



Integral University, Lucknow

Effective from Session: 2026-27

Course Code	A080901T/HE517	Title of the Course	Public Finance	L	T	P	C
Year	II	Semester	III	4	0	0	4
Pre-Requisite	Graduation	Co-requisite	None				

Course Objectives
 The objectives of the course are – to enable the students to understand the basic concepts, nature and scope of public finance and the role of government in economic development. The course also aims to familiarize students with the principles and theories of public expenditure, public revenue, taxation, and public debt. Further, it seeks to develop an understanding of public budgeting, fiscal policy, and the structure of federal finance with special reference to India.

Course Outcomes

CO1	Given the fundamental concepts of public finance, students will be able to explain the meaning, nature, scope, and importance of public finance and classify different types of goods such as private, public, social, merit, and mixed goods.
CO2	Given the theories and classification of public expenditure, students will assess the principles of public spending and interpret the growth and impact of public expenditure on production, distribution, and economic development.
CO3	Provided the sources of public revenue and taxation principles, students will analyze the characteristics of a good taxation system, canons of taxation, tax incidence, and the structure of taxation in India including GST.
CO4	With the theories and management of public debt and public budgeting, students will evaluate the effects of public debt, methods of debt redemption, and the role of budgeting systems and processes in public finance.
CO5	Given the principles of federal finance, students will assess centre–state financial relations, fiscal decentralization, the role of Finance Commissions, and the finances of local governments.

Unit No.	Content of Unit	Contact Hrs.	Mapped CO
1.	Public Finance: Meaning, Nature & Scope, Importance, Government as an agent of economic growth and development; Modern Public Choice Theory and the Fiscal Decision Process, Classification of Goods: Private, Public, Social, Merit and Mixed Goods.	08	CO1
2.	Public Expenditure: Meaning, Classification and Theories of Public Expenditure – Maximum Social Advantage, Wagner’s Hypothesis, Peacock –Wiseman Hypothesis; Growth in Public Expenditure, Canons of Public Expenditure, Effects of Public Expenditure on Production, Distribution and Economic Growth, Causes of Growth of Public Expenditure in India.	08	CO2
3.	Public Revenue: Sources of Revenue, Taxation – characteristics of a good taxation system, Canons of taxation, impact and incidence of taxation; Tax structure in India and Recent Reforms. Value Added Tax In India the concept of Goods And Services Tax (GST).	08	CO3
4.	Public Debt: Theories and effects of public debt, methods of debt redemption, Public Debt Management in India. Budget: Public Budget - Concept of public budget, types of public budget, theories of public budgeting, Zero-Base Budgeting System, The Budget Cycle and the Budgetary Process.	08	CO4
5.	Federal Finance: Principles and problems of Federal finance, Centre-state financial relations, Different Finance Commissions, Fiscal Decentralization, and Finances of Local Governments.	08	CO5

Reference Books:

- Aronson, J, Richard: Public Finance, McGraw Hill Publications.
- Bagchi, Amrish (Ed.): Readings in Public Finance, Oxford University Press.
- Bhatia H.L.: Public Finance, Vikas Publishing House Pvt. Ltd., New Delhi.
- Datt, R. and K.P.M. Sundram: Indian Economy, S. Chand & Company Ltd.
- Eckstein, Otto: Public Finance, Prentice-Hall.
- Harvey Rosen: Public Finance, McGraw Hill Publications.
- Hulman, A.L.: Public Finance and Public Policy, Cambridge University Press.
- Mishra, B.: Economics of Public Finance, MacMillan Publication.
- Mishra & Puri: Indian Economy, Himalaya Publishing House, New Delhi.
- Musgrave, Richard A.: Public Finance in Theory & Practice, McGraw Hill Publication.
- Reserve Bank of India: State Finances: A Study of Budgets (Latest).
- Stanford, C.T.; Economics of Public Finance, Oxford, Pergamon Press, New York.
- Taylor, Philip, E.: Economics of Public Finance, MacMillan Publication.

E-Learning Source:

<https://swayam.gov.in/> ; <http://www.ignouhelp.in/ignou-study-material/>

Course Articulation Matrix: (Mapping of COs with POs and PSOs)

PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3
CO1	3	2	1	2	2	1	1	2	3	2	2
CO2	3	3	1	2	2	1	1	2	3	2	2
CO3	3	3	1	2	2	2	1	2	3	2	3
CO4	3	2	1	2	2	2	1	2	3	2	2
CO5	3	3	2	2	3	1	1	2	3	2	3

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	Sign & Seal of HoD
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Effective from Session: 2026-27							
Course Code	A080902T/HE518	Title of the Course	Population Theory and Demographic Analysis	L	T	P	C
Year	II	Semester	III	4	0	0	4
Pre-Requisite	Graduation	Co-requisite	None				
Course Objectives	To develop advanced analytical understanding of population theories and demographic techniques in order to examine population-development relationships and critically evaluate demographic policies and issues.						

Course Outcomes

CO1	Students will be able to analyze the evolution and interdisciplinary linkages of population studies in the context of economic, social and health perspectives to explain population–development relationships with conceptual clarity.
CO2	Students will be able to critically evaluate economic, biological and sociological theories of population, including fertility and migration models such as the Harris-Todaro Model using theoretical frameworks to assess their applicability in real-world population dynamics.
CO3	Students will be able to apply and interpret advanced demographic techniques such as life tables, fertility and mortality models, and population projection using quantitative methods and data to derive accurate and meaningful demographic conclusions.
CO4	Students will be able to examine and analyze the interrelationship between population, resources, environment and economic development in the context of urbanization, labour markets and migration to evaluate their socio-economic implications logically.
CO5	Students will be able to critically assess population policies at national and global levels and key demographic issues using comparative and research-oriented approaches to formulate informed and evidence-based policy perspectives.

