## M.A. Economics

| | Employability | | Entrepreneurship | | Skill Development |
|---|---|---|---|---|---|

| Name of the Programme | Course Code | Title of the Course | Employability | Entrepreneurship | Skill development |
|---|---|---|---|---|---|
| **M.A., Economics** | PGED | CC-Mathematical methods for Economic Analysis | ✓ | | |
| | RGEH | CC-Statistical Methods for Economic Analysis | ✓ | | |
| | PGEE2 | CC-Environmental Economics | | ✓ | |
| | PGEI | MEI-Research Methodology | | | ✓ |
| | PGEE3a | EC-Computer Application in Economics | | | ✓ |
| | PGEM | CC-Agricultural Economics | | ✓ | |

| Semester – I/Core Course – I (CC) | Mathematical Methods for Economic Analysis | Course Code :PGED |
|---|---|---|
| **Instruction Hours : 6** | **Credits : 5** | **Exam Hours: 3** |
| **Internal Marks : 25** | **External Marks : 75** | **Total Marks : 100** |

| Cognitive Level | K - 1 Acquire / Remember |  |
|---|---|---|
| | K - 2 Understand | |
| | K - 3 Apply | |
| | K - 4 Analyze | |
| | K - 5 Evaluate | |
| | K - 6 Create | |
| **Course Objectives** | **The Course aims** | |
| | • To create the awareness among the students about the concepts and techniques of Mathematical methods. | |
| | • To inculcate the applications of Mathematical Techniques in Economics. | |
| | • To know the types of matrix and Algebra. | |
| | • To enable the students to understand the cramers rule. | |
| | • To examine input Output model | |
| **UNIT** | **Content** | **Hours** |
| I | **BASIC CONCEPTS** <br> Constants, Variables, Parameters, Coefficient, Functions - Inverse, General and Specific Functions- Types of Functions- Linear and Non- linear. Uses of Mathematics in Economics. (Only Theory). | 18 |
| II | **DIFFERENTIAL CALCULUS** <br> Differentiation – Definition, sign of Derivatives, Rules of Differentiation – Basic rule, power rule, power of power rule, Addition and Subtraction rule and Quotient rule. Differentiation of Simple Functions Like $y = 5x – 10x + x – 100$. (No Logarithmic, Exponential and Trigonometric functions). Partial derivatives only for two variables, Higher order derivatives up to second order for | 18 |

| | | |
|---|---|---|
| | the functions like Z =f ( x , y) = 10xy-5xy+6x-11y+1000.  Simple problems | |
| **III** | **MATRIX ALGEBRA** <br><br> Matrix – Definition – Types, Addition and Subtraction of 2 or more matrices, Scalar multiplication of a matrix,   Multiplication of 2 matrices, (up to 3x3 order ) Singular matrix, Non – Singular matrix, Uses of matrices – Simple problems. | 18 |
| **IV** | **SOLVING SIMULTANEOUS EQUATIONS** <br><br> Determinants – Definitions, Minors and Co-factors of each element of a determinant (Simple problems…. No properties of determinants). Solving simultaneous equations using Cramer's rule up to 3x3 order – Simple problem | 18 |
| **V** | **INPUT               -               OUTPUT               MODEL** <br><br> Leontief's Input – Output model – Definition, Assumptions, Input Output transaction, Matrix Closed and Open Input – Output models, Uses of Input – Output   model, Limitations of Input – Output model (Only theory). | 18 |
| **Unit VI** | **Self Study** <br><br>  Differential Calculus and its Applications- State Optimization Problems and their application. | |

**Text Book:**

1. Chiang,AC           -Fundamental methods of Mathematical     Economics MC Graw Hill, New Delhi, 1975.

2. Metha BC and MadnaniG.M. - Mathematics for Economists, Sultan Chand  & Sons Publisher, New Delhi, 1973

**Reference Books:**

1. Allen R.G.D            - Mathematical Analysis of  Economist,Macmillan press and ELBS,Landon,2001.

2. Dr.Agarwal H.S             - A mathematical approach to   Economic Theory LakshmiNarayanaAgarwal, Educational      publications,Agra,2001.

