
SEMESTER V 4 Papers

Total 100 x 4 = 400 Marks

I. <u>ECONOMICS SPECIFIC (DSE 1):</u> (Credits: Theory-05, Tutorial-01)

<u>Either Group 'A' or 'B'</u>

Marks : 25 (MSE: 1Hr) + 75 (ESE: 3Hrs)=100	Pass Marks (MSE + ESE) =40

Instruction to Question Setter for
<u>Mid Semester Examination (MSE):</u>
*There will be **two** group of questions. **Group A is compulsory** and will contain five questions of **very short answer type** consisting of 1 mark each. **Group B will contain descriptive type** six questions of five marks each, out of which any four are to answer.*

<u>End Semester Examination (ESE):</u>
*There will be **two** group of questions. **Group A is compulsory** and will contain two questions. **Question No.1 will be very short answer type** consisting of ten questions of 1 mark each. **Question No.2 will be short answer type** of 5 marks. **Group B will contain descriptive type** six questions of fifteen marks each, out of which any four are to answer.*
***Note:** There may be subdivisions in each question asked in Theory Examinations.*

DSE 1A. ADVANCE MATHEMATICAL ECONOMICS

Theory: 75 Lectures; Tutorial:15 Lectures

1. **Functions of two and more than two variables**
   Diagrammatic representation of plane sections of surfaces; Functions of several variable in economic theory; Production function and iso product curves; Utility function and indifference curves.

2. **Constrained Maximum and Minimum Values**
   Consumer's equilibrium, Producer's equilibrium, Expansion path

3. **Partial Derivatives and Total Differentials**
   Technique of Partial differentiation; Economic applications of partial derivatives – homogeneous functions , Euler's theory and other properties of homogeneous production function; Linear and homogeneous production function – Cobb-Douglas production function; Concept and technique of total differentiation; Economic application of total differentiation – marginal rate of substitution and elasticity of substitution.

4. **Integral calculus and Differential Equations**
   Definite integrals, Indefinite integrals and inverse differentiation, Relation between average and marginal concepts, Linear deferential equation and their integration, Simultaneous linear differential equations, Orthogonal curves and surface systems; Other differential equations; Dynamic forms of demand supply function.

5. **Market Structure/Pricing**
   Concept of equilibrium of the firm under perfect competition; Monopoly; Price discrimination; Monopolistic Competition; subsidies and taxes; economies of scale; market equilibrium.

6. **Matrix Algebra**
   Types of Matrices; Determinants – Inverse, rank, Cremer's rule; Simultaneous equations – homogeneous, non – homogeneous;

7. **Input –output Analysis, Linear Programming**
   Input- output analysis; the simple closed and open model; Simon-Hawkins condition; Linear Programming – basic concepts, primal and dual, basic theorems of Linear Programming; graphical method.

8. **Game Theory**
   Introduction and concepts – simple and mixed strategy; saddle point solution; prisoners dilemma; pay-off matrix of a game – two-person-two commodity and zero-sum game.

Basic Readings:

- A.C.Chiang- Fundamentals of Mathematical Economics, Mc Graw Hill. New York
- R.G.D Allen- Mathematics for Economics, Mc Milan Press.
- Taro Yamane- Mathematics for Economics- An Elementary Survey Prentice Hall of India, Pvt.Ltd.New Delhi.

OR

DSE 1B. ECONOMICS OF AGRICULTURE

Theory: 75 Lectures; Tutorial:15 Lectures

1. Nature, Scope and Role of Agricultural Economics
2. Role of Land, Labor and Capital in Agriculture
3. Theory of Productions: Factor-Product relationship, Factor-Factor relationship, Product-Product relationship.
4. Cost relationship and Profit maximization
5. Agricultural, Price Determination
6. Supply behavior in Agriculture
7. Farm Size and Productivity, Farm Management
8. Risk and uncertainty in Farming

Basic Readings -

- Sadhu A.N., Singh Amarjeet: Fundamentals of_ Agricultural Economics, Himalayan Publishing House
- Raju V.T. & Vishnu Shankar Rao: Economics of Farm Production and Management; Oxford & IBH Publishing Co. Pvt. Ltd.
- Bilgramy, S.R.: An Introduction to Agricultural Economics
- Sony, R.N.:{Leading Issues in Agricultural Economics
