

CBSE | DEPARTMENT OF SKILL EDUCATION

AGRICULTURE (SUBJECT CODE - 408)

MARKING SCHEME FOR CLASS X (SESSION 2023-2024)

Max. Time: 2 Hours

Max. Marks: 50

General Instructions:

1. Please read the instructions carefully.
2. This Question Paper consists of **21 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 (5 + 16 =) 21 questions, a candidate has to answer (5 + 10 =) 15 questions in the allotted (maximum) time of 2 hours.**
5. All questions of a particular section must be attempted in the correct order.
6. **SECTION A - OBJECTIVE TYPE QUESTIONS (24 MARKS):**
 - i. This section has 05 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 (26 MARKS):**
 - i. This section contains 16 questions.
 - ii. A candidate has to do 10 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)	Marks
Q. 1	Answer any 4 out of the given 6 questions on Employability Skills (1 x 4 = 4 marks)		
i.	d) Extensive	NCERT	1
ii.	c) Discussion	NCERT	1
iii.	Food and nutrition security, safe drinking water, energy security, and waste management.	NCERT	1
iv.	TRUE	NCERT	1
v.	a) Turn on	NCERT	1
vi.	a) Password	NCERT	1
Q. 2	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)		
i.	a) Maize	CBSE	1
ii.	c) Wheat	CBSE	1
iii.	d) Seeds	CBSE	1
iv.	b) Fungus	CBSE	1
v.	a) Human milk	CBSE	1
vi.	b) 40-45%	CBSE	1
Q. 3	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)		
i.	b) Karnataka	CBSE	1

ii.	b) Peas	CBSE	1	
iii.	c) Vitamin C	CBSE	1	
iv.	d) Rhizobium	CBSE	1	
v.	b) 5*5m	CBSE	1	
vi.	d) Potato	CBSE	1	
Q. No.	QUESTION	Source Material (NCERT/PSSCIVE/ CBSE Study Material)	Unit/ Chap. No.	Marks
Q. 4	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)			
i.	a) Seeds	CBSE	1	
ii.	a) Lycopene pigment	CBSE	1	
iii.	c) Cucurbitaceae	CBSE	1	
iv.	a) Apiaceae	CBSE	1	
v.	c) Mulberry	CBSE	1	
vi.	b) Liver	CBSE	1	
Q. 5	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)			
i.	c) Karnal	CBSE	1	
ii.	a) Pea	CBSE	1	
iii.	a) Murrah	CBSE	1	
iv.	b) Buttoning	CBSE	1	
v.	a) Kalyan Sona	CBSE	1	
vi.	a) Honeybee	CBSE	1	

SECTION B: SUBJECTIVE TYPE QUESTIONS

Q. No.	QUESTION	Source Material (NCERT/PSSCIVE/ CBSE Study 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. 6	Different methods of communication are: face to face talk, e-mail, letters, notice board. Posters, meetings, phone call, video call, virtual meeting, writing blog etc.	NCERT	2
Q. 7	Stress: Stress can be defined as our emotional, mental, physical and social reaction to any perceived demands or threats. Simple ways of stress managements are: Time management, physical exercise, healthy diet, Positive thinking, organizing academic life, punctuality in doing work, adequate sleep, holidays with family and friends, discussion with family.	NCERT	2
Q. 8	ANSWER Monthly Maintenance of computer. i. Transfer photographs to computer and delete from drive ii. Organize photos into folders or albums iii. Clean up 'Download' folder iv. Uninstall unused programs and	NCERT	2