Unit No	Content of Unit	Contact Hrs.	Mapped CO
1	Population Studies – Advanced Evolution of population studies in India, Interdisciplinary linkages (Economics, Sociology, Health) Population and development debate	9	CO1
2	Advanced Population Theories Economic theories of fertility: Easterlin, Leibenstein, Caldwell ,Biological & sociological theories (analytical approach) ,Advanced migration models (Todaro model)	7	CO2
3	Techniques of Demographic Analysis Life tables (complete & abridged + construction) ,Fertility & mortality models (advanced) ,Nuptiality and morbidity analysis ,Population projection techniques	7	CO3
4	Population, Development and Environment Population–resource debate (optimistic vs pessimistic) Population and environment,, Urbanization & labour market ,Migration and development .	9	CO4
5	Population Policy and Research Critical evaluation of India’s population policy ,Global population policies & comparison ,World Population Conferences	8	CO5

Reference Books:

1. Krishnamurthy, Srinivasan: Population Concerns in India, Sage publication Pvt Ltd.
2. Bhende, Asha: Principles of Population Studies, Himalaya Publishing House.
3. Jain, R. K.: Textbook of Population Studies,
4. Sharma, Rajendra (2022): Demography and Population Problems, Paperback.
5. Jhingan, M. L.: Demography, Vrinda Publications, New Delhi.
6. Poston, D. L., & Bouvier, L. F. (2010). *Population and society: An introduction to demography*. Cambridge: Cambridge University Press. .
- 7 Yusuf, F., Martins, J. M., & Swanson, D. A. (2014). *Methods of demographic analysis*. Dordrecht: Springer.
8. Siegel, J. S., & Swanson, D. A. (2008). *The methods and materials of demography* (2nd ed.). Bingley: Emerald Publishing.
- 9 Sinha, V. C., & Zacharia, E. (1984). *Elements of demography*. New Delhi: Allied Publishers.
10. Weinstein, J., & Pillai, V. K. (2016). *Demography: The science of population* (2nd ed.). Lanham: Rowman & Littlefield.

E-Learning Source:

<https://swayam.gov.in/http://www.ignouhelp.in/ignou-study-material/>

Course Articulation Matrix: (Mapping of Cos with Pos and PSOs)											
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3
CO1	3	2	-	1	-	1	-	1	3	1	-
CO2	3	3	-	2	-	1	-	1	3	2	2
CO3	3	3	-	2	-	-	-	1	2	3	2
CO4	2	3	1	2	2	3	-	1	3	2	3
CO5	2	3	2	2	3	2	2	1	3	2	3

1-Low Correlation; 2-Moderate Correlation; 3-Substantial Correlation

Name & Sign of Program Coordinator	Sign & Seal of HoD
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Integral University, Lucknow

Effective from Session: 2026-27							
Course Code	A080903T/ HE519	Title of the Course	Statistical Methods	L	T	P	C
Year	II	Semester	III	4	0	0	4
Pre-Requisite	Intermediate	Co-requisite	None				
Course Objectives	The primary objective of a Statistical Methods course is to equip students with the foundational skills to collect, analyze, interpret, and present data, enabling informed decision-making. It focuses on applying statistical techniques, such as probability, descriptive statistics, and regression analysis, to solve practical problems in business, science, and research.						

Course Outcomes			
Unit No.	Content of Unit	Contact Hrs.	Mapped CO
CO1	After studying the Statistics and Data Collection, the student will analyze the scope, limitations, sampling methods, statistical laws, and data collection techniques with accurate conceptual understanding.		
CO2	After studying the Classification and Presentation of Data, the student will design suitable classifications, tables, diagrams, and statistical series with correct structure and presentation.		
CO3	After studying the Measures of Central Tendency, the student will compute and interpret arithmetic mean, geometric mean, harmonic mean, median, and mode accurately for given data.		
CO4	After studying the Dispersion, Skewness, and Correlation, the student will evaluate variability, asymmetry, and association in data using appropriate statistical methods with precise interpretation.		
CO5	After studying the Regression Analysis and Interpolation, the student will apply regression and interpolation techniques to estimate relationships and unknown values with valid and accurate results.		
1	Introduction to Statistics and Data Collection: Definition, Meaning, Scope, Significance and Limitations of Statistics, Census and Sampling Investigation: Concept, Merits and Demerits, Methods of Sampling Statistical Errors: Concept and Sources of Errors, Types of Errors and Their Effects, Approximation: Methods and Precautions, Types and Techniques of Collection of Data.	08	CO1
2	Classification and Presentation of Data: Classification: Meaning, Objectives and Types, Presentation of Data: Diagrammatic and tabular presentation, Tools and Techniques, General Rules for the Construction of a Table Statistical Series	08	CO2
3	Measures of Central Tendency: Arithmetic Mean, Geometric Mean and Harmonic Mean, Median and Mode	08	CO3
4	Measures of Dispersion, Skewness, and Correlation: Measures of Dispersion: Range, Quartile Deviation, Mean Deviation, Standard Deviation, Coefficient of Variation, Lorenz Curve	08	CO4
5	Regression Analysis and Interpolation: Regression Analysis: Regression Lines, Linear Regression Equations, Regression Coefficient	08	CO5

Reference Books:

