THE FOLLOWING ARE THE SUBJECTS PRESCRIBED FOR

**SEMESTER-IV**

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

SEMESTER – IV

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

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
   - 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.
MASTER OF RURAL STUDIES

SEMESTER-IV

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.

<table>
<thead>
<tr>
<th>PANEL</th>
<th>VIVA VOCE</th>
<th>DISSERTATION/THESIS</th>
<th>TOTAL</th>
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<tbody>
<tr>
<td>Member- 1 (Course Teacher):</td>
<td>20</td>
<td>+ 15</td>
<td>35</td>
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<tr>
<td>Member- 2 (Subject Expert):</td>
<td>20</td>
<td>+ 15</td>
<td>35</td>
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</table>
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

Unit: - 1 Introduction to Value Addition  10%

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.

Unit: - 2 Ripening symptoms and harvesting method of fruit crops  05%

Unit: - 3 Post harvest handling procedure  15%

3.1 Cleaning
3.2 Sorting
3.3 Grading
3.4 Treatments
3.5 Packing
3.6 Storage
3.7 Transportation

Unit: - 4 Preservation  05%

4.1 Importance of Preservation
4.2 factors responsible for deterioration

Unit: - 5 Method of fruit Preservation  10%

5.1 salt
5.2 Sugar
5.3 Dehydration
5.4 Chemical
5.5 Canning  
5.6 Acidic acid  
5.7 Freezing  

Unit: - 6 Fruit Product  

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  

Unit: - 7 Value addition in vegetables  

Unit: - 8 Value addition in flowers  

Unit: - 9 Export of fruits  

9.1 Care taken for export quality  
9.2 Important fruits and methods for export.  
9.3 Mango  
9.4 Chikoo  
9.5 Banana  

Unit: - 10 Export of vegetables  

Unit: - 11 Motivation policy of State & National Horticulture Board.  

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:


2. Theories of Economic Development – Adam Smith, Ricardian Theory, Schumpeterian Theory, The Keynesian Theory, Rastow’s Stages of Economic Growth. 35%


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
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 Transportation 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 Devlop. (M.ELT-421) Marks-100

Objectives:
(1) गाजीजनांना आमोड्याना प्याव विशेष महत्त्वाची मेणावे.
(2) गाजीजनांना अर्धश्रीदेश समेत.
(3) गाजीजनांना अभ्यासातील प्याव मेणावे.

Course:
1. आमोड्याच्या मध्ये गाजीजनाचे प्रयासे 15%
   - गाम्य चर्यांच्या अन्वेषण
   - गाम्यवेग नोंदे पर्यावरण
   - गाम्य तक्तांची पातळी पदार्थ
   - सहकारी पूजुपावण
   - रसी मुक्त.

2. गाजीजनाचा अर्धश्रीदेश 15%
   - पुढे रोशनारी
   - गाजीजनांना (उद्दीपकपणे) सिद्धानत
   - अतीत चर्या अलगवाय
   - बाह्य अनेक आमोड्यांचे

3. गाजीजनाचा मंद भुवन 30%
   - प्रेमवानांना हिताच संदेश
   - सोळ जवळ सेल जे आहे
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:
- Soil Testing and Fertilizer use
- Integrated Plant Nutrition Management (IPNM)
- Integrated Pest Management (I.P.M.),
- Seed Production and Seed Technology
- 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:
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
Subject: - Managerial Economics (M.ELT-423)

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

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.

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MASTER OF RURAL STUDIES

SEMMESTER – 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:

Unit- 1 Structure of insect, lifecycle of insect and its feeding habits  20%

Unit: 2 Characteristics for survival of insects on the earth  20%

Unit: 3 Insect control  30%

   1.1. Natural methods of insect control
   1.2. Artificial method of insect control
       a) Physical and mechanical methods of insect control
       b) Cultural methods of insect control
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  

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(3rd edition) - M.S.MUNI  
5. Sampurna Pak-Sarakshan(part-1) Gujarati edition - BABUBHAI AVARANI  
7. Sampurna Pak Sarakshan(part-II) Gujarati 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  


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

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. भारतातून वृद्धिकाळ-विकास अने पर्याये - श्र.भ.अंब.जोशी
6. Agricultural Marketing Strategies in India - J. Mohan ray