	apps v. Run disk-cleaner software vi. Run full system virus scan		
Q. 9	Successful entrepreneur qualities are brain racy share the top 5 traits that all entrepreneur must have to succeed like self-discipline, integrity, persistence, clear direction and action oriented, creative, responsible, how working	NCERT	2
Q. 10	Food and nutrition security, safe drinking water, energy security, and waste management	NCERT	2
Answer any 4 out of the given 6 questions in 20 – 30 words each (2 x 4 = 8 marks)			
Q. 11	Leaf spot and yellow vein mosaic	CBSE	2
Q. 12	Male sterility: Male sterility is defined as an absence or non-function of pollen grain in plant or incapability of plants to produce or release functional pollen grains and this mechanism promote the cross pollination. E.g., Cotton, Bajra etc. Self-Incompatibility: It refers to the failure of pollen to fertilize the same flower or other flower of the same plant, or it is the failure of pollen tube to penetrate the full length of style	CBSE	2
Q. 13	High yielding varieties of rice: Mahamaya, GK 5003, Pusa 33, Pusa 169, Mehsuri, JKRH-401, Gurjari, GR-6, Dandi, Pusa 33, HKR-127, Bhrigu Dhan, Himalaya 2216, SKAU 23, SKAU 27, GK 5003, Gauri, Sweta, Ratnagiri 24, Rajeshwari, PR 108, PR 109, PMK 2, Pant Dhan 10, Pant Dhan 11, VL Dhan 221, IR 20, Jayanthi Basmati varieties of rice: Basmati 370, Pusa Basmati 1, Taraori Basmati (Karnal local), Pusa Sugandh 3, Pusa Sugandh 4, Pusa Sugandh 6, PRH 10, Pant Dhan 15, Punjab Basmati-1, Pusa basmati 1121, Pusa basmati 6, Pusa Basmati 1509	CBSE	2
Q. 14	Important species of Honey Bee of India like the rock bee, Indian hive bee and European & Dammer bee are good features of all for honey bee.	CBSE	2
Q. 15	The basic steps involved in ice cream manufacture include mixing of ingredients, pasteurization, homogenization, ageing, freezing, hardening and storage	CBSE	2
Q. 16	Jersey and Holstein Friesian	CBSE	2

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

<p>Q. 17</p>	<p>Major pests of rice: Stem borer and Leaf folder Major diseases of rice- Leaf and neck blast and Bacterial leaf blight Description about shoot borer Nature of damage - Symptoms of stem borer damage are dead hearts and whiteheads. Whiteheads are discolored panicles with empty or partially filled grains. Larvae feed on the tissues around the node. Management - Adopt seedling root dip treatment in 0.05% Chlorpyrifos emulsion for one minute before transplanting in endemic areas. Apply Carbofuran 3G @ 20 kg ha-1 or Phorate 10 G @ 12.5 kg ha-1 or Fenitrothion 50EC @ 0.1%</p>	<p>CBSE</p>	<p>4</p>
<p>Q. 18</p>	<p>Lac insect is a insect live on twig it host plant eg, ber, babul, khair insect creating and producing secretion that are used in the production of shellac it called lac. Kerriidae is a family of scale insects, commonly known as lac-insect. Used for ingredient in various ink, paints, sealants and varnishes in lac industry. Life cycle of lac insect takes about six months and consists of stages- Egg, nymph instars, pupa and adult. Insect have an ovoviviparous mode of reproduction and female lays 200-500 ready to hatch egg, create embryos.</p>	<p>CBSE</p>	<p>4</p>
<p>Q. 19</p>	<p>Cultivation of apple Soil and climate Apple can grow.... range of soils. Well-drained, deep, fertile, clay loam soils with pH 6.0-6.8 Sites with gentle slope..... requires about 1,000 to 1,500 hours bud dormancy. Major Varieties: 1. Early Mid-season Red June, Tydemans Early Worcester, Kings Pippin, Summer Queen Starking Delicious, Red Delicious, Richared, Black Ben Davis, Red Gold, McIntosh, Golden Delicious, Lord Lambourne 2. Late Granny Smith, Ruspippin (yellow, winter banana) Propagation and rootstocks: Apple varieties are propagated by whip and tongue method of grafting. The root-stocks are either related species such as <i>Malus sylvestris</i> (crab apple), <i>M. prunifolia</i>, <i>M. sikkimensis</i> or their hybrid</p>	<p>CBSE</p>	<p>4</p>

derivatives or seedling progenies of cultivated varieties. Some of the important rootstocks developed for specific purposes are as follows: M9, M – 27: Dwarfing M7, MM-106: Tolerant to below freezing (-40° C to – 35° C) resistant to wooly aphids. Northern spy: Resistant to wooly aphids (*Eriosoma lanigera*). Robusta-5: Developed at Ottawa. Canada as a selection of *Malus robusta* – Resistant to wooly aphid.

Apple Scab (*Venturiain aequalis*): Scattered, circular brown or olive-green spots appear on the undersurface of leaves borne on fruit spurs. Initially the lesions cover a large portion of the leaf leading to premature yellowing of leaves, defoliation and fruit drop. Early in the season, these spots often develop around blossom end (calyx end) of the fruit and later they are found anywhere on the fruit surface. Cracks often develop in the scabbed areas, which allow the entry of other pathogens, causing rot of fruit either in the field, or in storage.

