

BERHAMPUR UNIVERSITY
COURSE OF STUDIES
FOR
M.PHIL/PRE-Ph.D. IN ECONOMICS



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Approved

A handwritten signature in black ink, appearing to read 'R. Patra', is written over a horizontal line.

Chairman, BOS(ECO)

Courses of Studies for M. Phil./Pre-Ph.D. Course work in Economics for 2020-21

The first semester for M. Phil. in Economics consists of four courses of four credits each as detailed below

Note: Each paper carries 100 marks, which includes 20 marks of Mid-Sem. examination and 80 marks of End-Sem. Examination.

NB: There is no Mid- Semester Examinations for Pre-Ph.D course work.

CORE COURSES		
Course	Title	Credits
ECON C-101	Research Methodology	04
ECON C-102	Applied Econometrics	04
ECON C-103	Research and Publication Ethics(2 Credits)	04
	Seminar Presentation(2 Credits)	
Elective Course (One paper to be selected from the following elective courses)		
CORE ELECTIVES		
ECON E-111	Economic Theory	04
ECON E-112	Economics of Environment	04
ECON E-113	Economics Of Women And Work	04
ECON E-114	Advanced Quantitative Methods And Data Analysis	04
ECON E-115	Agricultural Economics	04
ECON E-116	Advanced Mathematical Economics	04
ECON E-117	Advanced Development Economics	04

M.Phil./Pre-Ph.D. (Economics)

ECON C 101:Research Methodology		
Objective: To familiarize participants with basic of research and the research process. b) To enable the participants in conducting research work and formulating research synopsis and report. To develop understanding on various kinds of research, objectives of doing research, research process, research designs and sampling.		
Unit	Contents	Hours
Unit-I	Research Design: Meaning of Research Design, need for research design, features of good research design, concepts relating to research design, different research designs, Basic principles of Experimental design and Developing a Research plan.	12
Unit-II	Basic principles of Social science research a) Formulating problems, developing hypothesis testing hypothesis b) Design for the data collection, collation and interpretation, types of sampling. c) Report or thesis writing	12
Unit-III	Types of Research a) Survey research b) Field Studies c) Field experiments d) Case study approach e) Evaluation Research	12
Unit-IV	Multivariate Analysis in Economics: Characteristics, classification and application of Multivariate Techniques, Analysis of Variance (ANOVA), Principal component analysis, Factor Analysis, Discriminate Analysis and Cluster Analysis using SPSS.	12
Total		48
References:		
<ol style="list-style-type: none"> 1. John Galtung –Theory and Methods of Social Research, Columbia University Press. 2. Panels P. Forcesses– Social Research Methods, Prentice Hall. 3. Clair-Selltiz, Meris Jahoda and M. Dautach and S.W. Cook– Research Methods in Social Relations: Methun and Co. Ltd. 4. M.H. Gopal– An introduction to Research Procedure in Social Science, Asia Publishing House. 5. V. Sanmuga Sundaram– Methodology of Research in Social Science, Monorama Press, Madras. 6.Goode and Hatt– Methods in Social Research, Mc Graw Hill Book Company, London, 7.Marks S. Aldenderfer and Roger K. Meuller–Cluster Analysis. 8. Joe on Kim and Charles W. Meuller–Introduction to Factor Analysis. 9. Joe on Kim and Charles W. Meuller–Factor Analysis, Statistical Methods and Practical Issues, Sage Publications. 		

ECON C102. Applied Econometrics

Objective: The objective of this course is to provide a thorough introduction to the theory and application of contemporary econometric tools. It caters to the research scholars from different backgrounds, necessary if one is interested in applying econometric tools to data and problems in a variety of disciplines.

