DEPARTMENT OF ECONOMICS
Ph.D. Course Work Economics
w. e. f. 2023-24

Programme Specific Outcomes:

PSO1 Students will be able to find existing economics journal articles on a given topic, identify the connections between the articles, and prepare a detailed literature review, summarizing the existing state of knowledge in that area.

PSO2 Students will be able to develop testable hypotheses, based on economic models, collect the necessary data, and apply appropriate econometric techniques to test those hypotheses. Students will be able to interpret correctly the results of their analyses, and summarize the key points of their findings.

PSO3 Students shall be able to write research papers that effectively communicate their research results.

PSO4 Students will be competent enough to present economic arguments and analysis to an audience.

PSO5 To make students familiar with economic theories and their relevance, econometrics, quantitative techniques and applied research in a wide variety of fields within economics.

Schemes of Examinations

Course Code	Paper	Theory Marks	Internal*	Total	Time of Exam.	Credit
23ECOPH11C1	Research Methodology	70	30	100	3 Hrs	4
23ECOPH11C2	Quantitative Techniques and Computer Applications	70	30	100	3 Hrs	4
23ECOPH11C3	Selected Issues in Indian Economy	35	15	50	3 Hrs	2
23PHC1	Research and Publication Ethics	35	15	50	3 Hrs	2
	Total Credit					12

*Each course shall have an internal assessment of 30%. It shall comprise two written assignments (7.5 % each) and two presentations (7.5 % each). The concerned teacher/Head of the Department shall maintain the record for at least six months after the declaration of results.

23ECOPH11C1- Research Methodology

Max. Marks: 100   Written Exam: 70

Time: 3 Hours   Internal Assessment: 30

Course Objectives

CO1: To familiarize students with basic research and the research process.

CO2: To enable students in conducting research work.

CO3: To familiarize students with paper writing skills.

CO4: To impart knowledge for enabling students to develop data analytics skills.

CO5: To Identify the role and importance of research in Social Sciences.

Course Outcome

CO1: Develop understanding on various kinds of research.

CO2: Have basic knowledge on qualitative research techniques.

CO3: Have adequate knowledge on measurement and scaling techniques.

CO4: Students will have basic awareness of data analysis and hypothesis testing procedures.

CO5: Assessed students-led discussion of the text books in modules.

CO6: Students would learn about the applications of research methods in Economics.

Unit-I

Philosophy of Research, Fundamental concepts in social research, Hypothesis, Literature review, Major Research methods and their Application Economics. Field experiments.

Unit-II

Sampling Techniques: Stratified clusters, Multistage and Systematic Sampling. Relationship between sample and data parameters: Sampling error: Sampling from Normal distribution: Sampling from non-normal populations: Sampling distribution of the mean and standard deviation.

Unit-III

Measurement and scaling techniques: nominal scale, ordinal scale, interval scale, rating scale, criteria for good measurement: Attitude measurement: Likert's scale, Semantic differential scale. Thrust one equal appearing interval scale, multi-dimensional scaling.

Data: meaning, types and sources of data. Data Collection Methods: Observation, Survey and Interview, Designing of a mail questionnaire, and a schedule.

Unit-IV

Data Analysis: Editing, coding, classification, tabulation and analysis: Diagrammatic and graphical representation of data, interpretation of result

Report writing: Purpose, steps, format and final presentation of research report: Referencing bibliography, footnotes and end notes.

Note: The examiner has to set a total of eight questions giving two from each unit. The candidate has to attempt five questions selecting at least one question from each unit. All questions carry equal marks.

Reading List:

- Seale and (2004): Social Research Methods- A Reader, Routledge Student Readers, Indian Print
- Goode. J and Hatt. K, (2006): Methods in Social Research, Surjeet Publications, Delhi
- Moser and Kalton G (1985): Survey Methods in Social Investigation, Darmouth Publishing Co. Ltd. England.
- Thomas C., (2020): Research Methodology and Scientific writing, Ane Book Pvt. Ltd. New Delhi.
- Methodology: Integration of Principles, Methods and Technique, Pearson Education India, New Delhi.
- Krishnaswamy M and Ranganathan M, (2014): Methodology of Research in Social Sciences, Himalaya Publishing House, New Delhi.
- Bhandarkar PL and Wilkinson (2010): Methodology and Techniques of Social Research, Himalaya, New Delhi.

23ECOPH11C2- Quantitative Techniques and Computer Applications

Max. Marks:100   Written Exam: 70
Time: 3 Hours   Internal Assessment: 30

Course Objectives
CO1: Course work provides a path to follow research in general area of economics and business.
CO2: To demonstrate a sound knowledge of fundamentals of statistics and statistical techniques.
CO3: To familiarize the students to study economics with an applied approach.
CO4: To acquaint students about different tools and techniques.
CO5: To familiarize the students about the applications of various operating systems of computer in economic research.

Course Outcome
CO1: Students are better able to understand various economic issues and applied part of the economics.
CO2: Students would gain understanding of primarily about estimation and hypothesis testing. What is different and generally much more interesting and useful is that parameter being estimated and tested are not just means and variances but relationship between variables, which is much of economics and other social sciences.
CO3: Students would have a regress training in estimation of economic problems.
CO4: Students will have a knowledge about the applications of various parametric tests in economics
CO5: The students would learn about the applications of various operating systems of computer in economic research.

<div align="center">Unit-I</div>

Parametric tests: Z test, t-test and F- test: Hypothesis testing: Procedure
Regression Analysis: Specification and estimation of single equation Model: Ordinary Least Squares Estimator and its properties. Standard Classical Linear Regression Model (one and two explanatory variables) and its estimation.

