

CBSE – DEPARTMENT OF SKILL EDUCATION

AGRICULTURE (408)

MARKING SCHEME

Class X (Session 2019–2020)

TIME: 2 HOURS

Max. Marks: 50

PLEASE NOTE THAT:

- 1. This Question Paper contains 39 (11+28) questions. Candidate needs to answer 27(7+20) questions.**
- 2. The Question paper is divided into two parts viz. Part A: Employability Skills of 10 marks and Part B: Subject Skills of 40 marks.**
- 3. Part A: Employability Skills (10 Marks):**
 - a. There are 6 questions of 1 mark each. Answer any 4 questions (1x4 = 4 Marks).**
 - b. There are 5 questions of 2 marks each. Answer any 3 questions. (2 x 3 = 6 Marks).**
- 4. Part B: Subject Skills (40 Marks):**
 - a. There are 12 questions of 1 mark each. Answer any 10 questions (1 x 10 = 10 Marks).**
 - b. There are 6 questions of 2 marks each. Answer any 4 questions (2 x 4 = 8 Marks).**
 - c. There are 6 questions of 3 marks each. Answer any 4 questions (3 x 4 = 12 Marks).**
 - d. There are 4 questions of 5 marks each. Answer any 2 questions (5 x 2 = 10 Marks).**
- 5. This Question paper also has question(s) of 5 marks weightage conforming to Higher Order Thinking Skills (HOTS) as per Bloom's revised taxonomy of cognitive learning.**

PART A: EMPLOYABILITY SKILLS (10 MARKS)

Answer any 4 questions out of the given 6 questions of 1 mark each:

1.	Which of the following methods are used to receive information from the sender through a letter? (d) Writing	(1)
2.	Grooming is a term associated with (c) neat and clean appearance	(1)
3.	Which of the following is not a self-management skill? (b) Bargaining	(1)
4.	What does GPS stand for? (a) Global Positioning System	(1)
5.	What is the aim of entrepreneurship? (c) Both of the above	(1)
6.	What are some of the environmental changes caused due to modern methods of agriculture? (a) Chemical pollution due to fertilizers	(1)

Answer any 3 questions out of the given 5 questions of 2 marks each:

7.	What are the five sources of energy available to us? There are 5 fundamental sources of energy : (i) Nuclear fusion in the Sun (solar energy), (ii) Gravity generated by the Earth and Moon, (iii) Nuclear fission reactions, (iv) Energy in the interior of the Earth, and (v) Energy stored in chemical bonds. Most of the energy we use today come from fossil fuels (stored solar energy). But fossils fuels have a disadvantage in that they are non-renewable on a human time scale, and causes other potentially harmful effects on the environment.	(2)
8.	List any four characteristics of entrepreneurship. 1. Ability to take up risks 2. Believe in hard work and discipline 3. Adaptable and flexible to achieve the goals of enhancing quality and customer satisfaction 4. Knowledge of the product and services and their need or demand in the market 5. Financial literacy and money management skills 6. Effective planning and execution.	(2)
9.	List the steps to search for information using a web browser. To see the information on the various websites, you need an Internet Browser. An Internet Browser is an application or a software program on your computer or laptop which helps you visit the various websites. Some examples of browsers are Google Chrome, Mozilla Firefox and Internet Explorer. Searching for information: Do the steps below to search for information on the Internet. – Open an Internet browser – Type the topic, on which you want information, in the search box and hit the Enter key. – The search results having the required information will be displayed. Click Firefox icon to open Firefox Mozilla browser and search for information.	(2)
10.	What are the factors that affect self-confidence? Given below are some factors that affects self-confidence. (a) When we think we cannot do a particular work. (b) When we keep thinking of our past mistakes and feel bad about it, instead of learning from them. (c) When we expect to be successful at the first attempt itself and do not try again. (d) When we are surrounded by people who have a negative attitude, which is reflected in their speech.	(2)
11.	Write down the different types of verbal communication. Give an example for each type. Oral or Spoken Communication: Communication which involves talking. Face-to-face conversation, Talking on a phone Written Communication: Communication which involves written or typed words. Writing letters, notes, email, etc.	(2)

PART B: SUBJECT SKILLS (40 MARKS)