Unit	Contents	Hours
Unit-I	Lag and Simultaneous Equation Models Autoregressive and Distributed Lag Models-Koyak Models, Partial Adjustment Models, Adaptive Expectation, Almon Approach to distributed Lag Model, Simultaneous Equation bias and Inconsistency in OLS estimation, Methods of estimating Simultaneous Equations.	12
Unit-II	Time Series Analysis Stationarity, Unit root, Cointegration, Spurious Regression, Dicky Fuller Test, Engel Granger Test, Random Walk Model with and without drift, Forecasting with ARIMA modelling, Problems with VAR modelling.	12
Unit-III	Panel Data Analysis Panel Data Techniques-Simple Panel Data Methods, Causal inferences, Random Coefficient Model, Fixed Effect Model, Random Effect Model, Multivariate Analysis,	12
Unit-IV	Introduction to Econometric Software (STATA) Generation of data sets and data transformation; data analysis (Graphs and Plots, Summary Statistics, Correlation Matrix etc.) , Running an OLS regression; Estimation of Other Linear Models, Time Series Stationarity tests, Vector Auto Regression, Granger Causality, Cointegration	12
Total		48

References:

1. D. N. Gujarati, D.C. Porter and Sangeetha Gunasekar, Basic Econometrics, 5th edition, McGraw Hill, 2012 Indian edition.
2. D. N. Gujarati and D.C. Porter, Basic Econometrics, 5th edition, McGraw Hill, 2012 International edition.
3. Damodar Gujarati, Econometrics by Example, Palgrave Macmillan, 2011. 4. Jeffrey M. Wooldridge, Econometrics, Indian Edition, Cengage Learning, 2009
4. Jeffrey M. Wooldridge, Econometrics, Indian Edition, Cengage Learning, 2009.

ECON C 103. Seminar Presentation

Objective: The objective of the course is to create awareness about publication ethics and publication misconducts among the research scholars, basics of philosophy of research and ethics, research integrity, publication ethics. Hands-on-sessions are designed to identify research misconduct and predatory publications, Indexing and citation databases, open access publications, research metrics (citations, h-index, Impact Factor, etc.) and plagiarism tools will be introduced in this course along with review of literature as seminar presentation.

Unit	Contents	Hours
Unit-I	Introduction to philosophy: definition, nature and scope, concept, branches, Ethics: definition, moral philosophy, nature of moral judgements and reactions Ethics with respect to science and research, Intellectual honesty and research integrity, Scientific misconducts: Falsification, Fabrication, and Plagiarism (FFP), Redundant publications: duplicate and overlapping publications, salami slicing, Selective reporting and misrepresentation of data, Publication ethics: definition, introduction and importance, Best practices / standards setting initiatives and guidelines: COPE, WAME, etc, Conflicts of interest, Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa, types, Violation of publication ethics, authorship and contributorship, Identification of publication misconduct, complaints and appeals Predatory publishers and journals	24
Unit-II	Open access publications and initiatives, SHERP AIrO MEO online resource to check publisher copyright & self-archiving policies, Software tool to identify predatory publications developed by SPPU, Journal finder / journal suggestion tools viz. JANE, Elsevier Journal Finder, Springer Journal Suggester, etc. Subject specific ethical issues, FFP, authorship, Conflicts of interest, Complaints and appeals: examples and fraud from India and abroad, Use of plagiarism software like Turnitin, Urkund and other open source software tools, Indexing database, Citation databases: Web of Science, Scopus, etc. Impact Factor of journal as per Journal Citation Report, SNIP, SJR, IPP, Cite, Score Metrics: h-index, g index, i10 index, altmetrics.	24
Unit-III	Review of Literature Preparation	
Unit-IV	Presentation in a seminar	
Total		48

References

Bird, A. (2006). Philosophy of Science. Routledge.
 MacIntyre, Alasdair (1967) A Short History of Ethics. London.
 P. Chaddah, (2018) Ethics in Competitive Research: Do not get scooped; do not get plagiarized, ISBN:978- 9387480865
 National Academy of Sciences, National Academy of Engineering and Institute of Medicine. (2009). On Being a Scientist: A Guide to Responsible Conduct in Research: Third Edition. National Academies Press.
 Resnik, D. B. (2011). What is ethics in research & why is it important. National

