

CBSE | DEPARTMENT OF SKILL EDUCATION

HORTICULTURE (SUBJECT CODE-816)

MARKING SCHEME FOR CLASS XII (SESSION 2023-2024)

Max. Time: 3 Hours

Max. Marks: 60

General Instructions:

1. Please read the instructions carefully.
2. This Question Paper consists of **24 questions** in two sections – Section A & Section B.
3. Section A has Objective type questions whereas Section B contains Subjective type questions.
4. **Out of the given (6 + 18 =) 24 questions, a candidate has to answer (6 + 11 =) 17 questions in the allotted (maximum) time of 3 hours.**
5. All questions of a particular section must be attempted in the correct order.
6. **SECTION A - OBJECTIVE TYPE QUESTIONS (30 MARKS):**
 - i. This section has 06 questions.
 - ii. There is no negative marking.
 - iii. Do as per the instructions given.
 - iv. Marks allotted are mentioned against each question/part.
7. **SECTION B – SUBJECTIVE TYPE QUESTIONS (30 MARKS):**
 - i. This section contains 18 questions.
 - ii. A candidate has to do 11 questions.
 - iii. Do as per the instructions given.
 - iv. Marks allotted are mentioned against each question/part.

SECTION A: OBJECTIVE TYPE QUESTIONS

Q. No.	QUESTION	Source Material (NCERT/PSSCIVE/ CBSE Study Material)	Unit/ Chap. No.	Page no. of source material	Marks
Q.1	Answer any 4 out of the given 6 questions on Employability Skills (1 x 4 = 4 marks)				
i.	a. People skills	NCERT	Unit 1		1
ii.	c. Realistic	NCERT	Unit 2	30	1
iii.	b. Personality	NCERT	Unit 2	33	1
iv.	c. Microsoft Office	NCERT	Unit 3	63	1
v.	d. Perseverance	NCERT	Unit 4	97	1
vi.	Reuse, reduce and recycle.	NCERT	Unit 5		1
Q.2	Answer any 5 out of the given 7 questions (1 x 5 = 5 marks)				
i.	Dibbling	CBSE Study Material	Unit 7	50	1
ii.	Rose	CBSE Study Material	Unit 1	02	1
iii.	Marigold, Jasmine	CBSE Study Material	Unit 1	12	1
iv.	Rose, Chrysanthemum, Carnation	CBSE Study Material	Unit 1	05	1

v.	Loose flowers, Cut Flowers, Nursery Production, Value addition, Landscaping, etc.	CBSE Study Material	Unit 2	17-18	1
vi.	Central Agricultural University, Imphal; Anand Agricultural University, Anand	CBSE Study Material	Unit 2	21	1
vii.	Screening for privacy, minimize noise, etc.	CBSE Study Material	Unit 3	25	1
Q.3	Answer any 6 out of the given 7 questions (1 x 6 = 6 marks)				
i.	First Red, Grandgala, Confetti, Noblesse, etc.	CBSE Study Material	Unit 9	111	1
ii.	Screening from wind and shading from sun; Entertaining personnel guests etc.	CBSE Study Material	Unit 3	27	1
iii.	<i>Hedera helix, Clematis spp., Allamanda violacea</i>	CBSE Study Material	Unit 4	34	1
iv.	<i>Cynodont dactylon</i> L.	CBSE Study Material	Unit 6	49	1
v.	<i>Alternanthera amabilis, Justicia gendarussa, Plumbago capensis</i> , etc	CBSE Study Material	Unit 4	36	1
vi.	Statue, Trees, Sun Dials, etc.	CBSE Study Material	Unit 4	30	1
vii.	Fairy ring spot, Dollar spot, Pale or Yellow Lawn	CBSE Study Material	Unit 6	53	1
Q. No.	QUESTION	Source Material (NCERT/PSSCIVE/ CBSE Study Material)	Unit/ Chap. No.	Page no. of source material	Marks
Q.4	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)				
i.	Computer Aided Design	CBSE Study Material	Unit 5	41	1
ii.	AutoCAD, ArchiCAD	CBSE Study Material	Unit 5	43	1
iii.	<i>Aglaonema, Monstera</i> , etc.	CBSE Study Material	Unit 7	62	1
iv.	<i>Aglaonema, Coleus, Euphorbia</i> .	CBSE Study Material	Unit 7	60	1
v.	Red spider mites, aphids, mealy bugs.	CBSE Study Material	Unit 7	61	1
vii.	<i>Tagetes erecta or Tagetes patula</i>	CBSE Study Material	Unit 8	87	1
Q.5	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)				
i.	Chrysanthemum, Tuberosse	CBSE Study Material	Unit 8	76,90	1
ii.	Rose, Tuberosse	CBSE Study Material	Unit 8	65,90	1
iii.	Lipstick, Empire, Romana, White Tendra,	CBSE Study Material	Unit 9	115	1
iv.	Dendrobium, Vanda	CBSE Study Material	Unit 9	125	1
v.	Morimono, Nageire	CBSE Study Material	Unit 10	135	1

