සියලු ම හිමිකම් ඇවිරිණි / முழுப் பதிப்புரிமையுடையது /All Rights Reserved]

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இலங்கைப் பரீட்சைத் திணைக்களம்
Department of Examinations, Sri Lanka

81 E I, II

අධ්‍යයන පොදු සහතික පත්‍ර (සාමාන්‍ය පෙළ) විභාගය, 2023(2024)
கல்விப் பொதுத் தராதரப் பத்திர (சாதாரண தர)ப் பரீட்சை, 2023(2024)
General Certificate of Education (Ord. Level) Examination, 2023(2024)

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

පැය තුනයි
மூன்று மணித்தியாலம்
Three hours

අමතර කියවීම් 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 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** (×) **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. What is the option which indicates in order, according to history, the ages passed when human civilization evolved?

(1) farm age, hunting age, pastoral age
(2) pastoral age, farm age, hunting age
(3) hunting age, pastoral age, farm age
(4) pastoral age, hunting age, farm age

2. The crops which first flower at the proper age whatever the time of the year they were cultivated belong to the group of

(1) short day crops.
(2) long day crops.
(3) day neutral crops.
(4) photoperiodic crops.

3. If the arrow head of a wind wane installed in the school garden is pointed towards North-East, the wind at that instant blows

(1) from North-East to South-West.
(2) from South-West to North-East.
(3) from North-West to South-East.
(4) from South-East to North-West.

4. Go through the following statements.

A - According to the extent and distribution of rainfall, Sri Lanka is divided into three main climatic zones namely wet, intermediate and dry.
B - Wet zone receives rain mainly from South-West monsoon winds while the dry zone receives rain mainly from North-East monsoon winds.
C - The period of cultivating only by the South-West monsoon rains is called 'Maha season' while the period of cultivating only by the North-East monsoon rains is called 'Yala season'.

Of the above, the correct statements are,

(1) A and B only. (2) A and C only. (3) B and C only. (4) all A, B and C.

5. If a pot is filled with soil, saturated it with water and the surplus water is drained off, the soil in that pot may contain,

(1) gravitational water only.
(2) hygroscopic water only.
(3) gravitational and capillary water only.
(4) capillary and hygroscopic water only.

6. If a sample of soil is air-dried and sifted with a sieve of 2 millimetre pore size, left on the sieve is/are

(1) coarse sand.
(2) gravel.
(3) coarse sand and fine sand.
(4) coarse sand and gravel.

[*see page two*

7. The substance that should be added to a soil of pH value 5, to make it suitable for crop cultivation is
(1) dolomite. (2) sulphur. (3) clay. (4) rock phosphate.

8. Three statements related to soil are given below.
A - The texture of a soil is decided by the relative amounts of minerals contained in that soil.
B - The cation exchange capacity of the soil is decreased by the addition of organic matter to soil.
C - The crumb structure of the soil is favourable for crop cultivation.
Of these, the correct statements are
(1) A and B only. (2) A and C only. (3) B and C only. (4) all A, B and C.

9. Select the option which contains only the factors that mainly affect the physical weathering of rocks.
(1) change in temperature, freezing of water, cation exchange and plant roots
(2) action of animals, carbon dioxide, action of micro-organisms and glaciers
(3) flowing water, ripple action, carbon dioxide and freezing of water
(4) flowing water, change in temperature, wind and ripple action

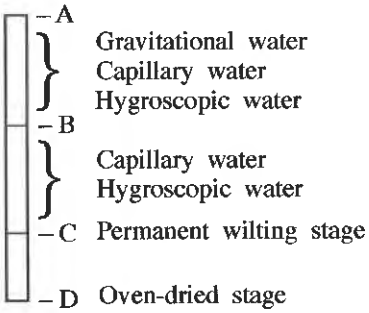
10. What is the main reason for the soil of the wet zone in Sri Lanka to become acidic?
(1) frequent addition of urea fertilizer to the soil
(2) frequent tilling of soil to the same depth
(3) increasing the microbial action in soil
(4) leaching of basic ions in soil by rain water

11. The action of the land preparation device shown in the diagram is/are
(1) cutting soil.
(2) cutting and turning soil.
(3) turning and pulverizing soil.
(4) pulverizing and levelling.



12. The transplanting of seedlings of a dapog nursery should be done at the age of
(1) 6 - 8 days. (2) 10 - 12 days.
(3) 15 - 16 days. (4) 17 - 19 days.

● To answer questions **13** and **14**, use the following chart which indicates the soil moisture levels.



13. What is the optimum soil moisture level for crop cultivation?
(1) A (2) B (3) C (4) D

14. The soil moisture level that requires practical irrigation in crop cultivation stays between
(1) A and B. (2) A and C. (3) B and C. (4) C and D.

