FACULTY OF RURAL STUDIES

BHAKTA KAVI NARSINH MEHTA UNIVERSITY – JUNAGADH

MRS PROGRAMME (HONOURS/RESEARCH) AS PER NEP – 2020, UGC GUIDELINES & SOP

MRS SEMESTER – 1

Sr. No.	Course Category	Subject Code	Course Name	INTERNAL	EXTERNAL	Total Marks	Credit (Th+Pra)	Total Credit
1	Discipline Specific Core **DSC - 1**		1. Agronomy	30	70	100	4+0	4
			2. Horticulture & Forestry	30	70	100	4+0	
			3. Animal Husbandry	30	70	100	4+0	
			4. Rural Extension	30	70	100	4+0	
2	Discipline Specific Core **DSC - 2**		1. Agronomy	30	70	100	4+0	4
			2. Horticulture & Forestry	30	70	100	4+0	
			3. Animal Husbandry	30	70	100	4+0	
			4. Rural Extension	30	70	100	4+0	
3	Discipline Specific Core **DSC - 3**		1. Agronomy	30	70	100	4+0	4
			2. Horticulture & Forestry	30	70	100	4+0	
			3. Animal Husbandry	30	70	100	4+0	
			4. Rural Extension	30	70	100	4+0	
4	Discipline Specific Elective **DSE - 1**		Agronomy	30	70	100	4+0	4
			Animal Husbandry	30	70	100	4+0	
			Horticulture	30	70	100	4+0	
			Rural Extension	30	70	100	4+0	
			Reproduction in Farm Animals	30	70	100	4+0	
5	Discipline Specific Elective **DSE - 2**		Agronomy	30	70	100	4+0	4
			Animal Husbandry	30	70	100	4+0	
			Horticulture	30	70	100	4+0	
			Rural Extension	30	70	100	4+0	
			Rural Technology	30	70	100	4+0	
6	Skill Enhancement Course **SEC - 1**		Application of Computer in Agriculture	15	35	50	2+0	**2**
			Farm Labour Management	15	35	50	2+0	
			Social Reconstruction - 1	15	35	50	2+0	
								22

Note : THE SYLLABUS FORMRS SEMESTER -1 & 2 FOR HOUNORS DEGREE AND THE MRS SEMESTER - 1 & 2 RESEARCH DEGREE IS SIMILAR AS GIVEN ABOVE.

Faculty: - Rural Studies

Name of Course	Sem.	DSC/ DSE/ SEC/ OJT/ Dissertation / RP	Subject Code	Course Title	Credits	INTERNAL	EXTERNAL	Total Marks	EXTERNAL Duration
M.R.S.	1	DSC - 1		Agronomy	4+0	30	70	100	2.30 Hrs.

Title : Advanced Agronomy

Course Objectives:

1. To provide in-depth knowledge of crop production principles and modern farming practices.
2. To understand the management of resources like water, soil, and nutrients efficiently.
3. To introduce students to precision farming, sustainable agriculture, and climate-resilient strategies.

Course Outcome:

By the end of this course, students are equipped to become Agronomists, Farm Managers, or Research Scientists capable of solving complex agricultural problems using scientific data and modern technology

Syllabus Content :

Unit 1: Climate Smart Agronomy **20%**

1.1 Climate Change and Crop Production
1.2 Carbon Sequestration
1.3 Green House Gas Mitigastion
1.4 Resilient Cropping System

Unit 2 : Precision Agronomy and Digital Technology **20%**

2.1 Remote Sensing
2.2 GIS / GPS Application
2.3 IOT Based Crop Monitoring
2.4 Drone Technology
2.5 Variable Rate Technology

Unit 3 : Conservation Agronomy and Resource Management **20%**

3.1 Zero Minimum Tileg
3.2 Cover Cropping
3.3 Crop Residue Management
3.4 Water Use Efficiency
3.5 Micro Irrigation Advancing

Unit 4 : Sustainable Cropping System and Agroecology **20%**

4.1 Crop Diversification
4.2 Intercropping Science
4.3 Agro forestry System
4.4 Cover Crop Based Rotation
4.5 Biodiversity and Pollinator Management

Unit 5 : Natural and Biological Agronomy 20%

5.1 Soil Health and Microbial ecology
5.2 Bio fertilizer
5.3 Composting Technology

5.4 Natural Farming Principles
5.5 Certification Standard

References:

1. Principles of Agronomy by S.R. Reddy
2. Modern Techniques of Raising Field Crops by Chhidda Singh
3. Weed Management by U.S. Walia
4. Precision Farming by K.R. Krishna
5. Irrigation Agronomy by S.R. Reddy
6. A Handbook of Rural Studies by Dr. K.R.Bharad

Faculty: - Rural Studies

Name of Course	Sem.	DSC/ DSE/ SEC/ OJT/ Dissertation / RP	Subject Code	Course Title	Credits	INTERNAL	EXTERNAL	Total Marks	EXTERNAL Duration
M.R.S.	1	DSC - 1		Horticulture & Forestry	4+0	30	70	100	2.30 Hrs.

Course Title : MANAGEMENT OF FRUIT CROPS

Objective;

1 Students get knowledge about recent production Technology of fruit crops
2 To know the principle of production so useful in progressive Army
3 Create self employment source

Course Outcomes :

Ideally, this course transforms students into skilled professionals capable of managing commercial orchards, working in fruit nurseries, or serving as agricultural extension officers with specialized knowledge in pomology (fruit science).

Syllabus Content

Unit-1 Important pest and its management in fruit crops such as mango banana, coconut and guava 20%

Unit-2 Organic farming and its Importance in horticulture crops 20%

Unit-3 Diseases management in fruit crops such as mango, coconut, guava, banana 20%

Unit-4 Cultivation of new fruit crops in Gujarat such as fig and oil palm 20%

Unit-5 Cultivation of new crops in Gujarat e.g. vanilla and cashew nut 20%

Suggested Readings / Reference Books :

1. FAL ANE FUL (GUJRATI EDITION - MARCH-2015) - G.A.U.JUNAGADH
2.FALPAKO (GUJRATI EDITION MARCH-2013) G.A.U. JUNAGADH
3.FALVISHESHANK (GUJRATI EDITION) - G.A.U. ANAND
4.ADVANCE TECHNOLOGY IN HORTICULTURE - K.R. BHARAD
5.PLANT GROWTH REGULATION - K.R. BHARAD

Faculty: - Rural Studies

Name of Course	Sem.	DSC/ DSE/ SEC/ OJT/ Dissertation / RP	Subject Code	Course Title	Credits	INTERNAL	EXTERNAL	Total Marks	EXTERNAL Duration
M.R.S.	1	DSC - 1		ANIMAL HUSBANDRY	4+0	30	70	100	2.30 Hrs.

