

THE FOLLOWING ARE THE SUBJECTS PRESCRIBED FOR

### SEMESTER-IV

Sr. No.	Subject	credit	Evaluation		Title of the Subject	Course No.
			Internal max/min (30/12)	External max/min (70/28)		
1	Foundation-4	2+0	30	70	Rural Industrialization	M.FND-411
2	Core-4	0+2	30	70	1. Agronomy-4 2. Horticulture & Forestry -4 3. Animal Husbandry-4 4. Rural Extension-4 5. Rural Economics-4	M.Agro.-401 M.Hort.-401 M.AH.-401 M.Ext-401 M.Eco-401
3	Elective-10	2+0	30	70	1. Value Addition in Agriculture products 2. Theories of Economic Development 3. Care and Handling of Animal	M.ELT-411 M.ELT-412 M.ELT-413
4	Elective-11	2+0	30	70	1. Gandhian Approach to Rural Development 2. Agri. Business Management 3. Managerial Economics	M.ELT-421 M.ELT-422 M.ELT-423
5	Elective-12	2+0	30	70	1. Biotechnology in Plants and Animals 2. Integrated Insect Management 3. Agriculture Processing And Marketing	M.ELT-431 M.ELT-432 M.ELT-433

# MASTER OF RURAL STUDIES

SEMESTER – IV

Foundation-4

Subject: - Rural Industrialization (M.FND-411)

Marks-100

## Objectives:

1. To understand the importance of rural industries
2. To know the roll of rural industries in the development of Indian economy
3. To familiarize with government policy of rural industry
4. To understand the Gandhian thoughts of rural development
5. To know the problems and remedial measures of rural industrialization

## Course:

1. Meaning, Importance and Objectives of Rural Industrialization– the Relation between Agriculture and rural Industries. Roll of Rural Industries in agriculture and rural development. 25%
2. Agro – Industries – Importance, Present State, Potential problems, remedial measures. 20%
3. Gandhian thought on rural industries, relevancy of Gandhian vision in contemporary time. 15%
4. Status of Rural Industries in Industrial policy. Globalization and rural industries 20%
5. Problems of Rural Industries in India - Remedial Measures. 20%

## Reference Book:-

1. Rural development – in India  
- S.R. Maheshwar.
2. Rural Development.  
- Katar sing
3. Gandhian Approach to Rural Development.  
- Dilip shah.
4. The Fortune at The Bottom of The Pyramids  
- C.K Prahlad.
5. Industrial Economy in India  
- Desai B.
6. Industries Growth in India.  
- Ahuliwalia I.J
7. India of My Dreams.  
- Gandhi M.K
8. The Indian Economy – Problem and Prospects.  
- Jalan B.
9. India: Planning for Inelustrialisation.  
- Bhagwati.J & P.Desai.

## MASTER OF RURAL STUDIES

### SEMESTER-IV

### CORE-4

**Subject:** Agronomy-4 (M.Agro-401)  
Horticulture & Forestry-4 (M.Hort-401)  
Animal Husbandry-4 (M.AH-401)  
Rural Extension -4 (M.Ext-401)  
Rural Economics.-4 (M.Econ-401)

**Title: Project Work and Dissertation/Thesis (0+2) Marks: 100**

#### Objectives:

- (1) To study the preparation of project proposal
- (2) To understand the project execution
- (3) To develop the skill about data collection from the field
- (4) To study about the analysis of data
- (5) To study the preparation of dissertation/thesis and how to draw the conclusion

#### Syllabus:

1. Institutional training (Placement) programme of 15 day is compulsory for all students during this semester and an "S" grade (satisfactory grade) has to be earned by all students.
2. Selection of project, preparation of proposal and sanction of project concerning the course teacher.
3. Implementation of project work and data collection.
4. Data analysis and preparation of dissertation or thesis
5. Submission of thesis/ dissertation to course teacher at least 15 day before the commencement of Semester End Examination.
6. Project work and the thesis/ dissertation may be prepared by an individual student or in a group of 5 students maximally.
7. A term paper on the topic given by the course teacher has to be prepared by all students individually.