- Gupta S.P. and Gupta M.P. : Business Statistics
- Elhance, D.N. : Fundamental of Statistics.
- Sancheti & Kapoor: Statistics- Theory methods & Applications.
- Singh, A.K. and Masood Khalid: Statistical Methods
- Roy, Ramendu: Statistics
- Freund J.E (2001): Mathematical Statistics, Prentice Hall of India
- Goon A.M Gupta M.K., Das Gupta, B.(1991):Fundamentals of Statistics,Vol.- Iworld Press Calcutta.
- Hodges J.L and Lehman E.L (1964): Basic concepts of probability and Statistics, Holden Day
- Mood A.M, Graybill F.A and Boes D.C (1974): Introducing to the Theory of Statistics

E-Learning Source:
<https://swayam.gov.in/>
<http://www.ignouhelp.in/ignou-study-material/>

PO-PSO CO	Course Articulation Matrix: (Mapping of COs with POs and PSOs)									
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	3	2	3	3	2	3	2	2
CO2	2	3	2	2	2	3	3	2	1	3
CO3	1	3	2	1	1	3	3	3	2	3
CO4	3	2	1	1	1	3	3	1	2	2
CO5	2	3	2	1	1	3	3	3	3	3

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	Sign & Seal of HoD
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Effective from Session: 2022-25

Course Code	A080904T/HE520	Title of the Course	Economics of Education	L	T	P	C
Year	IIInd	Semester	IIIrd	4	0	0	4
Pre-Requisite	Graduation	Co-requisite	None				
Course Objectives	To develop advanced analytical and evaluative skills for understanding the economic aspects of education, including human capital formation, financing, efficiency, and policy analysis.						

Course Outcomes	
CO1	Explain the concepts and theoretical foundations of economics of education and its role in development.
CO2	Analyze the demand–supply dynamics and equity issues in education.
CO3	Examine the relationship between education, labour market outcomes, and human capital formation.
CO4	Evaluate the financing mechanisms and efficiency of educational investments.
CO5	Assess education policies and emerging challenges in national and global contexts.

Unit No.	Content of Unit	Contact Hrs.	Mapped CO
1	Meaning, Nature and Scope of Economics of Education; Education as Consumption and Investment; Human Capital Theory; Education and Economic Growth; Role of Education in Development.	08	CO1
2	Determinants of Demand for Education; Private and Social Demand; Supply of Education; Cost of Education; Opportunity Cost; Equity and Access in Education.	08	CO2
3	Education and Employment; Returns to Education; Wage Differentials; Signaling vs Human Capital Debate; Education and Productivity; Skill Development and Employability.	08	CO3
4	Public and Private Financing; Cost-Benefit Analysis in Education; Internal and External Efficiency; Resource Allocation; Role of Government and Private Sector; PPP in Education.	08	CO4
5	Education Policy in India; NEP; Issues of Quality, Equity, and Inclusion; Globalization and Education; Digital Education; Education and Sustainable Development.	08	CO5

Reference Books:

1. Psacharopoulos, G. – Economics of Education: Research and Studies
2. Brewer, D.J. & McEwan, P.J. – Economics of Education
3. Blaug, M. – The Economic Value of Education
4. Belfield, C.R. – Economic Principles for Education
5. Checchi, D. – The Economics of Education: Human Capital, Family Background and Inequality
6. Becker, G.S. – Human Capital: A Theoretical and Empirical Analysis
7. Schultz, T.W. – The Economic Value of Education
8. Schultz, T.W. – Investment in Human Capital
9. Mincer, J. – Schooling, Experience and Earnings
10. Arrow, K., Bowles, S. & Durlauf, S. – Meritocracy and Economic Inequality
11. Layard, R., Nickell, S. & Jackman, R. – Unemployment: Macroeconomic Performance and the Labour Market
12. Hanushek, E.A. – Education and Economic Growth (various works)
13. Levin, H.M. – Cost-Effectiveness Analysis in Education
14. Woodhall, M. – Cost-Benefit Analysis in Educational Planning
15. Psacharopoulos, G. & Patrinos, H.A. – Returns to Investment in Education
16. Carnoy, M. – International Encyclopedia of Economics of Education
17. World Bank – Education Sector Strategy Reports
18. UNESCO – Global Education Monitoring (GEM) Report
19. UNDP – Human Development Report
20. Baum, S. & McPherson, M. – Campus Economics

E-Learning Source:

<https://swayam.gov.in/>

Course Articulation Matrix: (Mapping of COs with POs and PSOs)

PO-PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3
CO1	3	2	1	2	-	1	1	-	3	1	1
CO2	2	3	2	2	1	2	1	2	3	2	2
CO3	2	3	3	3	2	2	1	2	3	2	3
CO4	2	3	3	3	3	3	1	3	3	3	3
CO5	2	3	3	2	3	3	1	3	3	3	3

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	Sign & Seal of HoD
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Integral University, Lucknow

Effective from Session: 2026-27							
Course Code	A080905T/HE521	Title of the Course	Mathematical Economics	L	T	P	C
Year	II	Semester	III	4	0	0	4
Pre-Requisite	Graduation	Co-requisite	None				
Course Objectives	The objectives of the course are - to enable the students to learn the basic concepts of mathematics and their application in economics and enable them to understand the basics of differential & its application in economics.						

Course Outcomes

CO1	Given basic mathematical concepts such as variables, sets, functions, equations, identities, and systems of equations, students will be able to classify and apply these concepts to solve simple economic and mathematical problems.
CO2	Given linear functions and straight-line systems, students will assess slope, homogeneous functions, number theory, indices, and factorization and interpret their applications in economic analysis.
CO3	Provided concepts of progression, growth rates, and basic calculus, students will evaluate functions using rules of differentiation and apply maxima and minima techniques in economic decision-making.
CO4	With the help of differential calculus and integration techniques, students will analyze elasticities, cost and revenue relationships, constrained optimization problems, and measure consumer's and producer's surplus.
CO5	Given matrix algebra and linear programming methods, students will solve systems of equations using matrices, determinants, and Cramer's rule and apply graphical methods for optimization problems.