Title : Basic of Veterinary Pharmacology

Course Objectives & Course Outcome :

1. To Know about common Drugs for Animal Treatment
2. To Know about various Roots of Medication in Dairy Cattle
3. To Know about Tradition Medicine for Animal
4. To Know about Aayurvedic Medicine for Animal
5. Student can know about Primary Treatment of Dairy Cattle
6. This course helpful for learning different Drugs and Medication in Dairy Cattle
7. Student can learn Primary Use Medicine for Dairy Cattle

Syllabus Content :-

Unit 1: Definition of Drugs and Pharmacology. Source, Dose, Side effect and Types of Drugs. 20%
Unit 2: Methods of Medication in Dairy Cattle. 20%
Unit 3: Common Aayurvedic and Homeopathy Medicine for Dairy Cattle. 20%
Unit 4: Common Allopathic for Dairy Cattle 20%
Unit 5: Traditional Medicine for Dairy Cattle 20%

Suggested Readings / References: .

1. A text book of Animal Husbandry, by G. C. Banerjee
2. A Handbook of Animal Husbandry , by ICAR, New Delhi
3. " Godarshan" A monthly Gujarati Magazine (Department of A.H. Gujarat State Gandhinagar)
4. Prani Aushadh Darshan, by Dr. M.G. Maradiya & Dr. K.A. Sadariya
5. Domestic Animal, by Dr. Harbansingh

Faculty: - Rural Studies

Name of Course	Sem.	DSC/ DSE/ SEC/ OJT/ Dissertation / RP	Subject Code	Course Title	Credits	INTERNAL	EXTERNAL	Total Marks	EXTERNAL Duration
M.R.S.	1	DSC - 1		Rural Extension	4+0	30	70	100	2.30 Hrs.

Course Title : RURAL DEVELOPMENT - 1

Course Objectives

1) Explain the history of rural development and provide information on various programs.
2) Develop an understanding of the organizations working at the local level.
3) Provide information about various schemes for agricultural and animal husbandry development.

Course Outcomes:

1) Explain the history of rural development and get information on various programs.
2) Develop an understanding of the organizations working at the local level.
3) To get information about various schemes for agricultural and animal husbandry development.

Course Content :-

Unit 1 History of Rural development in India after Independence. Objectives in Rural development programs and work done for rural development. 20%

Unit 2 Introduction and functions of various organizations working for Rural development. (DRDA, Co - operative Bank, Co-operative Societies). 20%

Unit 3 Credit and subsidy assistance for individual development and community development. 20%

Unit 4 Various schemes for agricultural development and animal husbandry development. 20%

Unit 5 Participation, field of work, and activities of voluntary organizations (NGOs) in rural Development. 20%

References:

1) Rural Social Institutions of India (ભારતની ગ્રામીણ સામાજિક સંસ્થાઓ)
   Author: Shah and Joshi (શાહ અને જોષી)
2) Agricultural Economics (કૃષિ અર્થશાસ્ત્ર)
   Author: Mahesh Joshi (મહેશ જોષી)
3) Rural [Development] of India (ભારતનું ગ્રામીણ...)
   Author: Babulal (બાબુલાલ)

Faculty: - Rural Studies

Name of Course	Sem.	DSC/ DSE/ SEC/ OJT/ Dissertation / RP	Subject Code	Course Title	Credits	INTERNAL	EXTERNAL	Total Marks	EXTERNAL Duration
M.R.S.	1	DSC-2		Agronomy	4+0	30	70	100	2.30 Hrs.

Title: - Crop Pest and Diseases-1

Objectives:-

1. To study the pest and disease damaged to field crops
2. To identify and to know control measures of different pest and diseases of the field crops
3. To know the nature of damage of insect and symptoms of diseases.

Outcomes :-

1. To Know the pest and disease damaged to field crops
2. To identify and to know control measures of different pest and diseases of the field crops
3. To know the nature of damage of insect and symptoms of diseases.

Course Content :-

Unit – 1 Definition and types of insect-pest and classification of insect. Why insect attract to crops plans

Unit -2 Detailed marks of identification, host range, nature of damage of important field crops like. 1)Cotton, 2) Groundnut, 3) Sesame, 4) Bajara (Pearl millet), 5) Tobacco

Unit -3 Detailed integrated insect management of important field crops like. 1) Cotton, 2) Groundnut, 3) Sesame, 4) Bajara (Pearl millet), 5) Tobacco

Unit -4 Occurrence, economic importance, symptoms, favourable weather conditions of diseases of important field crop like. 1) Cotton, 2) Groundnut, 3) Sesame, 4) Bajara (Pearl millet), 5) Tobacco

Unit -5 Detailed control measures of important field crop like. 1) Cotton, 2) Groundnut, 3) Sesame, 4) Bajara (Pearl millet), 5) Tobacco

Practical :

Field visit to study different insect damage and disease symptoms of above mentioned crops and dry preservation of insect damage parts of plant and damaged parts of plants by diseases.

References:

1. Principles and procedures of plant protection (Third edition) - S.B.Chattopadhyay
2. Biology of insect - S.C.Saxena
3. General Entomology (Third edition) - M.S. Mani
4. Sampurna pak sarakshan (Part-1) - Babubhai Avarani
5. Sampurna pak sarakshan (Part-2) - Babubhai Avarani
6. Introduction to Principles of Plant Pathology - R.S.Singh
7. Diseases of crop plants in India - G. Rangaswami
8. Plant Diseases (Sixth edition) - R.S.Singh

Faculty: - Rural Studies

Name of Course	Sem.	DSC/ DSE/ SEC/ OJT/ Dissertation / RP	Subject Code	Course Title	Credits	INTERNAL	EXTERNAL	Total Marks	EXTERNAL Duration
M.R.S.	1	DSC - 2		Horticulture & Forestry	4+0	30	70	100	2.30 Hrs.

Title : Production Technology in Vegetables

Objectives:

1) Students get knowledge about vegetable production

2) To know the principal of vegetable production so useful in progressive farming

3) Create self employment source

Course Outcomes :-

1. Understand Importance and Classification

Understand the importance and nutritional value of vegetables in the human diet.

Gain knowledge about the current status of vegetable production and export opportunities in India and Gujarat.

Classify different vegetables based on botanical traits and growing seasons.

2. Nursery Management and Propagation

Learn scientific methods to prepare healthy seedlings (e.g., Pro-tray method, Greenhouse nursery).

Implement modern seed treatment and sowing techniques.

3. Production Technology

Acquire knowledge of the entire cultivation process—from land preparation to harvesting—for various crops (Tomato, Brinjal, Chilli, Cauliflower, Cucurbits, etc.).

Plan Fertilizer Management and Irrigation Systems (Drip/Sprinkler).

4. Plant Protection and Weed Control

Identify major diseases and pests affecting vegetable crops.

Develop skills to protect crops using Integrated Pest Management (IPM) practices.

5. Harvesting and Post-Harvest Management

Determine the Maturity Indices of vegetables.

