

Swami Ramanand Teerth Marathwada University, Nanded



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SYLLABUS B. SC. THIRD YEAR (AGROCHEMICALS AND FERTILIZERS) SEMESTER PATTERN

IN FORCE FROM JUNE - 2011

Syllabus for B.Sc. Third year
Subject: AGROCHEMICALS AND FERTILISERS
Semester -V

Paper – XII Agronomy, Horticulture and seed Technology-I

CH-AG-301

Periods : 45

Unit -I

A. Agronomy

- | | |
|-------------------------------------|---|
| 1. Introduction: | 5 |
| Definition, Scope | |
| Relationship with other sciences | |
| Factors governing Crop Production | |
| Agro- climatic Zones of Maharashtra | |
| 2. Tillage and tillage implements : | 4 |
| Introduction | |
| Objects of tillage | |
| Type of tillage operations | |
| Tillage implements | |
| 3. Dry Land Management | 4 |
| Importance | |
| Problems of day land farming | |
| Management of dry land farming | |
| Water shed management | |

Unit – II

B. Horticulture

- | | |
|--|----|
| 4. Introduction to Horticulture | 5 |
| Definition | |
| Branches of horticulture | |
| Importance and scope of horticulture in India | |
| 5. Propagation of horticulture crops | 10 |
| Principles and methods of propagation of fruit crops | |
| Propagation by seeds | |
| Propagation by cuttings, grafting, budding, and layerage | |

Unit-III

6. Olericulture 9
Scope and importance of vegetable growing
Classification of vegetable
Types of vegetable gardens
Harvesting, grading, packaging, marketing and storage of vegetables

Unit –IV

A. Seed Technology

7. Introduction to seeds 8
Definitions
Characteristics of good quality seeds
Types of seeds
Seed dormancy
Seed treatment
Seed Agronomy –seed rate, sowing time and methods, spacing,
Plant population

Paper –XIII Agricultural Technology –I

CH-AG-302

Periods :45

Topics:

Unit -I

1. Preservation of fruits and vegetables 10
Spoilage of fruits and vegetables
Importance and Principles of Preservation
Methods of Preservation
Canning and bottling of fruits and vegetables
Preparation of jams, jellies, squashes and juices

Unit –II

2. Problematic soils 10
Introduction to saline and alkali soils
Classification
Diagnostic criteria and causes of their formation
Adverse effects
Reclamation and management of saline and alkali soils
Introduction to acidic Soils
Sources of soil acidity
Reclamation of acidic soils
3. Hydroponics 4
Methods of soil-less cultivation
Nutrient film technique (NFT)
Advantages and disadvantages of hydroponics
Applications of hydroponics in agriculture

Unit – III

4. Green house technology 5
Introduction
Components and design of green houses
Advantages
Applications in agriculture
5. Micro- irrigation 10
Introduction

Drip and sprinkler irrigation systems, their components
Advantages
Their importance in water management

Unit –IV

6. Soil and water conservation

6

Importance

Methods of soil and water management

Waste land reclamation

Semester -VI

Paper – XIV Agronomy, Horticulture and seed Technology - II

CH-303

Periods :45

Unit -I

A.Agronomy

1. Package of practices for important field crops 10
Cotton
Jowar (Sorghum)
Sugarcane
Soya bean
Wheat

Unit – II

B. Horticulture

2. Package of practices for important fruit crops of Maharashtra 10
Mango
Grapes
Banana
Importance of fruit growing
Harvesting, storage and marketing of fruits

Unit-III

- Olericulture
3. Package of Practices for important vegetable crops 13
Chilees
Onion
Tomato
Brinjal

(Package of practices include area and production, varieties, climatic requirements cultivation practices, manuring, irrigation, plant protection and economic importance.)

Unit –IV

C. Seed Technology

4. Seed certification and seed legislation 12
- Seed certification- objectives, fundamental concepts
 - Organization of Seed certification
 - Seed certification agency
 - General seed certification Standards
 - Certified seed production and eligibility requirements
 - Classes of seeds
 - Phases of seed certification
 - Seed testing
 - Seed legislation in India.

Paper –XV Agricultural Technology –II

CH-304

Periods :45

Unit -I

1. Preservation of fruits and vegetables 10
Drying and dehydration of fruits and vegetables
Preparation and preservation of pickles
Specific methods for orange squash, guava jelly, apple jam
Irradiation to reduce post harvest losses of fruits and vegetables

Unit –II

2. Micro- propagation techniques 6
Introduction
Types of micro- propagation
Techniques of tissue culture and its applications in agriculture
3. Fertigation : definition, advantages ,limitations, types of fertigation 4
equipments

Unit – III

4. Agricultural and urban waste management 7
Introduction
Methods of conversions into organic manures and
Packaging for use in agriculture
Preparation and importance of vermicompost
Concepts of organic farming and sustainable agriculture
5. Floriculture 7
Introduction
Methods of cultivation
Important flower crops of Maharashtra state
Handling, transportation and storage of floriculture products
Export potential in floriculture

Unit –IV

6. Agricultural Marketing 7
Introduction
Marketing of agricultural inputs and products
Problems of marketing in agro – horticultural crops
Export potential for Indian agricultural
7. Biopesticides 4
Types ,applications and importance