aatmanirbhar Bharat and Export-Led Growth Strategies, Future Trade Policy Directions: Trade Negotiations, FTAs, and Global Integration

Practicum Component: Policy Recommendation Report: India's Strategy to Boost Exports by 2030, Data-Driven Analysis: India's Trade Performance Post-Pandemic

Course Outcomes: At the end of the course, the students would be able to

CO1. Explain India's trade trajectory, key trading partners, sectoral contributions, and global trade rankings.
CO2. Develop analytical skills to assess trade policies, agreements, and challenges in India's export-import landscape.
CO3. Critically evaluate policy recommendations, future trade strategies, and India's integration into the evolving global trade system.

Suggested Readings List

1. Bhagwati, J., & Panagariya, A. (2013). *India's Tryst with Destiny*. HarperCollins.
2. Ministry of Commerce & Industry, Government of India (Annual Reports).
3. RBI Handbook on *India's Balance of Payments*.
4. Krueger, A. O. (2002). *Trade Policy and Economic Development: How We Learn*. Oxford University Press.
5. Ministry of Commerce (2023). *Foreign Trade Policy 2023-2028*.
6. WTO Reports on India's Trade Policy Reviews.
7. Panagariya, A. (2010). *India: The Emerging Giant*. Oxford University Press.
8. Economic Survey of India (Trade and Industry Chapters).
9. NITI Aayog Reports on MSME Trade Growth.

Important Note: The practical exam will be taken by an outside examiner.

DSC-H10 (Second Option)

Fundamentals of Econometrics (Practicum)

Course Code: 24ECO0805P(ii)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Practical)**
External Assessment: 70

Course Objectives: To provide students with a strong theoretical and practical foundation in econometric methods for analyzing economic data and testing economic theories.

Unit-I

Basics of Econometrics and Classical Linear Regression Model: Nature and scope of econometrics; types of data: cross-sectional, time series, panel, Assumptions of the Classical Linear Regression Model (CLRM), Ordinary Least Squares (OLS) estimation: properties (BLUE), Gauss-Markov theorem, Hypothesis testing: t-test, F-test, confidence intervals.

Unit-II

Violations of Classical Assumptions: Multicollinearity: detection, consequences, and remedies, Heteroskedasticity: nature, tests (Breusch-Pagan, White tests), and corrective measures, Autocorrelation: nature, Durbin-Watson test, remedies (Cochrane-Orcutt procedure), Specification errors and model selection criteria (AIC, BIC).

Unit-III

Extensions of Regression Analysis: Dummy variable regression models: qualitative information handling, Distributed lag models and autoregressive models (ADL models), Instrumental Variables (IV) estimation and Two-Stage Least Squares (2SLS), Simultaneous Equation Models: identification and estimation basics.

Unit-IV

Introduction to Time Series and Panel Data Econometrics: Time series properties: stationarity, unit roots (ADF test), and cointegration (Engle-Granger approach), Vector AutoRegression (VAR) models and basics of forecasting, Basics of panel data: Fixed Effects and Random Effects models, Introduction to contemporary topics: Limited dependent variable models (Logit, Probit models).

Course Outcomes: At the end of the course, the students would be able to
CO1. Apply classical and modern econometric methods to real-world economic data.
CO2. Diagnose and address violations of key econometric assumptions.
CO3. Interpret and critically evaluate empirical economic research findings.

Suggested Readings List

1. Damodar N. Gujarati and Dawn C. Porter, *Basic Econometrics*, McGraw Hill.
2. Jeffrey M. Wooldridge, *Introductory Econometrics: A Modern Approach*, Cengage Learning.
3. Christopher Dougherty, *Introduction to Econometrics*, Oxford University Press.
4. William H. Greene, *Econometric Analysis*, Pearson.
5. Ramanathan Ramu, *Introductory Econometrics with Applications*, Cengage India.

Important Note: The practical exam will be taken by an outside examiner.

MIC 8 (First Option)

Economics of Innovation

Course Code: 24MIC0804T(i)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objectives: To understand the nature and models of innovation, its measurement, diffusion, and economic impact, and evaluate policy instruments, market structures, and global frameworks shaping innovation and R&D.

Unit-I

Introductory topics: Nature and importance of innovation- Invention- Innovation- Incremental innovation- innovation in the context of developing countries- radical and disruptive innovations and user led innovations. Conceptualization of Innovation: Linear versus Chain-linked models. Meaning of national systems of innovation in the context of globalisation- Sectoral and Regional systems of Innovation: explanation of why one sector/region is more innovative than another one.

Unit-II

Measuring Innovation: Conventional vs new indicators - Composite measures of innovation, Understanding the process of diffusion of innovations in an economy: Estimating the relationship between diffusion of innovation and economic growth in a nation – the concept of total factor productivity (TFP).

Unit-III

Policy instruments to stimulate generation of innovation and diffusion of innovations: Financial instruments (R&D tax incentives, Research Grants, Loans and Venture Capital) - Non financial instruments (Supply of human resource in science and engineering, industrial standards and clustering) - Measuring the effectiveness of innovation policy instrument.

Unit-IV

Market structure and Innovation: Internal organization of firms and its effect on innovations, The market for disembodied technologies and issues related to technology transfer: channels of technology transfer; Relationship between technology imports and local technology generating efforts- Changes in international governance rules with respect to promotion of innovation: R&D subsidies, public procurement, and Potential and actual effects of TRIPS compliance of domestic patent regimes. MNCs as a source of technology spillovers to local companies

Course Outcomes: At the end of the course, the students would be able to

CO1. Explain different types of innovations, national and regional innovation systems, and their role in economic development.

CO2. Develop analytical skills to assess innovation measurement techniques, diffusion processes, and the effectiveness of policy instruments.

CO3. Critically evaluate market dynamics, technology transfer mechanisms, and international governance rules affecting innovation and intellectual property rights.

Suggested Readings List

1. Greenhalgh, Christine and Mark Rogers (2010), Innovation, Intellectual Property, and Economic Growth, Princeton: Princeton University Press.
2. Swann, Peter G M. (2009), The Economics of Innovation, Cheltenham, UK and Northampton, MA, USA: Edward Elgar.
3. Fagerberg, Jan, David Mowery and Richard Nelson (eds.,2004), The Oxford Handbook of Innovation, New York: Oxford University Press. Hall,
4. Bronwyn and Nathan Rosenberg (eds., 2010), Handbook of the Eco- nomics of Innovation, Volumes I and II, Amsterdam: Elsevier.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

MIC 8 (Second Option)

Economics of Entrepreneurship

Course Code: 24MIC0804T(ii)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objectives: To understand entrepreneurship and venture creation across economies, entrepreneurial theories and organizational constraints, and evaluate determinants, financial constraints, and funding sources like debt, venture capital, and informal equity.