The spray schedule recommended for effective control of scab disease is as follows

Stage	Fungicide/100 litres of water.
Silver tip-Green tip	Mancozeb (400 g)/Captan (300 g).
Pink bud	Contaf (30 ml)/ Baycor (50 g).
Petal fall	Bavistin (50 g)/Topsin M (50 g).
Pea stage	Mancozeb (300 g)/Captan (300 g).
Fruit development	Bavistin + Mancozeb (25+250 g).
15-20 days before harvest	Mancozeb (300 g).
Before leaf fall	Urea (5 kg).

Fire Blight (*Erwinia amylovora*):

This disease is caused by bacteria. The symptoms are seen as distinct fire-like appearance on infected plant parts. The shoot tips wilt and droop without browning. Secretion of golden colored bacterial ooze is seen on the stem. In fruits, Necrotic spots and oozing lesions are observed.

Control: The affected trees and host plants should be collected and burnt immediately. Sprays of streptomycin can control the infection in spring blossom of apple.

Powdery Mildew (*Podosphaera leucotricha*): The diseases are characterized by the presence of white powdery (ash like) coating in patches on both sides of the leaves, and young shoots. The affected leaves turn pale and curl up. Affected shoots remain weak and immature. In case of severe infection, leaf fall and pre-mature fruit drop may occur.

	Control: The disease incidence can be reduced by pruning and destroying the affected plant parts. In the nurseries, spraying the young seedlings with Bayleton (500 ppm) at an interval of 7 days controls the disease. Spraying the crop with Sulphur (0.3%) or Carbendazim (0.05%) or Karathane (0.05%) effectively controls the disease.		
Q. 20	<p>Characteristics/attributes of quality seed</p> <ol style="list-style-type: none"> Genetic purity: Genetic purity refers to the percentage of contamination of the seed planted must equal or exceed ... generation of propagation. For example, Breeder seed 100%, Foundation seed 99%, certified seed 98%. Physical purity: Physical purity of seed is the proportion of pure seed component crop should be 98% and seed lot should be free from other field impurities. Germination percentage: The quality seed should have germination percentage according to the standard of Indian in the field. Vigour: Seed vigour is the sum total of those properties lot during germination and seedling emergence. In general, it is the potential of seed.... good yield. Viability: The viability of the seed is a measure of seed conditions. It is measured through tetrazolium chloride test. Moisture content: The moisture content is the amount of water have optimum moisture content in good quality seed. For example, Cereals: 10-12 %, Pulses: 7-9% and Oilseeds:6-7%, Vegetables: 5% 	CBSE	4
Q. 21	<p>Pollination: Process by which pollen is transferred from the anther (male part) to the stigma (female part) of the plant.</p> <p>Mechanism which favours self-pollination</p> <ol style="list-style-type: none"> Perfect flower: It is the presence of both male and female part of the flower which favours the self-pollination e.g., Rice, Wheat, Green gram etc. Homogamy: Maturation of male and female parts of flower on same time is called homogamy. e.g., Rice Wheat, Barley and pulse crops. 	CBSE	4

3. Cleistogamy: It is the types of flowers in which pollination always occurs inside the closed flowers which promote the self-pollination. E.g., Rice, Wheat

4. Flower structure: Some flowers have special structure around the male part which promotes the self-pollination e.g., Tomato and Pulse crops

Mechanism which favours cross-pollination

1. Bisexual flowers: When both male and female parts are present on the different flowers than it promote the cross pollination. E.g., Castor, papaya

2. Dichogamy: Sometimes male or female mature slightly at different times this nature is called dichogamy which favour the cross pollination and, in this process, if male part (Anther) of flower matures first then it is called protandry (eg. Maize) while, if female part mature (ovary) first then flower is to be called protogyny in nature. Eg. Bajra

3. Herkogamy: In these types of mechanism some structures prevent the self-pollination and promote cross pollination in bisexual flowers.eg. Alfa

4. Male sterility: Male sterility is defined as an absence or non-function of pollen grain in plant or incapability of plants to produce or release functional pollen grains and this mechanism promote the cross pollination. Eg. Cotton, Bajra etc.

5. Self-Incompatibility: It refers to the failure of pollen to fertilize the same flower or other flower of the same plant, or it is the failure of pollen tube to penetrate the full length of style and effect fertilization. Eg. Mustard, cauliflower and cabbage etc.