3. BadalMukherji and pandit      -Mathematical Methods  for Economic      Analysis,
   Allied Publisher Pvt, New Delhi,2005.

**Courses outcomes**

CO1:Understand the concepts of parameters co efficient and it   functions

CO2:Know the definitions and signs of derivatives.

CO3:Understand the matrix and algebra.

CO4:Explaincramers' rule.

CO5:Understand input output model

**Mapping of  Course outcomes with Programme outcomes/ Programmes Specific outcomes**

| CO / PO | PO | | | | | PSO | | | | |
|---------|---|---|---|---|---|-----|---|---|---|---|
| | **1** | **2** | **3** | **4** | **5** | **1** | **2** | **3** | **4** | **5** |
| CO1 | S | S | S | M | S | S | S | S | S | S |
| CO2 | S | M | S | M | S | S | S | S | S | S |
| CO3 | S | S | S | M | S | S | S | S | S | S |
| CO4 | S | M | S | M | S | S | S | S | S | S |
| CO5 | S | S | S | M | S | S | S | S | S | S |

| Semester – I/Core Course – VIII | STATISTICAL METHODS FOR ECONOMIC ANALYSIS | Course Code : PGEH |
|---|---|---|
| Instruction Hours : 6 | Credits : 5 | Exam Hours: 3 |
| Internal Marks : 25 | External Marks : 75 | Total Marks : 100 |

| Cognitive Level | K - 1 Acquire / Remember<br>K - 2 Understand<br>K - 3 Apply<br>K - 4 Analyze<br>K - 5 Evaluate<br>K - 6 Create | |
|---|---|---|
| Course Objective | 1. The main objective is to teach the students to use the techniques and statistical analysis in order to understand Economic Problems.<br>2. To teach the students to frame and test the hypothesis | |
| **UNIT** | **Content** | **Hour** |
| I | **UNIT I: MEASURES OF AVERAGES AND DISPERSIONS**<br>Measures of Averages , Definition, Characteristics of a good Measure of Average – Mean, Median and Mode – Definition, Merits and Demerits (Simple Problems). Measures of Dispersions Definition, Characteristics of a good measure of dispersion – Standard Deviation – Definition, Merits and Demerits, Coefficient of Variation, (Simple Problems) | 18 |
| II | . **UNITII: CORRELATION ANALYSIS**<br>Correlation Analysis- Definition, Types, Methods of Finding Correlation Co-efficient – Scatter Diagram, Karl Pearson, Spearman's Rank Correlation Co-efficient, Concurrent Deviations Method -Properties of Correlation Co-efficient.( Only statement With out proof) (Simple Problems) | 18 |
| III | **UNIT III: REGRESSION ANALYSIS**<br>Regression Analysis –Definition, Types, Regression Equation X on Y and Regression Equation Y on X - Properties of Regression Co- Efficient- ( With out proof) - Difference Between Correlation and Regression Analysis. (Simple Problems) | 18 |
| IV | . **UNIT – IV: SAMPLING METHODS**<br>Sampling- Definition, Uses of sampling. Random Sampling- Simple Random Sampling Stratified Random Sampling, Systematic Random Sampling – Definition, Merits | 18 |

| | and Demerits, Non-random sampling – Purposive ,Quota and Judgement sampling.(Only Theory). | |
|---|---|---|
| V | **UNIT – V: TESTING OF HYPOTHESIS**<br><br>Sampling distribution of Means, Standard Error- Uses of Standard Error – Testing of Hypothesis – Test Procedure – Type I error, Types II error  - One Tailed & Two Tailed Tests, - t - test- Testing Significance of Single Mean and Difference Between Two Means, Chi square test- Testing the Independence of Two Attributes, (Simple Problems). | 18 |
| Unit VI | **Self study**<br><br>Skewness- measures of skewness- karl pearson, Bowley and Kelly – moments-kurtosis.(theory only) | |

**TEXT BOOKS:**

1. Gupta S.P                              - Statistical methods, Sultan Chand and Son's
                                                New Delhi (2014)

2. Gupta, S.C                             -  Fundamentals of Applied Statistics, Sultan
                                                Chand and son's New Delhi (2005)

**REFERENCES:**

1. Nagar AL and Das RK             - Basic statistics Oxford University
                                                Press New Delhi.

