

# ETERNAL UNIVERSITY

(ESTABLISHED UNDER HIMACHAL PRADESH GOVERNMENT ACT NO.3 OF 2009)

## BARU SAHIB HIMACHAL PRADESH



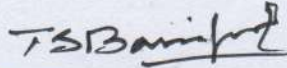
WORLD PEACE THROUGH VALUE BASED EDUCATION

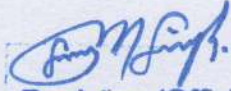
**AKAL COLLEGE OF ECONOMICS,  
COMMERCE & MANAGEMENT**

**Ph.D. ECONOMICS CURRICULUM**

**APPROVED VIDE ANNEXURE 4.2.3 OF 87<sup>TH</sup>  
ACADEMIC COUNCIL MEETING HELD ON  
25<sup>TH</sup> JULY, 2025**

**TO BE IMPLEMENTED FROM THE ACADEMIC  
SESSION 2025-26**

  
**Dean**  
**Academic Affairs**  
**Eternal University**  
**Baru Sahib (H.P.) 173101**

  
**Registrar (Officiating)**  
**Eternal University**  
**Baru Sahib (H.P.) 173101**

# **ETERNAL UNIVERSITY**

**BARU SAHIB (H. P.)**



**Revised Syllabus**  
**DOCTOR OF PHILOSOPHY IN ECONOMICS**  
**(Ph.D. ECONOMICS)**

**Course Work with effect from Academic Session 2025-26**  
**(Under Choice Based Credit System)**

**DEPARTMENT OF ECONOMICS**  
**AKAL COLLEGE OF ECONOMICS, COMMERCE & MANAGEMENT**

# **DOCTOR OF PHILOSOPHY IN ECONOMICS**

## **(Ph.D. ECONOMICS)**

### **PROGRAM OBJECTIVE:**

The objective of this course is to train post graduate students in a challenging economic environment and empower them in theory and practice through study and analysis of advanced quantitative methods and processes. To develop independent logical thinking and facilitate personality development. To train in data analysis for better comprehensive and policy formulation. To develop among students' communication, study and analytical skills. And finally, to equip the students for seeking suitable career in economics and related fields.

### **PROGRAM OUTLINE:**

The Ph.D. Course (Syllabus) in Economics under Choice Based Credit System (CBCS) has been designed keeping in view the changing scenario of the present education system and as per the University Grants Commission (Minimum Standards and Procedures for Award of Ph.D. Degree) Regulations, 2022 and STUDENTS' GUIDE ETERNAL UNIVERSITY, BARU SAHIB (H.P) THIRD ORDINANCE, 2021. The contents of the syllabus are prepared on the basis of the current demands in research in economics. The Choice-Based Credit System (CBCS) provides an approach in which the Research Scholars shall opt for papers from Elective/Open courses as per their choice, learn at their own pace, undergo additional courses and acquire more than the required credits, and adopt an interdisciplinary approach to learning. It offers wide ranging choice for Research Scholars to opt for courses based on their aptitude and their career goals.

### **AFFILIATION:**

The programme shall be governed by the Department of Economics, Faculty of Akal College of Economics, Commerce and Management, Eternal University (EU), Baru Sahib, via Rajgarh, District Sirmour, Himachal Pradesh –173101

### **DURATION:**

The full time Ph. D. Economics course shall be for a minimum duration of three (3) years from the date of enrollment. This time limit can be extended by two (2) years on the recommendation of advisor, RDC of the candidate, Dean Post Graduate Studies and approval of the Vice Chancellor. A part time candidate can submit the thesis after four (4) years of enrollment and an extension of two (2) years can be granted by following the procedure as mentioned in Students' Guide. Each year consist of two semesters odd (August-December) and even (February-June). In each semester the distribution of course and research work will be as per detail given under curricula.

### **ELIGIBILITY:**

Candidate must have completed postgraduate (Master) degree in Economics/relevant subject with 55% marks from a recognised university listed under UGC/AIU and 50 % marks in EU entrance test. Relaxation of 5% marks will be given to the candidates of reserve category. Or the eligibility criteria as decided by the Academic Council of EU from time to time.

**MEDIUM OF INSTRUCTIONS & EXAMINATION:**

English shall be the medium of instructions and examination.

**SCHEME OF EXAMINATION:**

Examinations shall be conducted at the middle and end of each semester as per the Academic calendar notified by the Eternal University. The system of evaluation shall be as follows:

| <b>CREDITS<br/>(L+T+P)</b>          | <b>THEORY</b> |             |          | <b>PRACTICAL</b> |             |          |
|-------------------------------------|---------------|-------------|----------|------------------|-------------|----------|
|                                     | Total         | Mid-session | End Term | Total            | Mid-session | End Term |
| 1+0+0/<br>2+0+0/<br>3+0+0/<br>4+0+0 | 100           | 40 (30+10*) | 60       | -                | -           | -        |
| 0+1                                 | -             | -           | -        | 100              | 50          | 50       |
| 1+0+1                               | 50            | 20 (15+5*)  | 30       | 50               | -           | 50       |
| 2+0+1                               | 65            | 25 (20+5*)  | 40       | 35               | -           | 35       |
| 3+0+1                               | 75            | 30 (25+5*)  | 45       | 25               | -           | 25       |

\*Assignment marks

**ATTENDANCE REQUIREMENT:**

The students are required to attend class lectures, tutorials, seminars, etc.; arranged by the department from time to time. The minimum percentage of attendance required shall be as per the Eternal University Students' Guide, 2021. In the event of a Research Scholar failing to obtain the stipulated 75% attendance, he/she shall apply through his/her major advisor and Head of the Department followed by Dean of the college to the Vice Chancellor. Maximum 5% short attendance due to sickness, hospitalization or other valid reason of the student may be condoned by the Vice Chancellor. Maximum of 10% short attendance of students for sports and other activities of national and international level may be condoned by the Vice Chancellor on the recommendation of Dean Student welfare.

**Ph.D. SYNOPSIS, PRE-THESIS SEMINAR AND THESIS:**

The student admitted for the degree programme shall be allotted to a major guide by Dean PGS after one month of registration. The student in consultation with the major advisor allotted to carryout research work is to prepare the synopsis as per the guidelines given in [www.eternaluniversity.edu.in](http://www.eternaluniversity.edu.in). The synopsis is to be submitted before the end of second semester. The role of advisory committee will be very crucial for guiding the student for the feasibility of project and vetting of the synopsis. Four copies of the synopsis will be submitted in the office of Dean PGS for approval. Pre-thesis seminar and thesis viva-voce examinations will be conducted as per guidelines given in Students' Guide and modified from time to time.

**TYPES OF COURSES:** Courses in a program shall be of two kinds: Core and Open/ Elective.

**1. Core Courses:** A core course is a compulsory paper to be studied by all the scholars to complete the requirements of a degree, and based on papers that are unique to the program and hence imperative for study to earn a degree in a given discipline/program.