#### Distribution of Marks:

##### (1) Internal assessment:

**Marks=30**

Internal assessment shall include following three criteria to evaluate a student:

- (i) Identification and Selection of a problem for project work and preparation of project proposal = 10 marks
  - (ii) Interest in work, devotion, responsiveness, sincerity and library work = 10 marks.
  - (iii) Term paper = 10 marks
- Above all three components will be evaluated by the respective course teacher only.

**(2) External Assessment: Marks= 70**

The external evaluation of a student shall be made by a panel of two teachers: One will be the course teacher and second will be a Subject Expert from the other college with equal mark sharing.

<u>PANEL</u>	<u>VIVA VOCE</u>	+	<u>DISSERTATION/ THESIS</u>	=	<u>TOTAL</u>
Member- 1(Course Teacher):	<b>20</b>	+	<b>15</b>	=	<b>35</b>
Member- 2 (Subject Expert) :	<b>20</b>	+	<b>15</b>	=	<b>35</b>

## MASTER OF RURAL STUDIES

**SEMESTER – IV**

**Elective-10**

**Subject: - Value Addition in Agril. product (M.ELT-411) Marks-100**

**Objectives:-**

1. Student gets knowledge about value addition in fruits, flowers and vegetable so able to get more income in his own farm product.
2. Able to create self, employment through canning industries.

**Course**

<b>Unit: - 1</b>	<b>Introduction to Value Addition</b>	<b>10%</b>
1.1	Definition – Value addition in fruits	
1.2	Importance of value addition	
1.3	Deferent step to Increase product value.	
1.4	Factor affecting in value addition.	
<b>Unit: - 2</b>	<b>Ripening symptoms and harvesting method of fruit crops</b>	<b>05%</b>
<b>Unit: - 3</b>	<b>Post harvest handling procedure</b>	<b>15%</b>
3.1	Cleaning	
3.2	Sorting	
3.3	Grading	
3.4	Treatments	
3.5	Packing	
3.6	Storage	
3.7	Transportation	
<b>Unit: - 4</b>	<b>Preservation</b>	<b>05%</b>
4.1	Importance of Preservation	
4.2	factors responsible for deterioration	
<b>Unit: - 5</b>	<b>Method of fruit Preservation</b>	<b>10%</b>
5.1	salt	
5.2	Sugar	
5.3	Dehydration	
5.4	Chemical	

5.5	Canning	
5.6	Acidic acid	
5.7	Freezing	
<b>Unit: - 6</b>	<b>Fruit Product</b>	<b>10%</b>
6.1	Canning of Mango juice	
6.2	Apple jam	
6.3	Mango papad	
6.4	Banana wafers	
6.5	Mango powder (Aam Churn)	
6.6	Chikoo Jam	
6.7	Pineapple Squash	
6.8	Guava pulp	
6.7	Guava jelly	
<b>Unit: - 7</b>	<b>Value addition in vegetables</b>	<b>10%</b>
<b>Unit: - 8</b>	<b>Value addition in flowers</b>	<b>10%</b>
<b>Unit: - 9</b>	<b>Export of fruits</b>	<b>10%</b>
9.1	Care taken for export quality	
9.2	Important fruits and methods for export.	
9.3	Mango	
9.4	Chikoo	
9.5	Banana	
<b>Unit: - 10</b>	<b>Export of vegetables</b>	<b>10%</b>
<b>Unit: - 11</b>	<b>Motivation policy of State &amp; National Horticulture Board.</b>	<b>5%</b>

**REFERENCES:-**

1. Fal visheshank (Gujarati)- krushi govidya, AAU, Anand
2. Shakhbaji visheshank (Gujarati)- krushi govidya, AAU, Anand
3. Ful visheshank (Gujarati)- krushi govidya, AAU, Anand