Unit-I

Introduction: Defining entrepreneurship, New venture creation and nascent entrepreneurs, Self-employment/business ownership, Push vs Pull factors behind entrepreneurship. International evidence about entrepreneurship: Developed countries vs Developing countries, Entrepreneurial landscape in India, Indian Society and entrepreneurship.

Unit-II

Theories of entrepreneurship: Early theories of entrepreneurship, Occupational choice model of entrepreneurship-Risk aversion, Static models, Dynamic models. Occupational choice model, Heterogeneous ability – the Lucas model, Variants and extensions of the Lucas model. Occupational choice model, Heterogeneous risk attitudes – the Kihlstrom and Laffont model, Organisational limitations of incumbent firms: Agency cost theories, Macroeconomic theories of entrepreneurship and growth: Wealth-based theories, Technology-based theories, Knowledge-based theories, Multiple equilibrium models.

Unit-III

Determinants of entrepreneurship: Pecuniary and non-pecuniary incentives, Desire for independence and job satisfaction, Human capital, Social capital, Risk attitudes, Other psychological traits, Macroeconomic factors, Technology as a determinant of entrepreneurship, Knowledge spill-overs and growth. Regional factors, Start-up and Innovation. Start up and Stand up: Schemes, performance, and impact.

Unit-IV

Debt finance for entrepreneurial ventures: Bernhardt's model of Type I rationing, Stiglitz and Weiss' model of Type II credit rationing, Bester's screening model. Venture capital and other sources of finance: Size of the entrepreneurial venture capital market, Advantages of venture capital finance for entrepreneurs, Value-adding activities by VCs, Drawbacks of venture capital, Factors inhibiting the use of equity finance, Informal equity finance: business angels, Other informal sources of finance.

Course Outcomes: At the end of the course, the students would be able to
CO1. Explain the entrepreneurial landscape, societal influences, and the impact of economic conditions on entrepreneurship.
CO2. Develop analytical skills to assess theoretical models of entrepreneurship, innovation, and start-up ecosystems.
CO3. Critically evaluate financing options for entrepreneurial ventures, including debt, venture capital, and alternative sources of funding.

Suggested Readings List

1. The Economics of Entrepreneurship, by Simon C. Parker, Cambridge University Press 2009
2. The Entrepreneur's Guide to Building a Successful Business, by Jonathan T. Scott, Published by: EFMD Brussels, Belgium 2017.
3. Entrepreneurship and Innovation Toolkit by Lee A. Swanson, Open Education Resource (OER) LibreTexts Project (https://LibreTexts.org)

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

MIC 8 (Third Option)

Economics and Law

Course Code: 24MIC0804T(iii)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objectives: The Course aims to explore understanding the intersection of law and economics, including legal efficiency, property rights, and transaction costs.

Unit-I

Meaning, Scope, and Significance of Law and Economics, Economic Analysis of Legal Systems, Efficiency and the Role of Law: Pareto Efficiency, Kaldor-Hicks Criterion, Coase Theorem and Property Rights, Role of Transaction Costs in Legal and Economic Interactions

Unit-II

Concept of Property Rights and Ownership, Intellectual Property Rights (IPR) and Economic Growth, Contract Law and Economic Efficiency, Elements of a Valid Contract, Bargaining and Contract Enforcement, Principal-Agent Problem and Contract Design, Market Failures, Externalities, and the Role of Legal Institutions

Unit-III

Role of Government in Market Regulation, Anti-Competitive Practices and Competition Law, Monopoly, Oligopoly, and Economic Regulation, Consumer Protection Laws and Economic Implications, Labour Laws and Economic Growth

Unit-IV

Economic Analysis of Crime and Punishment, Deterrence Theory and Optimal Law Enforcement, Cost-Benefit Analysis of Crime Prevention, Tort Law and Liability Rules, Strict Liability vs. Negligence, Compensation and Deterrence, Legal Institutions and Economic Development, Judiciary, Corruption, and Economic Growth, Law as an Instrument of Economic Policy

Course Outcomes: At the end of the course, the students would be able to

CO1. Explain key legal and economic principles, including efficiency criteria, property rights, and contract enforcement.
CO2. Develop analytical skills to assess market regulations, competition laws, and the economic impact of legal institutions.
CO3. Critically evaluate crime deterrence, liability rules, and the role of law in shaping economic policies and growth.

Suggested Readings List

1. Cooter, R., & Ulen, T. (2016). *Law and Economics* (6th ed.). Pearson.
2. Posner, R.A. (2014). *Economic Analysis of Law* (9th ed.). Wolters Kluwer.
3. Shavell, S. (2004). *Foundations of Economic Analysis of Law*. Harvard University Press.
4. Miceli, T.J. (2017). *The Economic Approach to Law* (3rd ed.). Stanford University Press.
5. Polinsky, A.M. (2018). *An Introduction to Law and Economics* (5th ed.). Wolters Kluwer..

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

Seminar @ 2 credits for M.Sc. II SEM Students

Department of Economics

GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR

(Established by State Legislature Act 17 of 1995)

'A+' Grade, NAAC Accredited

Scheme of Examination for Integrated Five Years Programme
[UG Four Years Programme (Single Major from First Semester) + PG One Year Programme)
Name of the Programme: Integrated B.Sc. (Hons/Hons with Research)-M.Sc. Economics
According to National Education Policy-2020
w.e.f. 2023-24 & 2024-25 & 2025-26 Onwards

FIFTH YEAR (SEMESTER-IX) B.Sc. (Hons/Hons with Research) M.Sc.-III SEM as per NEP-2020						
Type of Course	**Course Code**	**Paper Nomenclature**	**Credits**	**Internal Marks**	**External Marks**	**Total Marks**
Discipline Specific Courses (Core)	**24ECO0901T**	Intermediate Public Economics	04	30	70	100
	24ECO0902T	Industrial Policies and Strategies	04	30	70	100
	24ECO0903T	Financial Economics	04	30	70	100
Discipline Specific Courses (Elective)	**24ECO0904T(i)** **OR** **24ECO0904T(ii)** **OR** **24ECO0904T(iii)** **OR** **24ECO0904T(iv)**	Economics of Regionalism **OR** Economics of Sustainable Development **OR** Agriculture Finance and Project Management **OR** **Indian Economy Performance and Policies#**	04	30	70	100
	24ECO0905P(i) **24ECO0905P(ii)**	Indian Trade Behaviour **OR** **Econometric Modelling#**	04	30	70	100
Total			20	150	350	500