Theory :

Unit-1 Importance of hybrid and transgenic varieties in vegetable production	20%
Unit-2 Preservation of vegetable and value added products of vegetable	20%
Unit-3 Importance of plant growth regulators in vegetables	20%
Unit-4 Seed production technology in vegetable crops	20%
Unit-5 Weed and weed management in vegetable crops	20%

Reference:

1 ADVANCE TECHNOLOGY IN HORTICULTURE----K.R. BHARAD
2 PLANT GROWTH REGULATION------ K.R. BHARAD
3 HORTICULTURE A BASIC AWARENESS--- BANDENDISTEL R. F.(1982)

4 શાકભાજી વિજ્ઞાન- બાબુભાઈ અવરાની
૫ શાકભાજી વિશેષાંક-- ગુ.કૃ.યુ. આણંદ

Faculty: - Rural Studies

Name of Course	Sem.	DSC/ DSE/ SEC/ OJT/ Dissertation / RP	Subject Code	Course Title	Credits	INTERNAL	EXTERNAL	Total Marks	EXTERNAL Duration
M.R.S.	1	DSC - 2		Animal Husbandry	4+0	30	70	100	2.30 Hrs.

Title : Advance in Animal Genetics and Breeding

Course Objectives & Learning Outcomes

1. To understand the underlying truth of heritability and Application
2. To know the importance of Breeding for important of Animals
3. To get familiar with selection methods and to apply in Practice
4. To understand the importance of reproduction in profitability of Animal Husbandry
5. To know various reproductive problem and how to overcome from them

Course Content:

Unit 1 : Animal selection and Type of selection 20%

Unit 2 : History of Animal Breeding and methods of Breeding and their merits and demerits. 20%

Unit 3 : Mechanism of female reproduction 20%

3.1 Gameto Genesis : Orgenesis, Spermatoginesis

Unit 4 : Estrus Cycle and Hormones related to reproduction 20%

Unit 5 : Genetics and low of Inheritance mendels experience on 20%

References:

1. Pashu Sanvardhan – R.K. Shukal
2. Pashu Vyavstha – Arun D. Dave
3. Vyaruhary Gopalan – Krushnlal Shukal
4. A text book of Animal Husbandry – G.C. Baneerji
5. A Hand book of Animal Husbandry , by ICAR New Delhi
6. Animal Genetics and Breeding by BAIF

Faculty: - Rural Studies

Name of Course	Sem.	DSC/ DSE/ SEC/ OJT/ Dissertation / RP	Subject Code	Course Title	Credits	INTERNAL	EXTERNAL	Total Marks	EXTERNAL Duration
M.R.S.	1	DSC - 2		Rural Extension	4+0	30	70	100	2.30 Hrs.

Title : Community Development

Course Objectives:

1. To examine the history of community development.
2. To obtain information about community projects/schemes.
3. To gain knowledge about the rural economy.

Learning Outcomes :

1. To get the history of community development.
2. To obtain information about community projects/schemes.
3. To gain knowledge about the rural economy.

Course Content:

Unit 1: Meaning and objectives of the Community Development Program. 20%

Unit 2: Programs, projects, and schemes for community development and their impact on society. 20%

Unit 3: Administrative framework/structure for community development programs. 20%

Unit 4: Factors bringing change to rural society and the rural economy. 20%

Unit 5: Effects of British rule on the rural economy. 20 %

References:

1. Rural Development in India by Babubhai Avarani

2. India's social organizations by Shah and Joshi

Faculty: - Rural Studies

Name of Course	Sem.	DSC/ DSE/ SEC/ OJT/ Dissertation / RP	Subject Code	Course Title	Credits	INTERNAL	EXTERNAL	Total Marks	EXTERNAL Duration
M.R.S.	1	DSC - 3		Agronomy	4+0	30	70	100	2.30 Hrs.

Title : Post Harvest Technology in Agronomy

Course Objectives

The primary objectives of this course are:

1. Students learn about post-harvest technology in agriculture.
2. Students learn about various post-harvest methods in agriculture.
3. Students learn how to store agricultural produce.
4. Students should learn how to add value to agricultural crops.
5. Knows how to carry out quality control.

Outcomes:

1. Students get about post-harvest technology in agriculture.
2. Students get about various post-harvest methods in agriculture.
3. Students get how to store agricultural produce.
4. Students should get how to add value to agricultural crops.
5. Knows how to carry out quality control.

Course Content :

Unit 1: Post Harvest Physiology and Harvest Management **20%**

1.1 Crop Maturity Indices
1.2 Respiratory rate
1.3 Transpiration
1.4 Role of Ethylene
1.5 Impact on quality Harvesting Time, Crop Verity and Nutrition Management
1.6 Crop Maturity Indices for various crop

Unit 2 : Post-harvest Handling, Cleaning and Greading **20%**

2.1 Removing Field heat
2.2 Cleaning and Sortring
2.3 Grading standards, packaging Ingredients.
2.4 Ingredients Importance of crop characteristics and moisture in reducing mechanical damage

Unit 3: Storage and Protection techniques **20%**

3.1 Temperature and moisture management
3.2 CA/MA Storage
3.3 Cold Storage
3.4 Hermetic Storage
3.5 Microorganism and Pest Management
3.6 Warehourse, Design, Cold-chain
3.7 Silo bag and Principles of Fumigation

Unit 4 : Processing and value addition Technology **20%**

4.1 Drying, Mealing, Processing, Minimum Processing.

4.2 Solar Dryer

Unit 5 : Quality Control, Damage assessment and Supply chain **20%**

5.1 Damaged Causes in Post Harvest.

5.2 HACCP, Food Safety, Traceability

5.3 The role of agronomic factors in the farm-to-market supply chain.

5.4 Damaged Audit & Quality Testing

5.5 Business Model for FPO's

5.6 Policies and Subsidy Schemes

References:

1. Post-harvest management of fruits and vegetable by Dr. L. S. Kundaliya & Others

   * Publisher: Gujarat Granth Nirman Board, Ahmedabad

2. Value addition and processing of agricultural produce

   * Publisher: Anand/Junagadh Agricultural University (Office of the Director of Extension Education).

3. Agricultural Economics and Market Systems

   * Publisher: Gujarat Granth Nirman Board / Agricultural Universities.

4. Post-Harvest Technology by Prof. J. B. Savani

   * Publisher: Junagadh Agricultural University

Name of Course	Sem.	DSC/ DSE/ SEC/ OJT/ Dissertation / RP	Subject Code	Course Title	Credits	INTERNAL	EXTERNAL	Total Marks	EXTERNAL Duration
M.R.S.	1	DSC - 3		Horticulture & Forestry	4+0	30	70	100	2.30 Hrs.

