

**VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT.
M.R.S.
SEMESTER - II**

Paper No : 1
Paper Title : **Appropriate Rural Technology**

Objectives :

This Syllabus is designed to develop adequate theoretical understanding of the basic theoretical facets of Rural Development and to get some familiarity with alternative approaches of rural development with recent techniques of rural development planning and management of Rural Organisation.

Unit 1: Introduction

- Definition of Engineering, Engineering, Science and Technology.
- Difference between Science and Technology.
- Rural Engineering & Technology.
- Role and Scope of Rural Engineering and Technology in Rural Development.
- Rural Development - Goals, Scope, Government Policies and steps.
- Appropriate Technology - Definition, Goals, Scope, Main requirements or appropriate technology (AT), Examples, Role in Rural Development.

Unit 2: Rural Water Supply

- Sources of water supply in Rural areas.
- Definition of wholesome water, polluted water, potable water and plantable water.
- Drinking water standards.
- Physical, chemical and biological characteristics of water and significance of it.
- Water analysis : Physical, Chemical and Biological tests for water quality.

Unit 3: Water treatment process

- General.
- Standards for quality of treated water.
- Object of Treatment.
- Location of Treatment plants.
- Treatment processes.
- Layout of Treatment plant.

Plain Sedimentation process:

- General Process, Principles of sedimentation.

Sedimentation with Coagulation Process:

- Necessity, Process, Chemical coagulation, Dosage of coagulants, flocculation, clarifiers.

Filtration Process:

- General, Theory of filtration, classification of filter.

Disinfection of water

- General, requirement of good disinfectants, methods of disinfection, theory of disinfection by chlorine.

Water Softening:

- General.
- Necessity of water softening.
- Removal of temporary hardness.
- Permanent hardness.
- Lime-Soda Process.
- Base Exchange Process.
- Demineralization Process.

Unit 4: Man and Environment

- Introduction, Man's Impact on Environment, atmosphere and climate.

Air Pollution : Definition, classification, Sources causes, Effects and Control Measures.

Climate : Green house effect, Acid rain, Ozone, depletion, Noise pollution.

Water Pollution : Definition, classification, Sources causes, Effects and control measures.

- Thermal pollution.
- Ground water pollution.
- Oil pollution of the Ocean.

Onland and soil- Land pollution : Definition, classification, sources, Types of land pollution, causes, effects and control measures.

Unit 5: Rural Energy

- Energy crisis.
- Energy development and utilization.
- Energy conservation. Need of alternative energy sources
- Classification of Rural Energy.
 - Conventional and non-conventional sources of energy.
 - Conventional, Firewood, coal, petrol and Petroleum products, electricity, hydro and thermal power.
 - Non-conventional: Biogas energy, solar energy, Wind energy, Waves and tides their development and utilization.

- Solar Energy

- Definition - Uses of solar energy in different ways.
- Principles, working, storage, collection.
- Different application of solar energy for rural areas, Solar cooker, solar distribution of brackish water solar water heating, solar refrigerator etc.

- Wind Energy

- Definition.
- Principle, Working, collection and storage.
- Utilization of wind energy.
- Different application of wind energy for rural areas :
Wind mill, water storage and supply for different purposes, production of electricity, running motors and engines etc.

- Biogas energy

- Principles, working, designs
- Advantages and disadvantages
- Utilization of bio-gas energy: Cooking, water pumping, refrigeration, running engines to produce electricity, lighting, can be used as a heating source in ovens and kilns and furnaces in small scale industries.
- Economics of bio-gas plant.
- Gassifier

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Effective from: July 2007

**VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT.
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SEMESTER - II**

Paper No : 2
Paper Title : **Animal Husbandry and Dairy Development**

Objectives :

The course is designed to develop knowledge and understanding of the students about the scientific management of livestock for improving productivity. It will also help to understand different dimensions of resource utilization, processing and marketing of livestock produce for making dairy and poultry keeping as profitable enterprise in rural areas.

