

A.P. State Council of Higher Education  
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-year B.Sc. (Hons)  
Domain Subject: **BOTANY**  
IV Year B. Sc. (Hons) – Semester – V

Max Marks: 100

**Course 6D: Gardening and Landscaping**

(Skill Enhancement Course (Elective), Credits: 05)

**I. Learning Outcomes:**

Students at the successful completion of the course will be able to:

1. Acquire a critical knowledge about the aesthetic value, types and styles of gardens.
2. Perform field operations in a garden by understanding the role of a gardener.
3. Identify various ornamental plants and explain the growth habits.
4. Propagate garden plants through various propagation techniques.
5. Demonstrate skills of designing and developing a garden.

**II. Syllabus:** (Hours: Teaching: 50, Lab: 30, Field training: 05, others incl. unit tests: 05)  
(*Syllabi of theory, practical and lab (skills) training together shall be completed in 80 hours*)

**Unit -1: Basics of Gardening** (10h)

1. Garden and gardening: Definitions, objectives and scope; types of gardens (domestic garden, flower garden, woodland garden, rock garden, water garden and herb and vegetable garden).
2. Speciality gardens (vertical garden, roof garden and scented garden); principles of gardening; garden components and adornments;
3. Styles of garden: formal, informal, free style and wild; some famous gardens of India.

**Unit -2: Garden operations** (10h)

1. Bio-aesthetic planning, eco-tourism, theme parks, indoor gardening, therapeutic gardening.
2. Gardening operations: soil laying, manuring, watering, management of pests and diseases and harvesting.
3. Lawn making, methods of designing rockery and water garden.

**Unit-3: Ornamental plants** (10h)

1. Ornamental plants: flowering annuals and perennials; climbers and creepers; shade and ornamental trees.
2. Bulbous and foliage ornamental plants; cacti and succulents; palms, ferns.
3. Bonsai: definition, types and styles, art of making bonsai.

**Unit-4: Propagation techniques** (10h)

1. Propagation of ornamental plants by rhizomes, corms tubers, bulbs and bulbils.
2. Vegetative propagation techniques – a brief account of cuttings, layering and grafting.
3. Types of seed beds; sowing of seeds and raising seedlings, transplanting of seedlings; growing plants in pots, potting and repotting.

**Unit-5: Landscaping** (10h)

1. Landscaping: definition, landscaping of parks and public gardens.
2. Urban planning and planting avenues; Landscaping highways and educational institutions; beautifying villages and colonies.
3. Computer Aided Designing (CAD) for outdoor and indoor-scaping.

### **III. References:**

1. Bose T.K. and Mukherjee, D., 1972, Gardening in India, Oxford & IBH Publishing Co., New Delhi.
2. Sandhu, M.K. 1989 Plant Propagation, Wiley Eastern Ltd., Bengaluru.
3. Nambisan, K. M. P. 1992. Design Elements of Land Scape Gardening Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi.
4. Bose, T. K. Malti, R. G. Dhua, R. S and Das, P. 2004. Floriculture and Landscaping. Nayaprakash, Calcutta.
5. Arora, J.S. 2006. Introductory Ornamental Horticulture. Kalyani Publishers, Ludhiana.
6. Web resources suggested by the teacher concerned and the college librarian including reading material.

### **Course 6D: Gardening and Landscaping – Practical syllabus**

**IV. Learning Outcomes:** On successful completion of this practical course, student will be able to:

1. Perform various skills related to gardening.
2. Identify the living and non-living components required for garden development.
3. Identify the pests and diseases of garden plants and control the same.
4. Demonstrate skills of making bonsai and developing lawn.
5. Make landscape design using CAD.

### **V. Practical (Laboratory) Syllabus: (30 hrs)**

1. Preparation of beds for growing nursery of herbs, shrubs and trees.
2. Tools, implements and containers used for propagation and nursery techniques.
3. Identification of different ornamental plants.
4. Demonstration of types and styles of gardens using photos or videos.
5. Gardening operations: soil laying, manuring, watering.
6. Identification of pathogenic and non-pathogenic diseases of garden plants and grasses.
7. Propagation by cutting, layering, budding and grafting.
8. Planning and designing of gardens, functional uses of plants in the landscape.
9. Preparation of land for lawn and planting.
10. Exposure to CAD (Computer Aided Designing)
11. Demonstration of bonsai making.
12. Making of topiaries.

### **VI. Lab References:**

1. Paul Wagland, 2011. Garden Landscaping Manual: A Step-by-Step Guide to Landscaping & Building Projects in Your Garden, Haynes Publishing UK
2. Misra Kaushal Kumar, 2016. Practical Manual of Horticulture, Biotech Books, Open Library.org
3. Hemla Naik, B., S.Y. Chandrashekhar and M. Jawaharlal, 2013. Principles of Landscape Gardening, TNAU, Agrimoon.Com.
4. Web sources suggested by the teacher concerned.

## **VII. Co-Curricular Activities:**

### **a) Mandatory:** (*Lab/field training of students by teacher: (Lab: 10 + field: 05 hours)*)

1. **For Teacher:** Training of students by the teacher in the laboratory/field for a total of not less than 15 hours on the field techniques/skills of garden operations, lawn making, art of bonsai, plant propagation methods, Using CAD.
2. **For Student:** Students shall (individually) visit the parks in public and private places, study the living and non-living elements of gardening – landscaping; write their observations (on various plants, growth habit, propagation, design of garden etc.,) and submit a hand-written Fieldwork/Project work Report not exceeding 10 pages in the given format to the teacher.
3. Max marks for Fieldwork/Project work Report: 05
4. Suggested Format for Fieldwork/Project work Report: Title page, student details, index page, details of place(s) visited, observations, findings, and acknowledgements.
5. Unit tests (IE).

### **b) Suggested Co-Curricular Activities:**

1. Training of students by related industrial experts.
2. Assignments (including technical assignments like identifying ornamental plants, types and styles of gardens, propagation of garden plants, landscaping)
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Preparation of videos on plant propagation, garden operations, ornamental gardening.
5. Collection of material/figures/photos related to gardening and landscaping, writing and organizing them in a systematic way in a file.
6. Visits to gardens and parks in public places and/or private firms; famous gardens in A.P. and India etc.
7. Invited lectures and presentations on related topics by field/industrial experts.

## Model Question Paper Pattern for Practical Examination

Semester – V/ Botany Skill Enhancement Course

### Gardening and Landscaping

Max. Time: 3 Hrs.

Max. Marks: 50

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|---|------------|
| 1. Demonstration a vegetative propagation technique ‘A’         | 8          |
| 2. Demonstration of bed making/ garden operations’ ‘B’          | 10         |
| 3. Demonstration of bonsai technique/ designing a landscape ‘C’ | 12         |
| 4. Scientific observation and data analysis                     | 4 x 3 = 12 |
| D. Type or style of garden                                      |            |
| E. Ornamental plant   |            |
| F. Garden adornments  |            |
| G. Pest or disease of garden plants                             |            |
| 5. Record + Viva-voce   | 5+3 = 8    |