TITAL: APPLIED FORESTRY

OBJECTIVES:

1) Students aware with forest department and its activities
2) Students know about apiculture
3) Students aware with Abhiyaran and sanctuary

Outcomes:

1) Students obtain with forest department and its activities
2) Students get about apiculture
3) Students obtain with abhiyaran and sanctuary

Course Content :-

UNIT 1 SOCIAL FORESTRY **20%**

1. DEFINATION
2. IMPORTANCE OF SOCIAL FORESTRY
3. DIFFERENT SCHEMES OF SOCIAL FORESTRY

UNIT 2 APICULTURE (HONEYBEE KEEPING) **20%**

1. IMPORTANCE
2. TYPES OF BEE
3. STRUCTURE OF COMB
4. METHOD OF HONEYBEE REARING
5. CENTERS OF BEE REARING

UNIT 3 SEED Collection **20%**

1. SELECTION OF TREES
2. YEAR FOR SEED COLLECTION
3. METHODS OF SEED COLLECTION
4. SEED TREATMENTS

UNIT 4 ROOT TRAINER NURSERY AND CLONAL MULTIPLICATION **20%**

1. GREENING INDIA CENTRAL GOVERNMENT SCHEME

UNIT 5 BRIEF INFORMATION **20%**

1 IMPORTANT DAYS
2 CENTURIES OF GUJARAT
3 ABHIYARAN OF GUJARAT
4 AWORDS OF CENTRAL GOVT.
5 AWORDS OF GUJARAT GOVT.

Recommended References

1) FOREST IN INDIA - V.P. AGRAVAL
2) FORESTRY IN INDIA –A.P.DWIVEDI
3) A TEXT BOOK OF SILVICULTURE - A.P. DWIVEDI
4) VAN CHETNA - DEPT OF FOREST GUJARAT

Name of Course	Sem.	DSC/ DSE/ SEC/ OJT/ Dissertation / RP	Subject Code	Course Title	Credits	INTERNAL	EXTERNAL	Total Marks	EXTERNAL Duration
M.R.S.	1	DSC - 3		Animal Husbandry	4+0	30	70	100	2.30 Hrs.

Title : POULTRY INDUSTRIES

Course Objectives

The primary objectives of this course are:

1. To understand the importance of management skills of poultry industries.
2. To learn about cure & management of different age of birds.
3. To understand how to make poultry business profitable.
4. To understand the importance of learning system of birds.

Outcomes:

1. To get the importance of management skills of poultry industries.
2. To get about cure & management of different age of birds.
3. To get how to make poultry business profitable.
4. To get the importance of learning system of birds.

Course Content

Unit – 1: Terminology related to poultry and poultry rearing methods 20%

Unit – 2: Incubation, hatching and brooding / Types of brooding and care during brooding / Types of hatching and care during brooding 20%

Unit – 3: Principals of light in poultry farming / Care of management of broiler and grower. 20%

Unit – 4: Care & management of layer and eggs structure of nutritive value of eggs and wrong belief about eggs 30%

Unit – 5: Poultry feeds: types of feeds, ingredients of feeds and important facts for preparation of feeds. 10%

Recommended References :-

1. A Text books of animal husbandry
2. A handbook of animal husbandry G.C.Benrjee
3. Poultry production
4. Margha Palan - AAIJ
5. Margha Palan department of A.H

Faculty: - Rural Studies

Name of Course	Sem.	DSC/ DSE/ SEC/ OJT/ Dissertation / RP	Subject Code	Course Title	Credits	INTERNAL	EXTERNAL	Total Marks	EXTERNAL Duration
M.R.S.	1	DSC - 3		Rural Extension	4+0	30	70	100	2.30 Hrs.

Title : Social Research - 1

Course Objectives :-

The primary objectives of this course are:

1. To identify social problems and gain information about them.
2. To develop a general understanding of social research.
3. To obtain information about the methodologies of social research.

Outcomes :

1. To get social problems and gain information about them.
2. To develop a general understanding of social research.
3. To obtain information about the methodologies of social research.

Course Content :-

Unit 1: Meaning, definition, and characteristics of social science. 20%

Unit 2: Definitions of social research and steps of social research. 20%

Unit 3: Importance and objectives of social research. 20%

Unit 4: Complete Enumeration and Sampling in Social Research 20%

Unit 5: Importance of data and its types in social research. 20%

Recommended References

1. Rural Sociology and Rural Development - Akshaykumar Desai
2. Social Research - Dr. J. K. Shah and J. K. Dave

Faculty: - Rural Studies

Name of Course	Sem.	DSC/ DSE/ SEC/ OJT/ Dissertation / RP	Subject Code	Course Title	Credits	INTERNAL	EXTERNAL	Total Marks	EXTERNAL Duration
M.R.S.	1	DSE -1		Advanced Agronomy	4+0	30	70	100	2.30 Hrs.

Title : Advanced Agronomy

Course Objectives:

1. To provide in-depth knowledge of crop production principles and modern farming practices.
2. To understand the management of resources like water, soil, and nutrients efficiently.
3. To introduce students to precision farming, sustainable agriculture, and climate-resilient strategies.

Course Outcome:

By the end of this course, students are equipped to become Agronomists, Farm Managers, or Research Scientists capable of solving complex agricultural problems using scientific data and modern technology

Syllabus Content :-

Unit 1: Climate Smart Agronomy **20%**

1. 1 Climate Change and Crop Production
1.2 Carbon Sequestration
1.3 Green House Gas Mitigastion
1.4 Resilient Cropping System

Unit 2 : Precision Agronomy and Digital Technology **20%**

2.1 Remote Sensing
2.2 GIS / GPS Application
2.3 IOT Based Crop Monitoring
2.4 Drone Technology
2.5 Variable Rate Technology

Unit 3 : Conservation Agronomy and Resource Management **20%**

3.1 Zero Minimum Tileg
3.2 Cover Cropping
3.3 Crop Residue Management
3.4 Water Use Efficiency
3.5 Micro Irrigation Advancing

Unit 4 : Sustainable Cropping System and Agroecology **20%**

4.1 Crop Diversification
4.2 Intercropping Science
4.3 Agro forestry System
4.4 Cover Crop Based Rotation
4.5 Biodiversity and Pollinator Management

Unit 5 : Natural and Biological Agronomy **20%**

5.1 Soil Health and Microbial ecology
5.2 Bio fertilizer
5.3 Composting Technology
5.4 Natural Farming Principles
5.5 Certification Standard

References:

1. Principles of Agronomy by S.R. Reddy
2. Modern Techniques of Raising Field Crops by Chhidda Singh
3. Weed Management by U.S. Walia
4. Precision Farming by K.R. Krishna
5. Irrigation Agronomy by S.R. Reddy
6. A Handbook of Rural Studies by Dr. K. R. Bharad

Faculty: - Rural Studies

Name of Course	Sem.	DSC/ DSE/ SEC/ OJT/ Dissertation / RP	Subject Code	Course Title	Credits	INTERNAL	EXTERNAL	Total Marks	EXTERNAL Duration
M.R.S.	1	DSE - 1		Horticulture & Forestry	4+0	30	70	100	2.30 Hrs.

Course Title : Production Technology of Fruit Crops

Course Outcomes :

Ideally, this course transforms students into skilled professionals capable of managing commercial orchards, working in fruit nurseries, or serving as agricultural extension officers with specialized knowledge in pomology (fruit science).

