COOCH BEHA PANCHANAN BARMA UNIVERSITY

ONE YEAR & TWO-YEAR POSTGRADUATE PROGRAM

UNDER THE NEW CURRICULUM AND
CREDIT FRAMEWORK, 2022
POSTGRADUATE SYLLABUS
in
ECONOMICS

COURSE STUCTURE

COOCH BEHAR PANCHANAN BARMA UNIVERSITY
DEPARTMENT OF ECONOMICS
DRAFT SYLLABUS OF POST GRADUATE
(ONE AND TWO YEAR PG NCCF)

SEMESTER I

COURSE CODE	NAME OF PAPER	CREDIT	MARKS	CONTINUOUS EVALUATION	ATTENDENCE	TYPE
CC-1	Modern Economic Theory (Microeconomics+ Macroeconomics)	5	100	20	5	Theory +Tutorial
CC-2	Basic Econometrics	5	100	20	5	Theory + Tutorial
CC-3	Indian Knowledge System & Economic Thought	5	100	20	5	Theory + Tutorial
DISCIPLINE CENTRIC ELECTIVE (DCE)	Research Methodology & Ethics	5	100	20	5	Theory + Tutorial

05/8/2026

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Department of Economics
Syllabus of PG NCCF
Semester I

Paper Name-Modern Economic Theory

Paper Code-CC-1

Credit: 5 **Full Marks: 75**

Group A- Microeconomics

Course Objective: To develop an advanced understanding of consumer behavior and decision-making under conditions of risk and uncertainty, and to analyses the strategic interactions among economic agents using contemporary microeconomic theories.

Course Learning Outcomes: On successful completion of the course, students will be equipped with the analytical skills required to understand and evaluate the decision-making behaviour of economic agents. They will be able to employ quantitative techniques to analyse microeconomic problems and use game-theoretic models to examine strategic choices, negotiations, and interactions in competitive and cooperative environment.

Module 1: Preference Relations

Preference & Choice: Preference Relations and Utility, Choice Rule and Optimal Choice, Demand Functions and Comparative Statics, Demand, Indirect Utility, and Expenditure Function, Roy's Identity, Properties Shephard's lemma, Estimating Utility Functions, Additively separable utility function, Quasi-linear utility function. envelop theorem and Duality; Demand Function: Compensating & Equivalent Variation, Slutsky equation and Inter-temporal Choice; Demand Behaviour: Time and search, Income-Leisure Trade-Off, Household decision models.

Module 2: Production Function

Specification of technology, Input requirement set, Properties of technology – Monotonic, Convex and regular, CES and Leontief technology. Returns to scale and scale elasticity, Elasticity of factor substitution, Homogenous and Homothetic production function, and case of multiple products. Profit Maximisation – Factor demand and Output supply function, properties of profit function, Hotelling's lemma; Duality in production

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Module 3: Theory of Games and Neoclassical Theory of the Firms

Cooperative us non-cooperative games, extensive form representation of a game, strategies and the normal form representation of a game; simultaneous move games – dominant and dominated strategies, mixed strategies and behavioral strategies, Prisoner's Dilemma, Nash equilibrium game of incomplete information, finite and infinite games Cooperative Oligopoly Models, Full cost Pricing Principle of Hall & Hitch, Average Price Principle and Bain's Limit Pricing Model; Pricing of Factor Production and Income Distribution: Factor pricing in Perfectly Competitive market and Imperfectly Competitive market; Adding up: Product Exhaustion Theorem.

