

# Horticulture Sample Question Paper 2025

Max. Time: 3 Hours

Max. Marks: 60

## Section A

*1. Answer any 4 out of the given 6 questions on Employability Skills (1 x 4 = 4 marks)*

**i. Soft Skills are known as**

- a) **People skills**
- b) Personal skills
- c) Audience Skills
- d) Receiver Skills

**ii. In the Acronym SMART, the letter 'R' stands for:**

- a) Rational
- b) Recognize
- c) **Realistic**
- d) Reassure

**iii. The Five Factor Model (FFM) is applicable in:**

- a) Stress Management
- b) **Personality**
- c) Motivation
- d) Positive Attitude

**iv. PowerPoint is a presentation software belongs to**

- a) Apple
- b) Google
- c) **Microsoft Office**
- d) OpenOffice

**v. The ability to continue to do something, even when it is difficult, is called:**

- a) Decisiveness
- b) Organizational skill
- c) Interpersonal skills
- d) **Perseverance**

**vi. What are the 3Rs?**

**Ans:** Reuse, reduce, and recycle.

**2 Answer any 5 out of the given 7 questions (1 x 5 = 5 marks)**

**i. Write the common method of propagation of lawn/turf grasses?**

**Ans:** Dibbling

**ii. Name the flower crop that is being used to express love on Valentine's Day?**

**Ans:** Rose

**iii. Name any two traditional flower crops to be used for loose flowers purpose?**

**Ans:** Marigold, Jasmine

**iv. Write the names of the top-ranked flower crops in the international market.**

**Ans:** Rose, Chrysanthemum, Carnation

**v. Name any two employment avenues in the floriculture sector?**

**Ans:** Loose flowers, Cut Flowers, Nursery  
Production, Value addition, Landscaping,  
etc.

**vi. Write any two universities offering floriculture courses?**

**Ans:** Central Agricultural University, Imphal; Anand Agricultural University, Anand

**vii. Name any two general functions for home landscaping?**

**Ans:** Screening for privacy, minimizing noise, etc.

**3 Answer any 6 out of the given 7 questions (1 x 6 = 6 marks)**

**i. Write the names of two popular varieties of rose flowers grown under protected structures.**

**Ans:** First Red, Grandgala, Confetti, Noblesse, etc.

**ii. Name any two functions of the private area of any home?**

**Ans:** Screening from wind and shading from sun; Entertaining personnel, guests, etc.

**iii. Write the names of two climbers used to make arches in the garden.**

**Ans:** *Hedera helix*, *Clematis spp.*, *Allamanda violacea*

**iv. Write the scientific name of Bermuda/Doob grass used for making lawn?**

**Ans:** *Cynodont dactylon* L.

**v. Name any two shrubs used for edging purposes?**

**Ans:** *Alternanthera amabilis*, *Justicia gendarussa*, *Plumbago capensis*, etc

**vi. Name any two tangible features/ornaments of the garden?**

**Ans:** Statue, Trees, Sun Dials, etc.

**vii. Write the two major diseases of any lawn?**

**Ans:** Fairy ring spot, Dollar spot, Pale or Yellow Lawn

**4 Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)**

**i. What is the Full form of CAD?**

**Ans:** Computer-Aided Design

**ii. Name any two most commonly used CAD software?**

**Ans:** AutoCAD, ArchiCAD

**iii. Name any two foliage indoor plants that can grow under low light conditions?**

**Ans:** *Aglaonema*, *Monstera*, etc.

**iv. Write any two indoor plants propagated through stem cuttings?**

**Ans:** *Aglaonema*, *Coleus*, *Euphorbia*.

**v. Name any two most common insects of indoor plants?**

**Ans:** Red spider mites, aphids, and mealybugs.

**vi. What is the scientific name of African and French marigold flower crops?**

**Ans:** *Tagetes erecta* or *Tagetes patula*

**5 Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)**

**i. Name any two flower crops used for both cut and loose flower purposes?**

**Ans:** *Chrysanthemum*, *Tuberose*

**ii. Write the names of any two fragrant flower crops.**

**Ans:** Rose, *Tuberose*

**iii. Name any two varieties of carnation grown under protected cultivation?**

**Ans:** Lipstick, Empire, Romana, White Tendra,

**iv. Name any two orchids having an epiphytic growth habit?