vi.	Entry Way, Front Lawn, Parking	CBSE Study Material	Unit 3	26	1
Q.6	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)				
i.	Silica gel, Sand	CBSE Study Material	Unit 11	144	1
ii.	Air drying, Press drying, Freeze drying	CBSE Study Material	Unit 11	143-145	1
iii.	Hydrangea, Baby's breath	CBSE Study Material	Unit 11	145	1
iv.	Bent neck	CBSE Study Material	Unit 12	157	1
v.	2-5°C for 2 days	CBSE Study Material	Unit 12	165	1
vi.	Pre- cooling	CBSE Study Material	Unit 12	156	1

SECTION B : SUBJECTIVE TYPE QUESTIONS

Q. No.	QUESTION	Source Material (NCERT/PSSCIVE/ CBSE Study Material)	Unit/ Chap. No.	Page no. of source material	Marks
Answer any 3 out of the given 5 questions on Employability Skills in 20 – 30 words each (2 x 3 = 6 marks)					
Q.7.	Eye contact, Gestures, Avoiding distractions, giving feedback.	NCERT	1	15	2
Q.8.	1. Practice meditation and yoga. 2. Talk to friends and family for comfort. 3. Keep your thoughts in present. 4. Maintain an accomplishment sheet and enter even small achievements.	NCERT	2	26	2
Q.9.	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.	NCERT	3	63	2
Q.10.	In this the person who uses their technical expertise to create and offer machines, tools and methods. Innovation is also done to make industrial process seamless and efficient.	NCERT	4	83	2
Q.11.	a. increases the efficiency of energy and raw material. b. reduce greenhouse gas emission. c. control waste and pollution	NCERT	5	114	2

	d. 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)					
Q.12	Topiary: It is an art of training of plants into different shapes, or creating sculptures using clipped trees, shrubs and subshrubs. Plants should be evergreen, have small leaves, dense foliage. Eg. <i>Duranta plumeri</i> .	CBSE Study Material	Unit 4	33	2
Q.13	Service area: This is that part of home garden which provides room for necessities such as greenhouse, vegetable garden, cut or loose flower garden, firewood store.	CBSE Study Material	Unit 3	29-30	2
Q.14	Mowing: It is the cutting of lawn grass for maintaining its attractiveness for maximum utility. In one mowing not more than 1/3 rd 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 the same is being established. Roller should never be run on a wet lawn.	CBSE Study Material	Unit 6	51	2
Q.15	Flower arrangement: Arranging flowers in a kind of art and design. It is two types. Japanese and English flower arrangement.	CBSE Study Material	Unit 10	133	2
Q.16	Freeze drying: Flowers and foliage are dried at very low temperature (-35°C). In this method flower colour and form remains unchanged.	CBSE Study Material	Unit 11	145	2
Answer any 2 out of the given 3 questions in 30– 50 words each (3 x 2 = 6 marks)					
Q.17	Public area: A place accessible to the public or outsiders for their use and enjoyment. It can be small park, roads. Private area It is owned and maintained by a single individual or family. House, garden, building, apartment	CBSE Study Material	Unit 3	26-27	3
Q.18	1. Plant Nursery: This is another component of commercial floriculture and in	CBSE Study Material	Unit 2	2-18	3

every small or big town or suburbs, 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 plants nurseries in the country and alone in/around Kolkata, there are over three thousand ornamental/ bedding plants nurseries.

Imp factors are

- Site selection: Near marketing Centre for easy transportation. Avoid any building, perennial water supply source. Agro climatic condition, soil type, ph, 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, and hospitals, 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, 3.6 m tall rhombus netting

Store cum office: 6x4.5 m dimension

Fencing:

Land preparation: ploughing and cross ploughing is done.

Seed production: In flower crops, in the recent years the demand for hybrids (F) has increased very fast in bedding plants, annuals and herbaceous perennials.

There is unique demand for F 2 seeds in ornamentals annuals and perennials unlike any other sector of agriculture.

Open pollinated formulae mixture seeds are also in demand, in additions to inbred and pure line seed varieties.