Unit 1 : Policies and Programmes

- Livestock in agriculture and livestock economy, Policies, Programmes and Organization for promoting animal husbandry development in India.

Unit 2 : Cattle and Buffalo Breeding

- Classification of cattle and buffalo breeds and their characteristics.
- Methods of breeding: selection, hybridization and introduction of new species.
- Cross - breeding Programme in India.
- Artificial insemination for breed improvement programme.
- Embryo-transplantation and other technologies.
- Castration - Importance and methods.

Unit 3 : Animal Nutrition

- Nutrients and their role in animal body.
- Different feeding standards, common feed stuffs.
- Fodder conservation - hay and silage, new sources of feed.
- Ration-Computation of ration, feeding of Miltch cow, pregnant cow, newly borne calf etc.

Unit 4 : Health and hygiene

- Importance of sanitation in animal health.
- Common diseases, their prevention and control measures.
- Common parasites - their prevention and control.

Unit 5: Dairy Technology

Clean milk production, composition of milk, properties of milk, milk testing methods, milk processing - standardization, Pasteurization and storage, supply of milk, milk products and their marketing.

Field Visits:

- 1. Visits to Organisation engaged in Animal Husbandry and dairying activities**
- 2. Visit to Villages**

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21. મહેતા એન.ટી. અને યાસુરા એમ.આઈ. પોલ્ટ્રી વિજ્ઞાન, યુનિવર્સિટી ગ્રંથ નિર્માણ બોર્ડ- અમદાવાદ- ૧૯૯૪
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Effective from: July 2007

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Paper No : 3
Paper Title : **Natural Resource Management - II**

Objectives :

This course is designed to introduce students to the basic principles of common property resource management especially the fisheries importance of marine and fresh water fisheries is dealt with respect to production and conservation approach.

Unit 1 : Fisheries resources of India- Marine and Fresh water

Unit 2 : Fisheries of important marine fisher sardine. Bombay duck, mackerel, pomfret, Hilser etc.

Unit 3 : Fresh water fish culture- Principles and practices hypothecation transport of fish seeds, mixed fish culture.

Unit 4 : Prawn culture - Fresh and Brackish water prawn Traditional and Scientific methods.

Unit 5 : Fishing gears and crafts

Unit 6 : Fish preservation and processing

Unit 7 : By products of fish

References:

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2. Huest M. - Text book of fish culture: Breeding and cultivation of fish, Ballinger Publishing Co.
3. Hickling - Fish culture
4. Connel - Advance in Fish Science and Technology
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8. Dwiwedi, A.P - Forestry in India, Jugat Kishore and Company
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Effective from: July 2007

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SEMESTER - II**

Paper No : 4
Paper Title : **Farm Management**

Objectives

The course is designed to introduce the basic theoretical elements and techniques of Farm Management for effective, efficient and economic use of farm available resources.

Unit 1 : Introduction & Background

- Concept, characteristics and nature of farm management
- Role and Significance of farm management
- Scope of Farm Management
- Limitations of Farm Management
- Characteristics of Farm Business

Unit 2 : Economic Principles and their application in Farm Management

Meaning, statement, illustration, significance and practical uses or application of the principles of economics in Farm Management and their limitations.

- Principle of diminishing returns
- Principle of substitution
- Principle of equi-marginal returns
- Principle of opportunity costs
- Production function

Unit 3 : Related Tools of Farm Management

Meaning, Importance, Objective, Method and their application and limitations.