**a. Research Methodology (RM):** The Department has assigned a minimum of four credits (04 credits) on Research Methodology covering areas such as quantitative methods, computer applications, review of published research in the relevant field, training, field work, etc. Research and publication ethics portion has also been added in this course which has been

made compulsory as per the directives of UGC vide DO No – F.1 1/2018(Journal/CARE), dated December, 2019).

**2. Elective Courses:** Elective course is a course which can be chosen from a pool of papers from a syllabus provided by a particular department from the main discipline or from a sister/related discipline which supports the main discipline, on mutual consent of the concerned departments.

**i. Elective Paper (4 credits):** The department has developed six elective papers based on different specialisations and specialised fields of research. The Research Supervisor will be responsible for the teaching of the specialised paper to their respective scholars. A student has the choice to choose as many as elective paper(s) to accumulate more credits for the course.

**ii. Open Paper (2 credits):** The research scholar has the option to choose the open paper offered by parent department and from other departments. The Department has developed five papers under this category of 2+0+0 credits.

### PROGRAM STRUCTURE AND DISTRIBUTION OF CREDIT

The credit requirement for Ph.D. coursework is a minimum of 12 credits including a Research and Publication Ethics course as notified by UGC vide D.O, No. F-1/2018(Journal/CARE) in 2019 and a Research Methodology course. Students of EU and others who have read research methodology of four credits at their master degree program will apply for exemption. Under Paper-II category, the students are to choose at least one elective category course of four credits from the pool of courses mentioned under this category (they may opt for two courses also to meet out the requirement as mentioned in Students' Guide. From Paper-III category, the students are to choose any one or more courses of two credits to cover up the minimum requirement of 12 credits for their Ph.D. degree. Besides, credit seminar of 1 credit hour and Doctoral Research for 5 credit hours is also compulsory for Ph.D. students in their Semester-I during the course work.

#### SEMESTER I

| Sr. No. | Papers   | Course Code | Course Title   | L | T | P | Credits | Contact Hours |
|---------|--|-------------|--|---|---|---|---------|---------------|
| 1       | <b>Paper -I</b><br>Core Paper  | RM 599      | Research Methodology   | 3 | 1 | 0 | 4       | 4             |
| 2       | <b>Paper-II</b><br>Elective Paper<br>(At least one paper is to be opted by the student of the parent department)     | ECON 601    | Advanced Economic Theory   | 4 | 0 | 0 | 4       | 4             |
|         |  | ECON 602    | Contemporary Issues in Indian Economy                                      | 4 | 0 | 0 | 4       | 4             |
|         |  | ECON 603    | International Trade and Development  |   |   |   |         |               |
|         |  | ECON 604    | Advanced Econometrics  | 4 | 0 | 0 | 4       | 4             |
|         |  | ECON 605    | Agricultural Production Economics  | 4 | 0 | 0 | 4       | 4             |
|         |  | ECON 606    | Gender and Development: Regional Dimension with Special Reference to India |   |   |   |         |               |
| 3       | <b>Paper-III</b><br>Open paper<br>(Students from parent department/other departments can opt papers from this group) | ECON 611    | Environmental Economics  | 2 | 0 | 0 | 2       | 2             |
|         |  | ECON 612    | Quantitative Development Policy Analysis                                   | 2 | 0 | 0 | 2       | 2             |
|         |  | ECON 613    | Agricultural Marketing and Price Analysis                                  | 2 | 0 | 0 | 2       | 2             |
|         |  | ECON 614    | The Economy of Informal Sector   | 2 | 0 | 0 | 2       | 2             |
|         |  | ECON 615    | Issues in Indian Agriculture   | 2 | 0 | 0 | 2       | 2             |
| 4       | -  | ECON 691    | Credit seminar   | 1 | 0 | 0 | 1       | 1             |
| 5       | Dissertation   | ECON 700    | Doctoral Research (Deciding research problem & consulting literature)      | 0 | 0 | 5 | 5       | 10            |



## SEMESTER II

| S. No. | Course Code | Course Title   | L | T | P  | Credits | Contact Hours |
|--------|-------------|--|---|---|----|---------|---------------|
| 1      | ECON 700    | Doctoral Research (Submission & approval of synopsis by RDC) | 0 | 0 | 15 | 15      | 30            |

**Note:** The students are to give presentation of synopsis before the RDC at the college and Dean PGS level before fixing the date for the approval of synopsis by the external subject expert appointed by the Dean PGS from the panel of experts submitted by the major advisor through Dean of the college.

## SEMESTER III

| S. No. | Course Code | Course Title  | L | T | P  | Credits | Contact Hours |
|--------|-------------|---|---|---|----|---------|---------------|
| 1      | ECON 700    | Doctoral Research (Preparation of schedule & questionnaire) | 0 | 0 | 15 | 15      | 30            |

## SEMESTER IV

| S. No. | Course Code | Course Title  | L | T | P  | Credits | Contact Hours |
|--------|-------------|---|---|---|----|---------|---------------|
| 1      | ECON 700    | Doctoral Research (Collection & tabulation of data) | 0 | 0 | 15 | 15      | 30            |

## SEMESTER V

| S. No. | Course Code | Course Title                         | L | T | P  | Credits | Contact Hours |
|--------|-------------|--------------------------------------|---|---|----|---------|---------------|
| 1      | ECON 700    | Doctoral Research (Analysis of data) | 0 | 0 | 15 | 15      | 30            |

## SEMESTER VI

| S. No. | Course Code | Course Title  | L | T | P  | Credits | Contact Hours |
|--------|-------------|---|---|---|----|---------|---------------|
| 1      | ECON 700    | Doctoral Research (Dissertation writing & submission) | 0 | 0 | 15 | 15      | 30            |

**Note:** The student will compulsorily undertake his/her research work related to the dissertation for the credit hours mentioned in each semester, thus making a total of 80 credits. The student is to make a presentation of his/her research performance after every six months in the department/college in the presence of Research Advisory Committee. The Research Advisory Committee will evaluate his/her research work and submit the result as satisfactory/unsatisfactory on the prescribed proforma along with a research progress report to the office of Controller of Examination (CoE) for the registered credit hours. If the student has not done work equivalent to the registered credit hours, the Research Advisory Committee may decide to submit a satisfactory result for less of credit hours in the respective semester.