Q.19	<p>Hedge: It is a line of closely spaced shrubs and sometimes trees, planted and trained to form fence. Height is 1-3 m <i>Inga dulchis, Karina</i></p> <p>Edge: They are planted on the border of plot. Height is 20-30 cm. Alternanthera, Justicia, etc</p>	CBSE Study Material	Unit 4	34-36	3
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Answer any 3 out of the given 5 questions in 50– 80 words each (4 x 3 = 12 marks)

Q.20	<p>Present scenario and scope</p> <ul style="list-style-type: none"> ➤ Features of Commercial Floriculture in India <ul style="list-style-type: none"> • 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 specially the disposable income • Change in rural-urban population ratio • Higher population growth rate in cities ➤ Export of different floricultural products from India ➤ First All India Coordinated Floriculture Improvement Project was started in 1971 with its head quarter 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, Liliun, 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, 	CBSE Study Material	Unit 1	9-12	4
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	<p>Tuberose, etc. are grown in our country in 2/3rd area.</p> <ul style="list-style-type: none"> ➤ Modern flowers like Rose, Carnation, Gladiolus, Chrysanthemum, Tuberose and Orchids are grown in 1/3rd 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. 				
Q.21	<p>Lawn establishment method:</p> <ul style="list-style-type: none"> • Seeding: seeds are mixed with sands and broadcasted. • Dibbling: small bunch of grass along with root and little stem is planted. • Plastering: Grass roots with little stem of 4-5 cm long pieces are mixed with compost and planted. • Sprinkling: used in rainy season • Turfing: small pieces of well-prepared turf cut into square or rectangle shape and planted. <p>Maintenance operations:</p> <ul style="list-style-type: none"> • Mowing • Weeding • Rolling • Sweeping • Scrapping • Bricking <p>Diseases: Damping off, fairy ring spot, leaf spot, grey mould</p> <p>Insects: Termites, ants</p>	CBSE Study Material	Unit 4	49-53	4
Q.22	<p>Protected cultivation of rose:</p> <ul style="list-style-type: none"> • 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%, CO₂= 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; 	CBSE Study Material	Unit 9	111-114	4

	<ul style="list-style-type: none"> • Bed size: 1-1.6 m wide, 30-40 m longm 15-20 cm height • Spacing: 30-40 x 15-20 cm • Planting: May-june; done in 2 row system; 7-8 plants/m² • 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 (<i>Diplodia rosarum</i>), Black spot (<i>Diplocarpon rosae</i>), Powdery mildew (<i>Sphaerptheca pannosa var. rosae</i>). • Insect pest: Aphids (<i>Macrosiphum rosae</i>), Red scale (<i>Lindigapsis rosae</i>), Chaffer beetles (<i>Onycetonia varsicolor</i>). 				
Q.23	<p>Drying methods:</p> <p>Air drying: They are naturally dried either on plant part (insitu drying) or after removal of flowers from stem then kept for drying on a flat surface. Eg. Paper flower, straw flower.</p> <p>Microwave: Plant part are kept in non- metallic container and microwaved for 2-5 mints and dried at a range of 300-700 Hz.</p> <p>Embedded: Plant parts are embedded into desiccants like silica gel, borax, sand etc. Color and shape remain intact in this method.</p> <p>Freeze drying: Flowers are arranged in specimen chamber and the frozen -35C.</p> <p>Glycerin: Hydangea, corn flowers are dried by this method</p> <p>Press: flower is pressed using herbarium/ plant press.</p> <p>Value added product: Flower arrangements, Bouquets, Festive decorations. Pot porris</p>	CBSE Study Material	Unit 11	142-147	4
Q.24	<p>Storage methods of flowers</p> <p>Storage is highly useful to regulate the supply in the markets to prevent glut, especially when the prices cash down. There are 4 types of storage:</p> <p>a. Refrigerated storage: most widely used.</p>	CBSE Study Material	Unit 12	156-165	4

<ul style="list-style-type: none"> □ Wet storage: flowers are stored with their bases dipped in eater or preservative sol. It is for short duration. Temp is 2-4C. eg, rose 4C □ Dry storage: sealed in plastic bags to prevent moisture loss. This is for long duration and temp is 0.5-1C. eg, rose 0-1C. b. Controlled atmosphere: Low temp storage in gas tight chambers under decreased level of O2 and increased level of CO2. c. Modified atmosphere: Less precise form of CA storage, dry storage of flowers in sealed bags leads in reduction of o2 and increase in co2 level due to tissue respiration. d. Hypobaric or low-pressure storage: low pressure condition with high RH (90-95%). 				
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