- Farm Planning
- Farm Budgeting
- Farm Business Analysis

Unit 4 : Crop Production

- Cropping methods and their importance
- Cropping intensity and crop rotation

Unit 5 : Field visits

- Visits to Organisation engaged in Farm Management activities
- Visits to Agricultural research station farm

References

1. John S.S and Kapur T.R Fundamentals of Farm Business Management Kalyani Publishers, New Delhi, 1983.
2. Dhondyal S.B.Farm Management - An Economic, Analysis, Friends Publication, New Delhi.
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5. Kahlon A.S and Singh K. Economic of Farm Management in India - Theory and Practical Allied Publishers Pvt. Ltd.
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Effective from: July 2007

**VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT.
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Paper No : 5
Paper Title : **Rural Development Administration and Management**

OBJECTIVES:-

This Paper is designed to make student understand legislations and various their importance in Rural Development. Also the Student gain in depth knowledge of different rural development programmes and its administration.

Unit :- 1. Constitution & Government

- A. Salient Features of “Constitution of India.”
- B. Form of Government.
 - Centre - State
 - Power - Responsibility
- C. Power distribution

Unit :- 2. Rural Development Planning & its Administration.

- A. Overview of Planning.
 - Five Year Plans.
 - Annual Plans.
 - Plan Schemes.
- B. Machinery for Planning.
 - Centre level
 - State level
 - District level
 - Block level
 - Village level - Micro level

Unit :- 3. The Rural Development Management

- A. Concept & Elements.
- B. Process of Management.
- C. Difference between Administration & Management

Unit :- 4. Rural Development Services & its Administration

- A. Health Services
 - B. Housing
 - C. Education
- } Policy, Programmer and Operation Mechanism and its Management

Unit:-5. Rural Development Administration through Panchayati Raj

- Administrative Arrangement for Rural Development.
- Rural Development Administration Through Panchayati Raj Institution
- Role of Social Capital for Effective Rural Development Administration.
- Inter relation between Rural organisations PRI/ Social Institution etc.

References:

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- Surat Singh
- Mohinder Singh
2. S.R. Maheshwari - " Rural Development in India "
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3. Katar Singh - " Rural Development "
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Effective from: July 2007

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SEMESTER - II**

Paper No : 6
Paper Title : **Rural Finance & Cooperation**

Objectives :

This Syllabus is designed to see that student acquire clear understanding of the subject as well as knowledge of empirical development of the recent period.

Unit 1 : Concept & Meaning of cooperation

- Principles of Cooperation
- Role of cooperation in Rural Development.

Unit 2 : Cooperative Development in India

- Origin & History of Cooperative movement in India.
- Cooperative Development and Planning

Unit 3 : Role of Rural Finance in Development of Rural Economy

Unit 4 : Institutional and Non- institutional Finance

Unit 5 : Concept of Microfinance and its relevance for Rural Development.

References:

(A) Rural Cooperation

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Back into Finance-Thomas Fisher, M.S. Sriram
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Effective from: July 2007

**VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT.
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SEMESTER - II**

Paper No : 7
Paper Title : **Rural Industrialization & Marketing**

Objectives :

The syllabus is designed to acquaint students of the development and issues regarding rural industrialization and marketing.

Unit 1 : Rural Industrialization

- Its importance
- Role and Future prospects of small and cottage industries.
- Modern Small Scale and Large industries, ancillarisation & changing role of small scale industries, cluster approach.
- New Economic Policies and its effects on rural Industrialization.

Unit 2: Marketing

- Meaning & Changing Concepts of Marketing.
- Four Pillars of Marketing Product, Price, Place & Promotion.

Unit 3 :

- Marketing of Rural Industrial Products.
- Marketing of Urban industrial products both services & commodities in rural areas.
- Global and innovative marketing strategies of large corporate and Multi National Companies.

Unit 4 : Agricultural Marketing-Agricultural Surplus.

- Different Stages of Marketing.
- Marketing Agencies & Institutions.
- Different forms of farming
- Agriculture-Industry-Market - Linkages

References

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6. "Marketing The Unorganised Sector, Issues, Perspectives & Strategies" - Kamal Taori, Concept Publishing Company, New Delhi,1995.
7. "Indian Rural Marketing"- Rajagopal, Rawat Publications, 1993.
8. "Rural Markets' Emerging Opportunities" Ed. K.Suresh, The ICFAI University Press, 2005.
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