Unit No.	Content of Unit	Contact Hrs.	Mapped CO
1.	Basic Concepts: Variables, Sets, Functions, Equations, Identities, Systems of Equations	08	CO1
2.	Application of Straight Line System, Slope of the Line, Homogeneous Function. Role Of Mathematical Techniques In Economic Analysis, Theory of Numbers, Indices and Factorization.	08	CO2
3.	Progression, Growth Rate, Equilibrium. Basics of Calculus: Rules of Differentiation of a Function; Maxima and Minima	08	CO3
4.	Elasticities; Inter- relationships among Total, Marginal and Average Cost and Revenues; Constrained Optimisation Problem; Integration of a Function, Consumer's and Producer's Surplus	08	CO4
5.	Matrix and Determinants: Various types of Matrices, Determinants, Inverse of a Matrix, Cramer's Rule. Concept of Linear Programming — Graphic Methods.	08	CO5

Reference Books:

1. Agarwal, D.R. (2009): Mathematics for Economics, Vrinda Publications, Delhi. Livernois, John. Rees, Ray. & Hoy, Michael (2012): Mathematics for Economics, PHI Learning.
2. Madnani, G M K: Mathematics for Economics. Sultan Chand & Sons.
3. Allen, R.G.D (2008) : Mathematical Analysis for Economics , AITBS
4. Sharma, J.K(2007):Business Mathematics, Ane Books Pvt. Ltd.
5. Rosser, Mike (2003): Basic Mathematics for Economists, Routledge. E-Learning

E-Learning Source:

<https://swayam.gov.in/> ; <http://www.ignouhelp.in/ignou-study-material/>

Course Articulation Matrix: (Mapping of COs with POs and PSOs)											
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3
CO1	3	2	1	2	1	1	1	2	3	3	2
CO2	3	3	1	2	1	1	1	2	3	3	2
CO3	3	3	1	2	1	1	1	2	3	3	2
CO4	3	3	1	2	1	1	1	2	3	3	2
CO5	3	3	1	2	1	1	1	2	3	3	2

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	Sign & Seal of HoD
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Integral University, Lucknow

Effective from Session: 2026-27

Course Code	A080906R/HE590	Title of the Course	Research Proposal/Research Writing	L	T	P	C
Year	II	Semester	III	2	0	2	4
Pre-Requisite	Graduation	Co-requisite	None				
Course Objectives	This course aims to equip students with practical skills through internships, field studies, or project-based research. It enables students to apply economic theories and methods to real-world problems, enhancing their analytical, research, and communication abilities						

Course Outcomes

CO1	They will gain the ability to independently conduct research, collect and analyze data, and interpret findings in a structured and meaningful way. The course will also enhance their report-writing skills, critical thinking, and the capacity to draw policy-relevant insights from real-world economic experiences.
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Content of Unit

Contact Hrs. Mapped CO

Each student may opt for any one of the two modes, subject to approval by the HoD and Programme Coordinator.

1. Research Proposal: Proposal should cover the following aspects.

- a. Introduction:
 - i. Statement of the Problem
 - ii. Significance of the study.
- b. Review of Literature
- c. Research Gap
- d. Objectives of the study.
- e. Hypotheses of the study.
- f. Scope of the Study
- g. Database and Research Methodology
 - Research Design
 - Sources of Data
 - Sampling Technique and Sample Size
 - Tools and Techniques of Analysis
- h. Chapter Scheme/Tentative Chapterization
- i. References
- j. Appendices

2. Research Writing: Tentative Headings of Research Writing

- Title Page
- Certificate / Declaration
- Acknowledgement
- Abstract / Executive Summary
- Table of Contents
- List of Tables, Figures, and Abbreviations

Chapter 1: Introduction

- Background of the Study
- Statement of the Problem
- Objectives of the Study
- Research Questions / Hypotheses
- Scope and Significance of the Study

Chapter 2: Review of Literature

- Theoretical Review
- Empirical Review
- Research Gap

Chapter 3: Research Methodology

- Research Design
- Sources of Data
- Sampling Technique and Sample Size
- Methods of Data Collection
- Tools and Techniques of Analysis

Chapter 4: Data Analysis and Interpretation

- Presentation of Data
- Statistical/Econometric Analysis
- Interpretation of Results

Chapter 5: Findings, Conclusion, and Policy Suggestions

- Major Findings
- Conclusion
- Policy Recommendations / Suggestions
- Limitations of the Study
- Scope for Future Research

References / Bibliography (APA Style Referencing)

Appendices

Questionnaire / Schedule

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CO1

Suggested Readings/Tools:

- Choubey, Varanya (2018): Research Writing: The Structural Challenge of Communicating Knowledge + A Method to Meet it.
- Greenlaw, Steven A (2005): Doing Economics: A Guide to Understanding and Carrying Out Economic Research.
- Kothari, C R (2013): Research Methodology. New Age International Publishers.
- Thomson, Williams (2011): A Guide for the Young Economists. MIT Press.
- Government Reports: Economic Survey, Budget, RBI Reports, NITI Aayog publications
- Statistical Tools: SPSS, STATA, Excel, EVIEWS, R (as per topic)

Course Articulation Matrix: (Mapping of COs with POs and PSOs)

PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3
CO1	3	3	2	2	2	2	1	2	3	2	2

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	Sign & Seal of HoD
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Integral University, Lucknow

Effective from Session: 2026-27							
Course Code	A0801001T/HE522	Title of the Course	Theories of Economic Growth	L	T	P	C
Year	II	Semester	IV	4	0	0	4
Pre-Requisite	Graduation	Co-requisite	None				
Course Objectives	The course aims to introduce students to the concept and measurement of economic growth and the major theories explaining the growth process. It also seeks to provide an understanding of classical, neo-classical, and endogenous growth models and highlight the role of technological progress in economic development.						