Institute of Environmental Health Sciences, 1-10. Retrieved from <https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm> Beall, J., (2012). Predatory publishers are corrupting open access. *Nature*, 489(7415), 179-179. <https://doi.org/10.1038/489179a>

Indian National Science Academy (INSA), *Ethics in Science Education, Research and Governance*(2019), ISBN:978-81-939482-1-7. http://www.insaindia.res.in/pdf/Ethics_Book.pdf

Core Elective

ECON E 111 Economic Theory		
Objective:		
Unit	Contents	Hours
Unit-I	Trends in the analysis of consumer behaviors. The new market theories. The theory of Equilibrium. The revival of General Equilibrium theory. Trends in the development of macroeconomics.	12
Unit-II	The theory of economic under development. The theory of economic Growth. Fast and modern Economic growth. Global economic Development. Limits to growth. Costs of Economic growth.	12
Unit-III	Conceptual problems about inequality. Sources and causes of inequality. Measurement of inequality Promotion of equality. Towards an egalitarian order.	12
Unit-IV	Meaning and significance of distribution. Theories of aggregate income distribution. The classical theories, The Marxian theory, The Kenuession theory, Kaldor's theory, Weintraub's theory.	12
Total		48
References:		
1. Macro Economic theory G. Ackley (Collier Macmillan)		
2. Macro Economic Themes M.J.C. Surrey (Edited) Oxford University press		
3. Consumer Theory H.V. John Green Penguin Books		
4. Economic theory and operation Analysis W. J. Baumol (Prentice Hall 1975)		
5. A revision of Demand theory J.R Hicks (London 1956)		
6. Consumer Demand: A new Approach		
7. Kelvin Lancaster New York, 1971		
8. The theory of Price G.I. Ctigier New York, 1968		
9. The theory of Imperfect Competition: A radical Reconstruction Donald Dewey, new York		

1969.

10. Towards more General Theory of value E.H. Chamberlin, New York. 1957

11. Mathematical Economics Kevin Lancaster, New York, 1968

12. The price system and Resource Allocation R.H. Leftwich Hinsdale.

13. Economic theory and under developed countries H. Myint (Oxford University Press) 1971

14. Economic Growth and structure Simon Kuznets (Oxford and IBH publishing Co. 1969)

15. The Limits to Growth Potomac Association Book.

16. The Economic Growth Controversy Ed. By Andrew weintraud, Eli Schwartz, J. Richard Aronson (Macmillan, 1974)

17. Dissent on development P.T. Bauer (Vikas Publishing house, 1973)

18. The coast of Economic Growth E. J. Mishan

19. Growth theory R.M. Solow (Clarendon Press, Oxford) 1962.

ECON E 112 Economics of Environment

Objective: Analyse theoretical and empirical research in environmental and natural resource economics. Prepare an analytical policy report that develops knowledge and practical implementation of relevant economic theory in understanding and addressing an environmental or natural resource issue.

Unit	Contents	Hours
Unit-I	Theories and method and practices: Ecology and Economics. Environment and economics system.	12
Unit-II	Economics of natural resource: scarcity, substitutability, measurement of scarce resource. Economic growth and environment, Limits to growth, Zero economic growth.	12
Unit-III	Near-term and long term environmental problems Linear models of economics and environment.	12
Unit-IV	Spatial Environmental Model for an optimal allocation of investment. Pollution externalities and control, Environmental Policy.	12
Total		48

References:

1. Environmental economics Vol. I

2. Edited by P. Nilkamp. Martin Nijhoff (Social Science Division Leiden, 1976)

3. Environmental economics Vol. II
4. Edited by P. Nilkamp. Martin Nijhoff (Social Science Division Leiden, 1976)
5. Economic Growth and environment Decay: The solution Becomes problems: Paul W. Barkley, David W. Sackler (Harcourt Brace Javanevich, Inc. New York, 1979)
6. Environmental Economics: Thomas D. Crocker, A.J. Rogers (The Dryden Press, Inc. Hinpdale, Illincoic, 1971)
7. The next 200 years: Harman Khan, William Brown and Leon Martel.(Vikas publishing house 1977)
8. Economics and Crisis of ecology N. Singh (Oxford university Press, 1976)
9. Scarcity and Growth Reconsidered, Edited by V. Kerry smith (The Johns Hopkins university press, Baltimore and London, 1979)
10. The Costs of economic growth E. J. Mishan (Penguin Books)
11. The Economic Growth debate, E.J. Mishan (George allen and Unwin, Ltd. 1977)

