

UNIVERSITY OF MUMBAI

Post Graduate Diploma

in

**Horticulture and Landscape
Gardening**

(with effect from the academic year 2012-2013)

- O **5894** *Title* : Post Graduate Diploma in Horticulture and Landscape gardening
- O **5895** *Eligibility* : Bachelor Degree
- R **8196** *Duration of the Course* : One Year (Full Time/)
- R **8197** *Fee Structure* : Rs. 10,000/-
- R **8198** *Intake Capacity* : 40 Students
- R **8199** *Teacher Qualifications* : M Sc Botany, B Sc Agriculture, Horticulture
- R **8200** *Standard of Passing* :
- a. Candidate who secures minimum 50% marks in each paper be declared to have passed the examination in that subject.
 - b. A candidate who fails to secure 50% marks in a paper will be allowed to reappear in that paper.
 - c. Candidate can carry forward at his/her option the marks in the paper in which he/she has passed, in such a case student is entitled for award of class.
 - d. Candidate who secures a minimum of 50% marks in each paper and an aggregate of 60% and above marks on the whole shall be declared to have passed the examination in the First Class.
 - e. Candidate who secures a minimum of 50% marks in each paper and an aggregate of 70% and above marks on the whole shall be declared to have passed the examination in First Class with Distinction.
- Medium of Instruction* : English
- Field Visit* : Various Gardens and Plant Nurseries

**Syllabus for Post Graduate Diploma
in
Horticulture and Landscape Gardening**

Scheme of Examination

Theory

PAPER	TITLE OF PAPER	MAXIMUM MARKS	MINIMUM MARKS	Credits	PAPER CODE
I	Gardening	150	75	12 Credits	PGDHLT001
II	Landscape Gardening	150	75	12 Credits	PGDHLT002

Practicals

Title OF Practicals	MAXIMUM MARKS	MINIMUM MARKS	Credits	PAPER CODE
I Gardening	150	75	12 Credits	PGDHL P001
II Landscape Gardening	150	75	12 Credits	PGDHL P002

Total Credits = 48

Syllabus for Post Graduate Diploma
in
PG Diploma in Horticulture and Landscape designing

PAPER – I: GARDENING (12 credits)

1) Garden Design:

- Scope and objectives of gardening
- Style of gardens: Formal, Informal
- Types of gardens: English, Mughal and Japanese.
- Components of garden
- Planning of outdoor gardens: Small, Residential, Larger Home Garden, Roof Garden, Terrace Garden, Children's garden, School and Institutional Garden, Park, Industrial garden, Housing complex, Indoor gardening

2) Garden Features and Ornamentation:

- Water, Garden pool, Stream, Waterfall, Fountain, Rocks, Roads, Walks, Pavements and Steps, Walls fences and Gates, Hedges, Edges, Arches, Pergolas, Screens and Bridges, Lawns, Flower beds, Borders, Carpet bedding, Shrubberies, Plant containers & raised beds, Statues, Towers, Plant stands, Green House, Conservatories, Night-lights

3) Specialized Gardens:

- Herb garden, Rose garden, Bog garden, Sunken garden, Topiary garden, Kitchen garden, Paved garden, Dish garden, Rock garden, Terrace garden, Water garden & Bottle garden (Terrarium).

4) Nursery production and management:

- Scope, Site, Soil, Environment, Layout, Manure, Fertilizers, Maintenance, Garden tools, Culture and Garden calendar, Types, Nursery beds, Pest & Disease management. Hi-tech Nursery.

5) Propagation of ornamental plants by seeds, layering, cuttings, grafting, budding & tissue culture.

6) Plant disorders including nutrition, pests and diseases, and chimaeras

7) Trees and their significance in garden and landscape designing

8) Concept of container / pot garden and designs

9) Ground cover plants

10) Ornamental ferns and their propagation

11) Herbaceous perennials

12) Annuals & Biennials: Important Genera and Species, their importance in garden designs

13) Orchids: Environment, propagation, potting & compost, nutrient supply, watering, important species

14) Morphology of root, stem, leaf, inflorescence, flower, fruit and seeds of plant

15) Vegetative propagation techniques: Cutting and its types, Budding and its types, Grafting and its types.

