

Class 12 Horticulture 2025 Solved Paper

SECTION A

(Objective Type Questions) (30 Marks)

1. Answer any 4 out of the given 6 questions on Employability Skills. 4x1=4

(i) The acronym RESPECT?

- (A) Receive
- (B) Remember
- (C) Respond
- (D) Remove**

(ii) _____ personality disorder is characterised by distrust for others, including friends, family members, and partners.

- (A) Antisocial
- (B) Borderline
- (C) Paranoid**
- (D) Narcissistic

(iii) Which shortcut key is used to make the text bold?

- (A) CTRL + C
- (B) CTRL + B**
- (C) CTRL + V
- (D) CTRL + I

(iv) T entreprendre, which means to undertake, is derived from the _____ language.

- (A) French**
- (B) Latin
- (C) Greek
- (D) German

(v) Using bamboo channels for drip irrigation is a green job in _____.

- (A) Irrigation sector
- (B) Water conservation**
- (C) Solar and wind energy
- (D) Agriculture

(vi) The ability to continue to do something even when it is difficult is called :

- (A) Initiative

- (B) Organisational skills
- (C) Perseverance**
- (D) Intelligence

2. Answer any 5 out of the given 7 questions. 5x1=5

(i) Which among the following is the principal pot plant sold in the Dutch Auction, 2012?

- (A) Rose
- (B) Chrysanthemum
- (C) Kalanchoe
- (D) Phalaenopsis**

(ii) Blue rose was developed by :

- (A) Suntory and Florigene**
- (B) ICAR
- (C) IARI
- (D) PAU

(iii) Which one of the following is an indirectly associated component of commercial agriculture?

- (A) Cold storage**
- (B) Florist trade
- (C) Seed production
- (D) Flower perfumery

(iv) The guidelines of balanced planting with trees and shrubs about an imaginary line through the entrance of the house are related to the development of which area?

- (A) Private area
- (B) Public area**
- (C) Service area
- (D) Storage area

(v) Which one of the following are intangible enrichment item?

- (A) Specimen plants
- (B) Birds
- (C) Fragrance**
- (D) Water

(vi) The arbour-like structures that are created over walkways so as to provide support to the climbers and ramblers are known as :

- (A) Pergolas

- (B) Hedges
- (C) Arches**
- (D) Shrubbery

(vii) Which CAD software was developed by Graphisoft?

- (A) AutoCAD
- (B) Archicad**
- (C) DataCAD
- (D) CYCAS

3. Answer any 6 out of the given 7 questions. 6x1=6

(i) Which of the following grass is suitable for shady areas?

- (A) Zoysia japonica**
- (B) *Cynodon dactylon*
- (C) *Poa pratensis*
- (D) *Paspalum notatum*

(ii) The process of removing a layer of dead and decaying organic debris and stems from the top layer of grass is known as :

- (A) Scraping
- (B) Dethatching**
- (C) Spiking
- (D) Raking

(iii) Which one of the following is the main cause of injury or death in many indoor plants?

- (A) Ventilation
- (B) Watering**
- (C) Humidity
- (D) Temperature

(iv) African violets can easily be propagated through _____.

- (A) Leaf cutting**
- (B) Stem cutting
- (C) Root cutting
- (D) Roots

(v) Shopping centres, hotels, and resorts use indoor plants for _____.

- (A) a relaxed atmosphere**
- (B) filtering the sounds
- (C) reducing the glare

(D) line calligraphy

(vi) What is the scientific name of African marigold?

- (A) *Tagetes patula*
- (B) *Tagetes erecta***
- (C) *Tagetes minuta*
- (D) *Tagetes tenuifolia*

(vii) What is the causal organism of phyllody?

- (A) Nematode
- (B) Mycoplasma**
- (C) Bacteria
- (D) Virus

4. Answer any 5 out of the given 6 questions. 5x1=5

(i) Sleeping disorder is associated with cut flowers of _____.