Course Objectives:

1) Students get knowledge about recent production Technology of fruit crops

2) To know the principle of production so useful in progressive Farming

3) Create self employment source

Syllabus Content :

Unit-1 Important pest and its management in fruit crops such as Mango, Banana, Coconut and Guava 20%

Unit-2 Organic farming and its importance in Horticulture crops 20%

Unit-3 Diseases management in fruit crops such as Mango, Coconut, Guava, Banana 20%

Unit-4 Cultivation of new fruit crops in Gujarat such as fig and oil palm 20%

Unit-5 Cultivation of new crops in Gujarat e.g. vanilla and cashew nut 20%

Suggested Readings / Reference Books:

1. FAL ANE FUL (GUJRATI EDITION MARCH-2015)—G.A.U.JUNAGADH
2. FALPAKO (GUJRATI EDITION MARCH-2013) G.A.U. JUNAGADH
3. FALVISHESHANK (GUJRATI EDITION)-G.A.U. ANAND

Faculty: - Rural Studies

Name of Course	Sem.	DSC/ DSE/ SEC/ OJT/ Dissertation / RP	Subject Code	Course Title	Credits	INTERNAL	EXTERNAL	Total Marks	EXTERNAL Duration
M.R.S.	1	DSE - 1		Animal Husbandry	4+0	30	70	100	2.30 Hrs.

Title : Advance in Animal Genetics and Breeding

Course Objectives & Learning Outcomes

1. To understand the underlying truth of heritability and Application
2. To know the importance of Breeding for important of Animals
3. To get familiar with selection methods and to apply in Practice
4. To understand the importance of reproduction in profitability of Animal Husbandry
5. To know various reproductive problem and how to overcome from them

Course Content:

Unit 1 : Animal selection and Type of selection **20%**

Unit 2 : History of Animal Breeding and methods of Breeding and their merits and demerits. **20%**

Unit 3 : Mechanism of female reproduction **20%**

3.1 Gametogenesis : Orgenesis, Spermatoginesis

Unit 4 : Estrus Cycle and Hormones related to reproduction **20%**

Unit 5 : Genetics and low of Inheritance mendels experience on **20%**

References:

1. Pashu Sanvardhan – R.K. Shukal
2. Pashu Vyavstha – Arun D. Dave
3. Vyaruhary Gopalan – Krushnlal Shukal
4. A text book of Animal Husbandry – G.C. Baneerji
5. A Hand book of Animal Husbandry , by ICAR New Delhi
6. Animal Genetics and Breeding by BAIF

Faculty: - Rural Studies

Name of Course	Sem.	DSC/ DSE/ SEC/ OJT/ Dissertation / RP	Subject Code	Course Title	Credits	INTERNAL	EXTERNAL	Total Marks	EXTERNAL Duration
M.R.S.	1	DSE – 1		Rural Extension	4+0	30	70	100	2.30 Hrs.

Course Title : RURAL DEVELOPMENT - 1

Course Objectives

1) Explain the history of rural development and provide information on various programs.
2) Develop an understanding of the organizations working at the local level.
3) Provide information about various schemes for agricultural and animal husbandry development.

Course Outcomes:

1) Explain the history of rural development and get information on various programs.
2) Develop an understanding of the organizations working at the local level.
3) To get information about various schemes for agricultural and animal husbandry development.

Course Content :-

Unit 1: History of rural development in India after independence. Objectives in rural development programs and work done for rural development. 20%

Unit 2: Introduction and functions of various organizations working for rural development. (DRDA, Co-operative Bank, Co-operative Societies). 20%

Unit 3: Credit and subsidy assistance for individual development and community development. 20%

Unit 4: Various schemes for agricultural development and animal husbandry development. 20%

Unit 5: Participation, field of work, and activities of voluntary organizations (NGOs) in rural development. 20%

References:

1) Rural Social Institutions of India (ભારતની ગ્રામીણ સામાજિક સંસ્થાઓ)
   Author: Shah and Joshi (શાહ અને જોષી)
2) Agricultural Economics (કૃષિ અર્થશાસ્ત્ર)
   Author: Mahesh Joshi (મહેશ જોષી)
3) Rural [Development] of India (ભારતનું ગ્રામીણ...)
   Author: Babulal (બાબુલાલ)

Faculty: - Rural Studies

Name of Course	Sem.	DSC/ DSE/ SEC/ OJT/ Dissertation / RP	Subject Code	Course Title	Credits	INTERNAL	EXTERNAL	Total Marks	EXTERNAL Duration
M.R.S.	1	DSE – 1		Reproduction in Farm Animal	4+0	30	70	100	2.30 Hrs.

Title : Reproduction in Farm Animal

Course Objectives:

1. To understand fertilization and Implantation.
2. To understand fetal Development and parturition to understand the basic mechanism of reproduction.
3. To understand how reproduction is involved in animal production.
4. To understand estrus cycle.

Course Outcome:

1. To get fertilization and Implantation.
2. To get fetal Development and parturition to understand the basic mechanism of reproduction.
3. To get how reproduction is involved in animal production.
4. To get estrus cycle.

Syllabus Content :-

Unit: 1 Reproductive System **20%**

- Female Reproductive System: Organs.
- Male Reproductive System: Organs.

Unit: 2 Hormones related to Reproduction **20%**

Unit: 3 Estrus Cycle and Ovulation **20%**

Unit: 4 Artificial Insemination **20%**

- History of A.I., Merits and Demerits.

Unit : 5. Steps of A.I. Semen Collection, evaluation, dilution & storage of semen, and methods of A.I.References : **20 %**

References:

1) Pashu Samvardhan – K.R. Shukla
2) Pashu Vyavastha – Arun D. Dave
3) Principles and Practices of Dairy Farm Management – Jagdish Pradhan
4) Animal Genetics and Breeding – B.A.I.F.
5) A Handbook of Animal Husbandry – ICAR - New Delhi

Faculty: - Rural Studies

Name of Course	Sem.	DSC/ DSE/ SEC/ OJT/ Dissertation / RP	Subject Code	Course Title	Credits	INTERNAL	EXTERNAL	Total Marks	EXTERNAL Duration
M.R.S.	1	DSE - 2		Agronomy	4+0	30	70	100	2.30 Hrs.

Title: Post Harvest Technology in Agronomy

Course Objectives

The primary objectives of this course are:

1. Students learn about post-harvest technology in agriculture.

2. Students learn about various post-harvest methods in agriculture.
3. Students learn how to store agricultural produce.
4. Students should learn how to add value to agricultural crops.
5. Knows how to carry out quality control.

Outcomes:

1. Students get about post-harvest technology in agriculture.
2. Students get about various post-harvest methods in agriculture.
3. Students get how to store agricultural produce.
4. Students should get how to add value to agricultural crops.
5. Knows how to carry out quality control.