 # For newly admitted students of M.Sc. Economics

Department of Economics

GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR

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Scheme of Examination for Integrated Five Years Programme

[UG Four Years Programme (Single Major from First Semester) + PG One Year Programme)

Name of the Programme: Integrated B.Sc. (Hons/Hons with Research)-M.Sc. Economics

According to National Education Policy-2020

w.e.f. 2023-24 & 2024-25 & 2025-26 Onwards

FIFTH YEAR (SEMESTER-X) of Integrated Five Year B.Sc. (Hons/Hons with Research) **Also for M.Sc.-III SEM as per NEP-2020**						
Type of Course	**Course Code**	**Paper Nomenclature**	**Credits**	**Internal Marks**	**External Marks**	**Total Marks**
Discipline Specific Courses (Core)	**24ECO1001T**	Advanced Public Economics	04	30	70	100
	24ECO1002T	Haryana Economy	04	30	70	100
	24ECO1003T	Urban Economics	04	30	70	100
RESEARCH PROJECT@12 CREDITS IN LIEU OF 03 PAPERS OF X SEMESTER#		**RESEARCH PROJECT@12 CREDITS IN LIEU OF 03 PAPERS OF X SEMESTER#**	12	----	----	----
Three Papers in lieu of Research Project in Sem (X) of M.Sc. Economics						
Total			24	90	210	300

Department of Economics

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(Established by State Legislature Act 17 of 1995)

'A+' Grade, NAAC Accredited

Scheme of Examination for Integrated Five Years Programme
[UG Four Years Programme (Single Major from First Semester) + PG One Year Programme)
Name of the Programme: Integrated B.Sc. (Hons/Hons with Research)-M.Sc. Economics
According to National Education Policy-2020
w.e.f. 2023-24 & 2024-25 & 2025-26 Onwards

FIFTH YEAR (SEMESTER-IX)						
Department Courses offered for the pools (MIN/MDC/SEC, & VAC)						
Type of Course	**Course Code**	**Paper Nomenclature**	**Credits**	**Internal Marks**	**External Marks**	**Total Marks**
(For M.Sc. III Sem Students)	**Open Elective @ 2 credits**	**Geopolitics and International Economic Relations#**	02	15	35	50

FIFTH YEAR (SEMESTER-X)						
Department Courses offered for the pools (MIN/MDC/SEC, & VAC)						
Type of Course	**Course Code**	**Paper Nomenclature**	**Credits**	**Internal Marks**	**External Marks**	**Total Marks**
Value Added Course	**24VAC1016T**	**Trade, Maritime Networks, and Economic Exchanges in Ancient India#**	02	15	35	50

Semester-IX

DSC-M1

Intermediate Public Economics

Course Code: 24ECO0901T

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objective: To equip students with theoretical and practical insights into the role of government in resource allocation, welfare enhancement, public expenditure, and policy resilience.

Unit-I

Allocation of resources: Provision of public goods, voluntary exchanges models, impossibility of decentralised provision of public goods (contribution of Samuelson and Musgrave); demand revealing schemes for public goods – Tiebout model, theory of club goods.

Unit-II

Welfare economics and government policies: Pareto efficiency and social welfare, externalities and government solutions (taxes, subsidies, regulations), income redistribution and social security.

Unit–III

Public expenditure and social insurance: Theories of public expenditure (Wagner's law, Peacock – Wiseman Hypothesis), education, healthcare and social welfare programs, insurance market failure and government role (moral hazards, adverse selection), unemployment benefits, pensions, and redistribution

Unit–IV

Policy resilience: Current scenarios (public debt management and fiscal policy, fiscal constraints, economic growth strategies, economic inequalities, demographic trends and social policy), future of public policy

Course Outcomes: At the end of the course, the students would be able to
CO1. Understand and apply models of public goods, welfare economics, and income redistribution.
CO2. Analyze theories of public expenditure, social insurance, and evaluate government intervention in markets.
CO3. Critically assess contemporary public policy challenges, including fiscal management and social inequality.

Suggested Readings List

1. Bruce, Neil, "Public Finance", Addison- Wesley Educational Publishers, Inc.
2. Jones. Philip and Cullis, Jones, "Public Finance and Public Choice- Analytical Perspectives", Oxford University press
3. Stiglitz, Joseph, "Economics of the Public Sector", W.W.Norton and Company, new York/London
4. Rosen, H.S., "Public finance", Tata McGraw Hill • McNutt, P.A., "The economics of Public Choice", Edward Elgar Publishing Inc.
5. Mueller, D.C., "Public Choice- I, II, III" Cambridge university Press, Cambridge
6. Downs, A., "An Economic Theory of Democracy", Harper and Row, New York
7. Musgrave R.A and Peacock A.T., "Classics in the Theory of Public Finance", Mcmillan

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-M2 (Core)

Industrial Policies and Strategies

Course Code: 24ECO0902T

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objective: To provide an in-depth understanding of India's industrial policies, globalization impacts, industrial strategies, and emerging reforms.

Unit-I

Evolution of Industrial Policies in India: Pre-Independence Industrial Development: British legacy and colonial impact, Post-Independence Industrialization: Nehruvian planned economy, Industrial Policy Resolutions (IPRs) of 1948, 1956, 1977, 1980, New Industrial Policy of 1991: Liberalization, Privatization, and Globalization (LPG), Role of public and private sector enterprises, Changes in regulatory frameworks: Licensing, FDI norms, and trade liberalization.

Unit-II

Globalization and India's Industrial Development: Impact of WTO, IMF, and World Bank on Indian industry, Role of Foreign Direct Investment (FDI) and Foreign Institutional Investment (FII), Special Economic Zones (SEZs) and export promotion policies, Comparative analysis with China, Brazil, and Southeast Asia, Trade agreements and their implications for industry, Make in India, Atmanirbhar Bharat, and industrial competitiveness.

Unit–III

Analysis of Industrial Strategies in India: Manufacturing Sector: Growth, challenges, and future outlook, Services Industry: IT, telecommunications, and financial services, MSMEs and Startups: Government policies and ease of doing business, Role of infrastructure, energy, and logistics in industrialization, Environmental regulations and sustainability concerns, Industry 4.0: Digital transformation, AI, and automation in India.

Unit–IV

Future of Industrial Strategies and Policy Reforms: Emerging trends in industrial policy in the post-COVID world, Green industrialization and sustainability-driven growth, Digital Economy and India's positioning in global supply chains, Industrial clusters, regional disparities, and policy responses, Challenges of labor reforms and workforce transformation, Policy recommendations for achieving sustainable industrial growth

Course Outcomes: At the end of the course, the students would be able to

CO1. Explain the historical evolution and shifts in India's industrial policies and regulatory frameworks.