ECON E 113 Economics of Women and Work		
Objective: Students will demonstrate knowledge of social, economic, political, intellectual and cultural contributions of women past and present. Knowledge about the social, economic, political, intellectual or cultural contributions of one or more women.		
Unit	Contents	Hours
Unit-I	Economic Backwardness of women: Marxian and Non-Marxian interpretation. The family as an Economic unit. Division of labour between men and women. Specialisation and comparative advantage. Role of women in the management of consumption in the household and economy.	12
Unit-II	Allocation of time between the household and the labour market by women. Women's participation in the work force Global trend in DCs and UDCs. Trend in India. General differences in occupation earning. Discrimination against women. The man-women earning gap, causes and remedy.	12
Unit-III	Economic of house work. Monetary value of a housewife. Housework and National income.	12
Unit-IV	Women and economic development. Women's programmes in the five year plans of India.	12
Total		48

References:

1. Amsden, Alice H. (En) Economics of women and work (New York: St. Martin's Press, 1980)
2. Blau. Fransine D. and Maranine A. Ferber The Economics Of women Men and work (N.J. Prentice hall 1986)
3. Backer, Gary S. The Economics of discrimination 2nd ed, (Ney York; st. Martin's press, 1970)
4. Engels, F. the Origin of the Family, Private Property and the state (Mosow Progress, 1977)
5. Gulbraith, John K, Economics and the Public Purpose (New Delhi Vikas 1974), Ch. IV
6. Lloyd, Cynthia B. and Both T. Niemi The Economics of Sex Differential (New York: Columbia University, 1979)
7. Madden, Janie F. The Economic of sex discrimination (Lexington M.A. Lexington books, 1973)
8. Schmid, Gunther and Renate Weitzed (Eds) Sex Discrimination and equal Opportunity: The Labour Market and employment Policy (New York; St. Martin's Press, 1984)

ECON E 114 Advanced Quantitative Methods and Data Analysis		
Objective: To learn the use of quantitative methods in educational research, and seeks to develop an awareness of the assumptions and perspectives that underlie a quantitative approach to research, and in particular the utilization of regression techniques such as multiple regression and path analyses.		
Unit	Contents	Hours
Unit-I	Quantitative Research Meaning of quantitative research, process of quantitative research, quantitative data analysis, data processing, steps in data processing, analysis and interpretation.	12
Unit-II	Estimation of parameters and fitting of probabilities Distribution Parameter Estimation, The method of Moments, The method of Maximum Likelihood, Large Sample theory for Maximum Likelihood Estimates, Confidence Intervals from Maximum likelihood Estimates, The Bayesian approach to parameter Estimation.	12
Unit-III	Probability and Hypothesis Testing Role of probability in statistics – probability and uncertainty – conditional probability and its uses in economics – application of ‘Z’ , ‘t’, ‘F’ and chi-square test in hypothesis testing – test of single mean – test of two independent mean – test of means of paired data – Non parametric tests – sign test – Wilcoxon matched paired test – analysis of variance – one way and two way ANOVA – chi-square test for independence and goodness of fit.	12
Unit-IV	Correlation, Regression and Time Series Analysis Application of correlation in economics – Karl spearman's correlation coefficient – Multiple correlation – hypothesis test for correlation coefficient – Rank correlation. Regression – simple and multiple regression – OLS –assumptions – estimation and hypothesis testing – violations of assumptions – multicollinearity – heteroscedasticity –	12

