

# **St. Joseph's College for Women**

Civil Lines, Gorakhpur

## **Skill Development Program**

**St. Joseph's College for Women, Civil Lines, Gorakhpur, Uttar Pradesh**

**Skill Development Program in Terracotta**

**Duration:** 4 weeks

**Course Outcome:**

Upon completion of this course, students will:

- Develop a foundational understanding of terracotta's historical and cultural significance across different societies.
- Acquire practical knowledge of the components and diverse manufacturing techniques employed in terracotta production.
- Gain insight into the global dissemination and varied applications of terracotta throughout history and in contemporary contexts.
- Develop hands-on skills in pot making, demonstrating proficiency in working with terracotta materials.
- Enhance their creative abilities through practical experience in pot decoration techniques.

**Unit 1: Understanding Terracotta**

- Definition and Historical Background
- Significance and Cultural Importance

**Unit 2: Components and Manufacturing Methods**

- Examination of Terracotta Components
- Techniques and Processes of Manufacture

**Unit 3: Terracotta Across the Globe**

- Exploration of Terracotta's Global Presence

#### **Unit 4: Practical Pot Making**

- Hands-on Experience in Pot Making

#### **Unit 5: Pot Decoration (Practical)**

- Application of various decoration techniques on terracotta pots.

**St. Joseph's College for Women, Civil Lines, Gorakhpur,**  
**Uttar Pradesh**

**Skill development program on Water Sanitization and Hygiene**

**Course Aim and Purpose**

This skill development program in Water, Sanitation and Hygiene (WASH) are aimed at improving sustainable and equitable access to domestic water supply, sanitation services and improve hygiene behaviors and practices.

The course is designed to empower you with an understanding of the fundamentals of water and sanitation and hygiene. It provides an opportunity for you to acquaint yourself to the core principles for implementing water, sanitation and hygiene initiatives.

**Course Objectives**

**Upon successful completion of this course, students should be able to:**

- Describe the methods of water treatment at household and community levels.
- Design and construct different household water filtration method
- Initiate and plan a water, sanitation and hygiene project.
- Execute, monitor and control a water sanitation and hygiene project.

**Course module:**

• **Unit 1: Water and health**

Fresh Water and water cycle, source of fresh water, use of water, contamination of water, source of water pollution, water related diseases and water born diseases.

• **Unit 2: Sanitation and Health**

Basic concept and of sanitation, benefits of sanitation, role of human excreta in transmission diseases, fecal born diseases, worm infestation, link between sanitation and good health

• **Unit 3: Hygiene and Health**

Basic concept of hygiene, type of hygiene related diseases and way of transmission, food hygiene.

• **Unit 4: Water Treatment**

Aeration and types of aerators, purpose and mechanism of flocculation, coagulants used in water treatment, factors influencing coagulation, estimation of coagulant dose, types of flash mixers and flocculators, sedimentation, analysis of discrete and flocculent settling, sedimentation tanks, Filtration, types and design of filters, factors effecting

efficiency of filtration, operational issues in filtration, Disinfection, chemical and non-chemical methods, Tertiary treatment methods for removal of colour, salinity, hardness, fluorides, Arsenic, iron and manganese, Treatment process including Adsorption, Reverse Osmosis, Electro-dialysis, Ion-exchange, Chemical and Distillation techniques.

- **Unit 5: Water Quality Management**

Water availability, water stress index, status and trend of surface and groundwater, issues and policy interventions, pollution of rivers, lakes and ground water, Ganga action plan and National River Action Programme, role of national and international agencies in water health and sanitation.

## **St. Joseph's College for Women, Civil Lines, Gorakhpur, Uttar Pradesh**

### **Skill Development Course on Mushroom Cultivation**

**Course duration:** 4 weeks

#### **Course Overview:**

This course is designed to provide participants with comprehensive knowledge and hands-on skills in mushroom cultivation. Participants will learn about different types of mushrooms, cultivation techniques, environmental requirements, harvesting, and post-harvest management. Through theoretical sessions and practical demonstrations, participants will develop the necessary skills to start their own mushroom cultivation venture or integrate mushroom cultivation into existing agricultural practices.