Course Content :-

Unit 1: Post Harvest Physiology and Harvest Management **20%**

1.1 Crop Maturity Indices

1.2 Respiratory rate

1.3 Transpiration

1.4 Role of Ethylene

1.5 Impact on quality Harvesting Time, Crop Verity and Nutrition Management

1.6 Crop Maturity Indices for various crop

Unit 2 : Post-harvest Handling, Cleaning and Greading **20%**

2.1 Removing Field heat

2.2 Cleaning and Sortring

2.3 Grading standards, packaging Ingredients.

2.4 Ingredients Importance of crop characteristics and moisture in reducing mechanical damage

Unit 3: Storage and Protection techniques **20%**

3.1 Temperature and moisture management
3.2 CA/MA Storage
3.3 Cold Storage
3.4 Hermetic Storage
3.5 Microorganism and Pest Management
3.6 Warehouse, Design, Cold-chain
3.7 Silo bag and Principles of Fumigation

Unit 4 : Processing and value addition Technology **20%**

4.1 Drying, Mealing, Processing, Minimum Processing.
4.2 Solar Dryer

Unit 5 : Quality Control, Damage assessment and Supply chain **20%**

5.1 Damaged Causes in Post Harvest.
5.2 HACCP, Food Safety, Traceability
5.3 The role of agronomic factors in the farm-to-market supply chain.
5.4 Damaged Audit & Quality Testing
5.5 Business Model for FPO's
5.6 Policies and Subsidy Schemes

References:

1. Post-harvest management of fruits and vegetable by Dr. L. S. Kundaliya & Others

   * Publisher: Gujarat Granth Nirman Board, Ahmedabad

2. Value addition and processing of agricultural produce

   * Publisher: Anand/Junagadh Agricultural University (Office of the Director of Extension Education).

3. Agricultural Economics and Market Systems

   * Publisher: Gujarat Granth Nirman Board / Agricultural Universities.

4. Post-Harvest Technology by Prof. J. B. Savani

   * Publisher: Junagadh Agricultural University

Faculty: - Rural Studies

Name of Course	Sem.	DSC/ DSE/ SEC/ OJT/ Dissertation / RP	Subject Code	Course Title	Credits	INTERNAL	EXTERNAL	Total Marks	EXTERNAL Duration
M.R.S.	1	DSE – 2		Animal Husbandry	4+0	30	70	100	2.30 Hrs.

Title : Basic of Veterinary Pharmacology

Course Objectives & Course Outcome :

1. To Know about common Drugs for Animal Treatment
2. To Know about various Roots of Medication in Dairy Cattle

3. To Know about Tradition Medicine for Animal
4. To Know about Aayurvedic Medicine for Animal
5. Student can know about Primary Treatment of Dairy Cattle
6. This course helpful for learning different Drugs and Medication in Dairy Cattle
7. Student can learn Primary Use Medicine for Dairy Cattle

Syllabus Content

Unit 1: Definition of Drugs and Pharmacology. Source, Dose, Side effect and Types of Drugs. 20%

Unit 2: Methods of Medication in Dairy Cattle. 20%

Unit 3: Common Aayurvedic and Homeopathy Medicine for Dairy Cattle. 20%

Unit 4: Common Allopathic for Dairy Cattle 20%

Unit 5: Traditional Medicine for Dairy Cattle 20%

Suggested Readings / References:

1. A text book of Animal Husbandry, by G. C. Banerjee
2. A Handbook of Animal Husbandry , by ICAR, New Delhi
3. " Godarshan" A monthly Gujarati Magazine (Department of A.H. Gujarat State Gandhinagar)
4. Prani Aushadh Darshan, by Dr. M.G. Maradiya & Dr. K.A. Sadariya
5. Domestic Animal, by Dr. Harbansingh

Faculty: - Rural Studies

Name of Course	Sem.	DSC/ DSE/ SEC/ OJT/ Dissertation / RP	Subject Code	Course Title	Credits	INTERNAL	EXTERNAL	Total Marks	EXTERNAL Duration
M.R.S.	1	DSE – 2		Horticulture & Forestry	4+0	30	70	100	2.30 Hrs.

Title : Production Technology in Vegetables

Objectives:

1) Students get knowledge about vegetable production
2) To know the principal of vegetable production so useful in progressive farming
3) Create self employment source

Course Outcomes :

1. Understand Importance and Classification

Understand the importance and nutritional value of vegetables in the human diet.

Gain knowledge about the current status of vegetable production and export opportunities in India and Gujarat.

Classify different vegetables based on botanical traits and growing seasons.

2. Nursery Management and Propagation

Learn scientific methods to prepare healthy seedlings (e.g., Pro-tray method, Greenhouse nursery).

Implement modern seed treatment and sowing techniques.

3. Production Technology

Acquire knowledge of the entire cultivation process—from land preparation to harvesting—for various crops (Tomato, Brinjal, Chilli, Cauliflower, Cucurbits, etc.).

Plan Fertilizer Management and Irrigation Systems (Drip/Sprinkler).

4. Plant Protection and Weed Control

Identify major diseases and pests affecting vegetable crops.

Develop skills to protect crops using Integrated Pest Management (IPM) practices.

5. Harvesting and Post-Harvest Management

Determine the Maturity Indices of vegetables.

Syllabus Content :-

Unit-1 Importance of hybrid and transgenic varieties in vegetable production	20%
Unit-2 Preservation of vegetable and value added products of vegetable	20%
Unit-3 Importance of plant growth regulators in vegetables	20%
Unit-4 Seed production technology in vegetable crops	20%
Unit-5 Weed and weed management in vegetable crops	20%

Reference:

1) ADVANCE TECHNOLOGY IN HORTICULTURE - K.R. BHARAD
2) PLANT GROWTH REGULATION------ K.R. BHARAD
3) HORTICULTURE A BASIC AWARENESS--- BANDENDISTEL R. F.(1982)
4) શાકભાજી વિજ્ઞાન- બાબુભાઈ અવરાની
5)શાકભાજી વિશેષાંક-- ગુ.કૃ.યુ. આણંદ

Faculty: - Rural Studies

Name of Course	Sem.	DSC/ DSE/ SEC/ OJT/ Dissertation / RP	Subject Code	Course Title	Credits	INTERNAL	EXTERNAL	Total Marks	EXTERNAL Duration
M.R.S.	1	DSE – 2		Rural Extension	4+0	30	70	100	2.30 Hrs.

Title : Community Development

Course Objectives:

1. To examine the history of community development.

2. To obtain information about community projects/schemes.
3. To gain knowledge about the rural economy.

Learning Outcomes :

1. To get the history of community development.
2. To obtain information about community projects/schemes.
3. To gain knowledge about the rural economy.