### **PROGRAMME OUTCOMES (POs)**

|             |   |
|-------------|---|
| <b>PO 1</b> | This degree programme provides opportunity to students to study the application of economics in depth which someone may wish to apply for building blocks in area of research.  |
| <b>PO 2</b> | The course will sharpen analytical skills of students through integrating knowledge of economic theory with decision- making techniques.  |
| <b>PO 3</b> | Utilization of information and knowledge effectively through scanning, organizing, synthesizing and analysing the data in order to abstract meaning and to share knowledge.   |
| <b>PO 4</b> | An ability to recognize the importance of professional development by pursuing the doctoral studies or face competitive examinations that offer challenging and rewarding careers in economics.                                       |
| <b>PO 5</b> | Conceptual building through the application of conceptual economics foundations to solve practical decision-making problems, both individually and as part of teams using techniques such as case analysis, projects and assignments. |
| <b>PO 6</b> | An ability to demonstrate a critical awareness of current issues in economics which are informed by leading edged research and practice in the field.   |

### **PROGRAMME SPECIFIC OUTCOMES (PSOs)**

|              |  |
|--------------|--|
| <b>PSO 1</b> | Understanding the basic and advanced concepts of micro-macroeconomics for different sectors of the economy. Application of laws in the derivation of demand and supply under different market scenarios.   |
| <b>PSO 2</b> | Derivation of tools and techniques helping empirical determination/estimation of demand, supply, output, money supply, inflation, employment, poverty, GDP, BOP and optimum inputs usage. Distribution of resources for maximum welfare and identifying causes of market failure and its consequences. |
| <b>PSO 3</b> | Understanding the design of the tax structure and application of the concepts of efficiency and equity.  |
| <b>PSO 4</b> | Doctoral research tries to deepen specialization in a particular professional direction.   |
| <b>PSO 5</b> | Doctoral research helps in shaping the future of specialist by individual cognitive activities aimed at obtaining new, knowledge, solving theoretical and practical problems, self-education and self-realization.   |
| <b>PSO 6</b> | Understanding the role of price policy in economic development; the operation mechanism of commodity markets and price discovery.  |



## **COURSE OUTCOMES (COs)**

### **Course: Research Methodology**

**Course Code: RM 599**

|            |   |
|------------|---|
| <b>CO1</b> | Students equip them with the foundational knowledge and practical skills required for conducting rigorous and impactful research and understand research philosophies, designs, hypothesis, methods of collecting & analyzing data, and effectively communicating findings. |
| <b>CO2</b> | Ability to conduct thorough literature reviews, synthesizing existing knowledge, and identifying research gaps.   |
| <b>CO3</b> | By understanding the ethical principles of research and adhering to ethical guidelines, students will contribute to a more trustworthy and transparent research environment including authorship, peer review, and conflict of interest.                                    |
| <b>CO4</b> | Students will learn about research metrics like impact factor, h-index, and citation analysis to evaluate research output.  |
| <b>CO5</b> | The course will build students' confidence in documentation, presentation and completing independent research projects.   |

### **Course: Advanced Economic Theory**

**Course Code: ECON 601**

|             |  |
|-------------|--|
| <b>CO 1</b> | Understanding the empirical application of demand Rotterdam Model.   |
| <b>CO 2</b> | Application of both cooperative and non-cooperative games to the solutions of oligopoly problems.  |
| <b>CO 3</b> | Deep understanding to compare and contrast the classical, neo-classical and Keynesian-neo Keynesian perspectives for the determination of output and employment. Understanding the role of monetary and fiscal policies in the open economy models through case studies. |
| <b>CO 4</b> | To strengthen, sharpen and deepen the understanding of growing financial markets of modern economies.  |

### **Course: Contemporary Issues in Indian Economy**

**Course Code: ECON 602**

|             |  |
|-------------|--|
| <b>CO 1</b> | Getting knowledge of banking reforms and the issues related to GST and demonetization.   |
| <b>CO 2</b> | Relevance of issues related to NRLM, MGNREGA, NRHM, SSA and social security.   |
| <b>CO 3</b> | Understanding the impact of Covid-19 pandemic on employment and labour market.   |
| <b>CO 4</b> | To make the students aware of what are the 'real' constraints to the growth of the Indian economy and the factors underlying the regional economic disparity in the country. |

### **Course: International Trade and Development**

**Course Code: ECON 603**

|             |  |
|-------------|--|
| <b>CO 1</b> | Proper understanding of the issues of development in an increasingly competitive and financially integrated world.                   |
| <b>CO 2</b> | Understanding the theories of regional trade in the context of evolution of European Union, BREXIT, SAPTA, SAFTA and BRICKS.         |
| <b>CO 3</b> | Understanding the importance of institutional and legal constraints related to property rights, contract enforcement mechanism, etc. |
| <b>CO 4</b> | Boosting the understanding of scholars about the 'actual' constraints to development.  |

**Course: Advanced Econometrics****Course Code: ECON 604**

|            |  |
|------------|--|
| <b>CO1</b> | Acquaintance with various statistical & mathematical tools and techniques applied in economics and policy making.                |
| <b>CO2</b> | Getting expertise in analytical framework of different functions/models and their usefulness in economics.                       |
| <b>CO3</b> | Studying the relevant time series and panel data models for economic policy making and future forecasting.                       |
| <b>CO4</b> | Learning the application of programme packages like SAS, RATS, SPSS, TSP, WinBUGS, Eviews, etc to do analyses of empirical data. |

**Course: Agricultural Production Economics****Course Code: ECON 605**

|            |   |
|------------|---|
| <b>CO1</b> | To expose the students to develop the concept, significance and uses of production economics.   |
| <b>CO2</b> | To understand the relationships between factors and output.   |
| <b>CO3</b> | To learn how to decide the combination of inputs to be used as per the resources available and work out the most effective production plan. |
| <b>CO4</b> | Application of models to measure technical, allocative and economic efficiencies in the agricultural production system.                     |

**Course: Gender and Development: Regional Dimension with Special Reference to India****Course Code: ECON 606**

|            |   |
|------------|---|
| <b>CO1</b> | Acquisition and reflecting knowledge among scholars on the linkages between the global economy and the gendered macro and micro processes of development; |
| <b>CO2</b> | Analysing the location of women in processes of development and to understand the centrality of gender.   |
| <b>CO3</b> | Acquiring strong competence for the basis of research and practical actions.  |
| <b>CO4</b> | Enabling policy formulation and for evaluating directions and strategies for social change.   |

**Course: Environmental Economics****Course Code: ECON 611**

|            |  |
|------------|--|
| <b>CO1</b> | Understanding the economics that deals with transactions taking place between human beings within and across national boundaries.  |
| <b>CO2</b> | Knowing the economic activities which have price to pay to the environment.  |
| <b>CO3</b> | Identification of the activities which causes loss to the environment in various ways.   |
| <b>CO4</b> | Acquiring competence to work out the costs and returns in terms of losses to environment due to development/production activities. |

**Course: Quantitative Development Policy Analysis****Course Code: ECON 612**

|            |  |
|------------|--|
| <b>CO1</b> | Description of policy framework in the context of welfare maximization.  |
| <b>CO2</b> | Role of quantitative techniques in the failure of markets and rationale for government intervention  |
| <b>CO3</b> | Understanding the measurement of supply response model and uses of models in social accounting matrices and multipliers.                       |
| <b>CO4</b> | Conducting market equilibrium analysis in the context of price distortions and transaction costs impacting market efficiency and productivity. |

**Course: Agricultural Marketing and Price Analysis****Course Code: ECON 613**

|            |  |
|------------|--|
| <b>CO1</b> | Getting deep insight into basic concepts of agricultural marketing viz, market structure, conduct and performance, the factors affecting marketable/ marketed surplus, the market integration, costs & margins, the marketing efficiency, etc. |
| <b>CO2</b> | Understanding the importance and operation of the supply chain mechanism, the state trading, warehousing and other agencies. The role of ICT in the marketing of agricultural commodities.   |
| <b>CO3</b> | Application of quantitative methods for agricultural policy analysis in the context of price forecasting.  |
| <b>CO4</b> | Understanding the role of price policy in economic development; the operation mechanism of commodity markets and price discovery.  |

