

81 E I, II

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 கல்விப் பொதுத் தராதரப் பத்திர (சாதாரண தர)ப் பரீட்சை, 2024(2025)
 General Certificate of Education (Ord. Level) Examination, 2024(2025)

කෘෂි හා ආහාර තාක්ෂණය I, II
 விவசாயமும் உணவுத் தொழினுட்பவியலும் I, II
 Agriculture and Food Technology I, II

පැය තුනයි
 மூன்று மணித்தியாலம்
 Three hours

අමතර කියවීමේ කාලය - මිනිත්තු 10 යි
 மேலதிக வாசிப்பு நேரம் - 10 நிமிடங்கள்
 Additional Reading Time - 10 minutes

Use additional reading time to go through the question paper, select the questions and decide on the questions that you give priority to in answering.

Agriculture and Food Technology I

Instructions:

- * Answer all questions.
- * In each of the questions 1 to 40, pick one of the alternatives (1), (2), (3), (4) which is correct or most appropriate.
- * Mark a cross (X) on the number corresponding to your choice in the given answer sheet.
- * Further instructions are given on the back of the answer sheet. Follow them carefully.

1. An influence on local agriculture by foreign invasions is
 - (1) restoration of the tank system and the development of irrigation technology.
 - (2) advent of a commercial agricultural economy based on plantation crops.
 - (3) emergence of farmer settlements and multipurpose schemes.
 - (4) increase in the production of local food including paddy.
2. The Maha season in Sri Lanka receives rain mainly by
 - (1) south-west monsoon rains.
 - (2) north-east monsoon rains.
 - (3) first intermonsoon rains.
 - (4) second intermonsoon rains.
3. Select the option that includes crops only preferring high light intensity.
 - (1) paddy and coffee
 - (2) cocoa and coffee
 - (3) chilli and brinjal
 - (4) chilli and pepper
4. When the relative humidity in the atmosphere increases,
 - (1) infection of plant diseases decreases.
 - (2) absorption of water and nutrients increases.
 - (3) dispersal of pollen by wind is facilitated.
 - (4) rooting of stem cuttings occurs better.
5. An igneous rock of the following rocks is
 - (1) shale.
 - (2) marble.
 - (3) sandstone.
 - (4) granite.
6. If moistened soil can be made as a ring when determining the texture of soil by the rolling method, that soil is a
 - (1) clay soil.
 - (2) sandy loam soil.
 - (3) clay loam soil.
 - (4) sandy soil.
7. What is the soil structure most suitable for the cultivation of crops?
 - (1) single granular
 - (2) columnar
 - (3) sub-angular blocks
 - (4) crumbs
8. A reason for soil alkalinity is
 - (1) addition of sodium ions to soil by irrigated water.
 - (2) washing away of basic ions due to heavy rains.
 - (3) decomposition of organic matter in the soil.
 - (4) frequent turning of soil.

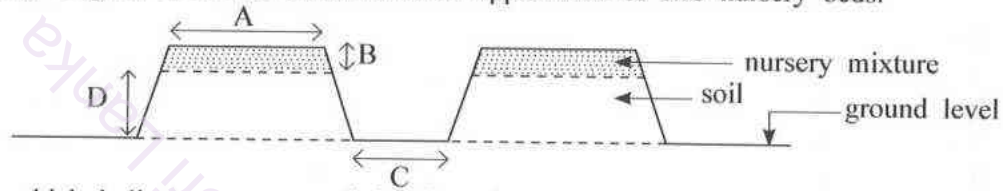
9. What is the answer which correctly indicates the crops belonging to the following plant families?

	Family	Crop types
A	Poaceae	paddy, sorghum, cowpea
B	Cucurbitaceae	bittergourd, ridgegourd, okra
C	Solanaceae	chilli, brinjal, tomatoes
D	Fabaceae	maize, soyabean, greengram

- (1) A (2) B (3) C (4) D

10. Disc plough, mould board plough and Japanese reversible plough are agricultural equipment used for
 (1) primary tillage and operated by machine power.
 (2) secondary tillage and operated by animal power.
 (3) inter-cultivation and operated by man power.
 (4) primary tillage and operated by animal power.