Course Content:

Unit 1 : Meaning and objectives of the Community Development Program. 20%

Unit 2 : Programs, projects, and schemes for community development and their impact on society. 20%

Unit 3 : Administrative framework/structure for community development programs. 20%

Unit 4 : Factors bringing change to rural society and the rural economy. 20%

Unit 5 : Effects of British rule on the rural economy. 20 %

References:

1) Rural Development in India by Babubhai Avarani

2) India's social organizations by Shah and Joshi

Faculty: - Rural Studies

Name of Course	Sem.	DSC/ DSE/ SEC/ OJT/ Dissertation / RP	Subject Code	Course Title	Credits	INTERNAL	EXTERNAL	Total Marks	EXTERNAL Duration
M.R.S.	1	DSE – 2		Rural Technology	4+0	30	70	100	2.30 Hrs.

Title : Rural Technology

Course Objectives:

1. To introduce students to the concept of appropriate technology for rural development.
2. To understand the role of technology in agriculture, energy, and rural infrastructure.
3. To promote entrepreneurship and skill development based on rural resources.

Learning Outcomes

The course on Rural Technology is designed to equip students with a comprehensive understanding of technological interventions tailored for rural development. Upon successful completion of this course, students will be able to:

1. Identify and implement sustainable solutions in agriculture, post-harvest management, and low-cost rural housing using locally available resources.

2. Utilize renewable energy sources like solar and biogas effectively and maintain proper sanitation systems to improve rural hygiene.

3. Understand the role of Information and Communication Technology (ICT) in bridging the digital divide and facilitating e-governance in villages.

4.Demonstrate the ability to create self-employment opportunities through agro-based industries, Self Help Groups (SHGs), and cottage enterprises.

In essence, the learner will transform into a skilled facilitator capable of bridging the gap between modern technology and traditional rural practices to ensure sustainable socio-economic growth.

Course Content:

Unit 1: Introduction to Rural Development and Technology **20%**

1.1 Concept of Rural Technology: Definition, need, and scope of rural technology.

1.2 Appropriate Technology: Meaning, characteristics, and importance of appropriate technology in the context of rural development.

1.3 Rural Scenario: Characteristics of the rural economy, constraints in rural development, and the digital divide.

1.4 Transfer of Technology: Models of technology transfer (Lab to Land), role of Krishi Vigyan Kendras (KVKs), NGOs, and Government agencies.

Unit 2: Agriculture and Allied Technologies **20%**

2.1 Sustainable Agriculture: Organic farming, vermicomposting, and bio-fertilizers.

2.2 Irrigation Technologies: Rainwater harvesting, watershed management, drip and sprinkler Irrigation systems.

2.3 Post-Harvest Technology: Threshing, cleaning, grading, storage (low-cost cold storage), and preservation of agricultural produce.

2.4 Animal Husbandry: Modern dairy farming practices, poultry farming, and fodder management technologies.

Unit 3: Rural Energy and Sanitation 20%

3.1 Renewable Energy Sources: Solar Energy: Solar street lights, solar pumps, solar cookers, and dryers. **Bio-energy:** Biogas plants (construction and maintenance), biomass gasification, and briquetting.

3.2 Rural Sanitation: Low-cost toilets (twin-pit system), solid and liquid waste management in villages.

3.3 Drinking Water: Water purification technologies for rural areas (RO plants, sand filters).

Unit 4: Rural Infrastructure and Housing 20%

4.1 Low-Cost Housing: Use of locally available materials (mud, bamboo, stone), rat-trap bond, and filler slab techniques.

4.2 Rural Roads: Concept of Prime Minister Gram Sadak Yojana (PMGSY), basic road construction materials.

4.3 ICT in Rural Development: : Role of Information and Communication Technology (ICT)., e-Governance initiatives (land records, certificates)., Telemedicine and remote education.

Unit 5: Rural Entrepreneurship and Enterprise Development 20%

5.1 Agro-Based Industries: Food processing (pickles, jams, juices), oil extraction, and flour milling.

5.2 Cottage and Small Scale Industries: Handlooms, handicrafts, pottery, and bamboo crafts.

5.3 Entrepreneurship Development: Concept of Self Help Groups (SHGs) and Microfinance., Marketing of rural products (Cooperatives, Farmer Producer Organizations - FPOs)., Skill development programs for rural youth.

References:

1. Vasishta, S.B. - "Rural Technology".
2. Singh, Katar - "Rural Development: Principles, Policies and Management".
3. Punniah, P. - "Rural Development and Technology".
4. Publications from CAPART (Council for Advancement of People's Action and Rural Technology).
5. Journals on Rural Development and Appropriate Technology.

Faculty: - Rural Studies

Name of Course	Sem.	DSC/ DSE/ SEC/ OJT/ Dissertation / RP	Subject Code	Course Title	Credits	INTERNAL	EXTERNAL	Total Marks	EXTERNAL Duration
M.R.S.	1	SEC- 1		Application of Computer in Agriculture	2+0	15	35	50	1 Hrs.

Title: Application of Computer in Agriculture

Course Objectives:

1. To introduce students to the fundamental concepts of computers and their role in modern agriculture.
2. To provide hands-on knowledge of using MS Office tools for agricultural data management and reporting.
3. To familiarize students with advanced technologies like GIS, Remote Sensing, and Precision Farming.
4. To understand the use of ICT (Information and Communication Technology) and mobile apps in rural development and farming.

Course Outcomes :

1. Operate- basic computer hardware and software independently for day-to-day administrative tasks.
2. Analyze- experimental and field data using Excel to derive meaningful insights about crop productivity.
3. Develop- professional reports and visual presentations for agricultural extension and research.
4. Utilize- digital platforms and GIS tools to implement precision farming techniques and access global agricultural markets.
5. Evaluate - the effectiveness of various ICT tools in solving real-time problems faced by the farming community.

Course Content:

Unit 1: Fundamentals of Computer and Word Processing 40%

1.1 Introduction to Computers:- History, generations, and classification of computers.
1.2 Hardware and Software:- Input/Output devices, primary and secondary memory, system software vs. application software.
1.3 Operating Systems:- Basic functions of Windows/Linux, file management, and directory structures.
1.4 MS Word in Agriculture:- Creating and formatting agricultural reports.
1.5 Using tables to represent crop data.
1.6 Mail Merge for sending notices to farmers or stakeholders.
1.7 Inserting mathematical equations for agronomic calculations.

Unit 2: Data Management and Presentation 40%

2.1 MS Excel for Agricultural Analysis:- Creating spreadsheets for farm accounts and poultry/dairy records.

2.2 Using formulas and functions (SUM, AVERAGE, IF) for statistical analysis of yield.

2.3 Data visualization: Creating charts (Bar, Pie, Line) to represent weather patterns and soil health trends.

2.4 MS PowerPoint for Extension Work:- Designing effective presentations for farmer training programs.

2.5 Integrating images, videos, and animations to explain agricultural techniques.

2.6 Database Management (MS Access/Basic Concept):- Introduction to databases for maintaining soil health cards and farmer databases.

Unit 3: ICT, GIS, and Modern Technologies in Agriculture 20%

3.1 ICT in Agriculture:- Role of internet, e-NAM (National Agriculture Market), and agricultural portals (e.g., AGMARKNET).

