CBSE | DEPARTMENT OF SKILL EDUCATION

AGRICULTURE (SUBJECT CODE – 808)

MARKING SCHEME FOR CLASS XII (SESSION 2022-2023)

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. 1	**Answer any 4 out of the given 6 questions on Employability Skills (1 x 4 = 4 marks)**	
i.	c. Over confidence	**1**
ii.	c. Centre	**1**
iii.	b. Personality	**1**
iv.	c. Realistic	**1**
v.	b. Settling deadlines	**1**
vi.	c. Microsoft Office	**1**
Q. 2	**Answer any 5 out of the given 7 questions (1 x 5 = 5 marks)**	
i.	Coarse cereals of India are: **Sorghum, Bajra (Pearl millet), maize, Ragi (finger millet).**	**1**
ii.	Major pests of oilseed crops: **Aphids, white grub, cutworm, pod borer, jassids.**	**1**
iii.	**Rhizobium, Azotobactor**	**1**
iv.	Bio-agents used for controlling Agricultural pests in India. Predator like **lady bird beetle** for many pests, ***Aphelinus mali*** for wooly apple aphid, ***Videlia*** **beetle** for controlling cottony cushion scale in citrus.	**1**
v.	Value added products of wheat: **Cookies, Semolina, and wheat porridge.**	**1**
vi.	Value added products from mango fruit: **Amchur, pickle, panna, squash, chutney, frooty etc.**	**1**
vii.	Scientific name of button mushroom: ***Agaricus bisporus.***	**1**
Q. 3	**Answer any 6 out of the given 7 questions (1 x 6 = 6 marks)**	
i.	**Bio-fertilizers commercially used in India**: Rhizobium, VAM, Azotobacter, PSB.	**1**
ii.	Food given to honeybee queen: **Royal Jelly**	**1**
iii.	Most common lawn grass in India: ***Cynodon dactylon*** **or doob grass.**	**1**
iv.	Potassium containing fertilizers: **Sulphate of potash (SOP) and MOP (Muriate of Potash).**	**1**

v.	**Major pulses of India:** Blackgram, chickpea, moong, pigeonpea, peas etc.	**1**
vi.	**Major *Kharif* cereal crops of India**: Paddy, maize.	**1**
vii.	**CSSRI is located at Karnal.**	**1**
Q. 4	**Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)**	
i.	**Major pests of rice are**: Plant hopper, leaf folder, stem borer etc.	**1**
ii.	**Two major cropping systems are**: Rice-wheat, maize-wheat.	**1**
iii.	Aonla Candy, Aonla Pickle.	**1**
iv.	**Scientific name of Indian honey bee**: *Apis indica.*	**1**
v.	Drip irrigation, Sprinkler irrigation	**1**
vi.	**Major plant nutrients**: N,P,K,Ca,Mg, S.	**1**
Q. 5	**Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)**	
i.	**Cucurbitaceous vegetables:** Pumpkin, cucumber, round melon, musk melon, watermelon, karela, tori etc.	**1**
ii.	**Phosphorus containing fertilizers:** Single super phosphate, Double superphosphate, triple super phosphate, Diammonium Phosphate (DAP), Monoammonium Phosphate (MAP).	**1**
iii.	**Major oilseed crops of India**: Mustard, Rapeseed, Sunflower, Soybean.	**1**
iv.	**Cash crops of India**: Cotton, Sugarcane, Jute.	**1**
v.	**CPRI is located at**: Shimla (Himachal Pradesh).	**1**
vi.	**Four micronutrients for crop are**: Iron (Fe), manganese (Mn), zinc (Zn), copper (Cu).	**1**
Q. 6	**Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)**	
i.	**ICAR-Central Institute of Post-Harvest Engineering & Technology (CIPHET), Ludhiana, National Institute of Food Technology Entrepreneurship and Management , Sonipat.**	**1**
ii.	**Value added products of tomato are**: Tomato sauce, tomato Ketchup, chutney	**1**
iii.	**Honey is produced by**: Honeybees	**1**
iv.	White Button Mushrooms, Paddy Straw Mushrooms.	**1**
v.	National Centre of Organic Farming is located at :Ghaziabad(U.P.)	**1**
vi.	**Nitrogen containing fertilizers**: Urea, Calcium Ammonium Nitrate (CAN).	**1**