**

**Ans:** *Dendrobium*, *Vanda*

**v. Name any two types of Japanese flower arrangements?**

**Ans:** Morimono, Nageire

**vi. Write any two features of the public area of outdoor rooms?**

**Ans:** Entry Way, Front Lawn, Parking

**6 Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)**

**i. Name any two desiccants commercially used for drying of flowers?**

**Ans:** Silica gel, Sand

**ii. Write two methods of drying of flowers and foliage.**

**Ans:** Air drying, Press drying, Freeze drying

**iii. Name any two flower crops suitable for water drying?**

**Ans:** Hydrangea, Baby's breath

**iv. Name any two common post-harvest disorders of the rose flower crop?**

**Ans:** Bent neck

**v. Write the storage temperature of gerbera flowers?**

**Ans:** 2- 5°C for 2 days

**vi. What is the name of the process of removing field heat from flowers?**

**Ans:** Pre-cooling

## **Section B**

**Answer any 3 out of the given 5 questions on Employability Skills (2 x 3 = 6 marks). Answer each question in 20 – 30 words.**

**7. What are the various factors that affect Active listening?**

**Ans:** Eye contact, Gestures, Avoiding distractions, giving feedback.

**8. Suggest any four ways in which a person can handle stress.**

**Ans:**

- 1. Practice meditation and yoga.
- 2. Talk to friends and family for comfort.
- 3. Keep your thoughts in the present.
- 4. Maintain an accomplishment sheet and enter even small achievements.

**9. Enlist any four advantages of Presentation Software.**

**Ans:**

- 1. Making changes in digital presentations is easy.
- 2. It can be printed and distributed to the audience.
- 3. They can showcase images, videos, animations, and music.
- 4. Can be shown to a large no of masses by projecting on a screen.

**10. What do you understand by the term technical entrepreneurs?**

**Ans:** In this, the person uses their technical expertise to create and offer machines, tools, and methods. Innovation is also done to make the industrial process seamless and efficient.

**11. What are the benefits of Green Jobs?**

- Ans:**
- Increases the efficiency of energy and raw materials.
  - Reduce greenhouse gas emissions.
  - Control waste and pollution
  - Support adaptation to the effects of climate change.

*Answer any 3 out of the given 5 questions in 20 – 30 words each (2 x 3 = 6 marks)*

**12. What do you understand by the term Topiary?**

**Ans:** Topiary: It is the art of training plants into different shapes, or creating sculptures using clipped trees, shrubs, and subshrubs. Plants should be evergreen, have small leaves, and have dense foliage. E.g.. *Duranta plumeri*.

**13. What is the service area of the outdoor room concept?**

**Ans:** Service area: This is that part of the home garden which provides room for necessities such as a greenhouse, a vegetable garden, a cut or loose flower garden, firewood store.

**14. Define mowing and rolling in lawn management.**

**Ans:** Mowing: It is the cutting of lawn grass for maintaining its attractiveness for maximum utility. In one mowing, not more than 1/3rd the leaves are removed.

Rolling is a method of correcting minor variations in the turf grass surface, particularly those caused by pedestrian traffic. The lawn is rolled slightly while it is being established. Rollers should never be run on a wet lawn.

**15. What is flower arrangement?**

**Ans:** Flower arrangement is arranging flowers in a kind of art and design. It is two types. Japanese and English flower arrangement.

**16. What do you understand by freeze-drying?**

**Ans:** Freeze drying: Flowers and foliage are dried at a very low temperature (-35°C). In this method, flower colour and form remain unchanged.

*Answer any 2 out of the given 3 questions in 30– 50 words each (3 x 2 = 6 marks)*

**17. Differentiate between the public area and private area of the outdoor room concept.**

**Ans:** Public area: A place accessible to the public or outsiders for their use and enjoyment. It can be a small park or a road.