12.	Name one major Rabi crop - Wheat or barley or mustard.	(1)
13.	What is the family of banana? – Musaceae	(1)
14.	Name major pest of mustard: Aphid.	(1)
15.	Name one pulse crop.: Gram or urd or green gram or pigeon pea	(1)
16.	Strawberry is propagated by: Runners	(1)
17.	Gladiolus is propagated by : Corms	(1)
18.	Anthrax is a..... disease of animals (Bacterial/fungal/protozoan): Bacterial	(1)
19.	Headquarters of NDRI (National Dairy Research Institute) is at.....: Karnal	(1)
20.	Scientific name of Indian honey bee is <i>Apis indica</i>	(1)
21.tree is used for rearing silk worms.: Mulberry	(1)
22.	Name one biofertilizer: Rhizobium or azotobacer or azospirillum or blue green algae	(1)
23.	Breeder seed is a progeny of.....(Foundation/nucleus/certified seed): Nucleus	(1)

Answer any 4 questions out of the given 6 questions of 2 marks each:

24.	Write two major diseases of wheat: Bunt, rust, loose smut.	(2)
25.	Name two oil seed crops of India: Sunflower, sarson, soyabean.	(2)
26.	Name two diseases of apple: Scab and powdery mildew.	(2)
27.	Write two varieties of mango grown in North India: Dashehari, Langra, Chausa, Bombay Green	(2)
28.	Different classes of milk are: toned milk, double toned mil, skimmed milk, full cream milk and standardized milk	(2)
29.	Enlist different classes of seed. Classes of seed: Nuclear seed, Breeder seed, Foundation seed, Registered seed and Certified seed.	(2)

Answer any 4 questions out of the given 6 questions of 3 marks each:

30.	Write six value added products of fruits and vegetables Answer: Different value added products of fruits and vegetables are: Jam, jelly, marmalade, RTS, Fruit bar, fruit leather, Fruit cheese, fruit juices, nectar, squashes, pickles, candy, powder etc.	(3)
31.	Write major pests and diseases of citrus and discuss damage caused by citrus psylla and its management Major pests: Lemon butter fly, citrus psylla, leaf miner, white fly, fruit fly, sucking moth	(3)

	Damage and management of Citrus psylla: Young and adults suck sap from tender parts like...drop of flowers,,,,,fruits...heavy losses..spray metasystox or rogor (0.03%) during new flushes.	
32.	Enlist different processed milk products. Discuss briefly about dahi. : Paneer, Dahi, Shrikhand, butter, Khoa, gheare major products of milk. <i>Preparation of Dahi:</i> Dahi is prepared by....boiling milk...cool it...put bacterial culture of <i>Lactobacillus lactus</i> culture. Keep overnight...	(3)
33.	Discuss briefly about castes of honeybees : Queen: Major work is to lay eggs for new colonies. It is all time protected by workers. Drone: Major work is to mate the queen. Only one drone is required for mating. Otherwise drones have no other work. Workers: All work in a colony is done by the workers. They collect nectar, protect queen and hive.	(3)
34.	Enlist three major condiments and three spices of India: Ajwain, coriander, zeera, ginger, turmeric, saffron, small cardamom, large cardamom, clove, asafoetida etc.	(3)
35.	What is biofertilizer? Write some examples of biofertilizers. Biofertilizer: Biofertilizers are the substances that contain microorganism's living or latent cells. Biofertilizers increases the nutrients of host plants when applied to their seeds, plant surface or soil by colonizing the rhizosphere of the plant. Biofertilizers are more cost-effective as compared to chemical fertilizers. Examples: Rhizobium, Azotobacter, Azospirillum and blue green algae(BGA) are some Biofertilizers. Rhizobium inoculant is used for leguminous crops such as pulses. Azotobacter can be used with crops like wheat, maize, mustard, cotton, potato and other vegetable crops.	(3)

Answer any 2 questions out of the given 4 questions of 5 marks each:

36.	Define pollination. Write different types of pollination and mechanism which favours cross pollination. Pollination: Process by which pollen is transferred from the anther (male part) to the stigma (female part) of the plant. <i>Mechanism which favour cross-pollination</i> 1. Bisexual flowers: When both male and female parts are present on the different flowers than it promote the cross pollination. For example, 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. E.g., bajra 3. Herkogamy: In this types of mechanism some structures prevent the self-pollination and promote cross pollination in bisexual flowers.eg. Alfa 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. For example, mustard, cauliflower & cabbage etc.	(5)
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37. Write short notes on any TWO of the following (5)

a. Bitter pit in apple b. Fruit cracking in pomegranate, c. Major diseases of cole crops

Answer

Bitter pit : Major disorder of apple....due to Ca deficiency....development of shunken pits during storage.....preharvest sprays of Ca salts.....for reducing its incidence.....