SECTION B: SUBJECTIVE TYPE QUESTIONS

Answer any 3 out of the given 5 questions on Employability Skills in 20 – 30 words each (2 x 3 = 6 marks)		
Q. 7	Two steps to overcome personality disorders – 1. Talk to someone to share your feelings. 2. Look after your physical health. Any other, Any two	**1x2 =2**
Q. 8	Two roles of technical entrepreneurs- 1. Use their technical expertise to create and offer machines, tools and methods. 2. They constantly innovate to make industrial processes seamless and efficient. Any other, Any two	**1x2 =2**
Q. 9	Four advantages of presentation software 1. They are interesting as they have features like images, videos, animation and music. 2. Making changes in digital presentations is easy. 3. A digital presentation can be shown to a much larger audience by projecting on a screen. 4. The presentation can be printed and distributed to the audience. Any other, Any four	**½x4 =2**

Q. 10	Four characteristics of entrepreneurship - 1. It is an economic activity done to create, develop and maintain a profit-oriented organisation. 2. It begins with identifying an opportunity as a potential to sell and make profit in the market. 3. It deals with optimisation in utilisation of resources. 4. It is the ability of an enterprise and an entrepreneur to take risks. Any other, Any four	**½x4 =2**
Q. 11	Four sources of motivation and inspiration- 1. Music 2. Books 3. Activities 4. Expansive thoughts Any other, Any four	**½x4 =2**
Answer any 3 out of the given 5 questions in 20 – 30 words each (2 x 3 = 6 marks)		
Q. 12	**Advantages of organic farming** • **Farmers** can reduce their production costs because they do not need to buy expensive chemicals and fertilizers. • Improvement in fertility status of soil. • Improves soil structure and structure. • Healthier **farm** workers. • In the long term, **organic farms** save energy and protect the environment. • It can slow down global warming. • Fewer residues in food.	**2**
Q. 13	**Crop rotation** is the practice of growing a series of dissimilar or different types of crops in the same area in sequenced seasons. It is done so that the soil of farms is not used for only one set of nutrients. It helps in reducing soil erosion and increases soil fertility and crop yield	**2**
Q. 14	**Major methods of irrigation** • Surface **irrigation**. Water is distributed over and across land by gravity, no mechanical pump involved. • Localized **irrigation**. • Drip **irrigation** • Sprinkler **irrigation**	**2**
Q. 15	**Post-harvest technology** is an inter-disciplinary "Science and Technique" applied to agricultural produce **after harvest** for its protection, conservation, processing, packaging, distribution, marketing, and utilization to meet the food and nutritional requirements of the people in relation to their needs.	**2**
Q. 16	**Bee species** *1.* The rock bee (*Apis dorsata)* 2. The Indian hive bee(*Apis indica*) 3. The little bee (*Apis florae*) 4. The European or Italian bee(*Apis mellifera)*	**2**

Answer any 2 out of the given 3 questions in 30– 50 words each (3 x 2 = 6 marks)		
Q. 17	**Major functions of N in plants are:** • It makes plant dark green & succulent. • It promotes vegetative growth. • It is a major component of chlorophyll, which helps in food making by photosynthesis. • It is also a major component of amino acids, the building blocks of proteins.	**3**
Q. 18	**Major functions of Sulphur are** • It is essential constituent of some amino acids i.e. cystine, cysteine and methionine. • Promotion of nodulation for N fixation by legumes • It increases oil content in oilseed crops.	**3**
Q. 19	**Role of maturity** • Immature fruit don't develop adequate size, colour and flavor and poor quality and have less storage life. • Over mature fruit develop several storage disorders with very low shelf life.	**3**
Answer any 3 out of the given 5 questions in 50– 80 words each (4 x 3 = 12 marks)		
Q. 20	**Integrated pest management** It is also known as integrated pest control (IPC) which is a broad-based approach that integrates practices for economic control of pests. IPM aims to suppress pest populations below the economic injury level (EIL). **Biological control of pests** **Use of Predators**: Predators catch and eat their prey. Some common predatory arthropods include ladybird beetles, carabidae (ground) beetles, big-eyed bugs, and spiders. **Use of Parasitoids**: Parasitoids (sometimes called parasites) do not usually eat their hosts directly. Adult parasitoids of caterpillars and host insect, such as nectar or pollen. **Use of Pathogens:** Pathogens are disease-causing organisms. Several insect-pathogenic fungi are used as microbial control agents, insect parasitic (entomo pathogenic or insecticidal) nematodes to be effective.	**4**
Q. 21	**a. Harvesting: -** There is an optimum time for harvesting cereals, depending on the maturity of the crop and the climatic conditions. This has a significant effect on the quality of the grain during storage. Harvesting often begins before the grain is ripe and continues until mould and insect damage are prevalent. Grain not fully ripened contains a higher proportion of moisture and will deteriorate more quickly than mature grains because the enzyme systems are still active. **b. Threshing: -** Threshing is the removal of grains from the rest of the plant. It involves three different operations: Separating the grain from the panicle; sorting the grain from the straw; winnowing the chaff from the grain. Separation of the grain from the panicle is the most energy-demanding of the three processes.	**4**