**Course: The Economy of Informal Sector****Course Code: ECON 614**

|            |   |
|------------|---|
| <b>CO1</b> | Understanding the structure and issues of unorganized sector.   |
| <b>CO2</b> | The students will know the interlinkages between the formal and informal sector.                                  |
| <b>CO3</b> | Helping students in analysing accessibility to credit, market and insurance in the informal sector.               |
| <b>CO4</b> | The course will enable the potential researcher to conduct some in-depth research work in the unorganised sector. |

**Course: Issues in Indian Agriculture****Course Code: ECON 615**

|            |  |
|------------|--|
| <b>CO1</b> | Understanding the changing role and share of agriculture in the country's economy.   |
| <b>CO2</b> | To have an overview of the agriculture in the country in terms of cropping pattern, crop yields, cropping intensity, mechanization, automation, etc.         |
| <b>CO3</b> | Understanding of some of the important issues of agriculture sector such as small and fragmentation of holdings, labour, capital, market support and credit. |
| <b>CO4</b> | The students will study and understand the impact of climate change and agricultural reforms on the performance of agriculture.                              |

## COURSE CONTENT DETAILS

### RM 599: RESEARCH METHODOLOGY

| L | T | P |
|---|---|---|
| 3 | 1 | 0 |

#### UNIT I (Lectures 09 Tutorial 03)

Research: need, importance, types of research -fundamental v/s applied and impact of research. Research prioritization – objectives, process of research. Qualitative and quantitative research. Ethics with respect to science and research. Committee on Publication Ethics (COPE). Violation of publication ethics, authorship and contributor ship. Identification of publication misconduct, complaints and appeals.

#### UNIT II (Lectures 09 Tutorial 03)

Qualities of a good research worker. Research as career, current status and future prospects of research. Process of selecting research problem; survey of literature; allied and critical literature, research infrastructure. Good Laboratory Practices (GLPs). Sampling design; types of sampling & their advantages/disadvantages, recording of observations; measurement and scaling techniques.

#### UNIT III (Lectures 09 Tutorial 03)

Measures of central tendencies and relationships, sources and collection of primary & secondary data, storage and analysis of data. Pie chart, histogram and figures plotting. Formulation and types of hypotheses & their testing. Chi ( $\chi^2$ ) test, Z - test, t- test, F-test. Correlation, rank correlation and regression analysis, ANOVA- test of significance and error analysis. Absolute error, relative error, percentage error.

#### UNIT IV (Lectures 09 Tutorial 03)

Computer and informatics: introduction, word processing, excel, power point presentation. Information resources and various databases. Introduction to statistical software(s). LATEX. Impact factor and indexing data base. Different search engines in Library for research articles. Web of science, web browsing. Scopus organization of reference material using endnote; bibliography. Scientific misconduct: Falsification, fabrication and plagiarism (FFP), IPR and patent application. Entrepreneurship.

#### UNIT V (Lectures 09 Tutorial 03)

Selecting research problem and preparation of synopsis as per guidelines of university. Research paper and thesis writing. Compilation and presentation of results, writing & publication of research paper. Multidisciplinary and multi-institutional research; writing research proposal for external funding. Demonstration of departmental research activities through pictures, charts, research project reports and instrumentation. PG scholarship funding agencies Govt. of India. Post Doctoral Fellowships (PDFs).

#### SUGGESTED READINGS:

1. Gupta D. D, A.M. Moon and M.K. Gupta. An Outline of Statistical Theory (Vol. I/II).
2. Gupta S.P. Statistical Methods. Sultan Chand Publications.
3. Gurumani N. Research Methodology: For Biological Sciences. MJP Publisher.

4. Kothari C.R. Research Methodology: Methods and Techniques. New Age International.
5. Kothari C.R. and K.F. Hatt. Methods in Social Research.
6. Kumar Pranesh, Daroga Singh and Padam Singh. Handbook of Sampling. IASRI Publications.
7. Kumar R. Research Methodology: A Step-by-Step Guide for Beginners. Sage Publications Limited.
8. Laake P, Benestad HB, Olsen BR, (Editors). Research Methodology in the Medical and Biological Sciences. Academic Press.
9. Murthy C. Research Methodology. Vrinda Publication Pvt. Ltd. New Delhi.
10. Sharma Jai Narain. Research Methodology. Deep & Deep Publications.

## ECON 601: ADVANCED ECONOMIC THEORY

| L | T | P |
|---|---|---|
| 4 | 0 | 0 |

### UNIT I (14 Lectures)

**Demand Theory:** Shape of the utility function and risk: von Neumann-Morgenstern utility theorem, envelop theory. Duality in demand theory: Properties of Marshallian and Hicksian demand functions; empirical estimation of demand (Rotterdam Model): Kaldor's theory of distribution.

### UNIT II (16 Lectures)

**Market:** Oligopoly market, application of both cooperative and non-cooperative games to the solution of oligopoly problems, asymmetric information and market. Adverse selection and moral hazard, Akerlof's theory of market for lemons, elements of auction theory.

### UNIT III (14 Lectures)

**Macro Economics in Closed and Open Economy:** New classical macro model, adaptive expectation, rationale expectation and policy ineffectiveness. Real business cycle model, new Keynesian model and its critique. Open economy macro model: Mundell-Fleming Model, flexible exchange rate and problems of monetary and fiscal policy in the open Economy model, case studies of Indian monetary and fiscal policies since 1990.

### UNIT IV (16 Lectures)

**Financial Economics:** Debt and equity financing of a business. Cost of capital: Net income approach, net operating income approach, traditional theory of gearing. Modigliani-Miller theory; derivatives: types, binominal pricing model and Black-Scholes model of derivative pricing.

### SUGGESTED READINGS:

1. Birman H Scot & L Fernandez. Game Theory with Economic Application, Pearson Education.
2. Elton, E.J and Grucer, M.J. Modern Portfolio Theory and Investment Analysis, Singapore, John Wiley.
3. Froyen, R.T. Macroeconomics, Delhi: Pearson.
4. Hoover, K. D. The New Classical Macro-Economics, Oxford: Black well.
5. McInaney, E.J. Business Finance: Theory and Practice, Delhi: Pearson.
6. Paul, Davidson. Post Keynesian Macroeconomic Theory. EE, Second edition.
7. Sharpe, W.F, Alexander, G J and Bailey, J V. Investments, New Delhi: Prentice Hall.
8. Sheffrin, M Steven. Rational Expectations. Cambridge University Press.