## MASTER OF RURAL STUDIES

SEMESTER – IV

Elective-10

**Subject: - Theories of Economic Development (M.ELT-412) Marks-100**

### Objective:

1. To know the Characteristics of Economic Development
2. To know the various theories of Economic Development
3. To know the factor affecting Economic Development

### Course:

1. Meaning and Definition of Economic Growth and Economic Development. Indicators of Development. Characteristics of Economic Growth, Factors of Economic Growth. 25%
2. Theories of Economic Development – Adam Smith, Ricardian Theory, Schumpeterian Theory, The Keynesian Theory, Rastow’s Stages of Economic Growth. 35%
3. Economic development – Population and Institution – Effect of Population Growth on Economic Development – The Theory of Demographic Transition, Meaning and importance of Human Capital Formation, Problems of Human Capital Formation. Criterion of Investment in human Capital, Entrepreneurship in Economic development – how To Encourage the Entrepreneurship, Role of the state in Economic development. 40%

### Reference Book:-

- |     |                                             |                 |
|-----|---------------------------------------------|-----------------|
| 1.  | Theories of Economic Growth and Development | Adelman T.      |
| 2.  | Economic Development                        | Ghatak .S.      |
| 3.  | Economic Development.                       | thiggins B.     |
| 4.  | Economic Theory And Un development Contries | Myinl           |
| 5.  | Population And Technological change         | Boserup E.      |
| 6.  | Growth and Development                      | Thirlwad A.P    |
| 7.  | Growth Economic                             | Sen A.K         |
| 8.  | “Economic Development “                     | Kindleberger.   |
| 9.  | “Essays in Economic Development”            | Rao V.K.R.V     |
| 10. | The Theory of Economic Development          | Sogynoeter J.A. |

**MASTER OF RURAL STUDIES**

**SEMESTER – IV** **Elective-10**

**Subject: - Care and Handling of Animals (M.ELT-413)** **Marks-100**

**Objectives:-**

1. To learn how to approach an animal.
2. To learn about how to control an animal
3. To understand the importance of routine procedures on the farm.
4. To understand the importance of care and management of different classes of animal.

**Course:-**

Unit:-1.	Casting of animals	20%
	1.1 Different casting methods.	
	1.2 Purposes of casting.	
Unit:-2.	Animal Handling and care.	25%
	2.1 Dairy colt rearing: Systems and essential steps.	
	2.2 Care and management of at different stage like pregnancy, Lactation and Parturition.	
Unit:-3.	Routine Procedures of farm	25%
	3.1 Castration	
	3.2 Training to young bulls.	
	3.3 Application of nose-ring.	
	3.4 Dehorning.	



Unit:-4	Care during transportation.	15%
	4.1 Transportation of chicks.	
	4.2 Transportations of broilers.	
Unit:-5.	Bull handling:	15%
	-Handling, Casting, Training. And polishing of breeding bulls	

**Reference:-**

1. A text book of animal husbandry -by G.C Banerjee
2. A text book of animal husbandry - ICAR

**MASTER OF RURAL STUDIES**

**SEMESTER – IV**

**Elective-11**

**Subject: - Gandhian Approach to Rural Develop. (M.ELT-421) Marks-100**

**Objectives:**

- (૧) વિદ્યાર્થીઓ ગાંધીજીના આમોદ્ધારના ખ્યાલ વિશે માહિતી મેળવશે.
- (૨) વિદ્યાર્થીઓ ગાંધીજીનું અર્થદર્શન સમજે.
- (૩) વિદ્યાર્થીઓ ગાંધીજીના બધુત્વનો ખ્યાલ મેળવે.