11. The following diagram indicates cross sectional appearance of two nursery beds.



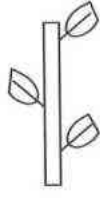
The option which indicates recommended values for A, B, C and D correctly in centimetres is,

	A	B	C	D
(1)	100	15	20	10
(2)	75	10	30	20
(3)	80	15	25	20
(4)	100	05	30	10

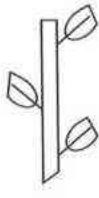
12. The pathogen of damping off, a disease frequently contracted by nurseries is a
 (1) bacterium. (2) fungus. (3) virus. (4) nematode.
13. The insect which eats up the leaves of brinjal leaving them like a net is,
 (1) brown plant hopper. (2) Aulacophora.
 (3) Epilachna. (4) cucurbit fly.
14. Due to poor drainage,
 (1) aerobic micro-organism population increases.
 (2) use of agricultural equipment becomes easier for loosening of soil.
 (3) plant roots grow deep in soil to obtain air.
 (4) occurrence of fungal diseases relating to roots increases.
15. Sprinkler irrigation,
 (1) increases soil erosion in the land. (2) not suitable for sloping lands.
 (3) helps pollination of crops. (4) more suitable for crops which are short.
16. In the following table, which option indicates the information about plant nutrients correctly?

	Element	Function carried out	Deficiency symptoms
(1)	N	Flowering	Leaf margins turn yellow
(2)	P	Growth of the root system	Leaves fall easily
(3)	K	Production of chlorophyll	Mature leaves turn yellow
(4)	Ca	Fruiting	Leaf margins appear burned


17. When adding fertilizers to the soil, a measure that should be taken to increase the fertilizer utilization efficiency is adding fertilizers,
 (1) to the soil so that it comes into contact with the root of the plant.
 (2) when the soil remains slightly damp.
 (3) mixed with dolomite.
 (4) in amounts more than that recommended.

18. Of the following an annual weed is,
 (1) Cyperus. (2) Lantana. (3) Elephant foot. (4) Vernonia.
19. A bacterial disease frequently contracted by the crops belonging to Solanaceae family is
 (1) mosaic. (2) damping off. (3) wilt. (4) anthracnose.
20. Based on which stage of the paddy plant is the age of the paddy type decided?
 (1) growing stage (2) reproductive stage (3) maturation stage (4) harvesting stage
21. Given below are a few statements regarding simple solar propagators used to stimulate rooting of stem cuttings.
 A - There is a high temperature and low relative humidity in the solar propagator.
 B - Sand, compost and top soil are used in the ratio of 1:1:1 as the growing medium.
 C - Drainage should be improved inside the propagator.
 Of the above statements, the correct statement(s) is/are
 (1) only A. (2) only B. (3) only A and B. (4) only B and C.
22. Cultivating two or more crops in a certain land in the same period without a proper distance is
 (1) intercropping. (2) crop rotation. (3) mix cropping. (4) relay cropping.
23. A student who expected to induce rooting in a branch of a lemon plant by air layering, ring barked about 2 cm of the branch, covered the cut with the rooting medium and water, wrapped it with a sheet of polythene and tied. Here, the branch was ring barked to,
 (1) induce the plant to absorb more water as more water gets removed from that place.
 (2) block the translocation of food produced by that branch to other parts of the plant.
 (3) obstruct the transport of water through the bark to the upper parts of that branch.
 (4) make the separation of that branch from mother plant easier after rooting had set in.
24. A material that can be used as a nutrient medium in soilless culture is
 (1) coir dust. (2) burnt paddy husk. (3) Albert solution. (4) sand.
25. The diagrams A, B, C and D below show four stem cuttings prepared for planting.
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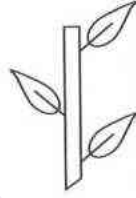
A