## ECON 602: CONTEMPORARY ISSUES IN INDIAN ECONOMY

| L | T | P |
|---|---|---|
| 4 | 0 | 0 |

### UNIT I (14 Lectures)

**Contemporary Issues in Banking:** Issues in banking, finance and corporate restructuring Banking reforms, nationalization, non-performing assets and privatization of banks; GST and demonetization

### UNIT II (16 Lectures)

**Contemporary Issues in Social Sector:** National Rural Livelihood Mission (NRLM), MGNREGA, NRHM, SSA, social security.

### UNIT III (10 Lectures)

**Pandemic and Indian Economy:** Impact of the Covid19 pandemic on the Indian Economy. Impact on employment and labour market, labour migration.

### UNIT IV (20 Lectures)

Policy Issues and the hill states economy: Poverty alleviation programmes – Employment generation – inclusive growth – Evaluation of Five-year plans with special emphasis on the 11th and 12th five-year plans & annual plans. Role of NITI Aayog in the context of development and planning. Problems of hill states economy. Structure of Himachal economy, its evolution, characteristics of traditional economies, institutional structure, technology, mode of surplus disposal, growth pattern and its sources.

### SUGGESTED READINGS:

1. Ahluwalia, I.J and IMD Little (eds.) India's Economic Reforms and Development (Essays in honour of Manmohan Singh). Oxford University Press, New Delhi.
2. Bardhan, P. The Political Economy of Development in India. Oxford University Press, New Delhi.
3. Dev, S. M., & Sengupta, R. Covid-19: Impact on the Indian Economy. Indira Gandhi Institute of Development Research, Mumbai..
4. Government of India. Economic Survey (Annual), Ministry of Finance, New Delhi.
5. Government of Himachal Pradesh. Human Development Report, Shimla.
6. Mishra K Deepak and Pradeep Nayak (Ed). Land and Livelihoods in Neoliberal India. Springer, Palgrave Macmillan, Singapore.
7. Mitra, A. Internal Migration and Economic Development in the Hills. Omsons Publications, New Delhi.
8. Jalan, B. The Indian Economy – Problems and Prospects. Vikash, New Delhi.
9. Khera, Reetika. The Battle for Employment Guarantee, Delhi. Oxford University Press
10. Radhakrishnan, R (ed). India Development Report – 2004-05 and latest issues. Oxford University Press, New Delhi.
11. Specific Papers Published in EPW and other Research Journals.
12. Sahoo, P., & Ashwani. COVID-19 and Indian Economy: Impact on Growth, Manufacturing, Trade and MSME Sector. Global Business Review, Vol. 21(5), 1159 1183.



## ECON 603: INTERNATIONAL TRADE AND DEVELOPMENT

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### UNIT I (10 Lectures)

**Theories of trade:** Trade under increasing return – imperfect competition, intra-industry trade – Product Life Cycle Theory (PLCT).

### UNIT II (10 Lectures)

**Issues in convertibility of rupee:** Convertibility – current and capital accounts; theories of regional trade block. Evolution of European Union (EU), BREXIT, optimum currency area, SAPTA, SAFTA and BRICKS.

### UNIT III (20 Lectures)

**Problems of market:** Its immaturity, imperfect information, lack of credibility, property rights, and externality – problems in the development of market: adverse selection and moral hazards. Role of State: Peter B Evans' State as the problem and solution: Predation embedded autonomy and structural change. Natural resource and Dutch disease – technological progress, human capital and increasing return, an overview of endogenous growth models and its evaluation.

### UNIT IV (20 Lectures)

**Regionalism:** Regionalism and multilateralism, extent of regionalism: coexistence and conflicts, developing countries. Growth crisis and need for reforms, trade as input to development, transition and liberalization. Theory of economics integration, effects of integration and the basic methods

### SUGGESTED READINGS:

1. Meier, G.M and Rauch, J.E (ed.) Leading Issues in Economic Development. Oxford University Press, 7th edition.
2. Macho-Stadler, I and Perez-Castillo, J.D. An Introduction to the Economics of Information. Oxford University Press.
3. Mikic, Mia. International Trade. Macmillan Education, St. Martin's Press, Scholarly and Reference Division, 175 Fifth Avenue, New York.
4. Soderston, B. International Economics. Prentice Hall, Upper Saddle River, N.J New York.
5. Salvator, D. International Economics. Prentice Hall, Upper Saddle River, N.J New York.
6. Markandya A and Harou Patrice. Environmental Economics for Sustainable Growth. Edward Elger, USA.
7. Pearce, D.W. Environmental Economics. Longman, London.

## ECON 604: ADVANCED ECONOMETRICS

| L | T | P |
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### UNIT I (14 Lectures)

**Review of regression analysis:** Review of classical regression model – review of hypothesis testing – restrictions on parameters – single equation techniques. Least Squares: Concept of least squares, ordinary least squares – weighted least squares - generalized least squares – method of principal components – instrumental variables method - maximum likelihood method - errors in variables, non-linearity and specification tests – non spherical error terms.

### UNIT II (16 Lectures)

**Dummy variables:** Qualitative and truncated dependent variables - limited dependent variables –LPM, probit and logit models, their multinomial extensions. AOV and ACOV models.

### UNIT III (14 Lectures)

**Autoregressive models:** Autoregressive distributed lag models – panel data, fixed and random effects models and their extensions. Econometric problems: nature, consequences, detection and remedial measures of the problem of multicollinearity, specification error, errors in variables, heteroscedasticity and autocorrelation. Model selection criteria.

### UNIT IV (16 Lectures)

**Simultaneous equation models:** Simultaneous equation methods – Introduction, structural and reduced form equations. Simultaneous equation bias, identification problem (rank and order conditions for identification of simultaneous equation model) – estimation by indirect least squares 2SLS, PIML, SURE, 3SLS.

### SUGGESTED READINGS:

1. Bhaumik Sankar Kumar. Principles of Econometrics- A Modern Approach using EViews. Oxford University Press, New Delhi.
2. Greene W.H. Econometric Analysis. Pearson Education.
3. Johnston J and Dinardo J. Econometric Methods. Mc Graw-Hill.
4. Koutsoyianis A. Theory of Econometrics. Barner & Noble.
5. Maddala G.S. Econometrics. Mc Graw-Hill.
6. Madnani G.M.K. Introduction to Econometrics. Ox ford & IBH Publishing Co. Pvt. New Delhi.
7. Pindyck R.S and Rubinfeld D.L. Econometric Models and Econometric Forecasts. McGraw Hill.

## ECON 605: AGRICULTURAL PRODUCTION ECONOMICS

| L | T | P |
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### UNIT I (14 Lectures)

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

### UNIT II (16 Lectures)

**Production and cost principles:** Factors of production, classification, interdependence, and factor substitution -determination of optimal levels of production and factor application -Optimal factor combination and least cost combination of production - Theory of product choice; selection of optimal product combination.

### UNIT III (14 Lectures)

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

### UNIT IV (16 Lectures)

**Assessment of agricultural technology:** Impact of technology on agricultural production, nature and effects and measurement - Measuring efficiency in agricultural production; technical, allocative and economic efficiencies - Yield gap analysis-concepts-types and measurement - Nature and sources of risk, modeling and coping strategies.