16) Propagation of bulb plants: Scaling, Scooping, Bulbils, Division, Cutting

PAPER – II: LANDSCAPE DESIGNS AND FLORICULTURE (12 Credits)

- 1) Landscape Design: Definition, objectives and scope, Landscape elements of construction and designing of Residential, Commercial, Bungalow, Public area, Hotel, Educational Institute and religious places
- 2) Computer application in landscape
- 3) Palms and Cycas: Characteristics, propagation, culture, pest and disease, importance and uses, genera and species of palms and Cycas.
- 4) Bamboo and conifers: Genera, species and varieties
- 5) Shrubs: Different types
- 6) Climbers and Bougainvillea: Different types
- 7) Hedges for gardens & farms
- 8) Lawns & Grasses: Planting methods, maintenance, pest management
- 9) Ornamental succulents, Cacti and Aquatic plants
- 10) Polyhouse technology: Scope and objectives of floriculture.
 - Cultivation practices of following cut flowers in polyhouse: *Gerbera, Anthurium, Carnation, Roses*
- 11) Development of flowerbeds and their designs
- 12) Preparation of Bonsai and Flower Arrangement
- 13) Application of tissue culture
- 14) Global Warming, Carbon Credit, Rainwater Harvesting and Green Building Concept
 - **Visits to Gardens, Nurseries, Agriculture Colleges/Universities, Exhibitions, Polyhouses, Flower shows etc.**
 - **In-house Training**

Practical I: Horticulture (12 credits)

- 1. Preparation of garden layout: Public, private, formal and Informal**
- 2. Identification of plants suitable for different garden locations.**
- 3. Methods of Preparing dish garden, bottle garden (terrarium), bonsai.**
- 4. Plant propagation practices by seeds, vegetative propagation, cutting, budding, layering, grafting. Propagation of bulbous plants : scaling, scooping.**
- 5. Seed beds, nurseries and maintenance.**
- 6. Identification of plants as green manures.**
- 7. Identification of plant diseases and pests: viral (leaf curl, yellow mosaic), bacterial (wilt and cankers), fungal (rust, smut, wilt, blight, powdery mildew), non insect pests (nematodes and rodents)**
- 8. Different types of pots and potting medium**
- 9. Garden tools and implements.**
- 10. Soil tests: Types of soil, water holding capacity, field capacity, Electrical conductivity, pH.**
- 11. Study of irrigation techniques, water conservation.**
- 12. Visual diagnosis of nutrient deficiencies and toxicity in the field**
- 13. Identification of weeds. Methods of weed control.**

Practical II (12 credits)

- 1. Landscape designing**
- 2. Methods of making lawn, turf**
- 3. Identification of ornamental succulents, aquatic plants.**
- 4. Flower arrangement: Western and Japanese style**
- 5. Organic fertilizers: Farmyard manure, Compost, vermicompost, biofertilisers**

Field Visit: Visit to various gardens (public and private) and plant nurseries

Project Work : Includes Internship

References:

1. Arora J S (1990). Introductory Ornamental Horticulture, Kalyani Publication.
2. Bailey L H 1901. The Standard cyclopedia of Horticulture, volume 1,2 and 3 Macmillan Publications.
3. Bose T K and Mukerjee D 1987, Gardening in India, Oxford Book House
4. Chauhan V S Vegetable Production in India. RamPrasad and Sons
5. Kumar N 1989 Introduction to Horticulture, Rajalakshmi Publications.
6. Manibhushan Rao 1991. Text book of Horticulture, Macmillan Publications.
7. Shujnrnoto, 1982. The Essentials of Bonsai, David & Charles, Newton.