Course Outcomes			
CO1	Given the basic concepts and measurement of economic growth, students will be able to explain the meaning, characteristics, and factors affecting economic growth and evaluate theories such as balanced and unbalanced growth and stages of economic development.		
CO2	Given the modern theories of economic growth, students will assess the structure and implications of growth models such as the Harrod–Domar model and the neo-classical growth models of Solow, Meade, and Swan–Uzawa.		
CO3	Provided the Cambridge theories of growth, students will analyze the contributions of Joan Robinson, Kaldor, and Pasinetti and examine issues such as the capital controversy and the relationship between money and economic growth.		
CO4	With the concepts of technological progress, students will evaluate the role of embodied and disembodied technological change, neutral and non-neutral technological progress, learning-by-doing, and growth accounting in economic development.		
CO5	Given the optimal and endogenous growth models, students will assess the theories of Ramsey, Von Neumann, the Golden Rule of Accumulation, and endogenous growth models such as the AK model, Lucas model, and Romer model.		
Unit No.	Content of Unit	Contact Hrs.	Mapped CO
1.	Economic Growth: Concept & Theories: Economic growth- Meaning, Characteristics, Measurement and Factors affecting Economic Growth, Balanced and Unbalanced Economic Growth, Marx’s Stages of Growth, Rostow’s Stages of Economic Growth; O-Ring theory of economic development; Structural Diversity and common characteristics of developing nations.	08	CO1
2.	Modern Theories of Economic Growth: Harrod-Domar Model of Economic Growth; Contemporary Growth Theories of Neo-Classical: Solow, Meade, and Swan-Uzawa.	08	CO2
3.	Cambridge Theories of growth: Ms. Joan Robinson and Concept of Golden Age, Kaldor, Pasinetti, the capital controversy, Money and economic growth-Tobin, and Johnson’s models.	08	CO3
4.	Technological Progress and Economic Growth: Technological Progress: Embodied and Disembodied; Neutral and Non-Neutral (Hicks and Harrod); Arrow’s learning-by-doing approach to economic growth, total factor productivity, and growth accounting.	08	CO4
5.	Optimal and Endogenous Growth Theory: Optimal growth theory: Ramsay, Von Neumann, Golden Rule of Accumulation. Endogenous growth models: AK model, Lucas Model of Human Capital and, Romer Model of Endogenous Innovation.	08	CO5

Reference Books:

- Adelman, I, Theories of Economic Growth and Development, Stanford University, 1961.
- Barrow, R. and X. Sela-I, Martin, Economic Growth, PHI Learning Pvt. Ltd. 2012.
- Chakravarty, S, Alternative Approaches to the Theory of Economic Growth, Oxford University Press.
- Gillis, M., D.H. Perkins, M. Romer and D.R. Snodgrass (1992), Economics of Development, (3rd Edition), W.W. Norton, New York.
- Ghatak, S. (1986), an Introduction to Development Economics, Allen and Unwin, London.
- Jones, C.I, Introduction to Economic Growth, W W Norton & Co. 2002
- Kindleberger, C.P. (1977), Economic Development, (3rd Edition), McGraw Hill, New York.
- Meier, G.M. and J.E. Rauch (2005), Leading Issues in Economic Development, (8th Edition), Oxford University Press, New Delhi.
- Ray Debraj, Development Economics, Oxford University Press, New Delhi, 2019
- Sen, A.K. (Ed.) (1990), Growth Economics, Penguin, Harmonds worth.
- Solow, R.M, Growth Theory: An Exposition, Oxford University Press, Oxford, 2000.
- Todaro, M.P. and S.C. Smith (2003), (8th Edition), Economic Development, Pearson Education, Delhi.
- Thirlwal, A.P. (1999), (6th Edition), Growth and Development, Macmillan, U.K.

E-Learning Source:
<https://swayam.gov.in/> ; <http://www.ignouhelp.in/ignou-study-material/>

Course Articulation Matrix: (Mapping of COs with POs and PSOs)											
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3
CO1	3	2	1	2	2	1	1	2	3	2	2
CO2	3	3	1	2	1	1	1	2	3	2	2
CO3	3	3	1	2	1	1	1	2	3	2	2
CO4	3	3	1	2	2	1	2	2	3	2	2
CO5	3	3	1	2	2	1	2	2	3	2	2

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	Sign & Seal of HoD
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Effective from Session: 2026-27

Course Code	A0801002T/HE522	Title of the Course	Financial Institutions and Markets	L	T	P	C
Year	Iind	Semester	IVth	4	0	0	4
Pre-Requisite	Graduation	Co-requisite	None				
Course Objectives	To develop advanced analytical and evaluative skills to understand the structure, functioning, and reforms of financial institutions and markets in both domestic and global contexts.						

Course Outcomes

CO1	Explain the structure and role of financial systems and intermediaries in economic development.
CO2	Analyze the functioning of banking systems and effectiveness of monetary policy.
CO3	Examine the role of international financial institutions in global finance.
CO4	Apply knowledge of financial instruments and market operations in money and capital markets.
CO5	Evaluate exchange rate systems and risk management in international financial markets.