2. Salvatore Dominick               - Statistics and Econometrics Mc. Graw Hill Co.,
                                                New Delhi.

3. Morris Carl. N and John E Rolph - Introduction to Data Analysis and
                                                Statistical Inference Prentice , Hall Inc. Engle
                                                wood Cliffs, New Jersey 07632

4. Speigal MR                            - Theory and problems of Statistics, Mc Graw hill
                                                Book Company.

5.Crozton Cowden and Klein      - Applied General Statistics, Prentice hall of
                                                India New Delhi.

6.Chou Y                                   - Statistics Analysis Holy Reinhart and Winston,
                                                New Delhi.

**Courses outcomes**

CO1:Understand the concepts of parameters co efficient and it   functions

CO2:Know the definitions and signs of derivatives.

CO3:Understand the matrix and algebra.

CO4:Explain cramers' rule.

CO5:Understand input output model

**Mapping of  Course outcomes with Programme outcomes/ Programmes Specific outcomes**

| CO / PO | PO | | | | | PSO | | | | |
|---------|----|----|----|----|----|-----|----|----|----|----|
| | **1** | **2** | **3** | **4** | **5** | **1** | **2** | **3** | **4** | **5** |
| CO1 | S | S | S | M | S | S | S | S | S | S |
| CO2 | S | M | S | M | S | S | S | S | S | S |
| CO3 | S | S | S | M | S | S | S | S | S | S |
| CO4 | S | M | S | M | S | S | S | S | S | S |
| CO5 | S | S | S | M | S | S | S | S | S | S |

| Semester – ELECTIVE COURSE-II | ENVIRONMENTAL ECONOMICS | Course Code :PGEE2 |
|---|---|---|
| Instruction Hours : 6 | Credits : 5 | Exam Hours: 3 |
| Internal Marks : 25 | External Marks : 75 | Total Marks : 100 |

| Cognitive Level | K - 1 Acquire / Remember |  |
|---|---|---|
|  | K - 2 Understand |  |
|  | K - 3 Apply |  |
|  | K - 4 Analyze |  |
|  | K - 5 Evaluate |  |
|  | K - 6 Create |  |
| Course Objective | **The course aims** |  |
|  | 1. To make the students familiarize with Economics on Natural Resource |  |
|  | 2. To make them aware of policy instruments for controlling pollution |  |
| **UNIT** | **Content** | **Hours** |
| I | **UNIT I : NEXUS BETWEEN ECONOMICS & ENVIRONMENTS** Material balance principle – Externalities & Market inefficiency – Property Right & Externality – Non Convexities and Externalities – Pareto Optional Provision of Public Goods – Common Property Resources. | 18 |
| II | **UNIT-II : THE THEORY OF ENVIRONMENTAL POLICY** Coase's Bargaining Solution and Collective Action- Monitoring and Enforcement of Environmental Regulation Global Environment – Externalities on Climate Change. | 18 |
| III | **UNIT III : NATURAL RESOURCE MANAGEMENT AND SUSTAINABLE DEVELOPMENT** Optimal Use of Exhaustible and Renewable Resources – | 18 |

| | | |
|---|---|---|
| | Environment and Development- Trade off Concept of Sustainable Development – Issues in Bio- Diversity. | |
| IV | **UNIT – IV: MEASUREMENT OF ENVIRONMENTAL VALUE** User Values, Option Values and Non-Use Values, Valuation Methods – Hedonic Property Values – Contingent Valuation Methods. | **18** |
| V | **UNIT – V: ENVIRONMENTAL AND NATURAL RESOURCE PROBLEMS IN INDIA** Mechanism for Environment Regulation in India – Legal Measures – Environmental Laws and their Implementation – Policy Instruments for Controlling Pollution Joint Forest Management –Social Forestry. | **18** |
| Unit -VI | **Self Study** Environmental Awareness-Dilemma of Environmental Ethics and practical problems-Plastic ban economics Vs environment | |

**TEXT BOOKS:**

1. M.L Jhingan            - Environmental economics Vrinta Publications 2007

2. Fisher A.C            - Resource and Environmental economics

3. Eugine . T            - Environmental Economics

4. Sankaran.S            -Environmental Economics

5. Karpagam.S            -Environmental Economics

**REFERENCES:**

1. Agarwal S.K            -Environmental Issues and Themes

2. SumiKrishna            - Environmental policies people' s lives and

           Development choices, sage- publications

3. Sandhya Venkatraman            - Environment and development Sage- publications

           New Delhi.