#### **Course Objectives:**

1. Understand the basic principles of mushroom cultivation.
2. Identify different types of mushrooms and their growth requirements.
3. Learn various cultivation techniques for different mushroom species.
4. Gain practical experience in setting up and managing mushroom cultivation units.
5. Develop skills in harvesting, post-harvest handling, and marketing of mushrooms.
6. Understand the economic viability and sustainability of mushroom cultivation.

#### **Course Outline:**

##### **Unit 1: Introduction to Mushroom Cultivation**

- Overview of mushroom cultivation
- Types of mushrooms and their nutritional value
- Basic principles of mushroom biology and growth

- Environmental factors influencing mushroom growth

### **Unit 2: Cultivation Techniques**

- Substrate preparation and sterilization
- Spawn preparation and inoculation methods
- Incubation and colonization process
- Casing layer application (if applicable)
- Maintenance of optimal growing conditions

### **Unit 3: Management and Harvesting**

- Disease and pest management
- Monitoring and maintenance of mushroom units
- Harvesting techniques and timing
- Post-harvest handling and storage
- Quality control measure

### **Unit 4: Economic Viability and Marketing**

- Cost analysis and profitability of mushroom cultivation
- Market analysis and product diversification
- Packaging and branding considerations
- Establishing market linkages
- Business planning for mushroom cultivation ventures

**Course outcome:** Upon completion of this course, participants will:

- Possess a comprehensive understanding of mushroom cultivation principles and techniques.
- Be able to set up and manage mushroom cultivation units independently.

- Demonstrate proficiency in harvesting, post-harvest handling, and marketing of mushrooms.
- Understand the economic viability and sustainability of mushroom cultivation as a business venture.
- Be equipped with the necessary skills to integrate mushroom cultivation into their agricultural practices or start their own mushroom cultivation venture.



**St. Joseph's College for Women, Civil Lines, Gorakhpur, Uttar Pradesh**

**Skill Development Program in Food Preservation Technique**

**Course duration: 4 weeks**

**Syllabus:**

**Course Outcome:**

Upon completion of this program, participants will:

- Understand the significance of food preservation and its role in preventing spoilage.
- Identify the various causes of food spoilage, including microorganisms, enzymes, and insects.
- Comprehend the principles of food preservation and apply measures to prevent spoilage effectively.
- Gain knowledge of different methods of food preservation and their applications.
- Develop practical skills in preparing various preserved food materials.

**Unit 1: Understanding Food Preservation**

- a. Definition and Importance of Food Preservation
- b. Causes of Food Spoilage:
  - Spoilage by Microorganisms
  - Spoilage by Enzymes
  - Spoilage by Insects

**Unit 2: Principles and Preventive Measures**

- a. Principles of Food Preservation
- b. Measures to Prevent Food Spoilage

**Unit 3: Methods of Food Preservation**

- a. Introduction to Various Methods

b. Application and Techniques

**Unit 4: Preparation of Preserved Food Materials**

a. Selection of Ingredients

b. Practical Techniques in Food Preservation

**St. Joseph's College for Women, Civil Lines, Gorakhpur,**  
**Uttar Pradesh**

Skill Development program in Garden and Nursery Management

**Course Duration:** 4 weeks

**Course Description:**

In this intensive one-month program, participants will delve into the intricate world of garden and nursery management, gaining practical skills and deepening their understanding of fundamental concepts. Through a blend of hands-on workshops, interactive lectures, and guided projects, participants will explore topics such as plant selection, propagation techniques, soil management, pest and disease control, irrigation systems, and customer service, all within the context of sustainable practices.

**Course Outcome:**

By the end of the program, participants will:

1. Acquire the ability to discern and select suitable plants tailored to various garden and nursery environments.
2. Demonstrate proficiency in employing a range of propagation techniques, including seed propagation, cuttings, grafting, and basic tissue culture.
3. Implement effective soil management strategies, including soil testing, analysis, and appropriate amendment application.
4. Identify common pests and diseases affecting plants and employ integrated pest management strategies for control.
5. Design and install basic irrigation systems tailored to the specific needs of gardens and nurseries.
6. Develop foundational customer service skills, including effective communication and providing plant care advice.
7. Appreciate the significance of sustainability in garden and nursery management and integrate sustainable practices into their work.