Unit No.	Content of Unit	Contact Hrs.	Mapped CO
1	Financial and non-financial assets; Financial intermediation; Structure and functions of financial system; Indicators of financial development; Financial development and economic growth; Globalization of financial systems.	08	CO1
2	Central Bank: Functions and monetary policy framework; Monetary policy reforms (inflation targeting); Commercial banks: credit creation, profitability vs liquidity; NPAs and resolution mechanisms (IBC, Basel norms); Banking sector reforms; Cooperative banks.	08	CO2
3	International liquidity; Global financial flows; IMF, World Bank (IBRD, IDA); IFC, ADB, BIS; New Development Bank (BRICS Bank); Role in global financial stability.	08	CO3
4	Money Market: Treasury bills, commercial paper, certificates of deposit, call money market, mutual funds. Capital Market: Primary and secondary markets; Government securities; Bond market; Derivatives (futures, options); Commodity market; Infrastructure financing.	08	CO4
5	Foreign exchange market: structure and participants; Exchange rate determination; REER & NEER; Fixed vs flexible exchange rates; Managed float system; Currency convertibility (Indian context); Risk hedging and currency derivatives.	08	CO5

Reference Books:

1. Bhole, L.M. & Mahakud, J. – Financial Institutions and Markets
2. Khan, M.Y. – Indian Financial System
3. Pathak, B.V. – The Indian Financial System
4. Fabozzi, F.J. – Foundations of Financial Markets and Institutions
5. Mishkin, F.S. – The Economics of Money, Banking and Financial Markets
6. Reserve Bank of India – Report on Trend and Progress of Banking in India
7. RBI – Monetary Policy Reports
8. Frederic Mishkin – Money, Banking and Financial Markets
9. Sayers, R.S. – Modern Banking
10. Indian Institute of Banking & Finance – Principles and Practices of Banking
11. Hull, J.C. – Options, Futures and Other Derivatives
12. Fabozzi, F.J. – Bond Markets, Analysis and Strategies
13. Chandra, Prasanna – Investment Analysis and Portfolio Management
14. Gurusamy, S. – Financial Markets and Institutions
15. Krugman, P.R. & Obstfeld, M. – International Economics
16. International Monetary Fund – IMF Annual Reports
17. World Bank – Global Financial Development Report
18. Bank for International Settlements (BIS) – Annual Reports
19. SEBI – Annual Reports and Market Statistics
20. Government of India – Economic Survey of India

E-Learning Source:

<https://swayam.gov.in/>

Course Articulation Matrix: (Mapping of COs with POs and PSOs)

PO-PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3
CO1	3	2	1	2	-	2	1	-	3	1	1
CO2	2	3	3	3	2	3	1	2	3	3	2
CO3	2	3	2	2	2	3	1	2	3	2	2
CO4	2	3	3	3	3	3	1	3	3	2	3
CO5	2	3	3	3	2	3	1	3	3	3	3

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	Sign & Seal of HoD
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Integral University, Lucknow

Effective from Session: 2026-27							
Course Code	A0801003T/HE523	Title of the Course	Applied Statistics	L	T	P	C
Year	II	Semester	IV	4	0	0	4
Pre-Requisite	Intermediate	Co-requisite	None				
Course Objectives	To develop students' understanding of applied statistical concepts and methods, and enable them to analyze, interpret, and apply statistical techniques in population studies, time series analysis, national income estimation, quality control, and other real-world economic and social problems.						

Course Outcomes	
CO1	Given statistical data and information on the Indian statistical system, the student will design and explain the structure and functioning of central and state statistical machinery and sample survey methods with appropriate accuracy and relevance.
CO2	Using population and census data, the student will develop and apply methods for vital statistics and population projection with correct interpretation of demographic indicators.
CO3	Given time series data, the student will construct and analyze trend, seasonal, cyclical, and irregular components using suitable methods and correct statistical procedures.
CO4	Using national income and business data, the student will formulate and apply methods of national income estimation, quality control, forecasting, Pareto curves, Lorenz curves, and life tables with proper analysis and interpretation.
CO5	Given applied problems in economics, agriculture, business, and social research, the student will create and implement appropriate statistical frameworks and solutions with logical justification and practical accuracy.

Unit No.	Content of Unit	Contact Hrs.	Mapped CO
1	Statistical System in India Indian statistical machinery and its organisation at the central and state levels, National Sample Survey: design and technique, Agricultural statistics in India: nature of crop estimates, estimation of area and yield, Industrial statistics and Annual Survey of Industries, Statistics of prices, wages, trade, and transport.	8	CO1
2	Population Statistics Vital statistics and their importance, Computation of birth rate, death rate, and survival rate, Methods of population projection, Population census in India: meaning, features, and significance.	8	CO2
3	Time Series Analysis Meaning and components of time series, Trend measurement and methods of computing trend, Seasonal variations and methods of calculating seasonal indices, Cyclical fluctuations and irregular fluctuations, Importance of time series analysis in economic and statistical studies.	8	CO3
4	National Income and Quality Control National income statistics and related aggregates, Methods of measuring national income, Statistical Quality Control: meaning and uses, Construction and use of control charts, Business forecasting: tools and methods, Pareto curve and Lorenz curve, Construction of life tables.	8	CO4
5	Applied Statistical Techniques Integration of statistical methods in economic and business analysis, Interpretation and use of official statistics, Practical applications of population, income, and time series statistics, Use of statistical tools in policy, planning, and forecasting, Review of important statistical methods for applied research.	8	CO5

Reference Books:

- Gupta S.P. and Gupta M.P. : Business Statistics
- Elhance, D.N. : Fundamental of Statistics.
- Sancheti & Kapoor : Statistics- Theory methods & Applications.
- Singh, A.K. and Masood Khalid: Statistical Methods
- Roy, Ramendu: Statistics
- Freund J.E (2001): Mathematical Statistics, Prentice Hall of India
- Goon A.M Gupta M.K., Das Gupta, B.(1991):Fundamentals of Statistics,Vol.- Iworld Press Calcutta.
- Hodges J.L and Lehman E.L (1964): Basic concepts of probability and Statistics, Holden Day
- Mood A.M, Graybill F.A and Boes D.C (1974): Introducing to the Theory of Statistics