Private area: It is owned and maintained by a single individual or family. House, garden, building, apartment

**18. Write about the plant nursery and seed production employment avenue of the floriculture sector.**

**Ans:** 1. Plant Nursery:

This is another component of commercial floriculture, and in every small or big town or suburb, general or specialized plant nurseries are coming up, and the demand for plants for interior, exterior decoration/ landscaping is increasing very fast. There are over fifty thousand ornamental plant nurseries in the country, and alone in/around Kolkata, there are over three thousand ornamental/ bedding plant nurseries.

- Imp factors are Site selection: Near the marketing Centre for easy transportation. Avoid any building near, perennial water supply source. Agro climatic conditions, soil type, pH, and market demand these factors are also considered.
- Product choice: Planting materials such as seedlings of flowers, foliage, bulbs, plants suitable for parks, offices, roadside plantation, hospitals, and residential areas are being grown.
- Propagation methods: Seed (age, maturity of seed, dormancy, water supply, temp - these factors affect).
- Vegetative method: Cutting, layering, division and separation, grafting, budding,
- Tissue culture: Eg, orchid through meristem culture.
- Structures required:
  - Workshed: 6x4.5 m thatch roof with locally available materials
  - Polyhouse: 9x4 m with 90 cm brick wall, 3.6m tall rhombus netting
  - Store cum office: 6x4.5 m dimension
  - Fencing:
  - Land preparation: Ploughing and cross-ploughing are done.
  - Seed production: In flower crops, in recent years, the demand for hybrids (F) has increased very fast in bedding plants, annuals, and herbaceous perennials.
  - There is a unique demand for F2 seeds in ornamental annuals and perennials, unlike any other sector of agriculture.
  - Open-pollinated formulae mixture seeds are also in demand, in addition to inbred and pure line seed varieties.

**19. Differentiate between edge and hedge with suitable examples of plants.**

**Ans:** Hedge: It is a line of closely spaced shrubs and sometimes trees, planted and trained to form a fence. Height is 1-3 m. Inga Dulchis, Karina

Edge: They are planted on the border of the plot. Height is 20- 30 cm. Alternanthera, Justicia, etc

*Answer any 3 out of the given 5 questions in 50– 80 words each (4 x 3 = 12 marks)*

**20. Write about the present scenario and the scope of floriculture in India.**

**Ans:** Present scenario and scope

Features of Commercial Floriculture in India

- Fertile soil
- Abundant water and sunlight
- Readily available low-cost labour
- Liberalized Seed and EXIM policy
- Adequate support from financial institutions
- Increase in per capita income, especially the disposable income
- Change in rural-urban population ratio
- Higher population growth rate in cities

**Export of different floricultural products from India**

The First All India Coordinated Floriculture Improvement Project was started in 1971 with its headquarters at IARI New Delhi, which has 15 funded, four ICAR institution's and two volunteer centers covering 17 states in India. Under this project, research on twelve crops viz., Rose, Gladiolus, Gerbera, Carnation, Chrysanthemum, Orchids, Anthurium, Tuberose, Lilium, Alstroemeria, Tulip, and Daffodils is being carried out through 64 research projects.

**Area and production of Flower crops in India**

**Leading states in Flower acreage (thousand ha) in India**

- Traditional flowers like Marigold, Jasmine, Rose, China aster, Chrysanthemum, Crossandra, Tuberose, etc. are grown in our country in 2/3rd area.
- Modern flowers like Rose, Carnation, Gladiolus, Chrysanthemum, Tuberose, and Orchids are grown in 1/3rd the area.
- In India total area under modern floriculture is about 700 ha, 70% of which is in greenhouses, and 90% of this is under roses.
- The main production centres of modern flowers are at Bangalore, Pune, Nasik, Hyderabad, Chennai, Kalimpong, Delhi, Gurgaon, etc.

