

BOTANY DEPARTMENT
KURUKSHETRA UNIVERSITY KURUKSHETRA

P.G.DIPLOMA IN FLORICULTURE

(Annual System)

w.e.b. 2010-11

SCHEME OF EXAMINATION

Code	Nomenclature	Duration	Max.marks
Theory Papers			
PGDF-101	Essentials of Floriculture	3 Hrs.	80
PGDF-102	Improvement of Ornamental Plants	3 Hrs.	80
PGDF-103	Seed Production and Micro-Propagation	3 Hrs.	80
PGDF-104	Agro technology and Marketing	3 Hrs.	80
Practical Papers			
PGDF-105	Based on Paper PGDF-101 & 102	4 Hrs.	80
PGDF-106	Based on Paper PGDF-103 & 104	4 Hrs.	80
PGDF-107	Seminar		20
Total			500

SYLLABUS

PGDF-101 Essentials of Floriculture

Note : Nine questions will be set in all. Question No.1 will be compulsory and short answer type covering the entire syllabus. Remaining eight questions will be set unit-wise and four questions from each Unit. The candidates will be required to attempt Question No.1 and four more selecting two questions from each Unit. All questions carry equal marks.

UNIT-I

1. History and scope of Floriculture
2. Layout structure and management of nursery.
3. Green House Plants.
4. Types and varieties of Dahlia, Chrysanthemum, Gladiolus and Bougainvillea.
5. Cultivation of cacti, succulents, orchids and water plants.
6. Prolonging the vase life of flowers.

UNIT-II

1. Importance and types of house plants.
2. Effects of factors light, temperature, mineral nutrients, fertilizers, integrated nutrient use.
3. Soil formation, soil structure, soil characteristics and soil fertility assessment.
4. Plant care, training, diseases, pests, control measures.
5. Mycorrhiza and soil fertility management.
6. Methods of growing indoor plants, containers for house plants, dish garden, terrarium, hanging basket.
7. Managing Plant environment- green houses, green house covering material, environmental controls, mist chambers.
8. Media and soil mixtures for growing plants.

Suggested Readings:

1. S.K.Bhattacharjee and Lakshman Chandran De. 2010. Advanced Commercial Floriculture, Vols. I and II Aavishkar Pub., Second Revised and Enlarged Edition, 798
2. D. Ravinath. 2007. *Floriculture: A Viable Business*. Excel Books
3. S.Prasad, U.Kumar. 2010. A Handbook of Floriculture). Agrobios (India)
4. John M. Dole and Harold F. Wilkins. 2004. Floriculture: Principles and Species.:Prentice Hall; 2 edition (2nd Edition)
5. Paul V. Nelson(Author). 2002. Greenhouse Operation and Management. Prentice Hall; 6 edition (6th Edition)

PGDF-102

Improvement of Ornamental Plants**Note :**

Nine questions will be set in all. Question No.1 will be compulsory and short answer type covering the entire syllabus. Remaining eight questions will be set unit-wise and four questions from each Unit. The candidates will be required to attempt Question No.1 and four more selecting two questions from each Unit. All questions carry equal marks

UNIT-I

1. History and overview
2. Role of introduction and selection for domestication
3. Variation and genetic mechanism associated with flower characters like double ness and color in important annuals, bulbs and shrubs.
4. Vegetative propagation: Principles and practices of clone selection,
5. Techniques of cutting, budding,, grafting and layering
6. Propagation by specialized Stems and roots.

UNIT- II

1. General account of improvement of Roses, Chrysanthemum, Dahlia, Gladiolus, Lilies, Marigold, Zinnia, Carnation, Bougainvillea, Hibiscus rosa sinensis.