Fruit cracking: Problem in many fruits....citrus, pomegranate....moisture stress.....sudden irrigation.....maintain uniform supply of water....Ca and B sprays... GA3 sprays....for management

Major diseases of cole crops: Alternaria Spot (Fungal), Black Leg (Fungal), Black Rot (Bacterial), Club Root (Fungal), Downy Mildew (Fungal), and Rhizoctonia Disease (Fungal)

38. Enlist five oils seed crops grown in India. Discuss cultivation of mustard. (5)

Answer

Major oils seed crops grown in India: Mustard, groundnut, soybean and sunflower

Cultivation of mustard

Soil and Climatic requirements: Mustard is basically cultivated in temperate region, require an annual precipitation of 40-100 cm. Soil sandy loam with no water-logging.

Varieties: Some promising varieties of mustard are as under:

S. No.	Crop	Varieties
1	Indian mustard (<i>Brassica juncea</i>)	RH 9304, RH 9801, RH 30, RH 819, T-59
2	Karan Rai (<i>Brassica carinata</i>)	Pusa Sawarnim, Pusa Aditya
3	Brown Sarson (<i>Brassica rapa</i> var. brown sarson)	BSh-1, Pusa Kalyani, KBS-3
4	Toria	TH 68, Sangam and TL 15, Bhawani

Seed and sowing method: For irrigated condition, 3-4 kg seed is sufficient for sowing of one ha area whereas, the seed rate can be increased to 5 kg/ha under rainfed condition.

25th September to the first fortnight of October is the most appropriate time of sowing mustard crop in conserved moisture.

Nutrient requirements: For rainfed crop, apply 40 kg N and 20 kg P₂O₅/ha. In irrigated areas apply 60 kg N, 20 kg P₂O₅ and 25 kg K₂O/ha

Major diseases & management

White rust Downy mildew and Alternaria blight are major diseases of mustard. For the control of white rust, *Alternaria* and downy mildew spray Mancozeb 1.5 kg/ha at initial appearance of white rust or *Alternaria* and repeat the spray 1-3 times after 15 days.

Pest management

Mustard aphid is major pest of mustard. Spray the crop with 625 to 1000 ml oxydemeton methyl (Metasystox 25 EC) or dimethoate (Rogor) 30 EC after diluting it in 625 to 1000 L water/ha.

Harvesting, threshing and yield

Usually rapeseed-mustard crops are harvested as soon as 75% of the pods turn yellow and moisture content of the seed is around 30 to 40%. Under normal conditions, rapeseed yields about 1.4-2.0 t/ha of seed, while mustard may give 2.0-2.5 t/ha.

39. Discuss cultivation of rice under the following heads: Soil and climate, major varieties, insect-pests & diseases (5)

Answer**Cultivation of rice**

Soil and climate: Rice cultivation extends from sea level to as high as 3000 m above mean sea level (amsl) in India. High temperature, high rainfall have considerable effectof rice plant. Rice crop is grown during *Kharif* season but in south and north-eastern parts of 3 seasons.

The wide range ... variety of soils.grown on loamy sands and.... clay loams or clays ... good water holding capacityrice.

Major varieties:

Cultivar type	Rice cultivars
Hybrids	APHR 1, DRRH-3, PA 6201, Pusa RH 10, HRI 120, Sahyadri-2, UPRH 27, Rajalaxmi, Pant Sankar Dhan 1, Pant Sugandh Dhan-17, PHB 71
Basmati / scented varieties	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
Other improved varieties	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

Propagation /cultivation:**Direct seeded rice**

Rice is sown directly in dry soil (dry seeding) or wet soil (wet seeding), and irrigation is given to keep the soil sufficiently moist for good plant growth, but the soil is never flooded. Three methods are commonly followed in sowing dry and semi-dry crop. These are

broadcasting, drilling or sowing in furrows behind country plough, and dibbling in general, a seed rate of 30-50 kg ha⁻¹ is required for drilling, while 60-100 kg ha⁻¹ is required for broadcasting. A row spacing of 15-20 cm is optimum for upland rice. There are mainly two methods of direct seeding

Major diseases and their management:

Disease	Symptoms	Management
Leaf and neck blast Fungal disease	Leaves become white to grayish green circular lesions/spots with dark green borders..... may enlarge and kill the entire leaf. Lesions on the neck cause the girdling of the neck and the panicle to fall over.	<ul style="list-style-type: none"> • Early sowing of seeds and balanced use of fertilizers. • Planting resistant varieties against the rice blast is the most practical and economical way. • Systemic fungicides are effective against the disease.
Bacterial leaf blight	Water-soaked to yellowish stripes on leaf blades or starting at leaf tips. Severely infected leaves tend to dry quickly.	<ul style="list-style-type: none"> • Field sanitation such as removing weed hosts, rice straws, ratoons, and volunteer seedlings. • Use of resistant varieties • Seed treatment with bleaching powder (100µg/ml) and zinc sulfate (2%) reduce bacterial blight.