Reading List:

- Andreu Mas-Colell, A., M. D. Whinston, and J. R. Green (1995), Microeconomic Theory, Oxford University Press.
- Henderson, J.E. and R.E. Quandt (1988), Microeconomic Theory - A Mathematical Approach, McGraw Hill.
- Koutsoyiannis, A. (1979), Modern Micro Economics, Macmillan Press, London.
- Varian, H. (1992), Micro Economic Analysis, W. W. Norton & Company, Inc., New York.
- Dominick Salvatoure: Microeconomics Theory and Analysis.
- Varian, Hal R. (2000). Microeconomics Analysis, New York, W.W. Norton
- Tirole Jean (1996):TheTheory ofIndustrialOrganisation,PrenticeHall ofIndiaPvt.Ltd.
- Jehle, G.A. and P.J. Reny, Advanced Microeconomic Theory, Addison Wesley, 2000.
- Mas-Colell, A., M.D. Whinston and J.R. Green, Microeconomic Theory, Oxford University Press, 1995. 11. Varian, H. R., Microeconomic Analysis, W. W. Norton & Co, 3rd Revised edition, 1992.
- 12. E. Silberberg and W. Suen, The Structure of Economics: A Mathematical Analysis, 3rd Ed., Irwin/McGraw Hill.
- 13. Carl P. Simon and Lawrence E. Blume Mathematics for Economists, W.W. Norton & Company, 1994. 14. Arrow, K. J., Social Choice and Individual Values, John Wiley & Sons, Inc., 1963.

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- 15. Koutsoyiannis, A. (1979), Modern Microeconomics, (2nd Edition), Macmillan Press, London.
- 16. Sen, A. (1999), Microeconomics: Theory and Applications, Oxford University Press, New Delhi.
- 17. Jeffrey, M. Perloff (1999). Microeconomics, Addison-Wesley
- 18. Gravelle, H. & Rees, R., (2004). Microeconomics (3rd ed.), Longman, London
- 19. Jehle, G. and P. Reny (2001). Advanced Microeconomic Theory, Addison Wesley

Group B- Macroeconomics

Course Objective: To provide students with an analytical framework to evaluate aggregate economic performance, policy decisions, and global macroeconomic environments.

Course Learning Outcome: Upon successful completion of the course, students will be able to analyse macroeconomic foundations from Neoclassical synthesis to New Keynesian rigidity models, evaluate monetary dynamics, expectations, and disequilibrium approaches, and critically examine business cycle mechanisms alongside open-economy policy responses.

Module 1: Neoclassical Synthesis to New Keynesian Micro-foundations

Keynesian & Neoclassical Synthesis - Keynesian effective demand, liquidity preference, and Patinkin's Real Balance Effect; Expectations & New Classical Macroeconomics - Adaptive vs. Rational Expectations Hypotheses; Lucas Rational Expectations model; New Keynesian foundations - of nominal and real wage rigidity; Efficiency Wage Hypothesis (shirking, turnover, hysteresis); Sticky Price and Menu Cost models; Policy efficacy under imperfect competition.

Module 2: Monetary Dynamics and Disequilibrium

Money Demand Dynamics - Tobin's portfolio balance, Baumol-Tobin inventory approach, Friedman's restatement of Quantity Theory of Money; Natural Rate Hypothesis, Stagflation, and Okun's Law; Non-Walrasian & Disequilibrium - Walras' Law and disequilibrium; Clower's Dual Decision Hypothesis; Barro-Grossman spillover and constrained demand models.

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Module 3: Business Cycle Mechanism and Open Economy Macroeconomics

Real Business Cycle (RBC) - theory driven by technological shocks (associated with Kydland, Prescott, and Long & Plosser); Open Economy Macroeconomics - Aggregate demand in open systems; Extended Mundell-Fleming model under fixed/flexible exchange rates with varying capital mobility and Devaluation.