E-Learning Source:
<https://swayam.gov.in/>
<http://www.ignouhelp.in/ignou-study-material/>

Course Articulation Matrix: (Mapping of COs with POs and PSOs)										
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	3	2	3	3	2	3	2	2
CO2	2	3	2	2	2	3	3	2	1	3
CO3	1	3	2	1	1	3	3	3	2	3
CO4	3	2	1	1	1	3	3	1	2	2
CO5	2	3	2	1	1	3	3	3	3	3

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	Sign & Seal of HoD
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Effective from Session: 2026-27							
Course Code	A0801004T/HE525	Title of the Course	Industrial Economics	L	T	P	C
Year	II	Semester	IV	4	0	0	4
Pre-Requisite	Graduation	Co-requisite	None				
Course Objectives	To familiarize students with the concepts of industrial economics and develop their ability to understand, analyze, and evaluate the behavior, structure, performance, and development of industrial sectors, enabling informed decision-making in policy and industry contexts.						

Course Outcomes

CO1	Students will be able to explain basic concepts and evolution of industrial economics when given theoretical questions, with satisfactory level of performance.
CO2	Students will be able to analyze market concentration, pricing and regulatory framework when given numerical and case-based problems, with satisfactory level of performance.
CO3	Students will be able to apply industrial location theories to determine location decisions when given diagrams and applied questions, with satisfactory level of performance.
CO4	Students will be able to evaluate sources of industrial finance and MSME challenges when given case studies and short questions, with satisfactory level of performance.
CO5	Students will be able to examine industrialization and industrial policy impacts when given theoretical and applied questions, with satisfactory level of performance.

Unit No.	Content of Unit	Conta ct Hrs.	Mappe d CO
1	Introduction Basic Concepts and Definitions of Industrial Economics, Evolution and Importance of Industrial Economics, Relationship with other Branches of Economics, Appraisal of Important Indian Industries PSUs. Role of Entrepreneurship in Industrial Development	7	CO1
2	Market Concentration Measurement of Concentration and Monopoly Power, Concentration and Market Performance of the Firm, Product Pricing Theory, The Indian Regulatory Framework	8	CO2
3	Industrial Location Theories Determinants of Industrial Location - Technical, Economic, Infrastructural and other factors. Theories of Industrial Location - Weber, August Losch, Sargant Florence, Measurement of Industrial Performance Indicators	9	CO3
4	Source of Industrial Finance Necessity and significance of Industrial Finance, Specialized Institution of Industrial Finance. Challenges finance before tiny and MSMEs. Role of FDI and FII to develop industry	8	CO4
5	Industrialization & Industrial Policy Industrialization: Rationale, Objectives, Strategies and Policies. Industrialization and Regional Development. Employment Implications of Industrialization. Need for Government Intervention in Industry. New Industrial Policy of India.	9	CO5

Reference Books:

- Barthwal, R. R. (2010). *Industrial Economics: An Introductory Text Book*. New Age International Publishers.
- Cherunilam, F. (2017). *Industrial Economics: Indian Perspective*. Himalaya Publishing House.
- Kuchhal, S.C.: *Industrial Economy of India*, Chaitanya Publishing House Allahabad
- Singh, A., & Singh, A. (2015). *Industrial Economics*. Deep & Deep Publications.
- Jain, T. R., & Kaur, G. (2018). *Industrial Economics*. VK Global Publications.
- Cabral, L. (2017). *Introduction to Industrial Organization*. MIT Press.
- Carlton, D. W., & Perloff, J. M. (2015). *Modern Industrial Organization*. Pearson.
- Tirole, J. (1988). *The Theory of Industrial Organization*. MIT Press.
- Hay, D. A., & Morris, D. J. (1991). *Industrial Economics: Theory and Evidence*. Oxford University Press.
- Lipczynski, J., Wilson, J., & Goddard, J. (2017). *Industrial Organization: Competition, Strategy, Policy*. Pearson.

E-Learning Source:

- Swayam, Coursera

Course Articulation Matrix: (Mapping of COs with POs and PSOs)

PO-PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3
CO1	3	3	-	2	-	-	-	2	3	3	-
CO2	3	3	-	2	2	2	-	-	3	-	2
CO3	3	3	-	2	2	2	3	-	3	3	3
CO4	3	3	-	3	2	3	--	-	3	3	3
CO5	3	3	-	-	-	-	-	-	3	3	-

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	Sign & Seal of HoD
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Integral University, Lucknow

Effective from Session: 2026-27							
Course Code	A0801005T/HE525	Title of the Course	Economics of Infrastructure	L	T	P	C
Year	II	Semester	IV	4	0	0	4
Pre-Requisite	Graduation	Co-requisite	None				
Course Objectives	In case of developing countries, lack of adequate infrastructure has been held as a major obstacle to growth. The emphasis of this paper is on concepts and introduction of various tools required for policy analysis and empirical research in infrastructural economics. This paper would also help the students to understand the strength of infrastructure- physical and social in the process of economic development.						