CO2. Analyze the effects of globalization, FDI, and industrial competitiveness in India.

CO3. Evaluate industrial strategies, emerging technologies, and sustainable industrial reforms for future growth.

Suggested Readings List

1. Dani Rodrik (2015). *Premature Deindustrialization and India's Challenges.*
2. Kochhar, K. et al. (2006). *India's Pattern of Development: What Happened, What Follows?* IMF Working Paper.
3. Chakravarty, S. (1987). *Development Planning: The Indian Experience.* Oxford University Press.
4. Rodrik, D. (2011). *The Globalization Paradox: Democracy and the Future of the World Economy.* Norton & Co.
5. Balakrishnan, P. (2010). *Economic Growth in India: History and Prospects.* Oxford University Press.
6. WTO Reports on India's Trade and Industrial Policies.
7. Stiglitz, J.E. (2002). *Globalization and Its Discontents.* W.W. Norton & Co.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-M3 (Core)

Financial Economics

Course Code: 24ECO0903T

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objective: To introduce students to the fundamental concepts of interest theory, portfolio analysis, asset pricing models, and derivatives in financial markets.

Unit-I

Basic theory of interest; discounting and present value; internal rate of return; evaluation criteria; fixed-income securities; bond prices and yields; interest rate sensitivity and duration; immunization; the term structure of interest rates; yield curves; spot rates and forward rates.

Unit-II

Portfolio Analysis (Single-period random cash flows): Random asset returns; portfolios of assets; portfolio mean and variance; feasible combinations of mean and variance; mean-variance portfolio analysis: the Markowitz model and the two-fund theorem; risk-free assets and the one-fund theorem.

Unit–III

CAPM: The capital market line; the capital asset pricing model; the beta of an asset and of a portfolio; security market line; use of the CAPM model in investment analysis and as a pricing formula.

Unit–IV

Options and Derivatives: Introduction to derivatives and options; forward and futures contracts; options; forward and future prices; stock index futures; interest rate futures; the use of futures for Hedging.

Course Outcomes: At the end of the course, the students would be able to
CO1. Apply concepts of interest rates, bond pricing, and term structures in financial evaluations.
CO2. Analyze risk-return trade-offs using portfolio theory and the Capital Asset Pricing Model (CAPM).
CO3. Understand and utilize derivative instruments like options, forwards, and futures for investment and hedging strategies.

Suggested Readings List

1. David G. Luenberger (1997), Investment Science, Oxford University Press, USA.
2. Hull, John C. (2005), Options, Futures and Other Derivatives, Pearson Education, 6th edition.
3. Thomas E. Copeland, J. Fred Weston and Kuldeep Shastri, (2003), Financial Theory and Corporate Policy, Prentice Hall, 4th edition.
4. Richard A. Brealey and Stewart C. Myers, (2002), Principles of Corporate Finance, McGraw- Hill, 7th edition.
5. Stephen A. Ross, Randolph W. Westerfield and Bradford D. Jordan (2005), Fundamentals of Corporate Finance. McGraw-Hill, 7th edition.
6. Burton G. Malkiel (2003), A Random Walk Down Wall Street, W.W. Norton & Company. William Sharpe (2003), Gordon Alexander and Jeffery Bailey, Investments, Prentice Hall of India, 6th edition.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-M4 (First Option)

Economics of Regionalism

Course Code: 24ECO0904T(i)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objective: To explore the rationale, mechanisms, and economic impacts of regional integration and cooperation in the global economy.

Unit-I

The rationale and motivation behind Regionalism; Multinational Trade Liberalization and RIAs; Regional v/s Global Liberalization; RIAs and Domestic Policy Integration.

Unit-II

The Economics of Custom Unions (Viner), Economies of Scale and Custom Union. The GATT's Article XXIV, Preferential Trading Areas and Multilaterarlism; Domino Theory of Regionalism; Hub and Spoke theory of Regionalintegration.

Unit-III

East Asian Regionalism; Asia's New role in Global Economy; Relevance of Broader Regional Economic Integration in Asia; A Strategic Perspective on Asian Economic Integration.

Unit-IV

Building Blocs of Broader Regional Cooperation; ASEAN's Role in Asian Economic Integration; Japan in Asian Economic Community; China's Role in the Asian Economic Integration Process; India and the Asian Economic Integration.

Course Outcomes: At the end of the course, the students would be able to
CO1. Understand the motivations behind regional trade agreements and the distinction between regional and global liberalization.
CO2. Analyze the economic theories of customs unions, preferential trading areas, and multilateralism.
CO3. Evaluate regional integration processes in Asia with a focus on ASEAN, China, India, and East Asian cooperation.

Suggested Readings List

1. Jacob Viner (1950) "The Economics of Customs Unions" in the Custom Union Issue Chapter 4, NY: Carnegie Endowment for International Peace, 41-81.
2. W.M. Corden (1972)"Economies of Scale and Customs Union Theory" Journal of Political Economy, 80, January/February/November/December 465-75.
3. Murray C. Kemp & Henry Y. Wan Jr. 91976) An Elementary Proposition Encouraging the Formation of Customs Unions, Journal of International Economics, 6 Feb. 95-7.
4. Paul Wonnacott and Ronald Wonnacott (1981) "Is Unilateral Tariff Reduction Preferable to a Customs Union? The Curios Case of the Missing Foreign Tariffs' American Economic Review 719(4) Sep. 704-14
5. Richard H. Snape 91993) "History and Economics of GATTS Article XXTV in My Anderson and Richard Blackhurs (Eds) Regional Integration and Global Trading System, New York: Havesfer Wheatsheaf, 273-91.
6. J. Bhagwati & A. Panagariya (1998) "Preferential Trading Areas and Multilateralism: Strangers, Friends and Foes? In Regionalism in Trade Policy: Essays on Preferential Trading, Singapore, River Edge, NJ & London.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-M4 (Second Option)

Economics of Sustainable Development

Course Code: 24ECO0904T(ii)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objective: To equip students with an understanding of sustainable development theories, environmental challenges, and global policy initiatives for a balanced economic, social, and environmental future.

Unit-I

Foundations of Sustainable Development: Introduction to Sustainable Development: Definition, History, and Evolution, Classical and Neoclassical Perspectives on Growth and Sustainability, Theories of Sustainable Development: Environmental Kuznets Curve, Limits to Growth (Club of Rome), Solow's Growth Model & Sustainability, The Three Pillars of Sustainability: Economic, Social, and Environmental, Measuring Sustainable Development: HDI, SDGs, Genuine Progress Indicator (GPI), and Green GDP.