<div align="center">Unit-II</div>

Implications of violation of the standard assumptions. Problems of Multi-Collinearity, Auto-correlation. Heteroscedasticity and Autocorrelation diagnosis and remedial treatment. Use of Dummy variables in regression analysis. Estimation of semi-log and double log function: simple and compound rates of growth.

<div align="center">Unit-III</div>

Basic concepts of time series analysis, stationary and unit root tests, cointegration, standard granger causality and error correction model. Random walk model with and without drift
Statistical analysis: Analysis (Chi-square only)

<div align="center">Unit-IV</div>

Introduction to Computer, Operating system, MS office, Data entry and analysis using MS Excel, Applications of SPSS for data entry, editing, transformation and cleaning, applications of statistical packages for Z- test, t-test, χ^2 test, Correlation and Regression using SPSS.

Note: The examiner has to set a total of eight questions giving two from each unit. The candidate has to attempt five questions selecting at least one question from each unit. All questions carry equal marks.

Reading List:
- Cooper DR and Schindler (2013): Business Research Methods, Tata McGraw-Hill/Irwin.
- Gujrati DN, et. al, (2011): Basic Econometrics, Tata McGraw-Hill/Irwin.
- Hair JF, et. al (2009): Multivariate Data Analysis, Prentice Hall.
- George D., (2011): SPSS for Windows Step by Step: A simple Guide and Reference, Pearson Education, Delhi.
- Foster J (2001), Data Analysis Using SPSS for Windows Versions 8-10: A Beginner's Guide, Sage Publishing Ltd.

23ECOPH11C3- Selected Issues in Indian Economy

Max. Marks:100   Written Exam: 35

Time: 3 Hours   Internal Assessment: 15

Course Objectives

CO1: To have knowledge about the issues in Indian Economy like planning, poverty, unemployment etc.

CO2: To impart knowledge to students about policies for public debt, export promotion, fiscal deficit etc. It also deals with policies for making world relation with other countries as W.T.O. and IMF etc.

CO3: To know about relationship between monetary policy, fiscal policy and economic development.

CO4: To know about framework of policy making for the development of Indian economy

CO5: To know about the preparation of budgeting and its utilization for Indian economy.

Course Outcome

CO1: Develop ideas of the basic concepts of Indian economy.

CO2: Students will be exposed to various economic issues.

CO3: Understand the importance of Indian economy in the context of world economy.

CO4: Students will understand the importance, causes and relevance of financial and economic reforms.

CO5: Understand the importance, causes and impact of population growth.

Unit-I

Globalization: Concept, Trends and perspectives: Impact of Globalization on Developing Countries since 1996, Asia's New Role in Global Economy.

Unit-II

Issues in Indian Economy: Growth Performance and Future Prospectus: Population Unemployment, inequality and Poverty.

Sectoral Issues: WTO and Indian Economy with special reference to agriculture and industry.

Unit-III

Financial Sector Reforms, Banking Reforms: Rural Credit, Micro Finance, Global Financial Crisis and India.

Unit-IV

Alternative Strategies to Develop Value Added Exports, India's foreign trade value composition and direction, EXIM Policy, Exchange Rate policy.

Note: The examiner has to set a total of eight questions giving two from each unit. The candidate has to attempt five questions selecting at least one question from each unit. All questions carry equal marks.

Reading List:

- Nayyar, D., (2008): Trade and Globalization, Oxford University Press India.
- Basu and Maertens (Ed) (2012): The New Oxford Companion to Economics in India, Oxford University Press India, New Delhi.
- Reddy Y.V. (Ed) (2009): India and the Global Financial Crisis: Managing Money and Finance Orient Black Swan, New Delhi.
- I.J. Ahluwalia and I.M.D. Litter (ed) (2012): India's Economic Reforms and Development: Essay for Manmohan Singh Second Edition, Oxford University Press India New Delhi.
- Mudgoff (1992): Globalization- To what end? Monthly Review Press

23PHC1-**Research and Publication Ethics (RPE)**

Max. Marks: 50   Written Exam: 35
Time: 3 Hours   Internal Assessment: 15

Course Objectives
CO1: To familiarize students with basic research and the research process.
CO2: To familiarize students with paper writing skills.
CO3: To impart knowledge about the publication ethics of research.
CO4: To acquaint the students with publication conduct and open access of journals.

Course Outcome
CO1: Students will understand the publication ethics and unethical behaviour of research.
CO2: Students will learn about use of plagiarism software like Turnitin, Urkund and other open source software tools.
CO3: Students will learn about different open access publication sources.
CO4: Students will get familiar with the Predatory publishers and journals.

A. Theory
Unit I

Philosophy and Ethics: Introduction to philosophy: definition, nature and scope, concept, branches Ethics: definition, moral philosophy, nature of moral judgements and reactions.

Scientific Conduct: 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.

Unit II

Publication Ethics Practice: 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 contributor ship, Identification of publication misconduct, complaints and appeals, Predatory publishers and journals.

B. Practice
Unit III

Open Access Publishing: Open access publications and initiatives, SHERPA/RoMEO 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.

Publication Misconduct: 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.

Unit IV

Databases and Research Metrics: Indexing databases, 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.

Note: The examiner has to set a total of eight questions giving two from each unit. The candidate has to attempt five questions selecting at least one question from each unit. All questions carry equal marks.

Reading List:
- 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.
- 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_Books.pdf.