Reading List:

- Mankiw, N. G. (2022), *Macroeconomics*, 11th Edition, Worth Publishers.
- Froyen, R. T. (2013), *Macroeconomics: Theories and Policies*, 10th Edition, Pearson.
- Branson, W. H. (1989), *Macroeconomic Theory and Policy*, 3rd Edition, Harper & Row / HarperCollins.
- Sikdar, S. (2020), *Principles of Macroeconomics*, 3rd Edition, Oxford University Press.
- Patinkin, D. (1989), *Money, Interest and Prices: An Integration of Monetary and Value Theory*, 2nd Edition (Abridged), MIT Press.
- Clower, R. W. (Ed.) (1969), *Monetary Theory: Selected Readings*, Penguin Books. *(Contains "The Keynesian Counter-Revolution: A Theoretical Appraisal")*
- Barro, R. J. and H. I. Grossman (1971), 'A General Disequilibrium Model of Income and Employment', *American Economic Review*, Vol. 61, No. 1, pp. 82–93.
- Friedman, M. (1968), 'The Role of Monetary Policy', *American Economic Review*, Vol. 58, No. 1, pp. 1–17.
- Modigliani, F. (1977), 'The Monetarist Controversy or, Should We Forsake Stabilization Policies?', *American Economic Review*, Vol. 67, No. 2, pp. 1–19.
- Ghosh, C. and A. Ghosh (2011), *Macroeconomics*, PHI Learning Private Limited.
- Gupta, S. B. (1982), *Monetary Planning for India*, Oxford University Press, New Delhi.
- Romer, D. (2019), *Advanced Macroeconomics*, 5th Edition, McGraw-Hill Education.
- Snowdon, B. and H. R. Vane (2005), *Modern Macroeconomics: Its Origins, Development and Current State*, Edward Elgar Publishing.
- Dornbusch, R., S. Fischer, and R. Startz (2022), *Macroeconomics*, 14th Edition, McGraw-Hill Education.
- Blanchard, O. (2020), *Macroeconomics*, 8th Edition, Pearson Education.

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Paper Name- Basic Econometrics

Paper Code- CC-2

Credit: 5 **Full Marks: 75**

Course Objectives: To equip students with the knowledge to identify key econometric relationships, diagnose and resolve issues such as autocorrelation, multicollinearity, and heteroscedasticity, and apply dynamic lag and simultaneous equation models to empirical data.

Course Learning Outcome: Upon successful completion of this course, students will be able to apply the Classical Linear Regression Model (CLRM) and Ordinary Least Squares (OLS) estimation to economic data. They will be able to diagnose and resolve model violations, such as autocorrelation, multi-collinearity, and heteroscedasticity, using standard diagnostic tests and remedies. Furthermore, students will be able to analyse dynamic economic systems, as well as become capable to use techniques like ILS and 2SLS.

Module 1: Classical Linear Regression Model

What is a Regression Model, Regression versus Correlation, Simple Regression, The Assumption underlying the Classical Linear Regression Model, Properties of OLS estimator, introduction to Statistical inference; & Further Development and Analysis of the Classical Linear Regression Model.

Module 2: Autocorrelation

Nature and Scope of Autocorrelation, Sources of Autocorrelation- Omitted Explanatory variables, Interpolation in the statistical observations, testing for Autocorrelation, Solutions for Autocorrelation, Methods of estimating ρ- Estimated from the Residuals, D-W Statistics, Theil and Nagar Method.

Module 3: Multicollinearity

Consequences of Multicollinearity, Direction of Multicollinearity, Variance inflation factor, Relationship between R^2 and VIF, Solution to the problem of Multicollinearity. Autoregressive and Distributed Lag Models, Koyck's Transformation, Nerlove's Partial Adjustment Model, Cagan's adaptive expectation model.

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Module 4: Heteroscedasticity

Consequences of Heteroscedasticity, Causes of Heteroscedasticity, Test for Heteroscedasticity- Spearmans rank correlation test, Glejser test, Goldfeld- Quandt test, Remedies for Heteroscedasticity.

Module 5: Identification and Simultaneous Equation Methods

Endogenous and exogenous variables, structural and reduced form equations, structural and reduced- from equations, Identification problems in economics, Order and rank for identifiability, Simultaneous versus recursive equation system, 2SLS- exactly and over identified, Recursive methods and OLS; Indirect least squares (ILS); 2SLS, 3SLS and ML methods – applications.