Course Outcomes			
Unit No.	Content of Unit	Contact Hrs.	Mapped CO
CO1	Given the basic concepts of infrastructure and economic development, students will be able to explain the nature, types, and economic characteristics of infrastructure and the role of public utilities and public-private partnerships in infrastructure development.		
CO2	Given the pricing issues in public utilities, students will assess the peak-load and off-peak load problems and evaluate different pricing methods such as marginal cost pricing and other pricing strategies.		
CO3	Provided the structure and functioning of transport and communication sectors, students will analyze transport costs, pricing policies, and the role of telecommunications and postal services in economic development.		
CO4	With the concepts of energy economics, students will evaluate the importance of energy in economic development, factors determining energy demand, and the relative economics of different power generation sources.		
CO5	Given renewable and non-conventional energy sources, students will assess the challenges and prospects of rural electrification, national power grid development, and recent initiatives in the oil and gas sector.		
1.	Introduction: Infrastructure and economic development; Infrastructure as a public good; Economic characteristics and types of infrastructure; Public utilities – Rationale of state provision; special characteristics of public utilities. Public-private partnership investment in infrastructure.	08	CO1
2.	The peak-load-Off-peak load Problem, Marginal Cost Pricing vs. other methods of pricing in public utilities; Social infrastructure – organization and financing of supply of social services, Private vs. Public sector financing.	08	CO2
3.	Transport and communication: the structure of Transport Costs and Location of Economic Activities. The supply of transport, Pricing policy; Cost Levels and Structure-Road Transport. Introduction to the setting of postal tariffs; Criteria for Fixation of Postal Tariffs, Cost and Pricing in the telecommunications Industry; Telecommunications in India; New Telecom Policy.	08	CO3
4.	Energy and Electricity Primacy of Energy in the Process of Economic Development. Factors Determining Demand for Energy; Effects of energy shortages, Energy Conservation; The Relative Economics of Thermal, Hydel and Nuclear Power Plants.	08	CO4
5.	Renewable and Non-conventional Sources of Energy, rural electrification in India- Problems & prospects. The Case for a National Power Grid. Electricity Policy- Main Features, Oil & gas- Recent Initiatives, Pricing Problem.	08	CO5

Reference Books:

1. Crew, M.A. and P.R. Kleindorfer (1979), Public Utility Economics, Macmillan, London.
2. Indian Council of Social Sciences Research (ICSSR) (1976), Economics of Infrastructure, Vol. VI, New Delhi.
3. National Council of Applied Economic Research (NCAER) (1996), India Infrastructure Report: Policy Implications for Growth and Welfare, NCAER, New Delhi.
4. Pachauri, R.K (Ed), Energy Policy for India, Macmillan Co of India, New Delhi.
5. Parikh, K.S. (Ed.) (1999), India Development Report-1999-2000, Oxford University Press, New Delhi.
6. Turvey, R. (Ed.) (1968), Public Enterprises, Penguin, Harmondsworth.

E-Learning Source:
<https://swayam.gov.in/> ; <http://www.ignouhelp.in/ignou-study-material/>

Course Articulation Matrix: (Mapping of COs with POs and PSOs)											
PO-PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3
CO1	3	2	1	2	2	1	2	2	3	2	2
CO2	3	3	1	2	1	1	1	2	3	2	2
CO3	3	3	2	2	1	1	1	2	3	2	3
CO4	3	2	1	2	2	1	3	2	3	2	2
CO5	3	2	1	2	2	1	3	2	3	2	3

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	Sign & Seal of HoD
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Integral University, Lucknow

Effective from Session: 2026-27							
Course Code	A0801006R/HE591	Title of the Course	Dissertation and Viva-Voce	L	T	P	C
Year	II	Semester	IV	4	0	0	4
Pre-Requisite	Graduation	Co-requisite	None				
Course Objectives	Students will learn the skills of formulation of research problem, objectives, hypotheses and also the skills of data collection, analysis, and interpretation and prepare them for writing the research proposal based on the understanding of the subject.						

Course Outcomes			
CO1	To enable postgraduate students with guidance and support to conduct independent research and produce a dissertation on a chosen topic within their field of study.		
CO2	Students will develop their research skills, critical thinking abilities, and scholarly writing proficiency		
CO3	The course will cover the various stages of the research process, from topic selection and proposal writing to data collection, analysis, and the final write-up of the dissertation.		
Unit No.	Content of Unit	Contact Hrs.	Mapped CO
1.	Introduction: Introduction of dissertation, Steps, ethics, and writing dissertation	10	CO1
2.	Literature: Finalizing topic, literature and introduction, deciding methodology, data collection and data analysis	10	CO2
3.	Final Completion of the work and submission. The Dissertation outcomes may be reported in the following form as per the norms : Chapter-1: Introduction & Review of Literature; Chapter-2: Research Methodology; Chapter-3: Conceptual & Theoretical Description; Chapter-4: Analysis and Interpretations; Chapter-5: Conclusion, Suggestions & Scope for further research; References, Annexure, etc.	20	CO3

Reference Books:

- Crew, M.A. and P.R. Kleindorfer (1979), Public Utility Economics, Macmillan, London.
- Indian Council of Social Sciences Research (ICSSR) (1976), Economics of Infrastructure, Vol. VI, New Delhi.
- National Council of Applied Economic Research (NCAER) (1996), India Infrastructure Report: Policy Implications for Growth and Welfare, NCAER, New Delhi.
- Pachauri, R.K (Ed), Energy Policy for India, Macmillan Co of India, New Delhi.
- Parikh, K.S. (Ed.) (1999), India Development Report-1999-2000, Oxford University Press, New Delhi.
- Turvey, R. (Ed.) (1968), Public Enterprises, Penguin, Harmondsworth.

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Course Articulation Matrix: (Mapping of COs with POs and PSOs)											
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3
CO1	3	2	1	2	2	1	2	2	3	2	2
CO2	3	3	1	2	1	1	1	2	3	2	2
CO3	3	3	2	2	1	1	1	2	3	2	3

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	Sign & Seal of HoD
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