**Course:**

૧. આમોદ્ધાર માટે ગાંધીજીના પ્રયાસો		૩૫%
○ ગ્રામ્ય જીવનનું અવલોકન	○ સ્વચ્છતાની કેળવણી	
○ ગ્રામસેવક નો ધર્મ	○ ગામડાના રસ્તા અને રોડ	
○ ગામડા તરફ પાછા વળીએ	○ સર્વાંગી ગ્રામ સેવા	
○ સહકારી પશુપાલન	○ હરીજનોધ્યાર	
○ સ્ત્રી મુક્તિ.		
૨. ગાંધીજીનું અર્થદર્શન		૩૫%
○ પુર્ણ રોજગારી	○ મજૂર પ્રવૃત્તિ	
○ વાલીપણાનો (ટ્રસ્ટીશીપનો) સિદ્ધાંત	○ જાત મહેનત	
○ યત્રો પ્રત્યેનો અભિગમ	○ આર્થિક સમાનતા દ્વારા ગરીબી નિવારણ	
○ ખાદિ અને આમોદ્યોગ		
૩. ગાંધીજીના મતે બધુત્વ		૩૦%
○ પ્રેમભાવનો દિવ્ય સદેશ	○ સૌ જીવો એક જ છે	

○ યુદ્ધ અને શાંતિ

○ અણુ યુદ્ધ

○ શાંતિનો માર્ગ

**સદર્ભ ગ્રંથો :-**

- |                                          |                              |
|------------------------------------------|------------------------------|
| ૧. મહાત્મા ગાંધીના વિચારો                | – આર. કે. પ્રભુ, પુ. આર. રાવ |
| ૨. ગાંધીનું અર્થદર્શન – અનુવાદક          | – વિઠ્ઠલદાશ મગનલાલ કોઠારી    |
|                                          | – અબાલાલ મોતિલાલ પટેલ        |
| ૩. ખાદો અને આમોદ્યોગ દ્વારા ગરીબી નિવારણ | – ડૉ. ઠાકોરભાઈ નાયક          |
|                                          | – મુસ્તાઅલી મસવી.            |
| ૪. ગાંધીવાદી જીવનદર્શન અને અર્થવ્યવસ્થા  | – રમેશ બી. શાહ               |
| ૫. ગાંધીજીનું ધર્મદર્શન                  | – મગનભાઈ જે. પટેલ            |
| ૬. સમાજ સુધારણામાં ગાંધીજીનું પ્રદાન     | – અજના બી. શાહ               |
| ૭. ક્રાંતિકાર ગાંધી                      | – રામનારાયણ નાગરદાશ પાઠક     |

## MASTER OF RURAL STUDIES

**SEMESTER – IV**

**Elective-11**

**Subject: - Agri. Business Management (M.ELT-422)**

**Marks-100**

**Objective:**

The purpose of this course is to develop an understanding of the underlying concept, strategies and the issues involved in the exchange of products and services between the companies and rural markets and rural products to consumers.

**Course:**

**Unit: 1** Soils and Crop Management:

30%

-Soil Testing and Fertilizer use

-Integrated Plant Nutrition Management (IPNM)

-Integrated Pest Management (I.P.M.),

-Seed Production and Seed Technology

-Bio Composting: Nadep, C.P.P. Vermi-Compost, C.H.M. Heap Compost, P.S.B.Culture, Rhizobium Culture, B.G.A., Azotobacter,

-Bio Agents, Trico derma, Viveria Vasiana, Trico cards, Neem cake, Pheromantrape,

Horticultural Crop Management: Advance Farming Systems:

Nursery Management, Machan Farming, Staking, Mushroom Cultivation, Post Harvest, Zero Energy Cool Chamber, Onion Storage, IPM & IPNM in major fruit and vegetable crops.

Animal Husbandry and Dairy Management: Green Fodder, Urea Treatment of Straw, Beekeeping, Goatory UNIT, Milk Group, Hygienic Milk Production, Milk Cooperative.

**Unit: 2** Agricultural Marketing:

20%

2.1. Agro Marketing: Definition and Meaning, Marketing System, Importance of Agricultural Marketing, Advantages of Agri Marketing, Marketing Functions and Channels.

2.2 Classification of Marketing:

2.3 i. Regulated Markets,

ii. Cooperative Markets

**Unit: 3** Agri. Cooperatives 20%

Cooperation: Introduction, Meaning, Definition, Need and Importance, Principles, Development of Agricultural Co-operation and its Role and Importance and functions.