Reading List:

- Greene, W. H. EconometricAnalysis,4thedition, PranticeHall,2000.
- Gujarati, D., D. Porterand S. Gunasekar (2011), Basic Econometrics, McGraw Hill Education (India) Private Limited
- Gujarati, D.N. (1995), Basic Econometrics (2nd Edition), Mcgraw Hill, New Delhi.
- Hair, Black, Babin, Anderson and Tatham, Multivariate Data Analysis, Pearson Education
- Johnston & Dinardo (2006), Econometric Methods, McGraw Hill International Edition
- Johnston, J.and J. Di Nardo,*Econometric Methods*, Fourth Edition, McGraw-Hill, latestedition.
- Johnstone, J., Econometrics Methods, 3rdEdition, McGraw Hill, New York, 1994.
- KementaJ., Elements of Econometrics, MacmillanPublishersLimited,1986
- Koutsoyiannis, A. The Theory of Econometrics, 2nd Edition, ESLB.
- Maddala, G.S. (2002), Introduction to Econometrics (3rdEdition), John Wiley & Sons Ltd.
- Maddala, G.S. and K. Lahiri (2009), Introduction to Econometrics, John Wiley & Sons.
- Mukherijee, Chandan, Howard white and Marcwuyts (1998) Econometrics and Data Analysis for Developing Countries, Rutledge New York.
- Richard, A.J. and D.W. Wichern, Applied Multivariate Statistical Analysis, Pearson Education.
- Stewart, J.andL.Gill, *Econometrics*, Second Edition, Prentice Hall,1998
- Wooldridge,J.M.(2008), Introductory Econometrics A Modern Approach.3rd Edition, India Edition.

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Paper Name- Indian Knowledge System & Economic Thought

Paper Code- CC-3

Credit:5 **Full Marks:75**

Course Objectives: To understand the historical development and diversity of Indian Knowledge System, including philosophies, science, arts, and literature. To evaluate the relevance, strengths, and weaknesses of various economic theories and thoughts, and their impacts on contemporary economic policy.

Course Learning Outcome: In the twenty-first century, techniques from the Indian Knowledge System, such as mathematical reasoning and memory-building activities, consistently, improve critical thinking and problem-solving abilities. Further, the study of economic thought promotes the development of several crucial skills, including critical thinking, by promoting the investigation and evaluation of various concepts, models, and policies to identify their benefits and drawbacks.

Group A- Indian Knowledge System

Module 1: Introduction to Indian Knowledge Systems (IKSs)

Indian Knowledge System; Definition of Indigenous Knowledge; Scope, and Importance of Traditional Knowledge. Traditional Indian Education and Learning Systems: Gurukul system and ancient education methodologies; Manuscripts, scrolls, and ancient libraries (e.g., Nalanda, Takshashila). Impact of colonial education policies and the need for revisiting traditional knowledge.

Module 2: Ancient Indian Science & Technology

Ancient India's contribution to Mathematics - Number System. Algebra and Arithmetic, Geometry and Trigonometry; Origin of Decimal system in India; nomenclature of numbers in the Vedas. Zero and Infinity. Sulba-sutras. Contribution of Brahmagupta and Sridhar Acharya in the field of Mathematics. Important texts of Indian mathematics.

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Module 3: Indian Economic Thoughts

Buddhism and the Economic Enterprise, Prices and taxation, Kautilya's Arthasastra: Economic Functions of the State, Taxation policy and land revenue system. Economic Thought during the Colonial Period: Dadabhai Naoroji: The Drain of Wealth Theory and its impact on poverty and British financial administration. Mahadev Govind Ranade: Critique of laissez-faire policy and the advocacy of protectionism for Indian industries. Early Nationalist and Pre-Independence Thought Gopal Krishna Gokhale: Analysis of British public expenditure and the economics of education. M. Visveswaraya: Focus on rapid industrialization and planned economic development.