15. What is the chemical fertilizer which contains a macronutrient essential for plants, exists as reddish brown crystals and is readily soluble in water?
(1) muriate of potash (2) triple super phosphate
(3) urea (4) rock phosphate

[*see page three*

16. What is the most suitable method for applying chemical fertilizer for a chilli crop grown in a home garden?
(1) broadcasting to the cultivated land
(2) applying around each plant
(3) applying between plant rows
(4) applying into pits dug in different places in the cultivated land

17. Select the option that contains invasive weeds only.
(1) Monerakudumbiya (*Seetheviyar sengaluneer*) and Gandapana (*Santhana korai*)
(2) Batadella (*Serupada selvan*) and Atawara (*Aanaiyaruhu*)
(3) Thunessa (*Mumootu korai*) and Kudametta (*Siru korai*)
(4) Pathinium and Videliya

18. In an okra (ladies fingers) cultivation, the leaf veins had turned yellow, the areas among the veins remained green and some leaves had become smaller and deformed. The cause for this is a
(1) virus. (2) bacterium. (3) fungus. (4) nematode.

19. What is the **false** statement about the brown plant hopper and its damage to the paddy cultivation?
(1) This insect undergoes incomplete metamorphosis.
(2) This insect pierces and sucks the tissues of the paddy plant.
(3) It causes damage only during the nymph stage.
(4) The damage appears as burnt circular patches.

20. What is the family of the paddy plant?
(1) Cucurbitaceae (2) Poaceae (3) Solanaceae (4) Malvaceae

21. Select the option containing seeds having epigeal germination only.
(1) paddy and green gram (2) chilli and brinjal
(3) chickpea and maize (4) paddy and bean

22. The number of bean seeds used to find the percentage of germination was 50 and of them 46 seeds were germinated. What is the percentage of germination of that seed sample?
(1) 46% (2) 82% (3) 92% (4) 98%

23. In budding, the type of mango that is suitable to be used as the stock is
(1) Vilard. (2) Kohu Amba (Thumbu ma).
(3) Karthakolomban. (4) Vellai Kolomban.

24. During layering of plants, rooting is stimulated by ring-barking the selected branch. Removal of which tissue(s) of the plant is/are important in this process?
(1) xylem tissue (2) phloem tissue
(3) cambium tissue (4) xylem and cambium tissues

25. Some arrangements in the polythene houses used in crop cultivation are given below.
A - making the roof in two levels.
B - fixing exhaust fans in side walls.
C - using ultra violet resistant polythene on side walls.
Of these, the measures contributing to control the temperature of the polythene house are
(1) A and B only. (2) B and C only. (3) A and C only. (4) all A, B and C.

26. Select the option that correctly indicates the seed type and the cause for its dormancy from the following table.

	Seed type	Cause for dormancy
(1)	paddy	having an impermeable seed coat
(2)	tomato	presence of inhibitors
(3)	mango	having an immature embryo
(4)	orchid	having a thick seed coat

[*see page four*

27. The pattern of crop cultivation in which another crop is established in the same field when the vegetative growth ends and reproductive growth begins of the first crop is known as
(1) crop rotation. (2) mixed cropping. (3) intercropping. (4) relay cropping.

28. The crops which become less palatable because of the increase in its fibrous nature due to harvesting after the mature stage are
(1) banana and guava. (2) papaw and mango.
(3) winged bean and bean. (4) chilli and tomato.

29. Deficiency of which vitamin affects anemia?
(1) A (2) B_{12} (3) D (4) K

30. A food which may contain 'aflatoxin' is
(1) partially boiled meat. (2) mouldy ground nut.
(3) expired eggs. (4) bruised fruits.

31. A food item preserved by concentration is
(1) sterilized milk. (2) salted lime (lunu dehi).
(3) cheese. (4) dried fish.

32. In the production of cordial, a recommended preservative which is added in approved amounts is
(1) sodium nitrate. (2) lactic acid. (3) acetic acid. (4) sodium metabisulphite.

33. Select the option containing only the European milking cattle breeds reared in Sri Lanka.
(1) Sindhi and Sahiwal (2) Friesian and Ayrshire
(3) Murrah and Surti (4) Jersey and Niliravi

34. Rearing cattle full time inside houses providing water, food and all facilities is called
(1) free range system. (2) semi-intensive system.
(3) intensive system. (4) loose barn system.

35. What is the cattle disease caused due to calcium deficiency?
(1) milk fever (2) black quarter disease
(3) mastitis (4) bloat

36. What is the mostly used method for poultry farming on commercial scale in Sri Lanka?
(1) deep litter system (2) free range system
(3) battery system (4) cage system

37. A poultry disease caused by protozoa is
(1) pullorum. (2) ranikhet. (3) coccidiosis. (4) gumboro.

38. A food component that can be used to provide protein when preparing rations of animal feed is
(1) maize. (2) sea shells. (3) soya meal. (4) cod liver oil.

39. A food packed in tetrapack which is a multilayered package and supplied to the consumer is
(1) ice cream. (2) fruit juice. (3) cheese. (4) coconut oil.