Structure of Cooperation in India: Kinds of cooperative societies and Self Help Groups, Farmers' Interest Group

Critical Analysis of Indian Cooperative Movement; Advantages of cooperative Movement Weakness of Cooperative Movement, State Aid Control and Cooperative Movement, Efforts of Central Government for the Improvement of co- operative Sector

**Unit: 4** Agro Export 20%

4.1 Concept of Export as Agro Business.

4.2 Agri Export Policies

4.3 Import Versus Export Value of cereals and other Agricultural Commodities

**Unit: 5** Agro Business Management Case Studies 10%

**References:**

1. Rural Marketing Mgt.: Raja Gopal (Discovery Publications)
2. Marketing Mgt: Philip Kilter
3. Marketing Mgt: T.N.Chhabra
4. Principles of Marketing: Armstrong & Kotler

## **MASTER OF RURAL STUDIES**

**SEMESTER – IV**

**Elective-11**

**Subject: - Managerial Economics (M.ELT-423)**

**Marks-100**

**Objective:**

The objective of this course is to provide the students an appreciation of the use of the concepts and tools of economic analysis in relation to managerial decision-making and to enable them to understand the economic forces governing industry and business.

**Course:**

UNIT-1	INTRODUCTORY:	20%
	Scope and Method of Managerial Economics, Five Fundamental concepts, The Incremental concept, Time perspective, and Discounting Principle, Role and responsibilities of Managerial Economist	
UNIT- II	DEMAND ANALYSIS:	20%
	Basic concepts of Demand Utility Analysis, Budget Line, Price, Income and substitution effects, Law of Demand, Demand Function, Elasticity of Demand, Demand Forecasting	
UNIT- III	PRODUCTION AND COST ANALYSIS	20%
	Production Function, Laws of Variable Proportions, Returns to Scale, Iso-product curves, Classification of costs.	
UNIT-IV	MARKET STRUCTURE AND PRICING	20%

Perfect competition, Monopoly, imperfect Competition, Pricing under different Market structure Price discrimination

**UNIT-V PROFIT MANAGEMENT:**

20%

Nature and concept of Profit, Measurements of Profit, Concept of Risk and uncertainty Theories of Profit Planning and Forecasting Profit Policies.

**References:**

1. G.S.Gupta. Managerial Economics
2. D.N.Dwivedi Managerial Economics
3. Salvatore Dominick Managerial Economics in global Economy
4. Adhikari Managerial Economics
5. Peterson and Levis Managerial Economics

## **MASTER OF RURAL STUDIES**

**SEMESTER – IV**

**Elective-12**

**Subject: - Biotechnology in plant & Animal (M.ELT-431)**

**Marks-100**

**Course:**

1. Tissue culture 20%
  - 1.1 What is tissue culture?
  - 1.2 Methods of tissue culture.
  - 1.3 General procedure to raise a plant by cell culture.
  - 1.4 Use of tissue culture in agriculture.
2. B.T Seeds: - 10%
  - i. What is B.T Seeds?
  - ii. Use of B.T Seeds in Crop Production
  - iii. Merits and demerits of B.T Seeds
3. Use of Bio – technology in crop Production 20%
4. Bio – technology in Animal Husbandry 10%
  1. Introduction
  2. Use in Animal Husbandry.
5. Cloning: - 20%

1. Methods of Conning
2. Uses of Conning
3. Conning Method of “Dolly” Sheep Production
6. Multiple ovulation and embryo transfer (MOET) 20%
  - i. Multiple ovulation And its Uses
  - ii. Advantage of M.D.E.T
  - iii. Transgenic animal and Genetic Engineering

**References:-**

1. Jamin Vigyan and Vyavastha (guj. Ed.)  
- Babubhai Avarani.
2. Pragatishil kheti (guj. Ed.)  
- Pub. By Sardar Smruti Kendra,  
- Junaghdh Agri. Uni . Junaghdh
3. Veterinary Obstetrics and Gynecology.  
- Kodagali and Bhuj.
4. Bio – technology vishheshnk (Godarshan)  
- Guj .Ed.