Unit-II

Environmental Economics and Market Failures: Externalities and Public Goods: Market Failure and Environmental Degradation, Tragedy of the Commons and Collective Action Problems, Environmental Valuation Methods: Cost-Benefit Analysis, Contingent Valuation, and Hedonic Pricing, Pollution Control Policies: Carbon Pricing, Emission Trading, and Pigovian Taxes, Climate Change Economics: Mitigation vs. Adaptation Strategies

Unit-III

Sustainable Development Policies and Global Initiatives: The Sustainable Development Goals (SDGs): Economic and Policy Implications, International Agreements: Paris Agreement, Kyoto Protocol, and UNFCCC, Role of Institutions: World Bank, IMF, UNEP, and WTO in Sustainable Development, Green Growth Strategies: Circular Economy and Renewable Energy Transitions, Sustainable Development in Developing vs. Developed Economies

Unit-IV

Sustainable Development Challenges and Future Trends: Economic Inequality and Environmental Justice, Sustainable Agriculture and Food Security, Urbanization and Smart Cities for Sustainability, Technological Innovations: Green Finance, ESG Investing, and Digital Solutions, Future of Sustainable Development: Circular Economy, Degrowth Movement, and Beyond GDP Metrics

Course Outcomes: At the end of the course, the students would be able to

CO1. Explain the foundations, theories, and measurement of sustainable development across economic, social, and environmental dimensions.

CO2. Analyze environmental market failures and evaluate policy tools for sustainable resource management and climate change mitigation.

CO3. Assess international initiatives, institutional roles, and emerging trends in sustainable development and green growth strategies.

Suggested Readings List

1. Dasgupta, P. (2007). *Economics: A Very Short Introduction*. Oxford University Press.
2. Pearce, D., Barbier, E., &Markandya, A. (1990). *Sustainable Development: Economics and Environment in the Third World*. Earthscan.
3. Stiglitz, J., Sen, A., & Fitoussi, J.P. (2009). *Report on the Measurement of Economic Performance and Social Progress*.
4. Baumol, W. J., & Oates, W. E. (1988). *The Theory of Environmental Policy*. Cambridge University Press.
5. Nordhaus, W. (2018). *The Climate Casino: Risk, Uncertainty, and Economics for a Warming World*. Yale University Press.
6. Stern, N. (2007). *The Economics of Climate Change: The Stern Review*. Cambridge University Press.
7. Sachs, J. D. (2015). *The Age of Sustainable Development*. Columbia University Press.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks

DSC-M4 (Third Option)

Agriculture Finance and Project Management

Course Code: 24ECO0904T(iii)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objective: To provide students with the knowledge of financial principles, credit systems, and project management techniques relevant to agriculture and rural development.

Unit-I

Role and Importance of Agricultural Finance. Financial Institutions and credit flow to rural / priority sector. Agricultural lending - Direct and Indirect Financing - Financing through Co-operatives, NABARD and Commercial Banks and RRBs. District Credit Plan and lending to agriculture/priority sector. Micro-Financing and Role of MFI's - NGO's, and SHG's. Lending to farmers - The concept of 3 C's, 7 P's and 3 R's of credit. Estimation of Technical feasibility, Economic viability and repaying capacity of borrowers and appraisal of credit proposals. Understanding lenders and developing better working relationship and supervisory credit system. Credit inclusions - credit widening and credit deepening.

Unit–II

Financial Decisions - Investment, Financing, Liquidity and Solvency. Preparation of financial statements - Balance Sheet, Cash Flow Statement and Profit and Loss Account. Ratio Analysis and Assessing the performance of farm / firm.

Unit–III

Project Approach in financing agriculture. Financial, economic and environmental appraisal of investment projects. Identification, preparation, appraisal, financing and implementation of projects. Project Appraisal techniques - Undiscounted measures. Time value of money - Use of discounted measures - B-C ratio, NPV and IRR.

Unit–IV

Risks in financing agriculture. Risk management strategies and coping mechanism. Crop Insurance programmes - review of different crop insurance schemes - yield loss and weather based insurance and their applications.

Course Outcomes: At the end of the course, the students would be able to
CO1. Understand the role of agricultural finance in enhancing farm productivity and rural development.
CO2. Analyze various sources, types, and terms of agricultural credit and financial institutions' functioning.
CO3 Apply project management techniques to design, evaluate, and implement agricultural projects effectively.

Suggested Readings List

1. Dhubashi PR. 1986. Policy and Performance - Agricultural and Rural Development in Post Independent India. Sage Publ.
2. Gittinger JP 1982. Economic Analysis of Agricultural Projects. The Johns Hopkins Univ. Press.
3. Gupta SC. 1987. Development Banking for Rural Development. Deep & Deep Publ.
4. Little IMD &Mirlees JA. 1974. Project Appraisal and Planning for Developing Countries. Oxford & IBH Publ.
5. Muniraj R. 1987. Farm Finance for Development. Oxford & IBH Publ.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks

DSC-M4 (Fourth Option)

Indian Economy: Performance and Policies

Course Code: Course Code: 24ECO0904T(iv)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objective: To develop an understanding of the structural features, growth experiences, policy changes, and contemporary challenges of the Indian economy.

Unit-I

Economic Development and Structural Changes: Features of the Indian economy at independence: Colonial legacy and underdevelopment, Planning era: Objectives, strategies, and achievements, Structural changes in GDP, sectoral composition, employment, and savings-investment trends, Demographic trends and human development

Unit–II

Agriculture and Rural Development: Role of agriculture in Indian economy: Trends in production, productivity, and employment, Agricultural policies: Green Revolution, land reforms, and agricultural credit, Rural development programs and MGNREGA, Issues of food security and agricultural marketing reforms

Unit–III

Industry, Services, and Economic Reforms: Industrial growth and policy framework: Pre- and post-1991 reforms, Public sector enterprises and disinvestment, Growth of services sector and its contribution to GDP and employment, Role of MSMEs and startups in economic development

Unit–IV

Contemporary Challenges and Policy Responses: Poverty, inequality, and unemployment, Fiscal policy, inflation management, and monetary policy, External sector performance: Trade, balance of payments, FDI, and foreign exchange policy, Sustainable development and emerging issues: Digital economy, climate change, and skill development

Course Outcomes: At the end of the course, the students would be able to

CO1. Analyze the major trends and structural changes in the Indian economy since independence.

CO2. Evaluate policy measures and reforms impacting agriculture, industry, and the service sector.

CO3 Assess recent challenges and emerging issues in India's economic performance and policymaking.