- (A) Gladiolus
- (B) Carnation**
- (C) Chrysanthemum
- (D) Tulip

(ii) Which is the causal organism responsible for the stem rot of carnations?

- (A) Rhizoctonia
- (B) Botrytis
- (C) Fusarium**
- (D) Uromyces

(iii) Which one of the following is not an advantage of protected cultivation?

- (A) High productivity
- (B) Production throughout year
- (C) Capital intensity**
- (D) Off-season production

(iv) Mass arrangements are adopted from _____ design.

- (A) American
- (B) European**
- (C) Japanese
- (D) Korean

(v) Hygroscopic chemicals that help to maintain the suppleness of dried plant material is known as:

- (A) Polysets
- (B) Silica gels
- (C) Humectants**
- (D) Potpourris

(vi) Which method of drying yields a high-quality finished floral product and makes the process relatively simple?

- (A) Water drying
- (B) Air drying
- (C) Freeze drying**
- (D) Vacuum drying

5. Answer any 5 out of the given 6 questions. 5x1=5

(i) The chemical formulation used for extending the vase life of flowers is known as :

- (A) Floral preservatives**
- (B) Biocides
- (C) Pulsing solution
- (D) Holding solution

(ii) Gladiolus cut-spikes are pre-cooled at :

- (A) 1°C
- (B) 4°C**
- (C) 6°C
- (D) 10°C

(iii) Which cut flower is harvested at the tight bud stage?

- (A) Carnation
- (B) Jasmine
- (C) Rose**
- (D) Gladiolus

(iv) Row planting of shrubs or dwarf trees at regular intervals so that they form a fence is known as:

- (A) Edge
- (B) Arch
- (C) Topiary
- (D) Hedge**

(v) Hybrid rose seeds respond best to a stratification temperature of _____ °C for 69 to 90 days.

- (A) 1-4
- (B) 5-8
- (C) 8-12
- (D) 13-16

(vi) Which software has replaced the traditional drawing board?

- (A) CAD
- (B) CAM
- (C) MAC
- (D) UNIX

6. Answer any 5 out of the given 6 questions. $5 \times 1 = 5$

(i) The International Registration Authority for Bougainvillea is situated at :

- (A) IISc, Bengaluru
- (B) IARI, New Delhi**
- (C) Botanical Garden, Coimbatore
- (D) Acharya Jagadish Chandra Bose Indian Botanic Garden, Kolkata

(ii) Dried ornamental exporting units are mainly situated at :

- (A) Delhi
- (B) Nagpur
- (C) Bhopal
- (D) Tuticorin**

(iii) The items which are created through a manufacturing process are called _____.

- (A) Natural enrichment items
- (B) Tangible enrichment items
- (C) Manmade enrichment items**
- (D) Intangible enrichment items

(iv) The garden laid below the ground level is called :

- (A) Paved garden
- (B) Terrace garden
- (C) Mesh garden
- (D) Sunken garden**

(v) Which is the most destructive lawn pest?

- (A) White grubs

- (B) Termites
- (C) Fairy ring
- (D) Pale lawn

(vi) Which of the following countries is a leading global exporter of dried ornamentals?

- (A) Netherlands
- (B) Australia
- (C) South Korea
- (D) India

SECTION B

(Subjective Type Questions) (30 Marks)

Answer any 3 out of the given 5 questions on Employability Skills. Answer each question in 20-30 words. 3x2=6

7. Write a short note on MINTS.

Ans: MINTS: A Set of simple rules that help to capitalize words correctly.
M : Months, I : I, N : Names, T : Titles, and S : Starting letter of sentence

8. List out any two software for Presentations.

Ans: Any two

- (1) LibreOffice Impress
- (2) Microsoft Office PowerPoint
- (3) Open Office Impress
- (4) Google Slides
- (5) Apple keynote

9. Briefly explain “Startups.”

Ans: A startup is a company that is in the first stage of its operations, started with a minimum investment.