	autocorrelation (Concepts) – introductions to non-linear regression.	
Total		48
References:		
1. A.C. Chiang – Fundamentals methods of Mathematical Economics, Mc-Graw Hill, 1987.		
2. Anderson et.al (2006) Statistics for business and economics.		
3. D. Gujarati – Basic Econometrics, Mc-Graw Hill, New York, 2005.		
4. D. Bose (2000), An introduction to mathematical economics, Himalaya publishing house.		
5. John Rice (2013), Mathematical Statistics and Data Analysis. Cengage Learning, New Delhi.		
6. Koutsoyiannis –Theory of Econometrics, Macmillan Press Ltd., London, 2003.		
7. R. Veerachamy (2006), Quantitative Methods for Economists, New age International (p) limited, New Delhi.		
8. R.G.D. Allen – Mathematical Economics, ELBS and Macmillan, 1975.		
9. Taylor Sonia (2001) Business statistics, Palgrave, New York.		
10. Taro Yamane –Mathematics for Economists, Prentice Hall of India, 2002.		

ECON E 115 Agricultural Economics		
Objective: To impart knowledge on issues related to lending to priority sector credit management and financial risk management. The course would bring in the various appraisal techniques in project - investment of agricultural projects. UNIT I Role and Importance of Agricultural Finance.		
Unit	Contents	Hours
Unit-I	Agricultural Production Functions and Farm Management: Use of production function concepts. Forms of Production function single variable, quadratic form. Cobb – Douglas. CES and Spellman functions and their theoretical relevance in Agriculture. Least cost combination of inputs and identifying the Highest Profit Point Multiple Regression Analysis in Agricultural Production Functions.	12
Unit-II	Technological change and Agriculture Development: Theoretical Analysis of technological change – problems of technological change and its relation to cropping pattern with a special reference to India. Farm - Management	12
Unit-III	Problems of Indian Agriculture: Problems related to land utilization. Capital formation Problems related to the availability of agricultural credit. Rural poverty in India. Problems of small and marginal farmers, Agricultural labour problems of un-employment and under-employment in Indian agriculture.	12
Unit-IV	Agricultural Policy and Development Programme in India: Review of growth rates in Indian agriculture since Independence. Inter State disparities in agricultural-development.MSP (Minimum Supporting Price), Need for Second Green Revolution, Constraint to the development of agriculture in India, goals of the state policies, and Security and use of Nano-Technology in Indian Agriculture.	12
Total		48

- References:** 1. Shenoi, P.V., Agricultural Development in India: A Strategy in Management. (Vikas Publishing House (P) Ltd)
2. Singh, Amarjit, Sadhu, AN, Fundamental of Agricultural Economics, (Himalaya Publishing House, (P) Ltd.)
3. Dwivedi,R.C. : New Strategy of Agricultural Development in India. (Loyal Books Depot, Meerut.)
4. Heady,O.E., Economics of Agricultural Production and Resource Use.(Prentice Hall India, New Delhi.)
5. Heady,O.E, Farm Management., (Prentice Hall India, New Delhi.)
6. N.C.A.E.R: A Strategy for Agricultural Planning.(N.C.A.E.R)
7. P.C. Bansir,;Agricultural Planning or 700 Million.(Lalwani Publ. House.)
- 8.Hanumantha Rao, C.H.,; Technological Change and Distribution of Gains in Indian Agriculture. (Institute of Economics Growth)
9. Jhon,P.B.: Dynamics of Indian Agriculture since Independence
10. Hatway, Dale E.: Government and Agriculture.
11. Agricultural Annual Report: Indian Council of Agricultural Research (ICAR).

ECON E 116 Advanced Mathematical Economics

Objective: This course concentrates on the mathematical methods that are required to understand current economics and to investigate economic models. Topics may include advanced matrix algebra, optimisation with and without constraints, programming and dynamic optimisation.