Reading List:

- Mukul Chandra Bora; ***Foundations of Bharatiya Knowledge System***;Khanna Book Publishing House
- Mahadevan, B., BhatVinayakRajat, NagendraPavan RN. (2022), ***Introduction to Indian Knowledge System: Concepts and Applications***. PHI Learning Private Ltd.
- Kapur K and Singh A.K (2005).***Indian Knowledge Systems***, Vol. 1.IndianInstitute of Advanced Study, Shimla.
- Nair, Shantha N. ***Echoes of Ancient Indian Wisdom (2008);*** Hindology Books, New Delhi .
- Rao, N. 1970.***The Four Values in Indian Philosophy and Culture***. Mysore: University of Mysore.
- Schumpeter, Joseph A: **"The Development of Economics as a Science"** in Economic Doctrine and
- Method. New York, OUP. 1954.

Group B- Economic Thought

Module 1: Pre-Classical Economics (Mercantilism & Physiocracy)

Mercantilism Core Philosophy - Power vs. Plenty; bullionism and wealth accumulation through trade surpluses; Protectionism (tariffs, export subsidies) and money supply regulation; Role of foreign trade in economic expansion; implications for developing and underdeveloped nations.

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Physiocracy - The Rule of Nature (Natural Order) and reliance on agriculture as the sole source of surplus (Net Product); Quesnay's Tableau Économique (first macro model of circular flow of income) and its relevance to agrarian underdeveloped economies.

Module 2: Classical Economic Thought

Adam Smith - Division of labor, the "Invisible Hand," capital accumulation, and theory of absolute advantage; T.R. Malthus: The Principle of Population (geometric population vs. arithmetic food growth) and economic stagnation; David Ricardo - The Economic Method; Theory of Value (search for an invariable measure); Distribution Theory (Rent, Wages, Profits) and the Fundamental Theorem of Distribution; J.S. Mill - Utilitarianism; the economic role of government in developing nations; Karl Marx - Labor Theory of Value and Surplus Value; Law of Falling Rate of Profit and the Reproduction Schema.

Module 3: Neoclassical, Marginalist, & Heterodox Economics

Lausanne School (Walras) - General Equilibrium Analysis, excess demand functions, and backward-bending supply curves; Cambridge School (Marshall, Pigou, Keynes, Jevons) – Jevons' Marginal utility theory of exchange; Marshall Demand and supply synthesis; Pigou & Keynes - Welfare economics, market failure, and macro-foundations of output and employment; Austrian School (Carl Menger, Wieser, Böhm-Bawerk); Institutional Economics (Thorstein Veblen).

Reading List:

- Backhaus, J. G. (2011). Handbook of the history of economic thought. Springer.
- Blaug, M. (1997). Economic theory in retrospect. Cambridge University press.
- Ekelund Jr, R. B., & Hébert, R. F. (2013). A history of economic theory and method. Waveland Press. Guide, C. and Rist, C., A History of Economic Doctrine.
- Haney, L. H. (1911). History of economic thought: a critical account of the origin and development of the economic theories of the leading thinkers in the leading nations. Macmillan.
- Landreth, H., & Colander, D. C. (2001). History of economic thought.
- Medema, S.G. and Samuels, W.J. (ed.)., The History of Economic Thought: A Reader Negishi, T. (2014). History of economic theory. Elsevier

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- Rothbard, M. N. (1995). An Austrian perspective on the history of economic thought (Vol. 2). Ludwig von Mises Institute.
- Samuels, W. J., Biddle, J. E., & Davis, J. B. (Eds.). (2008). A companion to the history of economic thought. John Wiley & Sons.
- Screpanti, E., & Zamagni, S. (2005). An outline of the history of economic thought. OUP Oxford.
- Schumpeter, J. A. (2006). History of economic analysis. Routledge.