### SUGGESTED READINGS:

1. Baumol W.G. Economic Theory and Operations Analysis. Practice Hall of India Private Limited, New Dehli.
2. Doll, John P Doll and Frank Orazem. Production Economics: Theory with Application
3. Gardner BL & Rausser G.C. Handbook of Agricultural Economics Vol. I Agricultural Production. Elsevier.
4. Heady, E.O. Economics of Agricultural Production and Resources Use.
5. Heady E.O & Dillon J.L. Agricultural Production Functions. Kalyani Publishers, Ludhiana, India.
- 6.

## **ECON 606: GENDER AND DEVELOPMENT: REGIONAL DIMENSION WITH SPECIAL REFERENCE TO INDIA**

| <b>L</b> | <b>T</b> | <b>P</b> |
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### **UNIT I (14 Lectures)**

**Locating gender in development process-I:** Theoretical framework – Classical and neo-classical theories of human capital formation, institutions and their feminist critique; gender theories- contextualizing patriarchy and its importance for understanding gender relations and their implication for development processes.

### **UNIT II (16 Lectures)**

**Locating gender in development process-II:** Conceptual shift in the women and development discourse from ‘Women in Development’ (WID) to ‘Gender in Development’ (GID) and ‘Gender and Development’ (GAD). Feminist critique of gender perspective in the Indian planning from welfare to ‘empowerment and women’s agency approach. Gender and structural adjustment.

### **UNIT III (14 Lectures)**

**Regional dimension of gender and development:** Access and control over resources and assets; the cross-cutting issues of caste and class and space; Spatial-temporal pattern; case studies. Social and economic aspects such as literacy/education; women and economy. Gendered division of labour- rural and extra-rural. Gendered livelihoods and poverty; workforce trends and implications for emerging regional patterns; caste/class/region overlap. Health issues, gender biases in access and utilization of health including reproductive health and its consequences. Gender and political participation: national, state and local. Indigenous knowledge and gender development.

### **UNIT IV (16 Lectures)**

**Gender Planning:** Gender development Indices; Government and bilateral policies/schemes. Gender budgeting; institutionalizing gender concerns and gender empowerment in policies and interventions. Women Empowerment Schemes in India like Mudra loans, Mahila Udyam Nidhi Scheme, Women Entrepreneurship platform, Standup India, Udyogini, Mahila Shakti Kendra, Mahila E-Haat, Lakhpati Didi, Drone Didi, Mission Indradhanush, etc.

### **SUGGESTED READINGS:**

1. Agarwal, Bina. A Field of One's Own: Gender and Land Rights in South Asia. Cambridge University Press. Cambridge.
2. Boserup, Ester. Woman's Role in Economic Development. Earthscan, London. 283 pp.
3. Bowlby, S., Lewis, J., McDowell, L. and Foord, J. The Geography of Gender. In Peet and Thrift (eds) New Models in Geography 2. Unwin Hyman
4. Coltrane, S. Theorizing Masculinities in Contemporary Social Science. In Theorizing Masculinities. H. Brod and M. Kaufman (eds.), pp. 39-60. Thousand Oaks: Sage.
5. Drèze Jean and A. Sen. India: Development and Participation, Delhi. Oxford University Press. Human Development in South Asia 2000: The Gender Question, The Mahbub ul Haq Human Development Centre. Delhi, Oxford University Press.
6. Kabeer Naila. Reversed Realities. Oxford University Press.

7. Kapadia Karin. *The Violence of Development: The Politics of Identity, Gender and Social Inequalities in India*. New Delhi: Kali for Women
8. Moser, Caroline O.N. Gender Planning in the Third World: Meeting practical and strategic needs, *World Development*, 17(11).
9. Nussbaum, M. & Glover, G. *Women, Culture and Development. A Study of Human Capabilities*. Oxford University Press.
10. Raju Saraswati (With Deipica Bagchi). *Women and Work in South Asia: Regional Patterns and Perspectives*, Routledge: London and New York.
11. Shiva, Vandana. *Staying Alive. Women, Ecology and Development*. Zed Books, London.

## ECON 611: ENVIRONMENTAL ECONOMICS

| L | T | P |
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### UNIT I (07 Lectures)

**Environmental pollution:** Environmental pollution as a consequence of market failure. Causes and consequences of market failure. Externalities - public goods and externalities. Economics of pollution – Private versus social cost of environmental pollution. Property rights, environment and development. Theory of environmental policy.

### UNIT II (08 Lectures)

**Cost benefit analysis:** Environmental cost benefits analysis - Environmental impact assessment techniques. Non-market valuation of environmental resources; willingness to pay (WTP) & willingness to accept (WTA). Environment, market and social welfare.

### UNIT III (07 Lectures)

**Economic growth and environmental cost:** Economic growth and environmental cost. Growth oriented economic policies and their environmental impacts - Population and environmental quality - poverty and environmental degradation. Sustainable development; indicators of sustainable development – Issues in sustainable development.

### UNIT IV (08 Lectures)

**Environmental accounting & policy:** Environment, ecology and environmental accounting - Environmental pollution with respect to water and air - land and forest resources related environmental pollution - coastal externalities - Urbanization and environment - Basic approaches to environmental policy (Tax, subsidy, pollution permits, etc.) Green taxes - political economy of environmental regulation and management. Transboundary environmental problems - economics of global warming, climate change and emission trading - Environment, international trade and development.

### SUGGESTED READINGS:

1. Hackett S.C. Environmental and Natural Resource Economics: Theory, Policy and the Sustainable Society. ME. Sharpe, Armonk, NY.
2. Hartwick JM and Olewiler N.D. The Economics of Natural Resource Use. 2nd Ed. Addison-Wesley Educational Publ.
3. Kerr JM, Marothia D.K, Katar Singh, Ramasamy C and Bentley WR. Natural Resource Economics: Theory and Applications in India. Oxford & IBH.
4. Pearce DW and Turner K. Economics of Natural Resources and the Environment. John Hopkins Univ. Press.
5. Prato T. Natural Resource and Environmental Economics. Iowa State University Press.
6. Sengupta R. Ecology and Economy, an Indian Perspective. Oxford University Press.
7. Tietenberg T. Environment and Natural Resource Economics. Addison Wesley 6th Ed.

## ECON 612: QUANTITATIVE DEVELOPMENT POLICY ANALYSIS

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### UNIT I (07 Lectures)

**Policy framework:** Policy framework – goals, value, beliefs and welfare maximization. Market – policy and State – State vs. market. Failure of policy, failure of markets. Rationale for Government intervention. Role of quantitative policy analysis.

### UNIT II (08 Lectures)

**Demand analysis and supply response:** Demand analysis for policymaking –alternative approaches to demand analysis – policy implications. Supply response: alternative approaches to measurement of supply response – Nerlovian model of supply response. Policy implications. Household behaviour and policy analysis - Household models.

### UNIT III (07 Lectures)

**Price, costs and policy analysis:** Partial equilibrium analysis – Concept of reference prices – Price distortions – indicators and impact. Transaction costs – Implications for efficiency and productivity – Institutional solutions – Multi market approach to policy analysis.

