CBSE | DEPARTMENT OF SKILL EDUCATION

HORTICULTURE (SUBJECT CODE-816)

MARKING SCHEME FOR CLASS XII (SESSION 2024-2025)

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	s (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.	Hedera helix, Clematis spp., Allamanda violacea	CBSE Study Material	Unit 4	34	1
iv.	Cynodont dactylon L.	CBSE Study Material	Unit 6	49	1
V.	Alternanthera amabilis, Justicia gendarussa, Plumbago capensis, etc	CBSE Study Material	Unit 4	36	1
vi.	Statue, Trees, Sun Dials, etc.	CBSE Study Material	Unit 4	30	1
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vii.	Fairy ring spot, Dollar spot, Pale or Yellow Lawn	CBSE Study Material	Unit 6	53	1
		CBSE Study Material Source Material (NCERT/PSSCIVE/ CBSE Study Material)	Unit 6 Unit/ Chap. No.	Page no. of source material	1 Marks
vii.	Lawn	Source Material (NCERT/PSSCIVE/ CBSE Study Material)	Unit/ Chap.	Page no. of source	
vii. Q. No.	QUESTION	Source Material (NCERT/PSSCIVE/ CBSE Study Material)	Unit/ Chap.	Page no. of source	
vii. Q. No.	QUESTION Answer any 5 out of the given 6 questions	Source Material (NCERT/PSSCIVE/ CBSE Study Material) (1 x 5 = 5 marks)	Unit/ Chap. No.	Page no. of source material	Marks
Q. No. Q.4	QUESTION Answer any 5 out of the given 6 questions Computer Aided Design	Source Material (NCERT/PSSCIVE/ CBSE Study Material) (1 x 5 = 5 marks) CBSE Study Material	Unit/ Chap. No.	Page no. of source material	Marks
Vii. Q. No. Q.4 i.	QUESTION Answer any 5 out of the given 6 questions Computer Aided Design AutoCAD, ArchiCAD	Source Material (NCERT/PSSCIVE/ CBSE Study Material) (1 x 5 = 5 marks) CBSE Study Material CBSE Study Material	Unit/ Chap. No. Unit 5	Page no. of source material 41 43	Marks 1 1
Q. No. Q.4 i. iii.	QUESTION Answer any 5 out of the given 6 questions Computer Aided Design AutoCAD, ArchiCAD Aglaonema, Monstera, etc.	Source Material (NCERT/PSSCIVE/ CBSE Study Material) (1 x 5 = 5 marks) CBSE Study Material CBSE Study Material CBSE Study Material	Unit/Chap. No. Unit 5 Unit 5 Unit 7	Page no. of source material 41 43 62	Marks 1 1 1
vii. Q. No. Q.4 i. ii. iii.	QUESTION Answer any 5 out of the given 6 questions Computer Aided Design AutoCAD, ArchiCAD Aglaonema, Monstera, etc. Aglaonema, Coleus, Euphorbia.	Source Material (NCERT/PSSCIVE/ CBSE Study Material) (1 x 5 = 5 marks) CBSE Study Material CBSE Study Material CBSE Study Material CBSE Study Material	Unit/Chap. No. Unit 5 Unit 5 Unit 7 Unit 7	Page no. of source material 41 43 62 60	Marks 1 1 1
vii. Q. No. Q.4 ii. iii. v.	QUESTION Answer any 5 out of the given 6 questions Computer Aided Design AutoCAD, ArchiCAD Aglaonema, Monstera, etc. Aglaonema, Coleus, Euphorbia. Red spider mites, aphids, mealy bugs.	Source Material (NCERT/PSSCIVE/ CBSE Study Material) (1 x 5 = 5 marks) CBSE Study Material	Unit/Chap. No. Unit 5 Unit 5 Unit 7 Unit 7 Unit 7	Page no. of source material 41 43 62 60 61	1 1 1 1
vii. Q. A i. iii. iv. v. vii.	QUESTION Answer any 5 out of the given 6 questions Computer Aided Design AutoCAD, ArchiCAD Aglaonema, Monstera, etc. Aglaonema, Coleus, Euphorbia. Red spider mites, aphids, mealy bugs. Tagetes erecta or Tagetes patula	Source Material (NCERT/PSSCIVE/ CBSE Study Material) (1 x 5 = 5 marks) CBSE Study Material	Unit/Chap. No. Unit 5 Unit 5 Unit 7 Unit 7 Unit 7	Page no. of source material 41 43 62 60 61	1 1 1 1
vii. Q. A i. iii. iv. v. vii. Q. 5	QUESTION Answer any 5 out of the given 6 questions Computer Aided Design AutoCAD, ArchiCAD Aglaonema, Monstera, etc. Aglaonema, Coleus, Euphorbia. Red spider mites, aphids, mealy bugs. Tagetes erecta or Tagetes patula Answer any 5 out of the given 6 questions	Source Material (NCERT/PSSCIVE/ CBSE Study Material) (1 x 5 = 5 marks) CBSE Study Material (1 x 5 = 5 marks)	Unit/Chap. No. Unit 5 Unit 5 Unit 7 Unit 7 Unit 7 Unit 8	Page no. of source material 41 43 62 60 61 87	1 1 1 1
vii. Q. 4 i. iii. iv. v. vii. Q.5 i.	QUESTION Answer any 5 out of the given 6 questions Computer Aided Design AutoCAD, ArchiCAD Aglaonema, Monstera, etc. Aglaonema, Coleus, Euphorbia. Red spider mites, aphids, mealy bugs. Tagetes erecta or Tagetes patula Answer any 5 out of the given 6 questions Chrysanthemum, Tuberose	Source Material (NCERT/PSSCIVE/ CBSE Study Material) (1 x 5 = 5 marks) CBSE Study Material	Unit/Chap. No. Unit 5 Unit 5 Unit 7 Unit 7 Unit 7 Unit 8	Page no. of source material 41 43 62 60 61 87	1 1 1 1 1
vii. Q.4 i. iii. iv. v. vii. Q.5 i. iii.	QUESTION Answer any 5 out of the given 6 questions Computer Aided Design AutoCAD, ArchiCAD Aglaonema, Monstera, etc. Aglaonema, Coleus, Euphorbia. Red spider mites, aphids, mealy bugs. Tagetes erecta or Tagetes patula Answer any 5 out of the given 6 questions Chrysanthemum, Tuberose Rose, Tuberose	Source Material (NCERT/PSSCIVE/ CBSE Study Material) (1 x 5 = 5 marks) CBSE Study Material CBSE Study Material	Unit/Chap. No. Unit 5 Unit 5 Unit 7 Unit 7 Unit 7 Unit 8 Unit 8	Page no. of source material 41 43 62 60 61 87 76,90 65,90	1 1 1 1 1 1 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
Answe marks	er any 3 out of the given 5 questions on Em)	nployability Skills in 20) – 30 wor	ds each (2	x 3 = 6
Q.7.	Eye contact, Gestures, Avoiding distractions, giving feedback.	NCERT	1	15	2
Q.8.	 Practice meditation and yoga. Talk to friends and family for comfort. Keep your thoughts in present. Maintain an accomplishment sheet and enter even small achievements. 	NCERT	2	26	2
Q.9.	 Making changes in digital presentations is easy. it can be printed and distributed to the audience. They can showcase images, videos, animations, and music. 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.		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.				
Answe	er 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
Answe	er 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	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.
- Yeroduct choice: Planting materials such as seedlings of flowers, foliage, bulbs, plants suitable for parks, offices, roadside plantation, and hospitals, residential areas are being grown.
- Y 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.