10. Define Self-Control.

Ans: Self-control is the ability to control one’s emotions, thoughts, and behaviour effectively in different situations.

11. List out any two green jobs in agriculture.

Ans: Organic farming, water quality testing, water conservation, water management (any two).

Answer any 3 out of the given 5 questions in 20-30 words each. 3x2=6

12. What are the functions of the family area?

Ans: Functions of the family area

- (a) Screening neighbours from viewing and learning
- (b) Screening from wind and shading from the Sun
- (c) Providing comfort to the family members
- (d) Entertaining personnel guests

13. How do you define edges? Suggest suitable plants for making edges.

Ans: Edges refer to low-growing herbaceous perennials meant for lining and demarcation of the boundary.

- Foliage plant: *Alternanthera spp*, *Eupatorium cannabinum*.
- Flower plant: *Zephyranthes*, *Amaryllis*.

14. Define plugging.

Ans: Plugging is the process of using small pieces of sod transplanted in the soil at intermittent intervals.

15. What is Ikebana ?

Ans: Ikebana is a Japanese art form, symbolises the unity of nature and humanity. It emphasised not on mass arrangement of flowers but the individuality of the flower, foliage, and branches.

16. Write a short note on humectants.

Ans: Humectants are hygroscopic chemicals, which help to maintain the suppleness of dried plant materials by attracting water vapour from the surrounding areas.

Answer any 2 out of the given 3 questions in 30-50 words each. 2x3=6

17. How would you explain terms like Commercial floriculture and Hi-tech floriculture?

Ans:

- (a) Commercial floriculture is a branch of Horticulture which deals with commercial growing, marketing, and arranging flowers and ornamental plants, which includes annuals, biennials, and perennials, viz, trees, shrubs, climbers, and herbaceous perennials.
- (b) Hi-tech floriculture is the technology that is ultra-modern, less environment dependent, and capital intensive, having improved productivity with quality produce.

18. What are the directly associated components of industry?

Ans: Directly associated components of commercial floriculture :

- (i) Florist trade
- (ii) Plant and bedding plant nursery
- (iii) Planting material production
- (iv) Seed production
- (v) Flower perfumery
- (vi) Bonsai production

(vii) Flori-clinics and consultancy services

19. Explain briefly the analysis involved in home landscaping.

Ans: (a) First stage of planning / Need Analysis :

Is the compilation of an inventory of what should be accomplished through the landscaping and what the landscape will include, based on the preferences, requirements and lifestyles of the family members. To facilitate the need analysis, the property area is divided into three areas as given below.

- (i) Public area / Approach area / Front area
- (ii) Family area / private living area
- (iii) Service area/utility area

(b) Second stage of planning: It is the inventory of all existing property items, including the architecture of the proposed home building, plot size, landscape, various viewpoints, and soil characteristics, climate, etc, are prepared.

Answer any 3 out of the given 5 questions in 50-80 words each. 3x4=12

20. List out the must-have qualities of rootstocks of roses and suggest common cultivars used.

Ans: Qualities of the rootstocks of roses

- (i) It should produce a fibrous root system.
- (ii) It can easily be propagated from cuttings.
- (iii) It should have vigorous growth habits, be healthy, and be resistant to diseases and frost. Plants should have uniform growth.
- (iv) It should have a bark, thick enough to hold the bud firmly and provide sap to the budded plant.
- (v) It should be reasonably free from suckers.
- (vi) It should support the budded plant for a long time.
- (vii) It should withstand a wide range of soils and climatic conditions.