### UNIT IV (08 Lectures)

**Social accounting techniques:** Social accounting matrices and multipliers – Computable general equilibrium models to assess economy's wide impact of policy changes. Fuzzy goal programming, compromise programming.

### SUGGESTED READINGS:

1. Eicher K.C. and J.M. Staatz. International Agricultural Development. John Hopkins Univ. Press.
2. Fischer, G.J. Miller and M.S. Sidney (Eds.). Handbook of Public Policy Analysis- Theory, Politics and Methods. CRC Press.
3. Frank E. Agricultural Policies in Developing Countries. Cambridge Univ. Press.
4. Gerald, Meir, M. Leading Issues in Economic Development. Oxford University Press, New Delhi.
5. Ghatak Subrata and Ken Ingersent. Agriculture and Economic Development. The Harvester Press Publishing Group.
6. Kindleberger P.C. Economic Development. McGraw Hill.
7. Meir M.G. and J.E. Stiglitz. Frontiers of Development Economics- the Future Perspective. Oxford Univ. Press.
8. Ray Devraj. Development Economics. Oxford University Press, Delhi.
9. Sadoulet E. and De. A. Janvry. Quantitative Development Policy Analysis. John Hopkins Univ. Press, London.
10. Srinivasan T. N. and H. B. Chenery (ed.). Handbook of Development Economics. Vol. I, II and III (for selected reading), Elsevier Science Publishing Company, Amsterdam.



## ECON 613: AGRICULTURAL MARKETING AND PRICE ANALYSIS

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### UNIT I (07 Lectures)

**Market analysis:** Importance of market analysis in the agricultural system - types of marketing-advantages and disadvantages - quantitative estimation -the distinguishing characteristics and role of agricultural prices -data sources for agricultural products and prices - softwares used in market analysis.

### UNIT II (08 Lectures)

**Marketing institutions:** Role of various formal institutions in agricultural marketing - and functions - measuring their efficiency - public - private partnership - institutional arrangements. Successful case studies. Multi market estimation, supply response models. Market integration and price transmission - supply / value chain management. GAP analysis. Current trends in information in the changing agrifood system.

### UNIT III (07 Lectures)

**Commodity exchange:** Agricultural commodity marketing -spot and futures- marketing of derivatives speculation, hedging, swap, arbitrage etc. Commodity exchanges - price discovery and risk management in commodity markets-regulatory mechanism of futures trading.

### UNIT IV (08 Lectures)

**Marketing models:** Lag operators and difference equations; stationary and stochastic processes; unit roots and cointegration; conditional heteroscedasticity: ARCH and GARCH models -forecast evaluation; methods of forecasting. Price indices and econometric estimation and simulation.

### SUGGESTED READINGS:

1. Acharya S.S. Acharya and N.L. Agarwal. Agricultural Marketing in India. Oxford and IBH Publishing Co., New Delhi.
2. Brunk, M.E. and L.B. Darrah. Marketing of Agricultural Products. The Ronald Press Co. New York.
3. Edward A. Duddy and A. Rezvan David. Marketing- An Institutional Approach. McGraw-Hill Book Company, INC. New York.
4. Kahlon A.S. and D.S. Tyagi. Agricultural Price Policy in India. Oxford and IBH Publishing Co. New Delhi.
5. Kohls, R.L. and J.N. Uhl. Marketing of Agricultural Products. Macmillan Publications Co. Inc New York.
6. Rhodes VJ. The Agricultural Marketing System. Grid Pub. Ohio.
7. Shepherd, G.S. Marketing of Farm Products. Iowa State, University Press, Ames: USA. Ltd.
8. Wough, F.W. Readings on Agricultural Marketing. Iowa state University Press, Ames. USA.

## ECON 614: THE ECONOMY OF INFORMAL SECTOR

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### UNIT I (07 Lectures)

**Informal enterprises and labour:** Unorganised or informal sector, unorganised enterprises and informal workers; rural and urban informal sector; theories of unorganised sector- Boeke, Lewis and Todaro.

### UNIT II (08 Lectures)

**Growth of unorganised sector:** Growth led and distress driven development in informal sector. Interlinkages between formal and informal sector. Trends and magnitude of informal sector in India. Women in informal sector.

### UNIT III (07 Lectures)

**Government policies and programmes:** Government policies for the informal sector in India. Problems of informal sector. Cluster development and growth pole programmes.

### UNIT IV (08 Lectures)

**Accessibility to informal sector:** Social security in the informal sector, access to credit, market (both input and output) and insurance in the informal sector.

### SUGGESTED READINGS:

1. Agarwal, M. K. and R. C. Dhakal (2010). 'Informal Sector and Income Generation in Nepal- A Case Study of Chitwan District. *The Indian Journal of Labour Economics*, 53 (2): 267-284.
2. Banerjee, A. V. and E. Duflo (2011): *Poor Economics – A Radical Rethinking of the Way to Fight Global Poverty*. Random House India, Noida.
3. Bhalla, S. (2009). *Definition and statistical Issues Relating to Workers in Informal Employment*. National Commission for Enterprises in the Unorganised Sector, Government of India, New Delhi.
4. Bhavani, T. A. and N. R. Bhanumurthy (2012). *Financial Access in Post-reform India*. Oxford University Press, New Delhi.
5. Boeke, J.H. (1953): *Economics and Economic Policy of Dual Societies*. Institute of Pacific Relations, New York.
6. Farazi, S. (2014). *Informal Firms and Financial Inclusion: Status and Determinants*. Policy Research Working Paper 6778, (The World Bank, Development Research Group, Finance and Private Sector Development Team, February).
7. Ghose, A. (2016). *Informality and Development*. Presidential Address delivered at 58th Annual Conference of Indian Society of Labour Economics, IIT Guwahati, 24th November.
8. Hansenne, M. (1991). *The Dilemma of the Informal Sector- Report of Director General (Part1)*. International Labour Conference 78th Session, Geneva, 28 January.
9. Harris, J. R. and M. P. Todaro, (1970). *Migration, Unemployment and Development: A Two Sector Analysis*. *American Economic Review*, 60(1):126-142.

10. Lewis, W. A. (1954). Economic Development with Unlimited Supply of Labour. The Manchester School.
11. NCEUS (2007). Report on Financing of Enterprises in the Unorganised Sector & Creation of a National Fund for the Unorganised Sector (NAFUS). National Commission for Enterprises in the Unorganised Sector, New Delhi, November.
12. NCEUS (2008). Contribution of the Unorganised Sector to GDP. Report of the Sub Committee of a NCEUS Task Force, National Commission for Enterprises in the Unorganised Sector, New Delhi.
13. NSSO (2001). Informal Sector in India 1999-2000. Salient Features, NSS 55th round (July 1999- June 2000), Ministry of Statistics and Programme Implementation, Government of India.
14. NSSO (2003). Unorganised Service Sector in India (2001- 02). Characteristics of Enterprises, Report No. 483, NSS 57th Round (Ministry of Statistics and Programme Implementation, Government of India).
15. NSSO (2008). Unorganised Manufacturing Sector in India: Employment, Assets and Borrowings. Report No.525, NSS 62nd Round, 2005-2006, Ministry of statistics and Programme Implementation, Government of India.
16. NSSO (2009). Service Sector in India (2006-07): Operational Characteristics of Enterprises. Report No.528, NSS 63rd Round, Ministry of statistics and Programme Implementation, Government of India.
17. NSSO (2013). Economic Characteristics of Unincorporated Non- Agricultural Enterprises (Excluding construction) in India, 2010-1. Report No. 549, NSS 67th Round, Ministry of statistics and Programme Implementation, Government of India.
18. Ray, S., S. K. Mahapatra and S. Nath (2019). Over-indebtedness and Its Drivers among Microfinance Borrowers in India. *Economic and Political Weekly*, 54(7):47-53.
19. Shumba, H. (2016). Financial Inclusion of the Informal Sector as an Enabler to Economic Growth in Zimbabwe.