Suggested Readings:

1. J.S. Arora. 2007, introductory ornamental horticulture. Kalyanti Publications.
2. Allan M. Armitage and Judy M. Laushman. 2008 Speciality Cut Flowers: The Production of Annuals, Perennials, Bulbs and Woody Plants for Fresh and Dried Cut Flowers. Timber Press; REV
3. Gwen Kelaidis and Saxon Holt. 2008: Hardy Succulents: Tough Plants for Every Climate. Storey Publishing, LLC
4. Christopher Brickell. Royla Horticulture Society. Encyclopedia of Plants and Flowers (Rhs).
5. D.G. Hessayon. 2005. The House Plant Expert. Expert; 2nd edition

PGDF-103 Seed production and Micro propagation

Note : Nine questions will be set in all. Question No.1 will be compulsory and short answer type covering the entire syllabus. Remaining eight questions will be set unit-wise and four questions from each Unit. The candidates will be required to attempt Question No.1 and four more selecting two questions from each Unit. All questions carry equal marks.

UNIT-I

1. Seed development, structure and stages of seed development.
2. Apomixis and Polyembryony: a general account.
3. Seed production systems
4. Techniques for seed production and handling
5. Seed testing and seed storage
6. Seedling production system
7. Field seedlings, field nurseries

UNIT- II

1. Principles of tissue culture and micropropagations
2. Types of tissue culture systems.
3. Media preparation, sterilization, types of media, methods and applications
4. Protoplast and cell suspension cultures
5. Synthetic seeds
6. Micropropagation of orchids and Carnation.
7. Clonal selection of micropropagated plant

• **Suggested Readings:**

1. Introductory ornamental Horticulture 2007. J.S. Arora, Kalyani Publishers.
2. Advances in ornamental Horticulture, S.K. Bhattacharjee. 2006, Pointer Publishers.
3. Post Harvest Technology of flowers and ornamental plants. S.K. Bhattacharjee 2005, Pointer Publishers.
4. Advanced Commercial Floriculture, S.K. Bhattacharjee 2010. Aaviskar Publishers.
5. Ornamental Horticulture by Vishnu Swarup, Mac Milan Publishers.
6. Plant Propagation by M.K. Sadhu 1989. New Age International Publishers.
7. Propagation of tropical and sub-tropical horticulture crops. Bose, T.K., Mitra, S.K. and Sadhu, M.K. Noya Prakash Publisher

PGDF-104

Agro technology and Marketing**Note :**

Nine questions will be set in all. Question No.1 will be compulsory and short answer type covering the entire syllabus. Remaining eight questions will be set unit-wise and four questions from each Unit. The candidates will be required to attempt Question No.1 and four more selecting two questions from each Unit. All questions carry equal marks.

UNIT-I

1. Scope and importance of commercial floriculture in India
2. Production techniques- both conventional and modern for ornamental plants like Roses, Chrysanthemum, Gladiolus, Tuberose and Gerbera for domesticated and export markets
3. Hybrid seed production, Post harvest technology of cut flowers in respect of commercial flower crop production of dry flowers.

UNIT- II

1. Indian floriculture industry: An overview
2. Strategies for marketing of floriculture products, IPR and quarantine laws
3. Cut flowers as speciality crops, cut flower industries
4. Trading flowers and potted plants
5. Value addition in floriculture: cosmetics and perfume industry, and outdoor designing
6. Cutting, grading, packaging and marketing of cut flower crops (Aster, Carnation, Chrysanthemum, Gladiolus, Narcissus, Orchids and Antirrhinum) for national and International market.

Suggested Readings

1. Introductory ornamental Horticulture 2007. J.S. Arora, Kalyani Publishers.
2. Advances in ornamental Horticulture, S.K. Bhattacharjee. 2006, Pointer Publishers.
3. Post Harvest Technology of flowers and ornamental plants. S.K. Bhattacharjee 2005, Pointer Publishers.
4. Advanced Commercial Floriculture, S.K. Bhattacharjee 2010. Aaviskar Publishers.
5. Ornamental Horticulture by Vishnu Swarup, Mac Milan Publishers.
6. Plant Propagation by M.K. Sadhu 1989. New Age International Publishers.
7. Propagation of tropical and sub-tropical horticulture crops. Bose, T.K., Mitra, S.K. and Sadhu, M.K. Noya Prakash Publisher