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Paper Name- Research Methodology & Ethics

Paper Code- DCE

Credit:5 **Full Marks:75**

Course Objective: Grasp the fundamental steps of designing a study, from formulating precise research questions and hypotheses to selecting appropriate qualitative, quantitative, or mixed methodologies. Develop practical skills in gathering valid data and utilizing statistical tools for quantitative and qualitative analysis and software to interpret findings accurately.

Course Learning Outcome: This course will provide a solid foundational knowledge of Research & its Ethics. It will help students to focus on building critical thinking, ensuring academic integrity, and mastering the practical skills needed to design, conduct, and ethically report of scientific research.

Module1: Fundamental of Research

Definition, objectives, importance and types; research problem, purpose and classification of research, fundamentals of research methods, Writing a research proposal; Problem identification: Literature review, research gap, scope of the research, research problem.

Module 2: Research Design, Scaling and Measurement

Study design in quantitative and qualitative research; identifying variables: types of variables, types of measurement scale. conceptual vs empirical research, research methods vs. research methodology, Formulation of research problems with examples: the importance of literature surveys, identification of open research questions, testing of research hypotheses. Data collection: Methods for data collection in quantitative and qualitative research, types of Data, Sources of Data; Drafting of Questionnaires and Schedules; Measurement and Scaling.

Module 3: Sampling, Statistical Inference and Research hypothesis

Parameter vs Statistic; Sampling & non-Sampling error; Sampling distribution; Degree of freedom, standard error, Central limit theorem; Statistical inference: point estimation, interval estimation, sample size & its determination. Univariate and Multivariate Data Analysis - Descriptive vs. Inferential Analysis - Descriptive Analysis of Univariate Data and Bivariate Data.

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Module 4: Philosophy and Research Ethics

Nature of moral Philosophy and moral judgements, Philosophy of Research Epistemology; Ethics: with respect to science & research, Intellectual honesty and research integrity; Scientific misconducts: Falsification, fabrication and Plagiarism, redundant publications; duplicate and overlapping publications, conflict of interest; Publication misconduct, Misuse of information.

Module 5. Ethics in Research Publications

Publication Ethics: Meaning and importance- Best practices and Quality mandates in Research: Committee on Publications Ethics (COPE) and its role, identifications of publication misconducts, complaints and appeals – Predatory Publishers and Journals.

Reading List

1. Bryman, A. (2016). *Social research methods* (5th ed.). Oxford University Press.
2. Cochran, W. G. (1977). *Sampling techniques* (3rd ed.). John Wiley & Sons.
3. Day, R. A. (1998). *How to write and publish a scientific paper* (5th ed.). Cambridge University Press.
4. Goode, W. J., & Hatt, P. K. (1952). *Methods in social research*. McGraw-Hill.
5. Indian National Science Academy. (2019). *Ethics in science education, research and governance*. Indian National Science Academy.
6. Kothari, C. R., & Garg, G. (2014). *Research methodology: Methods and techniques* (3rd ed.). New Age International.
7. Krishnaswamy, O. R., & Ranganathan, M. (2005). *Methodology of research in social sciences*. Himalaya Publishing House.
8. Kumar, R. (2015). *Research methodology: A step-by-step guide for beginners* (4th ed.). SAGE Publications.
9. Kurian, C. T. (n.d.). *Research methodology in economics*. Institute of Development Studies.
10. Majumdar, P. K. (2005). *Research methods in social science*. Viva Books.
11. Oliver, P. (2010). *The student's guide to research ethics*. Open University Press.
12. Resnik, D. B. (2011). *What is ethics in research & why is it important?* National Institute of Environmental Health Sciences.

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13. Singh, Y. K. (2006). *Fundamentals of research methodology and statistics*. New Age International.
14. Stewart, C. N. (2011). *Research ethics for scientists: A companion for students*. Wiley-Blackwell.
15. Wilkinson, T. S., & Bhandarkar, P. L. (1994). *Methodology and techniques of social research*. Himalaya Publishing House.

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