Commonly used rootstocks are: *Rosa bourboniana* (Edward Rose), *Rosa canina* (Dog Rose)
Rosa indica var adorate (for northern plains)
Rosa laxa, *Rosa manetti*, *Rosa multiflora* (for outdoor roses and well-suited for hills)

21. What are the advantages of protected cultivation of flower crops? Briefly explain how high temperature is managed.

Ans: (i) High productivity per unit area

- (ii) Ensures the production of any plant at any place and throughout the year.
- (iii) Off-season flower production
- (iv) Blemish-free, high-quality product (flowers and planting materials)
- (v) Easy to control insect pests and diseases
- (vi) Water requirement reduces up to 30 percent

- (vii) Labour requirement is less
(viii) Earliness as well as reduced crop duration.

Management of high temperature :

- (a) using Naturally ventilated polyhouses with side (1.5 m) and top (1 m) ventilation
- (b) Use of fan and pad system for cooling, use of 50% intensity shade nets (12 to 4 pm) installed inside the polyhouses
- (c) Use of toggers/misters during the afternoon, once/twice only in the vegetative phase of the flower crop
- (d) photo-selective shading points with less reduction of PAR, allowing 69% light, and are useful in late spring and summer, 450 kg/ha in a ratio of 1:3 (paint: water)

22. Discuss the following heads :

(i) Selection of turf grasses for warm and cool climates, along with their remarkable nature.

(ii) Mowing and rowing.

Ans: (i) Climate:

(A) Warm tropical and sub-tropical climates:

Cynodon dactylon: Highly tolerant to cold and drought, does not tolerate shade, poor drainage, and high soil acidity.

Selection No. 1

- *Zoysia japonica* (Korean grass)
- *Zoysia matrella* (Manilla grass)
- *Zoysia tenuifolia* (Korean Velvel grass) good in shade, how every they are very slow to grow

(B) Warm humid region

- *Axonopus affinis*
- *Eremochloa* or *Picroides*
- *Paspalum notatum* and *stentaphrum secundatum* used for erosion control.

Mowing and rolling in lawn

- Mowing lawn first time: The Lawn mower should not be used as the newly established grass will be uprooted. The grass should be trimmed with the help of a sharp scythe or hedge shear initially. It should be cut at a height of 3 cm while mowing. Mowing should be done at an interval of 10 – 15 days, depending on the season and grass species.
- Rolling: Method of correcting minor variations in the turf grass surface, particularly those caused by pedestrian traffic.

23. Write briefly on water drying and freeze drying, along with their required conditions (if any).

Ans: Water drying: The flowers and foliage are kept in water and allowed to dry. It is suitable for flowers like Hydrangea, cornflower, and feverfew.

- First, the lower leaves and flowers from the stem are stripped, then the materials are kept in standing, normal water with about 5 cm depth at room temperature. The material is kept undisturbed in a dry, well-aerated room until both the holder and flowers are dried.
- Freeze drying: The flowers are arranged in a specimen chamber, then frozen to -35°C . Any ice crystals on the flowers are sublimed or vaporized with the application of heat. After transforming into condensation, the vapour is captured into a separate chamber as ice.

This method is expensive and yields high-quality finished floral products.

24. Explain briefly the post-harvest care of Gerbera under the following heads :

(a) Harvesting

(b) Pre-cooling

(c) Pulsing

(d) Storage

Ans: Post-harvesting of Gerbera

(a) Harvesting: Flowers are cut when the outer two rows of disc florets are perpendicular to the stalk.

Pride the stalk at 10 cm below the flower head to allow the air to escape from the cavity.

(b) Pre-cooling: Stored at 2 to 3C with a relative humidity of

90 – 95 °C as soon as possible after harvest to overcome the field heat.

(c) Pulsing: The cut flowers must be immersed in a solution containing preservatives, viz., 1% commercial bleach/sodium hypochlorite, for four hours at 14-15 °C.

(d) Storage: Flowers can be stored dry at a temperature of 2-5°C for 2 days. Flowers can be stored loose in deionised water for 4-7 days at 4C. After storage, the stems should be cut once again and placed in water or preservative for 2-3 hours for rehydration.

BioSmartNotes