4. Neela Mukherjee                     - Participatory appraisal of Natural resources,

                                         Rewat publications, New Delhi.

5. Baumol W.J W.E Oates               - The theory of Environment policy

6. Sanker  U                          - Environmental Economics

**Course Outcomes**

| On completion of the course students should be able to |
|---|
| CO1:The  learn concepts and significance of environment Economics. |
| CO2:The understand course and familiarizes the sustainable development.. |
| CO3:Know the awareness of Global warming |
| CO4:Know the measurement of environmental values. |
| CO5:The basic skills in environmental legal policy. |

**Mapping of  Course outcomes with Programme outcomes/ Programmes Specific outcomes**

| CO   /  PO | PO | | | | | PSO | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
|  | **1** | **2** | **3** | **4** | **5** | **1** | **2** | **3** | **4** | **5** |
| CO1 | S | S | S | S | S | S | S | S | S | S |
| CO2 | S | S | S | S | S | S | S | S | S | S |
| CO3 | S | S | S | S | S | S | S | S | S | S |
| CO4 | S | S | S | S | S | S | S | S | S | S |
| CO5 | S | S | S | S | S | S | S | S | S | S |

| Semester – 3/Core Course – 8(CC) | RESEARCH METHOLOGY | Course Code :PGEI |
|---|---|---|
| **Instruction Hours : 6** | **Credits : 5** | **Exam Hours: 3** |
| **Internal Marks : 25** | **External Marks : 75** | **Total Marks : 100** |

| Cognitive Level | **K - 1 Acquire / Remember** <br> **K - 2 Understand** <br> **K - 3 Apply** <br> **K - 4 Analyze** <br> **K - 5 Evaluate** <br> **K - 6 Create** | |
|---|---|---|
| Course Objective | **The course aims** <br> • To define research, explain and apply research techniques in Economics <br> • To propose a research study and justify the theory as well as the methodological decisions, including Research Problem and Hypothesis <br> • To learn the sample design and to develop the skills for sampling and sampling techniques used to collect survey data <br> • To learn the Data Collection method and the Data Source based on the selected topic <br> • To learn the significance of Report writing and mechanics of thesis writing | |
| **UNIT** | **Content** | **Hours** |
| I | **TYPES OF RESEARCH** <br> Research -Meaning and Definitions, Types of Research - Features-Facts - Theory - Concepts - Causality - Objectivity in Research. | **18** |
| II | **RESEARCH PROBLEM AND HYPEOTHESIS** <br> Choice of the Research Problem - Factors involved in the choice - Review of Literature - Characteristics of a Good Hypothesis | **18** |
| III | Census Method - Sampling Method - Methods of Sampling: Random | **18** |

| | | | |
|---|---|---|---|
| | sampling method - Judgement Method - Stratified, Systematic, Quota and Multistage sampling Method - Sampling and Non Sampling errors -Methods of reducing both Sampling size - Scaling techniques - Research design. | | |
| IV | **DATA SOURCE**<br><br>Merits and Demerits - Methods of collecting Primary data - Schedule methods - Observation Methods - Interview method -Questionnaire Method- Qualities of a good Questionnaire - Secondary data - Merits and Demerits -Sources of Secondary data- Published and Unpublished. | | 18 |
| V | **RESEARCH REPORT WRITING**<br><br>Meaning of analysis -Editing -Coding - Classification of Research - Statistical and Mathematical tools of Analysis -Research Report writing. | | 18 |
| Unit –VI | **Self study**<br><br>Research process- Data Types Qualitative and Quantitative Research – Types of research Report | | |

**Text books:**

1. Bajbai,S.R.                          -  Methods of social Survey and Research Kitab
                                               Mahal,Kanpur.1976.

2. Kothari C.R                        - Research Methodology,New  age Publications,
                                               2014.