Unit	Contents	Hours
Unit-I	Further topics on Linear Programming and Economic Applications: Linear Programming application to the firm; production possibility schedule, theorem on substitution, Dynamic aspects of Linear model; The Ramsy Model Generalised Leontiff systems; The Transformation locus, The structure of Capital stock, Fixed coefficients of production, Cost imputation, Balanced growth in the Leontiff system. The Von. Neumann Model; Inter-relations between Linear programming and Game Theory	12
Unit-II	Non-linear programming (NLP) The problems of NLP, The Kuhn–Tucker optimality conditions, Sufficiency of the Kuhn-Tucker conditions, NLP and conventional theory of production.	12
Unit-III	Economic Regulation; Closed-Loop Control system A schematic Representation, Some Economic Models in Schematic Form, Response to sinusoidal output in a Linear Model, The Feed-back transfer function, Free variation in a linear closed-loop system, Economic stabilization policy.	12
Unit-IV	Operation Research Problems Integer programming, Assignment Problems, Goal programming; Inventory Production Management: ABC Analysis, Project Management; Information Theory.	12
Total		48

References:

1. Allen, R. G.D. – Mathematical Economics, ELBS and Macmillan, 1973.
2. Drafman, R. Samuelson, P. Solow R. – Linear Programming and Economic Analysis, McGraw Hill Kogakusha Ltd, 1958.
3. Sharma, S.D. – Operations Research, Kailash Nath and Ram Nath and Co. 2004.
4. Baumol, W.J. – Economic Theory and Operation Analysis, Prentice Hall of India, Pvt. Ltd., 1987.

ECON E 117 Advanced Development Economics		
Objective: To provide students with the essential tools and concepts of development economics, to prepare them to understand what makes underdevelopment persist and what helps development succeed.		
Unit	Contents	Hours
Unit-I	Development and Growth Theories: Harris- Todaro Model, Fei and Ranis Theory, Theory of Critical Minimum Effort, Big Push Approach, Production Function Model, Technical Progress and Growth, Kaldor Model, Romer Model of Endogenous Growth.	12
Unit-II	Development of Social Sector: Concepts and Measurement of PQLI, HDI, and HPI, Poverty and its Measurement, Concepts and Indicators of Health and Education.	12
Unit-III	Agriculture, Industry and Rural Development: The Structure of Agrarian Systems and the Developing World, The Economics of Agricultural Development, A Strategy of Agricultural and Rural Development., The Pattern of Industrialisation, MSME: Structure, growth, trend and productivity, Role of Industrialisation in Economic Development.	12
Unit-IV	Migration and Employment: Migration and Development, A Verbal Description of the Todaro Model and Policy Implication, A Comprehensive Migration and Employment strategy, The Theory of Employment Determination and Developing Countries: The Classical Theory and The Keynesian Theory, Ingredients of an Employment Policy: Industrial Development and employment, Agriculture Development and employment, Employment Creation through Public Works, Employment in the Service Sector.	12
Total		48

References:

1. Mishra, S.K. and Puri, V.K : Economics of Development and Planning: Theory and Practice, Himalaya Publishing House, Mumbai.
2. Barro, Robert J and Xavier Sala-i- Martin, Economic Growth, The MIT Press, Cambridge, Latest Edition.
3. Basu, Kaushik, Issues in Economic Theory, part I and II, Oxford University Press, 2010
4. Dasgupta, Dipankar: Growth Theory, Oxford University Press, 2007
5. Ghatak, S., An Introduction to Development Economics. Allen and Unwin London, latest edition.
6. Hayami, Y., Development Economics, Oxford University Press, New York, 2010 (5th Impression)
7. Hendrik Van Den Berg, Economic Growth and Development, McGraw-Hill International Edition, 2005
8. Meier, G.M., Leading Issues in Economics Development, Oxford University Press, New Delhi, Latest edition.
9. Ray Debraj, Development Economics, Oxford University Press, Latest Edition.
10. Thirlwall, A.P., Growth and Development with Special Reference to Developing Economies, Macmillan, UK, 1999.
11. Todaro, M.P., Economic Development Pearson, Latest edition.

Approved



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