## ECON 615: ISSUES IN INDIAN AGRICULTURE

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### UNIT I (07 Lectures)

**State of agriculture:** Agriculture and factor markets, state of agriculture in India- share in GDP and employment, cropping pattern, crop diversification towards HYV seeds, cropping intensity, irrigation, mechanization.

### UNIT II (08 Lectures)

**Issues in agriculture:** Small and fragmentation of holdings and markets of primary inputs of agriculture – land, labour, capital and water. Market for support services-credit, extension service and insurance

### UNIT III (07 Lectures)

**Agriculture and climate resilience:** Some issues and recent agricultural reforms; farmers' distress; green revolution and environment; climate change and its impact on agriculture. Farm income and the goal of enhancing farmers' income through technology intervention.

### UNIT IV (08 Lectures)

**Recent policy initiatives for agriculture development in India:** Expansion of Agriculture Infrastructure Fund, the National Mission on Natural Farming, and the National Mission on Edible Oils – Oilseeds. Digital agriculture mission and the clean plant programme for improving crop quality. PMFBY. Funds allocation for agriculture & allied developmental schemes in the union and hilly state's current budgets.

### SUGGESTED READINGS:

1. Chand, R. Doubling Farmers' Income: Strategy and Prospects, Presidential address, Seventy sixth annual conference, The Indian Society of Agricultural Economics.
2. Goswami, Binoy, M P Bezbaruah and Raju Mandal (eds.). Indian Agriculture after the Green Revolution: Changes and Challenges. Routledge: Abingdon, Oxfordshire, UK and New York, USA.
3. Kapila, Uma (Ed.). India's Economic Reforms. Academic Foundation, New Delhi.
4. Ministry of Agriculture & Farmers' Welfare. Report of the Committee on Doubling Farmers' Income, Volume II, Department of Agriculture, Cooperation and Farmers' Welfare.
5. Ray, Debraj. Development Economics. Oxford University Press, New Delhi.

## **ECON 691: DOCTORAL SEMINAR**

| <b>L</b> | <b>T</b> | <b>P</b> |
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This course covers contemporary issues with respect to the related field of research undertaken by the student. The students are asked to prepare PPTs on the contemporary issues which they have to present in front of the faculty and students. The presentation made by the student will be evaluated by three faculty members.

## **ECON 700 DOCTORAL RESEARCH (Deciding research problem & consulting literature)**

| <b>L</b> | <b>T</b> | <b>P</b> |
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During the first semester, the student will follow the steps in choosing his/her research problem under the guidance of the advisory committee. Once the topic of research as per need is got finalized, the student has to rigorously consult literature available and write reviews and references as per laid down guidelines of the university.

## **ECON 700 DOCTORAL RESEARCH (Submission & approval of synopsis by RDC)**

| <b>L</b> | <b>T</b> | <b>P</b> |
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During second semester, the student shall prepare comprehensive research project proposal in view of the literature available and the research gaps strictly under the guidance of RDC. Detailed synopsis of thesis/dissertation will be designed as per the research methodology techniques in the subject and guidelines of the university. PPTs will be made and synopsis seminar will be delivered by the student in the department/college. All the relevant suggestions put forth by the house will be incorporated in the synopsis. Thereafter, a hard copy duly got signed from the RDC along with soft copy will be submitted to the Dean PGS as per guidelines issued from time to time for its approval from the subject expert appointed by the Dean PGS from the panel submitted by major advisor. The student is to make a presentation of her synopsis & schedule/questionnaire in online or offline mode as decided by the Dean PGS in the presence of RDC and other research scholars on a date communicated by the Dean PGS and notified by the Dean of college concerned. In such an examination fixed on a suitable date the student has to defend his/her synopsis of dissertation. Any suggestions made by the external expert will be incorporated by the student and modified version of the synopsis as well as of the schedule/questionnaire will be submitted for the final approval of external expert.

## **ECON 700 DOCTORAL RESEARCH (Preparation of schedule and questionnaire)**

| <b>L</b> | <b>T</b> | <b>P</b> |
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The student will pre-test the schedule/questionnaire for its appropriateness by collecting data in the non-sampling nearby area having similar situation. Ambiguities, errors and difficulties found in recording data on schedules will be resolved by incorporating the suitable changes in the schedules. Multiple copies of final schedules will be prepared keeping in view the size of

sample and two copies will be deposited in the office of Dean concerned for record in the personal file of student and office file.

**ECON 700 DOCTORAL RESEARCH (Collection & tabulation of data)**

| <b>L</b> | <b>T</b> | <b>P</b> |
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The student will collect both primary and secondary data pertaining to study through designed schedules under the strict guidance of the RDC. The major advisor will recommend and forward the tour/travel plan of the student to the Dean concerned for the collection of such data from field(s) and office(s). The entire data collection work is completed during the semester. At different stages, the major advisor/member advisory committee will cross verify the data collection work for its authenticity and validity.

**ECON 700 DOCTORAL RESEARCH (Analysis of data)**

| <b>L</b> | <b>T</b> | <b>P</b> |
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In the light of designed schedule used for data collection, detailed excel sheets will be prepared in consultation with the RDC. All the collected primary data will be scrutinized, coded and tabulated on detailed excel sheets for various categories as proposed in the comprehensive synopsis of thesis. This process will be completed as early as possible. After tabulation, summation, averages, percentages and ratios will be worked out to meet out the requirement of simple objectives. Blank tables pertaining to thesis will be got approved from the major advisor and necessary processed data will be got transformed on such tables. Functional methods/models will be applied and all necessary statistical tests be used for examining the significance of results. Final tables of results will be got approved from RDC.

**ECON 700 DOCTORAL RESEARCH (Dissertation writing & submission)**

| <b>L</b> | <b>T</b> | <b>P</b> |
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The student will prepare all the necessary chapters of thesis strictly under the guidance of the RDC. All the final tables, after having got verified from the committee, will be written to explain the results with logical reasoning. All chapters of thesis need to get approved from all the members of committee. PPTs of major findings will be prepared and pre submission thesis seminar will be delivered in the department/college. After incorporating all the suggestions put forth by the house, the final draft of thesis in duplicate will be submitted to the Dean Post Graduate Studies through concerned Dean of the college for arranging the pre submission thesis seminar at Dean PGS level.