unlike any other sector of agriculture. Open pollinated formulae mixture seeds are also in demand, in additions to inbred and pure line seed varieties.

shru train Heig	ge: It is a line of closely spaced abs and sometimes tress, planted and ned to form fence. Ight is 1-3 m and dulchis, Karina	CBSE Study Material	Unit 4	34-36	3
plot.	e: They are planted on the border of . Height is 20-30 cm. rnanthra, Justicia, etc				
Answer any	y 3 out of the given 5 questions in 50-	80 words each (4 x 3	= 12 mark	s)	
Q.20 Pres	sent 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 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, Lilium, Alstroemeria, Tulip and daffodils is being carried out through 64 research projects. Area and production of Flower crops in India Traditional flowers like Marigold, Jasmine, Rose, China aster,	CBSE Study Material	Unit 1	9-12	4

	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 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	 Seeding: seeds are mixed withsands 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. Maintenance operations: Mowing Weeding Rolling Scrapping Bricking Diseases: Damping off, fairy ring spot, leaf spot, grey mould Insects: Termites, ants 	CBSE Study Material	Unit 4	49-53	4
Q.22	 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%, 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

	 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	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. Microwave: Plant part are kept in non- metallic container and microwaved for 2-5 mints 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 specimen chamber and the frozen -35C. Glycerin: Hydangea, corn flowers are dried by this method Press: flower is pressed using herbarium/ plant press. Value added product: Flower arrangements, Bouquets, Festive decorations. Pot porris	CBSE Study Material	Unit 11	142-147	4
Q.24	Storage methods of flowers 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: a. Refrigerated storage: most widely used.	CBSE Study Material	Unit 12	156-165	4

Y 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	
The 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%).	