3. Wilkinson and Bhandarkar   - Methodology and techniques of Social research
                                               Himalaya Publishing House,Mumbai,1994.

4. P.Saravanavel                    - Research Methodology KitabMahalagencies,
                                               Allahabad,2007.

**Reference Books:**

1. Goode W.J and Hatt P.K     - Methods in Social Research,MCGraw- Hill
                                               London,1965.

2. Bhatnaga P                        - Research Methods and Measurements in
                                               Behaviour and  Social, New Delhi,  Agra, Cole
                                               Publishing Academy.

3. Gupta,  S.P                 -   Statistical Methods , Sultan Chand &Co ,

                       NewDelhi,  1992.

**Web-Resources**:

1.http://dare.nic.in

2..http://planningcommission.gov.in

---

**Course Outcomes**

On completion of the Course, Students should be able to

CO1:Understand the research and apply research techniques in Economics

CO2:Understand a research study and justify the theory as well as the methodological

decisions, including Research Problem and Hypothesis

CO3:know the sample design and to develop the skills for sampling and sampling techniques

used to collect survey data

CO4:Collect the Data based on the selected topic

CO5:know Report writing and mechanics of thesis writing

---

**Mapping of  Course outcomes with Programme outcomes/ Programmes Specific outcomes**

| CO / PO | PO | | | | | PSO | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| CO1 | S | S | S | S | S | S | S | S | S | S |
| CO2 | S | S | S | S | S | S | S | M | S | S |
| CO3 | S | S | M | S | M | S | S | S | M | S |
| CO4 | S | S | S | S | S | S | S | M | M | S |
| CO5 | S | S | S | M | S | S | S | S | S | S |
| | | | | | | | | | | |

| Semester – 3/ core course – (EE) | Computer Applications in Economics | Course Code :PGEE3a |
|---|---|---|
| Instruction Hours : 6 | Credits : 4 | Exam Hours: 3 |
| Internal Marks : 25 | External Marks : 75 | Total Marks : 100 |

| Cognitive Level | K - 1 Acquire / Remember |  |
|---|---|---|
|  | K - 2 Understand |  |
|  | K - 3 Apply |  |
|  | K - 4 Analyze |  |
|  | K - 5 Evaluate |  |
|  | K - 6 Create |  |
| Course Objective | The course aims<br>• Make the students to use internet in higher study and Research work.<br>• To Know the concepts of social networking sites |  |
| Unit | Content | Hour |
| Unit -1 | **INTRODUCTION TO COMPUTER**<br>Evolution, Generations and Classification of computers - Hardware and Software - C.P.U and its Functions - Input and Output devices - Application of computers in Economics and Business | 18 |
| Unit –II | **WORLD WIDE WEB**<br>Internet Basics - Browsing internet - Using search engines - Opening E-mail ID. Sending and Checking E -mail - Downloading text from internet | 18 |

**Text Book:**

1. Rajaraman.V- Fundamentals of computers, Prentice Hall of India, New Delhi. (1996)
2. Sinha        - Computer Fundamentals PB, Publications, New Delhi. (1992)
3. K Danasekaran      - Computer Applications in Economics Vrinta   publications (2010)

**Reference Book;**

1. Rajaraman.V- Fundamentals of computers, Prentice Hall of India, New Delhi. (1996)
2. Sinha        - Computer Fundamentals PB, Publications, New Delhi. (1992)
3. K Danasekaran      - Computer Applications in Economics Vrinta   publications (2010)

**Web-Resources**:

    1.www.spss.com

    2.www.ats.ucla.edu

    3.www.utexas.edu

    4.www.indiana.edu

---

**Course Outcomes**.

On completion of the course students should be able to

CO1:Use internet in higher study and Research work

CO2:Understand  the concepts of social networking sites

---

**Mapping of  Course outcomes with Programme outcomes/ Programmes Specific outcomes**

| CO / PO | PO | | PSO | |
|---|---|---|---|---|
| | 1 | 2 | 1 | 2 |
| CO1 | S | S | S | S |
| CO2 | S | S | S | S |
| CO3 | S | S | S | S |
| CO4 | M | M | S | S |
| CO5 | S | S | S | S |