B



C



D
- Of these, the most suitable stem cutting for planting is
 (1) A. (2) B. (3) C. (4) D.
26. Of the following statements on tissue culture, select the **false** statement.
 (1) By tissue culture, a healthy plant can be obtained even from an unhealthy mother plant.
 (2) A larger number of plants can be produced by tissue culture compared to other methods of propagation.
 (3) Tissue-cultured plants can withstand adverse environments.
 (4) Storage and transportation of tissue-cultured plants are easy.
27. Stem cuttings for planting are classified according to their stage of maturation. Tender cuttings that are taken for planting are,
 (1) sweet potato, Colias and Innala. (2) roses, croton and Bougainvillea.
 (3) Innala, manioc and Colias. (4) roses, tea and sweet potato.
28. Of the following select the correct statement.
 (1) When potato tubers are exposed to sunlight they turn green and they are not suitable for consumption.
 (2) When the Karuththakolomban variety of mango is grown in the wet zone, a proper quality mango harvest is obtained.
 (3) Harvesting of fruits such as mango, banana and papaw should be done before they reach the mature stage.
 (4) Low light is important to create the characteristic colour of Vilard mango variety.

29. Select the option which includes only vitamins that are insoluble in water.
(1) A and B (2) B and K (3) D and C (4) A and D
30. A physical factor affecting food spoilage is
(1) enzymatic actions. (2) oxidation. (3) light. (4) agro-chemicals.
31. A method of food preservation by controlling temperature is
(1) concentration. (2) pasteurization. (3) smoking. (4) fermentation.
32. A breed of cattle reared successfully in upcountry farms giving a high yield of milk and having a large body with black and white spots on the skin and a large udder is
(1) Jersey. (2) Friesian. (3) Murrah. (4) Niliravi.
33. In the last two months of pregnancy in milking cows, milking is not done. This period is called the
(1) heat/estrous period. (2) gestation period.
(3) delivery period. (4) dry period.
34. In a poultry farm, symptoms such as refusal to feed by chicks, diarrhoea with blood, languor and sluggishness and death of animals in large numbers were seen. The disease that would have been contracted by these animals is
(1) pullorum. (2) ranikhet. (3) coccidiosis. (4) fowl fox.
35. What is the cause for the milk fever in cattle?
(1) taking more legume plants as food
(2) sucking blood by worms associated with the digestive system
(3) removal of calcium from the body with milk
(4) uncleanliness of the cow shed and the cow
36. Some statements about nourishing calves are as follows.
A - During the first three days after the birth of the calf, colostrum should be given adequately.
B - The calves should be reared inside herd sheds till weaning.
C - At the time of weaning the weight of the calf should be twice its weight at birth.
Of the above, the correct statements are,
(1) A and B only. (2) B and C only. (3) A and C only. (4) all A, B and C.
37. A student bought 12, one day old chicks and were kept under the custody of a hen. The main function expected from the hen here is,
(1) accustoming the chicks to live independently.
(2) providing necessary protection to the chicks.
(3) providing necessary warmth to the chicks.
(4) providing necessary affection of a mother to the chicks.
38. Various reasons cause dormancy in seeds. The reason for the dormancy of seeds in papaw, tomatoes and passion fruit is,
(1) presence of immature embryos.
(2) existence of a thick seed coat.
(3) impermeability of the seed coat to air and water.
(4) presence of growth inhibitors in the seed coat.
39. Preparation of curd in clay pots,
(1) decreases its percentage of water due to removal in the form of vapour because their surface is porous.
(2) increases nutrition in curd due to addition of minerals in clay.
(3) preserves the food preventing the entry of water, air and micro-organisms.
(4) increases life time of curd as they prevent entry of light.
40. The SLS certificate given to a food product ensures that,
(1) its nature can be remained unchanged for a long time.
(2) it is in a suitable condition for export.
(3) it is a product obtained from organic farming.
(4) it is hygienically safe and conforms to quality standards.

සියලු ම හිමිකම් ඇවිරිණි / முழுப் பதிப்புரிமையுடையது / All Rights Reserved

ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව
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81 E I, II

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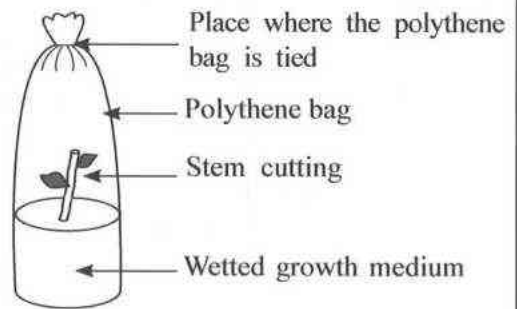
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 விவசாயமும் உணவுத் தொழினுட்பவியலும் I, II
 Agriculture and Food Technology I, II

Agriculture and Food Technology II

* Answer five questions only, including the first question and four other selected questions.