3.2 Remote Sensing and GIS:- Basics of Geographic Information Systems (GIS) and Global Positioning System (GPS).

3.3 Application in crop stress detection, soil mapping, and land use planning.

3.4 Precision Farming:- Concept of Variable Rate Technology (VRT) and automated irrigation systems controlled by computers.

3.5 Mobile Apps and Social Media:- Use of specialized agri-apps for weather forecasting, pest identification, and market prices.

References :

1. "Computer Applications in Agriculture" – by Robbins, J. Warren & Robinson, R.
2. "ICT for Agriculture and Rural Development"* – by R. Saravanan
3. "Fundamentals of Computers"* – by V. Rajaraman
4. "GIS and Remote Sensing in Agriculture"* – by K.C. Saha
5. "MS Office 2019/365 Step by Step"* – by Joan Lambert (Microsoft Press)
6. "કોમ્પ્યુટર પરિચય" – ગુજરાત ગ્રંથ નિર્માણ બોર્ડ
7. "કૃષિ માહિતી તંત્ર અને સંદેશાવ્યવહાર (ICT)"* – આણંદ/જૂનાગઢ કૃષિ યુનિવર્સિટીના પ્રકાશનો

E-Resources e-Krishi Shiksha (ICAR Portal)

Faculty: - Rural Studies

Name of Course	Sem.	DSC/ DSE/ SEC/ OJT/ Dissertation / RP	Subject Code	Course Title	Credits	INTERNAL	EXTERNAL	Total Marks	EXTERNAL Duration
M.R.S.	1	SEC - 1		Farm Labour Management	2+0	15	35	50	1 Hrs.

Title:Farm Labour Management

Course Objectives

1. Understanding the importance of Human Resources in agriculture.
2. Teaching methods for the recruitment, training, and enhancing the efficiency of agricultural laborers.
3. Providing information about labor laws and their welfare.

Course Outcomes :

1. Effective Planning and Management: -Plan and manage farm labor effectively in agricultural operations.
2. Efficiency Enhancement: - Adopt modern methods and techniques to increase the efficiency and productivity of laborers.
3. Legal and Safety Awareness: - Gain thorough knowledge regarding the legal rights of farm laborers and workplace safety regulations.
4. Labour Resource Management: - Students will be able to strategize and manage human resources efficiently within the agricultural sector.
5. Technological Integration: - Students will be able to implement modern practices to optimize labour performance.
6. Regulatory Compliance: - Students will become well-versed in labor laws, welfare schemes, and safety protocols relevant to farm workers.

Course Content:

Unit 1: Introduction to Farm Labour **40%**

1.1 Nature and Scope:- Definition of farm labour, types of farm labour (casual, permanent, migratory, and contract labour).

1.2 Labour Demand and Supply:- Factors affecting the demand and supply of labour in agriculture; seasonality of employment.

1.3 Labour Productivity:- Concept of productivity and factors influencing the efficiency of farm workers.

Unit 2: Human Resource Functions in Farming **40%**

2.1 Recruitment and Selection:- Methods of hiring farm workers and identifying skill requirements.

2.2 Wages and Incentives:- Determination of wage rates, piece-rate vs. time-rate systems, and non-monetary incentives.

2.3 Supervision and Leadership:- Principles of effective supervision on the farm and motivating workers for better performance.

Unit 3: Labour Laws and Welfare **20%**

3.1 Legal Framework:- Overview of Minimum Wages Act, Child Labour (Prohibition) Act, and social security for unorganized sectors.

3.2 Health and Safety:- Occupational hazards in agriculture, safety measures while handling machinery and chemicals.

3.3 Labour Relations:- Conflict resolution on the farm and the role of trade unions/associations in agriculture.

References

1. "Agricultural Labour in India" by S.N. Mehrotra.
2. "Human Resource Management in Agriculture" by Richard A. Edwards.
3. "Farm Management: Economics and Analysis" by John P. Mason (Covers labour efficiency units).
4. "Handbook of Agriculture" by ICAR (Indian Council of Agricultural Research).
5. "ખેતીવાડી અર્થશાસ્ત્ર"યુનિવર્સિટી ગ્રંથ નિર્માણ બોર્ડ, ગુજરાત.
6. "કૃષિ વ્યવસ્થાપન અને અર્થશાસ્ત્ર":* ડૉ. આર.ડી. પંડ્યા દ્વારા લિખિત

Faculty: - Rural Studies

Name of Course	Sem.	DSC/ DSE/ SEC/ OJT/ Dissertation / RP	Subject Code	Course Title	Credits	INTERNAL	EXTERNAL	Total Marks	EXTERNAL Duration
M.R.S.	1	SEC – 1		Social Reconstruction - 1	2+0	15	35	50	1 Hrs.

Title : Concept of Social Reconstruction - 1

Course Objectives :

1. Students gain knowledge of social reconstruction.
2. Students begin to understand political philosophy.
3. Students become familiar with various revolutions.

Course Outcomes

1. Understand that human life flows continuously through time.
2. Develop an understanding of the difference between past and modern life.
3. Learn to find ways through difficult situations from the lives of various revolutions and great personalities.

Course Content:

Unit 1: Understanding the beginning of the process of social reconstruction as a result of political thinking. Brief introduction to Socrates, Plato, and Aristotle 40%

Unit 2: Understanding social reconstruction. Why is it needed in society? The nature of social reconstruction and its scope. 40%

Unit 3: As part of the process of social reconstruction: Revolutions. The French Revolution: Causes and its impact 20%

References

1. History of the World – Dr. G. Dharaiya.
2. History of Political Theory – George Sabine.
3. Western Philosophy / Thinkers – Harisiddhbhai M. Joshi
4. Historical Tales of Greece – Part – 1 & 2 Darshak
5. Socrates – Darshak

Postgraduate Rural Studies

(Effective from Academic Year 2026-2027)

Structure of the External Question Paper of 70 Marks

Q. No.	Question Type	Units Covered	Set	Marks Each	Total Marks
1	Long Answer / Essay Type	Unit 1	A or B	14	14
2	Long Answer / Essay Type	Unit 2	A or B	14	14
3	Long Answer / Essay Type	Unit 3	A or B	14	14
4	Long Answer / Essay Type	Unit 4	A or B	14	14
5	Short Notes or Short Answer Questions	All Units	Short Notes: 2 out of 4 OR Short Questions: 7 out of 10	7 (short note) / 2 (short question)	14
				TOTAL	**70**

Structure of the External Question Paper of 35 Marks

Q. No.	Question Type	Units Covered	Set	Marks Each	Total Marks

1	Long Answer / Essay Type	Unit 1	A or B	10	10
2	Long Answer / Essay Type	Unit 2	A or B	10	10
3	Long Answer / Essay Type	Unit 3	A or B	10	10
4	Short Notes or Short Answer Questions	All Units	Short Notes: 1 out of 2	5	5
				TOTAL	**35**