| Semester – 4/ core course – (CC) | Agricultural Economics | Course Code :PGEM |
|---|---|---|
| **Instruction Hours : 6** | **Credits : 5** | **Exam Hours: 3** |
| **Internal Marks : 25** | **External Marks : 75** | **Total Marks : 100** |

| Cognitive Level | **K - 1 Acquire / Remember** <br> **K - 2 Understand** <br> **K - 3 Apply** <br> **K - 4 Analyze** <br> **K - 5 Evaluate** <br> **K - 6 Create** | |
|---|---|---|
| Course Objective | **The course aims** <br> • To know the nature of Agricultural Economics. <br> • To understand the concept of Cropping Pattern. <br> • To understand the sources of Agricultural Finance. <br> • To know the channels of Agricultural Marketing <br> • To understand the promotional strategies in Agriculture | |
| **Unit** | **Content** | **Hour** |
| **Unit -1** | **NATURE OF AGRICULTURAL ECONOMICS** <br> Nature and Scope of Agricultural Economics -Features of Indian Agriculture - Inter relationship between Agriculture and industry- Significance of Agriculture in India - Inter sectoral Linkage - Agri and Agro based Industries. | 18 |
| **Unit –II** | **CROPPING PATTERN** <br> Meaning - Factors - Productivity Trends in Area Production -Productivity and strategies -Crop Insurance- sea farming | 18 |
| **Unit –III** | **AGRICULTURAL FINANCE** <br> Meaning -Needs - Types - Source - Role of Co-operatives, Commercial Bank - NABARD in rural  Finance -Problems - Institutional  - Non -Institutional Finance | 18 |
| **Unit –IV** | **AGRICULTURAL MARKETING** <br> Marketed and marketable surplus - Marketing of Agro- based Industrial Produces - Agricultural marketing System -Need for marketing Research - Procedure for Conducting Marketing Research -Food Corporation of India - | 18 |

| | | |
|---|---|---|
| | TNCSC- Agricultural Pricing Policy Marine Products Market | |
| **Unit –V** | **PROMOTIONAL STRATEGIES**<br><br>Organic- In-organic fertilizers- Compost manure - Bio-fertilizer - Recycling of Agricultural Products - Value Addition of Agricultural Commodities - Cold storage - Prospects of Agricultural Business in India - Marine Producers Cartels- MNCs in Fisheries Business | 18 |
| **Unit –VI** | **Self study**<br><br>Agricultural Policy vision – Brief comment and assessment of the Agricultural policy- Farmer suicide in India. | |

**Text Book:**

    1.B.P. Vasant Desai       - Agricultural Economics, Rural development, Jai Prakash North Publication.1996.

    2. V. Natakarani        - Agricultural Prices and Development with stability

    3.S.Sankaran          - Indian Economy, Margham Publication, Chennai – 2015

**Reference Book:**

    1. Government of India       - Agricultural Marketing Reports

    2. RuddarDutt and K.P.M.Sundaram    - Indian Economy S.Chand Ltd, NewDelhi 2015.

**Web- Resources:**

1. http://dare.nic.in
2. http://ari.gov.in
3. http://aquaculture.tn.nic.in
4. http://agricoop.nic.in
5. http://drdpat.bih.nic.in
6. http://www.nddb.org

**Course Outcomes:**

On completion of the course students should be able to

CO1:Know the nature of Agricultural Economics

CO2:Understand the concepts of Cropping Pattern

CO3:Understand the sources of Agricultural Finance

CO4:know the channels of Agricultural Marketing\

CO5:Understand the promotional strategies in Agriculture

**Mapping of  Course outcomes with Programme outcomes/ Programmes Specific outcomes**

| CO / PO | PO | | | | | PSO | | | | |
|---------|---|---|---|---|---|---|---|---|---|---|
|         | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| CO1 | S | S | S | S | S | S | S | S | S | S |
| CO2 | S | S | S | S | S | S | S | S | S | S |
| CO3 | S | S | S | S | S | S | S | S | S | S |
| CO4 | S | S | S | S | S | S | S | S | S | S |
| CO5 | S | S | S | S | S | S | S | S | S | S |