**Syllabus:**

**Unit : 1**

**Nursery:** definition, objectives and scope and building up of infrastructure for nursery.

## **Unit: 2**

Seed: structure and types- seed dormancy; causes and methods of breaking dormancy-seed storage: seed banks, factors affecting seed viability, sowing/ raising of seeds and seedling-transplanting of seedlings.

## **Unit : 3**

Vegetative propagation: air-layering/soil layering, cutting, selection of cutting, selection of stock plant, collecting season, treatment of cutting, rooting medium and planting of cuttings. Storage and marketing procedures.

## **Unit: 4**

Gardening: definition, objectives and scope-different types of gardening- landscape and home gardening-parks and its components-plant material and designs. Manuring, watering, management of pests and diseases and harvesting.

## **Practical**

1. Study of germination of dormant & non-dormant seeds (Pea, tomato, maize, bean).
2. To estimate bulk density and porosity of Garden soils.
3. To determine moisture content & water holding capacity of Garden Soils.
4. To determine the pH of the Garden Soils.
5. Seed viability test.
6. Study of different types of Nurseries & their layout.
7. Study of different types of tools & accessories for Nursery.
8. Propagation of Vegetable crops, fruit crops and ornamentals
9. Study of different types of Gardening
10. Study of different methods of vegetative propagation:
  - A) Propagation By Specialized Organs
  - B) Propagation By Cutting
  - C) Layering
  - D) Grafting

## E) Budding

### **Assessment:**

- Active participation in workshops and discussions
- Completion of practical exercises and projects
- Final project: Develop a comprehensive garden or nursery management plan incorporating sustainable practices.

### **Suggested Readings**

1. Bose T.K. & Mukherjee, D. 1972. Gardening In India, Oxford & IBH Publishing Co., New Delhi.
2. Sandhu, M.K. 1989. Plant Propagation, Wile Eastern Ltd., Bangalore, Madras.
3. Kumar, N. 1997. Introduction to Horticulture, Rajalakshmi Publications. Nagercoil.
4. Edmond Musser & andres, Fundamentals of Horticulture, McGraw Hill Book Co., New Delhi.
5. Agrwal, P.K. 1993. Hand Book Of seed Technology, Dept, Of Agriculture and Cooperation, National Seed Corporation Ltd., New Delhi.
6. Janick Jules.1979.Horticultural Science (3rd Ed), W.H.Freeman and Co. San Franciso, USA

Note: This program offers a holistic approach to garden and nursery management, equipping participants with both practical skills and theoretical knowledge to excel in the field.

**St. Joseph's College for Women, Civil Lines, Gorakhpur, Uttar Pradesh**

**Skill Development Program in Health, Hygiene, and Nutrition**

**Course duration: 4 weeks**

**Syllabus**

**Research Outcome:**

Upon completion of this program, participants will:

- Gain a comprehensive understanding of the principles and practices related to health, hygiene, and nutrition.
- Acquire knowledge of nutrition science fundamentals and various types of nutrients.
- Develop skills in food handling to prevent contamination and ensure food safety.
- Implement effective measures for controlling insects and rodents to maintain hygienic environments.

**Unit 1: Understanding Health, Hygiene, and Nutrition**

- a. Meaning and Concept of Health, Hygiene, and Nutrition

**Unit 2: Basics of Nutrition Science**

- a. Introduction to Nutrition Science Fundamentals
- b. Different Types of Nutrition and Nutrients

**Unit 3: Food Handling and Contamination**

- a. Principles of Safe Food Handling
- b. Prevention of Food Contamination

**Unit 4: Control of Insects and Rodents**

- a. Identification of Pest Infestations
- b. Strategies for Pest Control and Maintenance of Hygienic Environments