40. A few statements about standardisation of food are given below.
A - SLS is a national level standard.
B - ISO is an international level standard.
C - Standardisation ensures consumer safety.
Of the above, the correct statements are,
(1) A and B only. (2) A and C only. (3) B and C only. (4) all A, B and C.

**

[see page five

සියලු ම හිමිකම් ඇවිරිණි / முழுப் பதிப்புரிமையுடையது /All Rights Reserved]

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81 E I, II

අධ්‍යයන පොදු සහතික පත්‍ර (සාමාන්‍ය පෙළ) විභාගය, 2023(2024)
கல்விப் பொதுத் தராதரப் பத்திர (சாதாரண தர)ப் பரீட்சை, 2023(2024)
General Certificate of Education (Ord. Level) Examination, 2023(2024)

කෘෂි හා ආහාර තාක්ෂණය I, II
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 group of students preparing for a school exhibition got set to create various models in agriculture relating to the display of crop cultivation, preparation of nurseries and making compost.

(i) State **four** types of nurseries that can be displayed in this exhibition.

(ii) Name the raw materials required to make the nursery mixture for upland crops and state the prescribed ratios.

(iii) Mention a common disease affecting vegetable nurseries and state the causal agent of that disease.

(iv) (a) Mention **two** compost preparation methods that can be demonstrated in the exhibition.

(b) Write **two** advantages of adding compost to the soil.

(v) In the demonstration of soilless culture, state **two** culture media that can be used for it and a commonly used nutrition medium.

(vi) State **four** non-chemical pesticides that can be prepared for the exhibition.

(vii) (a) What is the irrigation method suitable for the lawn made to landscape the exhibition site?

(b) State the irrigation method suitable for a chilli cultivation grown in polythene bags to demonstrate a micro-irrigation method in which fertilizers can be applied with water.

(viii) State **four** main items that should be included when creating a model of a tank.

(ix) State **four** main items that should be included when making housing models for cattle.

(x) Write the **two** cattle housing types that can be made according to the way of tying up cattle.

2. In order to obtain an optimum yield from crop cultivation, it is important to study the impact of climatic conditions.

(i) (a) To how many main agro climatic zones has Sri Lanka been divided?

(b) State the **two** factors on which such division is based.

(ii) (a) State **four** factors that affect the changing of environmental temperature in a certain area.

(b) Write **four** favourable effects of temperature in crop cultivation.

(iii) Mention **three** common objectives of the multipurpose development schemes implemented in Sri Lanka.

3. Food preservation can be introduced as a step for minimizing post harvest loss of agriculture products in Sri Lanka.

(i) (a) Write **four** pre harvest factors that affect the post harvest losses.

(b) Mention **four** weaknesses that can be seen in the transportation of crop harvests.

(ii) State **three** food preservation methods with examples.

(iii) (a) State **two** important aspects of value addition in food.

(b) Write **two** methods of adding value to food.

[*see page six*

4. Seeds as well as vegetative parts are used in the propagation of plants.

(i) State **four** advantages of propagating plants by seeds.

(ii) Explain how a budding is done for a mango plant with the help of labelled diagrams.

(iii) (a) State **four** permanent cultivation structures constructed to provide controlled environment in crop cultivation.

(b) Write **two** characteristics that should be present in a culture medium used in soilless culture.

5. It is more suitable to use agricultural methods to control pests.

(i) (a) State **four** agricultural methods used for pest control in crop cultivation.

(b) The **three** factors that should be completed to cause a disease to a plant can be shown using a disease triangle. Write those factors.

(ii) Write briefly the difference between the contact weedicides and the systemic weedicides.

(iii) (a) Indicate in order, the stages of the life cycle of Aulacophora beetle.

(b) The crops of which family does that beetle damage?

(c) Write **two** methods which control that damage.

6. To obtain the expected harvest from crops, plant nutrients should be given without deficiency.

(i) (a) State separately, **two** macronutrients and **two** micronutrients essential for the growth of crops.

(b) Write **four** measures that could be taken to increase the ability of utilizing chemical fertilizers added to the soil by plants.

(ii) Though application of rock phosphate is recommended for perennial crops, triple super-phosphate (TSP) is recommended for annual crops. Explain briefly the reason for this.

(iii) Mention **two** aspects in which phosphorus becomes important for plant growth and write **two** symptoms that can be seen in plants in case of phosphorus deficiency.

7. Animal products are important to fulfil protein requirement in human nutrition.

(i) (a) State **four** cattle rearing zones in Sri Lanka as identified by the Department of Animal Production and Health.

(b) State **four** differences between Indian cattle breeds and European cattle breeds.

(ii) Write **four** characteristics that should be found in a suitable poultry litter.

(iii) (a) State **two** differences between the concentrates and roughages used in animal nutrition.

(b) Write **two** examples each for concentrates and roughages.

***