Suggested Readings List

1. **Uma Kapila** – *Indian Economy: Performance and Policies* (Academic Foundation)
2. **Jean Drèze and Amartya Sen** – *An Uncertain Glory: India and its Contradictions*
3. **Ramesh Singh** – *Indian Economy* (McGraw Hill Education)
4. **Government of India** – *Economic Survey* (latest editions)
5. **Reserve Bank of India** – *Annual Reports and State of the Economy* reports
6. **Mishra and Puri** – *Indian Economy: Its Development Experience*
7. **S.K. Misra and V.K. Puri** – *Indian Economy* (Himalaya Publishing House)

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks

DSC-M5 (First Option)

Indian Trade Behaviour (Practicum)

Course Code: 24ECO0905P(i)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Practical)**
External Assessment: 70

Course Objective: To provide a comprehensive understanding of India's trade evolution, policies, sectoral dynamics, and future strategies in a global context.

Unit-I

Introduction to Indian Trade and Global Positioning: Historical Evolution of India's Trade: Pre-Independence to Post-Liberalization, Composition and Direction of India's Trade (Major Trading Partners & Sectors), India's Position in Global Trade: WTO, UNCTAD, and Trade Rankings, Balance of Payments (BoP) and Trade Deficit Trends, Foreign Exchange Management and Exchange Rate Movements

Practicum Component: Case Study: India's Export and Import Trends (1991-Present), Trade Data Analysis using RBI and Ministry of Commerce Databases

Unit–II

India's Trade Policies and Agreements: Trade Liberalization and India's Export-Import (EXIM) Policy, Key Trade Agreements: WTO, SAFTA, RCEP, and FTAs with ASEAN, EU, USA, Role of SEZs, Industrial Corridors, and Export Promotion Councils, India's Trade Policy vs. Protectionism: Tariffs, Subsidies, and Non-Tariff Barriers, Trade Facilitation and Logistics in India

Practicum Component: Comparative Analysis: India's FTA with ASEAN vs. EU, Policy Evaluation: India's Trade Response to WTO Disputes

Unit–III

Sectoral Trade Behavior and Challenges: Key Export Sectors: IT, Pharmaceuticals, Textiles, Agriculture, and Automobiles, Import Dependence: Crude Oil, Gold, Electronics, and Capital Goods, MSMEs and Their Role in India's Trade Competitiveness, Trade in Services: ITES, Tourism, and Financial Services, Challenges in Indian Trade: Dumping, Trade Wars, and Supply Chain Disruptions

Practicum Component: Industry Report: Export Potential of an Emerging Indian Sector, Field Visit: Interaction with Exporters and Industry Experts (Optional)

Unit–IV

Future of India's Trade and Policy Recommendations: India's Shift Towards Digital Trade and E-Commerce Exports, Sustainability in Trade: Green Trade, Carbon Tariffs, and ESG Compliance, Impact of Geopolitics on India's Trade Behavior (China, USA, EU), Atmanirbhar Bharat and Export-Led Growth Strategies, Future Trade Policy Directions: Trade Negotiations, FTAs, and Global Integration

Practicum Component: Policy Recommendation Report: India's Strategy to Boost Exports by 2030, Data-Driven Analysis: India's Trade Performance Post-Pandemic

Course Outcomes: At the end of the course, the students would be able to

CO1. Analyze the historical trends and global positioning of India's trade.

CO2. Evaluate India's trade policies, agreements, and their impact on domestic and international trade.

CO3 Assess sector-specific trade behavior and propose strategic policy recommendations for India's future trade growth.

Suggested readings List

1. Bhagwati, J., & Panagariya, A. (2013). *India's Tryst with Destiny*. HarperCollins.
2. Ministry of Commerce & Industry, Government of India (Annual Reports).
3. RBI Handbook on *India's Balance of Payments*.
4. Krueger, A. O. (2002). *Trade Policy and Economic Development: How We Learn*. Oxford University Press.
5. Ministry of Commerce (2023). *Foreign Trade Policy 2023-2028*.
6. WTO Reports on India's Trade Policy Reviews.
7. Panagariya, A. (2010). *India: The Emerging Giant*. Oxford University Press.
8. Economic Survey of India (Trade and Industry Chapters).
9. NITI Aayog Reports on MSME Trade Growth.

The practical exam will be taken by external examiner

DSC-M5 (Second Option)

Econometric Modelling (Practicum)

Course Code: 24ECO0905P(ii)

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Practical)**
External Assessment: 70

Course Objective: To equip students with advanced econometric modelling techniques, enabling them to apply theoretical concepts to real-world data through empirical analysis and hands-on practice.

Unit-I

Foundations of Econometric Modelling: Review of Classical Linear Regression Model (CLRM) Assumptions, Problems in Regression: Multicollinearity, Heteroskedasticity, Autocorrelation, Specification Errors and Model Selection Criteria (AIC, BIC), Dummy Variables and Interaction Terms, Model Building: Theoretical vs. Data-Driven Approaches.
Practicum Component: Regression Diagnostics using R/Stata: Residual Plots, VIF Tests, White Test, Hands-on Data Cleaning and Model Specification

Unit–II

Time Series Econometric Models: Stationarity and Unit Root Tests (ADF, KPSS), ARMA, ARIMA Modelling, Cointegration and Error Correction Models (ECM), Forecasting Techniques and Model Evaluation, Introduction to Structural Time Series and State Space Models
Practicum Component: Building and Forecasting ARIMA Models on Macroeconomic Data, Cointegration Analysis using Johansen Test in R/EViews

Unit–III

Advanced Econometric Techniques: Panel Data Models: Fixed Effects, Random Effects, Pooled OLS, Instrumental Variables (IV) and Two-Stage Least Squares (2SLS), Limited Dependent Variable Models: Logit, Probit, Tobit Models, Causal Inference: Difference-in-Differences (DiD), Regression Discontinuity.
Practicum Component: Panel Regression using STATA/R: FE vs. RE Hausman Test, Logit-Probit Model Estimation for Survey Data

Unit–IV

Applications and Project Work: Structural Modelling vs. Reduced Form Modelling, Simultaneous Equation Models, Quantile Regression and Nonlinear Econometric Models, Recent Trends: Machine Learning Methods in Econometrics (Brief Introduction), Econometric Project: Independent Empirical Study
Practicum Component: End-to-End Econometric Project: Data Collection, Model Estimation, Interpretation, and Policy Recommendations, Presentation and Peer Review of Projects
Course Outcomes: At the end of the course, the students would be able to
CO1. Formulate and estimate econometric models for economic data analysis.
CO2. Apply advanced techniques like panel data, time series, and limited dependent variable models.
CO3 Interpret and critically evaluate econometric results for policy and research applications.