## MASTER OF RURAL STUDIES

**SEMESTER – IV**

**Elective-12**

**Subject: - Integrated Insect Management (M.ELT-432)**

**Marks-100**

**Objectives:-**

1. Students should be aware about insects ,its nature ,lifecycle and control measures
2. Introduction to plant diseases ,its causes ,symptoms in plant and principles of disease control to the student
3. The student should know about weeds ,its disadvantages ,dispersal ,classification and control measures

**Course:**

<b>Unit- 1</b> Structure of insect, lifecycle of insect and its feeding habits	20%
<b>Unit: 2</b> Characteristics for survival of insects on the earth	20%
<b>Unit: 3</b> Insect control	30%
<ol style="list-style-type: none"> <li>1.1. Natural methods of insect control</li> <li>1.2. Artificial method of insect control               <ol style="list-style-type: none"> <li>a) Physical and mechanical methods of insect control</li> <li>b) Cultural methods of insect control</li> </ol> </li> </ol>	

- c) Biological method of insect control
- d) Legal method of insect control
- e) Chemical method of insect control
- f) Integrated Pest Management(I.P.M)

**Unit: 4** Marks of identification, nature of damage, host range, metamorphosis, lifecycle and integrated insect control of following insects 30%

- 1.3. Heliothis
- 1.4. Prodenia
- 1.5. Aphids
- 1.6. Jassids
- 1.7. Thrips
- 1.8. Surface grass hopper
- 1.9. White grub, Whitefly and Fruit fly

**Reference-:**

- 1. Principles And Procedures Of Plant Protection -S.B.CHATTOPADHYAY
- 2. Insect-Pests Of Crops -S.PRADHAN
- 3. Biology Of Insects -S.C.SAXENA
- 4. General Entomology(3<sup>rd</sup> edition) -M.S.MUNI
- 5. Sampurna Pak-Sarakshan(part-1) Gujrati edition –BABUBHAI AVARANI
- 6. Principles And Procedures Of Plant Protection(3<sup>rd</sup> edition)-S.B.CHATTOPADHYAY
- 7. Sampurna Pak Sarakshan(part-II) Gujrati edition-BABUBHAI AVARANI

## MASTER OF RURAL STUDIES

**SEMESTER – IV**

**Elective-12**

**Subject: - Agril. Processing & Marketing (M.ELT-433)**

**Marks-100**

**Objectives:**

- 1. To know the relationship between the Agricultural Production and Price
- 2. To Understand the importance of Agricultural Products Processing
- 3. To acquire knowledge about the Agricultural marketing mechanism
- 4. To identify the limitation of Agricultural marketing and to think about the remedial measures of it

**Course:**

**Unit: 1** Market- Meaning and structure. Contribution of Agri. Marketing in Agricultural Development 15%

**Unit: 2** Present State of Agricultural Marketing in India. Difference between Agri. Product and Industrial Product Market, Limitation of Agricultural Marketing in India, Steps taken to improve Agri. Marketing, Regulated Markets, Co-operative Marketing 35%

**Unit: 3.** Determination of Prices of Agri. Product. Market-Mechanism Cobweb theorem, Price and output relationship 30%

**Unit: 4.** Contribution of Agri. Progressing in Agri. Development Scope and Problems of Agro-industry, remedial measures 20%

**References:**

1. An Introduction to Agricultural Economics - Bilsrami SAR
2. Agricultural Problems in India - Sadhu and Sing
3. Rural Development - Sundharam I.S.
4. Indian Agricultural Economics - Rudra A
5. ભારતનું કૃષિક્ષેત્ર—વિકાસ અને પડકારો ડૉ.બી.એચ.જોષી
6. Agricultural Marketing Strategies in India - J. Mohan ray
7. Indian Economy - Ruddar Datt K.P.M Sundharam.