**21. Describe in detail about establishment methods, various maintenance operations, diseases, and insects of the lawn.**

**Ans:** Lawn establishment method: Seeding: seeds are mixed with sand and broadcast.

- Dibbling: A small bunch of grass, along with a root and a small stem, is planted.
- Plastering: Grass roots with small stems of 4-5 cm long pieces are mixed with compost and planted.
- Sprinkling: used in the rainy season

- Turfing: small pieces of well-prepared turf cut into a square or rectangular shape and planted.

Maintenance operations:

- Mowing
- Weeding
- Rolling
- Sweeping
- Scrapping
- Bricking

Diseases: Damping off, fairy ring spot, leaf spot, grey mould

Insects: Termites, ants

**22. Write the protected cultivation of roses with respect to soil and climate, varieties, major insects-pests and diseases.**

**Ans:** Protected cultivation of rose:

- Soil: well-drained sandy loam soil with pH 6.0-7.5
- Climate: day temp 24-26 °C, night temp 15-17 C, RH= 75%, CO<sub>2</sub>= 1000-3000 ppm
- Varieties: First Red, Grand Gala, Konfetti, Noblesse, Skyline
- Media preparation: both soil and soilless substrate (rockwool, Peat, sphagnum moss, etc.); pH- 5.5-6.8;
- Bed size: 1-1.6 m wide, 30-40 m long, 15-20 cm height
- Spacing: 30-40 x 15-20 cm
- Planting: May-June; done in 2 rows system; 7-8 plants/m<sup>2</sup>
- Fertilizers: FYM 100 t/ ha; N:P:K=3%:0.2%:1.8%; Ca= 1%; Mg= 0.25%
- Important operations: Bending, pruning, deshooting, disbudding, bud capping
- Diseases: Dieback (*Diplodia rosarum*), Black spot (*Diplocarpon rosae*), Powdery mildew (*Sphaerptheca pannosa* var. *rosae*).
- Insect pests: Aphids (*Macrosiphum rosae*), Red scale (*Lindigapsis rosae*), Chaffer beetles (*Onycetonia varicolor*).

**23. Write in detail about the different methods of drying of flowers and enlist various value-added floral products.**

**Ans:** Drying methods:

- Air drying: They are naturally dried either on the plant part (in situ drying) or after the removal of flowers from the stem, then kept for drying on a flat surface. E.g.. Paper flower, straw flower.
- Microwave: Plant parts are kept in a non-metallic container and microwaved for 2-5 minutes and dried at a range of 300-700 Hz.
- Embedded: Plant parts are embedded into desiccants like silica gel, borax, sand, etc. Color and shape remain intact in this method.

- Freeze drying: Flowers are arranged in a specimen chamber, and the frozen  $-35^{\circ}\text{C}$ .
- Glycerin: Hydrangea, cornflowers are dried by this method
- Press: The flower is pressed using a herbarium/ plant press.
- Value added product: Flower arrangements, Bouquets, Festive decorations. Pot porris

#### 24. Write in detail about the different methods

**Ans:** Storage methods of flowers. Storage is highly useful to regulate the supply in the markets to prevent glut, especially when the prices crash.

There are 4 types of storage:

- a. Refrigerated storage: most widely used.
  - Wet storage: Flowers are stored with their bases dipped in water or preservative solution. It is for a short duration. Temp is  $2-4^{\circ}\text{C}$ . eg, rose  $4^{\circ}\text{C}$ .
  - Dry storage: sealed in plastic bags to prevent moisture loss. This is for long duration and temp is  $0.5-1^{\circ}\text{C}$ . eg, rose  $0-1^{\circ}\text{C}$ .
- b. Controlled atmosphere: Low temp storage in gas-tight chambers under a decreased level of  $\text{O}_2$  and an increased level of  $\text{CO}_2$ .
- c. Modified atmosphere: Less precise form of CA storage, dry storage of flowers in sealed bags leads to a reduction of  $\text{O}_2$  and an increase in  $\text{CO}_2$  level due to tissue respiration.
- d. Hypobaric or low-pressure storage: low-pressure condition with high RH (90-95%).

BioSmartNotes