Suggested readings List

1. **Gujarati, D.N. & Porter, D.C.** (2010), *Basic Econometrics* (5th Edition), McGraw-Hill.
2. **Wooldridge, J.M.** (2016), *Introductory Econometrics: A Modern Approach* (6th Edition), Cengage Learning.
3. **Stock, J.H. & Watson, M.W.** (2020), *Introduction to Econometrics* (4th Edition), Pearson.
4. **Baltagi, B.H.** (2011), *Econometric Analysis of Panel Data* (5th Edition), Wiley.
5. **Enders, W.** (2014), *Applied Econometric Time Series* (4th Edition), Wiley.
6. **Cameron, A.C. & Trivedi, P.K.** (2005), *Microeconometrics: Methods and Applications*, Cambridge University Press.
7. **Baum, C.F.** (2006), *An Introduction to Modern Econometrics Using Stata*, Stata Press.
8. **Verbeek, M.** (2017), *A Guide to Modern Econometrics* (5th Edition), Wiley.

The practical exam will be taken by external examiner

Open Elective (For M.Sc. first Sem Students)

Geopolitics and International Economic Relations

Course Code:

Maximum Marks: 50 **(Total Credits: 02)**
Internal Assessment: 15 **(Theory)**
External Assessment: 35 **Time Allowed: 2 Hours**

Course Objectives: To develop an analytical understanding of how geopolitical factors shape international economic relations, influencing trade, investment, and global governance structures.

Unit-I

Geopolitical Foundations and Economic Interactions: Introduction to Geopolitics and Economic Power: Concepts and Theories, Major Historical Phases: Colonialism, Cold War, Post-Cold War Economic Reordering, Global Institutions and Power Structures: IMF, World Bank, WTO, UNCTAD, Trade Wars, Sanctions, and Economic Warfare: Case Studies (e.g., US-China, Russia-West)

Unit-II

Emerging Trends in Geopolitical Economy: Rise of China, India, and the Global South in the New World Order, Regionalism and Economic Alliances: EU, ASEAN, BRICS, RCEP, Geopolitics of Technology: 5G, AI, Cybersecurity, and Digital Trade, Climate Change, Green Economy, and Economic Diplomacy, Future Outlook: Multipolarity, Protectionism, and Global Fragmentation

Course Outcomes: At the end of the course, the students would be able to
CO1. Explain the role of geopolitical strategies in shaping international trade and financial flows.
CO2. Critically analyze the impact of major power shifts and economic alliances on global stability.
CO3. Interpret the challenges posed by new-age risks like technology rivalry and climate geopolitics.

Suggested Readings List

1. Blackwill, R.D. & Harris, J.M. (2016), *War by Other Means: Geoeconomics and Statecraft*, Harvard University Press.
2. Kaplan, R.D. (2012), *The Revenge of Geography*, Random House.
3. Frieden, J.A. & Lake, D.A. (2000), *International Political Economy: Perspectives on Global Power and Wealth*, Routledge.
4. Baldwin, D.A. (2016), *Power and International Relations: A Conceptual Approach*, Princeton University Press.
5. Council on Foreign Relations (CFR) Reports (Recent articles on trade, technology, and climate geopolitics).
6. World Economic Forum (WEF) Reports on Global Risks and Economic Outlook.

Examiner's Note: The course contents of the courses having 02 credits will be distributed among 2 units and maximum marks will be assigned 50 (35 external: 15 internal). The maximum time duration for attempting the paper will be of 2 hours. The examiner is required to set five questions in all. The first question will be compulsory consisting of five short questions covering the entire syllabus consisting of 3 marks each. In addition to that four more questions will be set, two questions from each unit. The students shall be required to attempt three questions in all selecting one question from each unit consisting of 10 marks each in addition to compulsory question No. 1.

SEMESTER-X

DSC-M6 (Core)

Advanced Public Economics

Course Code: 24ECO1001T

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objective: To provide an advanced understanding of public economic theories, fiscal frameworks, stabilization policies, and empirical methods relevant to public policy analysis.

Unit-I

Political Economy and Public Choice: Median voter theorem and voting models, rent-seeking, corruption, and bureaucracy, interest groups and lobbying in public policy, government failures and regulatory capture

Unit-II

Fiscal Federalism and Local Public Finance: Tiebout hypothesis and local public goods, grants, revenue, sharing, and fiscal decentralization, inter government transfers and expenditure responsibilities, economic impact of decentralization

Unit–III

Stabilization policy: Keynesian case of stabilization policy, uncertainity and expectations, failure of inter temporal markets, liquidity preference, social goals; poverty alleviation, provision of infrastructural facilities, removing distributional inequalities and regional imbalances

Unit–IV

Empirical methods in public economics: experimental and quasi experimental approaches, differences in differences (DID)regression discontinuity design (RDD), structural estimation of tax and transfer policies, case studies in public policy evaluations.

Course Outcomes: At the end of the course, the students would be able to
CO1. Explain key theories of political economy, fiscal federalism, and stabilization policy.
CO2. Analyze the role of government interventions, decentralization, and poverty alleviation strategies.
CO3. Apply empirical techniques to evaluate tax, transfer, and public policy outcomes.

Suggested Readings List

1. Bruce, Neil, "Public Finance", Addison- Wesley Educational Publishers, Inc.
2. Jones. Philip and Cullis, Jones, "Public Finance and Public Choice- Analytical Perspectives", Oxford University press
3. Stiglitz, Joseph, "Economics of the Public Sector", W.W.Norton and Company, new York/London
4. Rosen, H.S., "Public finance", Tata McGraw Hill • McNutt, P.A., "The economics of Public Choice", Edward Elgar Publishing Inc.
5. Mueller, D.C., "Public Choice- I, II, III" Cambridge university Press, Cambridge
6. Downs, A., "An Economic Theory of Democracy", Harper and Row, New York
7. Musgrave R.A and Peacock A.T., "Classics in the Theory of Public Finance", Mcmillan

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-M8 (Core)

Haryana Economy

Course Code: Course Code: 24ECO1002T

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objective: To provide an in-depth understanding of the structural changes, sectoral developments, and fiscal issues of Haryana's economy since its formation.

Unit-I

Evolution of Haryana economy since 1966. Major milestones, achievements and deficiencies, Structural Changes in Haryana Economy- Agricultural in Haryana, Growth & productivity Green Revolution; role, performance & implications; Agricultural diversification, rationale, constraints and prospectus; agriculture credit & marketing, Soil degradation, Irrigation and water management.