1. A farmer in the low country wet zone of Sri Lanka owning a coconut cultivated land of 2 hectares and an adjoining small paddy field, thought of producing a greater part of food consumed in his family through his home garden itself.
 - (i) As the soil of this land has turned acidic due to erosion, name a substance that should be added to make it suitable for cultivating crops.
 - (ii) State **two** methods that can be adopted to conserve the soil in that land.
 - (iii) Name **two** fruit crops that can be cultivated as intercrops of the coconut cultivation.
 - (iv) Name an insect pest that damages the coconut cultivation in the land.
 - (v) State **two** types of leafy vegetables that can be grown in the part of the land where drainage is poor.
 - (vi) Name **two** drainage systems (patterns) which could be used to improve the drainage in that part.
 - (vii) (a) Name an Indian cattle breed suitable to rear in this land to obtain milk.
 (b) Write **two** cattle feeds prepared by conserving grass.
 - (viii) Name an insect pest sucking sap from the paddy seeds in milking stage.
 - (ix) State **two** measures that can be taken to control weeds in the paddy cultivation.
 - (x) State **two** advantages of adding organic manure to the soil.
2. When there is no enough rainfall, irrigation is essential for cultivating crops.
 - (i) (a) Write **two** types of soil water contained in the soil.
 (b) What are the types of water present in soil at the field capacity?
 - (ii) Write **four** ways by which water is removed from the soil in a crop cultivation.
 - (iii) Write **three** methods of conserving water supplied to a cultivated land.
3. Some plants produce vegetative propagules to reproduce their offspring. They are used as planting materials.
 - (i) (a) Name **four** natural vegetative propagules.
 (b) State **two** growth hormones used to stimulate rooting in stem cuttings.
 - (ii) State **two** advantages and **two** disadvantages separately in vegetative propagation.

- (iii) The figure indicates a structure used for rooting a stem cutting. Here, a closed environment is created by adding water to the growth medium and tying the mouth of the polythene bag.



- (a) What is the name of this structure?
 (b) What is expected by creating a closed environment when this structure is prepared?

4. Pest control is important to obtain a greater yield of high quality in crop cultivation.
- (i) (a) In a paddy cultivation, circular damaged areas were observed with dried leaves and dead plants. By what name is this pest damage known?
 (b) Name the insect pest causing this condition.
 (c) State a measure that can be taken to control this.
- (ii) (a) Name the pathogen that causes the mosaic disease in crops.
 (b) State **two** crops which are prone to mosaic disease.
- (iii) (a) Classify weeds according to their morphology.
 (b) Write **three** damages caused by weeds to crops.
5. The nutrients in the soil are gradually decreased because of frequent cultivation. To restore this land, fertilizers should be added.
- (i) (a) Write separately a nutrient provided by air and a nutrient provided by water to a plant.
 (b) State **two** types of chemical fertilizers which provide the phosphorus nutrient.
- (ii) (a) Write **two** uses of nitrogen in crop cultivation.
 (b) State **two** nitrogen deficiency symptoms that can be observed in plants.
- (iii) Write **four** unfavourable effects of using agrochemicals on the environment.
6. It is important that the yield of crops is harvested on time and the surplus yield is preserved.
- (i) State the impact of harvesting on the yield of vegetables and fruits in the following instances.
 (a) harvesting before the recommended stage of maturity
 (b) harvesting after the recommended stage of maturity
 (c) harvesting at times of rain or dew
- (ii) Write **four** importance of food preservation.
- (iii) State **two** preservative substances recommended for preserving food.
7. Methods of animal rearing, animal feed, animal diseases and their control measures are important in animal husbandry at commercial level.
- (i) (a) Name the most commonly used method of poultry rearing in commercial scale in Sri Lanka.
 (b) Write **four** advantages of that method.
- (ii) (a) Name a viral disease of poultry.
 (b) State **two** symptoms of that disease.
 (c) Write **two** methods of controlling that disease.
- (iii) Write **four** caring measures that should be afforded to a calf on the first day of its birth.