c. Winnowing: - Winnowing is the separation of the grains from the chaff or straw. It is traditionally carried out by lifting and tossing the threshed material so that the lighter chaff and straw get blown to one side while the heavier seeds fall down vertically. Handheld winnowing baskets are used to shake the seeds to separate out the dirt and chaff. They are very effective, but slow.
There is a range of winnowing machines that use a fan to create artificial wind. This speeds up the winnowing process. Some of these contain sieves and screens that grade the grains as well.

d. Drying: - Prior to storage or further processing, cereal grains need to be dried. The most cost-effective method is to spread out in the sun to dry. In humid climates it may be necessary to use an artificial dryer.

e. Cereal grains should be dried to10-15% moisture before storage

Q. 22 **Organic farming vs conventional farming** **4**

	Conventional farming	Organic farming
1.	It is based on economical orientation, heavy mechanization, specialization and misappropriates development of enterprises with unstable market oriented programme.	It is based on ecological orientation, efficient input use efficiency, diversification and balanced enterprise combination with stability.
2.	Supplementing nutrients through fertilizers, weed control by herbicides, plant protection measures by chemicals and rarely combination with livestock	Cycle of nutrients within the farm, weed control by crop rotation and cultural practices, plant protection by non-polluting substances and better combination of livestock.
3.	Based on philosophy of to feed the crop/plants	Feed the soil not to the plant is the watch word and slogan of organic farming.
4.	Production is not integrated into environment but extract more through technical manipulation, excessive fertilization and no correction of nutrient imbalances.	Production is integrated into environment, balanced conditions for plants and animals and deficiencies need to be corrected.

		5.	Low input: output ratio with considerable pollution	High input: output ratio with no pollution
		6.	Economic motivation of natural resources without considering principles of natural up gradation	Maximum consideration of all natural resources through adopting holistic approaches
Q. 23	Types of garden **1.FORMAL STYLE** • The gardens of Greece and Rome assured an emotional security though their Formal style. • The Italian renaissance garden was having intricate geometric, sheared trees, trimmed hedges and edges to create formality. • The impact of formalism influenced the French and British gardens also in the form of parierre, the much-divided flower beds. **2. INFORMAL STYLE** • Hindu Buddhist and Japanese garden laid no emphasis on formality. • Brindavan of lord Krishna was a woodland. • Every temple was provided with irregular shaped lotus tanks. • Japanese developed an intensely national and naturalistic style of its own. 3.**FREESTYLE** This style combines the good points of both formal and informal style of gardening. Rose garden of Ludhiana is an example of this style of gardening.			**4**
Q. 24	**Post-harvest management** Post-harvest management comprises the various technologies and practices undergone by the farmer, farmers' groups or cooperatives and/or agri business companies, from the field to the plate, to handle the crop production immediately following harvest, up to its final destination, such as storing, transport, cleaning, sorting, processing and packing. **PHM of mango** • Harvesting at right stage of maturity as per end use. • Harvesting in the morning hours • Harvesting with a harvesting tool • De-sapping • Pre-cooling • Sorting • Grading • Post-Harvest treatments (HWT, VHT, Chemical treatments etc.) • Packing in CFB single layer boxes • Storage at 10-13ºC • Transportation to distant markets.			**4**