Unit–II

Industry in Haryana: Industrial development – Pattern, performance, constraints & challenges; Small–scale industry role, problems & future prospects; State & industrial development, HSIIDC, Development of transport and banking in Haryana, Regional inequality.

Unit–III

Service sector in Haryana: emergence of knowledge intensive services in Haryana,Social sector development: health, education and women empowerment indicators and issues.

Unit–IV

Public Finances of Haryana, Sources of revenue and heads of expenditure; Problems of resource mobilization in Haryana, State Public sector Enterprises, off budget liabilities.

Course Outcomes: At the end of the course, the students would be able to

CO1. Describe the evolution and structural transformation of Haryana's agricultural, industrial, and service sectors.
CO2. Analyze sector-specific challenges, regional inequalities, and social development indicators in Haryana.
CO3. Evaluate Haryana's public finance structure, revenue mobilization issues, and the role of state enterprises.

Suggested Readings List

1. Hoover, F.M. (1984) An Introduction to Regional Economics, UCEB.
2. Richardson, H.W. (1972) Regional Economics, Weidenfeld and Nicolson, London.
3. Statistical Abstract and Economics Survey of Haryana various years.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

DSC-M9 (Core)

Urban Economics

Course Code: Course Code: 24ECO1003T

Maximum Marks: 100 **(Total Credits: 04)**
Internal Assessment: 30 **(Theory)**
External Assessment: 70 **Time Allowed: 3 Hours**

Course Objective: To analyze the economic forces shaping urban areas, focusing on land use, housing markets, transportation systems, and sustainable urban development.

Unit-I

The role and significance of cities in economic development, Historical evolution of urban areas, Theories explaining the existence and growth of cities, Economic definitions and characteristics of urban areas.

Unit-II

Determinants of urban spatial structure, Models of urban land use: monocentric and polycentric cities, Factors influencing residential and commercial location choices, Urban sprawl: causes, consequences, and policy responses.

Unit-III

Housing market dynamics: supply and demand factors, Determinants of housing prices and rents, Government interventions in housing markets: rent control, housing subsidies, and zoning regulations, Issues of housing affordability and homelessness.

Unit-IV

Economic analysis of urban transportation systems, Transportation demand and supply: congestion and pricing strategies, Impact of transportation infrastructure on urban development, Sustainable urban transportation policies.

Course Outcomes: At the end of the course, the students would be able to
CO1. Understand the historical evolution and economic significance of cities and urban areas.
CO2. Analyze urban land use patterns, housing market dynamics, and policy interventions.
CO3. Evaluate urban transportation systems and propose strategies for sustainable urban development.

Suggested Readings List

1. Arthur O'Sullivan, *Urban Economics*, McGraw-Hill Education.
2. Edwin S. Mills and Bruce W. Hamilton, *Urban Economics*, Addison-Wesley.
3. John F. McDonald and Daniel P. McMillen, *Urban Economics and Real Estate: Theory and Policy*, Wiley-Blackwell.
4. Jan K. Brueckner, *Lectures on Urban Economics*, MIT Press.
5. Edward Glaeser, *Triumph of the City*, Penguin Books.

Examiner's Note: The course contents of the courses having 04 credits will be distributed among 4 units and maximum marks will be assigned 100 marks (70 external: 30 internal). The maximum time duration for attempting the paper will be 3 hours. The examiner is required to set nine questions in all. The first question will be compulsory consisting of seven short questions covering the entire syllabus of 02 marks each. In addition to that eight more question will be set, two questions from each unit. The students shall be required to attempt any five questions in all selecting one question from each unit in addition to compulsory question No. 1. All questions shall carry equal marks.

RESEARCH PROJECT@12 CREDITS IN LIEU OF 03 PAPERS OF X SEMESTER

VAC (For M.Sc. first Sem Students)

Trade, Maritime Networks, and Economic Exchanges in Ancient India

Course Code: 24VAC1016T

Maximum Marks: 50 **(Total Credits: 02)**
Internal Assessment: 15 **(Theory)**
External Assessment: 35 **Time Allowed: 2 Hours**

Course Objectives: To explore the development of trade routes, maritime networks, and patterns of economic exchanges in ancient India and their contribution to regional and global economies.

Unit-I

Early Trade Networks and Economic Exchanges: Growth of internal trade routes: land-based (Uttarapatha, Dakshinapatha, Silk Route), Role of guilds (Shrenis) and merchant associations in economic life, Trade commodities: textiles, spices, precious stones, metals, and luxury goods, Urbanization and trade centers: Taxila, Pataliputra, Ujjain, Kanchipuram, State and trade: taxation, regulation, and protection of trade routes.

Unit-II

Maritime Trade and Indian Ocean Networks: Development of maritime trade during the Mauryan, Satavahana, and Gupta periods, Ports and coastal trade hubs: Bharuch, Tamralipti, Arikamedu, Muziris, Indian Ocean trade: connections with Southeast Asia, the Roman Empire, and East Africa, Trade winds, monsoon navigation, and technological innovations in shipbuilding, Cultural and economic exchanges through maritime routes: spread of Buddhism, Indianization of Southeast Asia.

Course Outcomes: At the end of the course, the students would be able to

CO1. Understand the evolution of internal and external trade systems in ancient India.

CO2. Analyze the role of maritime networks in shaping early Indian economic history.

CO3 Examine the socio-economic impact of trade and exchanges on ancient Indian society and polity.

Suggested Readings List

1. Chakravarti, Ranabir. *Trade and Traders in Early Indian Society* (Oxford University Press, 2002).
2. Ray, Himanshu Prabha. *The Archaeology of Seafaring in Ancient South Asia* (Cambridge University Press, 2003).
3. Thapar, Romila. *Early India: From the Origins to AD 1300* (University of California Press, 2002).
4. Champakalakshmi, R. *Trade, Ideology and Urbanization: South India 300 BC to AD 1300* (Oxford University Press, 1996).
5. McLaughlin, Raoul. *The Roman Empire and the Indian Ocean: The Ancient World Economy and the Kingdoms of Africa, Arabia and India* (Pen & Sword, 2014).
6. Sharma, R.S. *Perspectives in Economic History of Early India* (Munshiram Manoharlal, 1983).

Examiner's Note: The course contents of the courses having 02 credits will be distributed among 2 units and maximum marks will be assigned 50 (35 external: 15 internal). The maximum time duration for attempting the paper will be of 2 hours. The examiner is required to set five questions in all. The first question will be compulsory consisting of five short questions covering the entire syllabus consisting of 3 marks each. In addition to that four more questions will be set, two questions from each unit. The students shall be required to attempt three questions in all selecting one question from each unit consisting of 10 marks each in addition to compulsory question No. 1.