

ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව
இலங்கைப் பரீட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம்
Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka
ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව
இலங்கைப் பரීட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம் இலங்கைப் பரīட்சைத் திணைக்களம் இலங்கைப் பரīட்சைத் திணைக்களம் இலங்கைப் பரīட்சைத் திணைக்களம்
Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka

අධ්‍යයන පොදු සහතික පත්‍ර (උසස් පෙළ) විභාගය, 2024
கல்விப் பொதுத் தராதரப் பத்திர (உயர் தர)ப் பரீட்சை, 2024
General Certificate of Education (Adv. Level) Examination, 2024

කෘෂි විද්‍යාව
விவசாய விஞ்ஞானம்
Agricultural Science

I
I
I

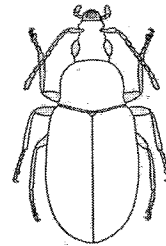
08 E I


පැය දෙකයි
இரண்டு மணித்தியாலம்
Two hours

Instructions:

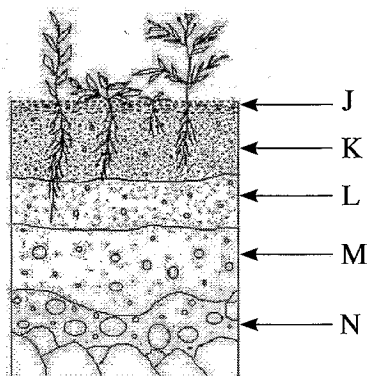
- * Answer **all** the questions.
- * Write your **Index Number** in the space provided in the answer sheet.
- * Instructions are given on the back of the answer sheet. Follow those carefully.
- * In each of the questions **1 to 50**, pick one of the alternatives from (1), (2), (3), (4), (5) which is **correct** or **most appropriate** and mark your response on the answer sheet with a cross (X) on the number of the correct option in accordance with the instructions given on the back of the answer sheet.

- An example for a naturally self-pollinated crop is
(1) rice. (2) maize. (3) pumpkin. (4) sunflower. (5) strawberry.
- A plant that is mostly propagated by patch budding would be
(1) Durian. (2) Jackfruit. (3) Tea. (4) Rambutan. (5) Woodapple.
- The equipment used for wet sterilization of a tissue culture media would be
(1) Autoclave. (2) Centrifuge. (3) Bakery oven.
(4) Microwave oven. (5) Laminar flow cabinet.
- A type of soilless culture that does **not** use a growing medium is
(1) Aeroponics. (2) Aquaculture.
(3) Deep flow technique. (4) Nutrient film technique.
(5) Capillary action technique.
- Use the following diagram to answer the question **05**.
- The order of the insect shown in this diagram would be
(1) Diptera. (2) Hemiptera.
(3) Coleoptera. (4) Homoptera.
(5) Hymenoptera.
- An equipment used to measure physical indices of maturity of fruits is
(1) pH meter. (2) Brix meter. (3) Firmness tester.
(4) EC meter. (5) Thermocouple thermometer.
- Compared to open-air sun drying, when drying in solar dryers
(1) cost is lower. (2) flavour deterioration is higher.
(3) colour deterioration is lower. (4) denaturation of protein is higher.
(5) temperature fluctuation is higher.



8. The most suitable low cost package for fresh strawberry is
- (1) paper box.
 - (2) aluminium box.
 - (3) clear plastic box.
 - (4) natural fiber box.
 - (5) wooden box.
9. Milk fever in cows is caused due to
- (1) heat stress.
 - (2) bacterial infection.
 - (3) lack of iron in the blood.
 - (4) lack of calcium in the blood.
 - (5) lack of magnesium in the blood.
10. A Friesian heifer was inseminated on 1st January 2024 and the pregnancy diagnosis test conducted thereafter was positive. The heifer should commence its first lactation approximately on
- (1) 6th July 2024.
 - (2) 6th August 2024.
 - (3) 6th September 2024.
 - (4) 6th October 2024.
 - (5) 6th November 2024.
11. Cultivating crops and rearing farm animals with forest plants can be best explained as
- (1) organic farming.
 - (2) crop livestock integration.
 - (3) agroforestry system.
 - (4) mixed cropping.
 - (5) bio-dynamic farming.
- Use the given diagram to answer question 12.
12. The hazard shown in this diagram can be categorized as
- (1) physical.
 - (2) chemical.
 - (3) biological.
 - (4) ergonomic.
 - (5) psychosocial.
- 
13. The department recently established to contribute to the agricultural development in Sri Lanka is the
- (1) Department of Export Agriculture.
 - (2) Rubber Development Department.
 - (3) Department of Agrarian Development.
 - (4) Department of Cinnamon Development.
 - (5) Department of Animal Production and Health.
14. A major reason for a soil to become acidic would be
- (1) leaching of hydrogen ions (H^+).
 - (2) leaching of base cations.
 - (3) rising of groundwater level.
 - (4) prevailing of long dry spells.
 - (5) using hard water for irrigation.
15. In addition to organic matter, water and air, the other essential components of a healthy soil would be
- (1) salt and fertilizer.
 - (2) organisms and salts.
 - (3) minerals and fertilizer.
 - (4) organisms and minerals.
 - (5) organisms and fertilizer.

- Use the following diagram of a generic soil profile to answer questions 16 and 17.

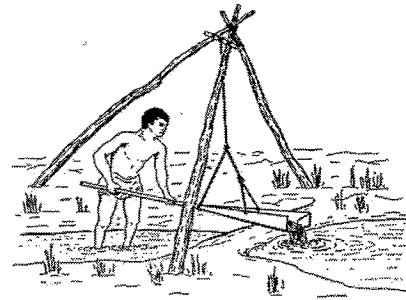


16. The soil horizon that is rich in accumulated minerals and base cations would be
 (1) J. (2) K. (3) L. (4) M. (5) N.
17. The soil horizon/s that contain mature soil would be
 (1) J. (2) J and K. (3) K and L. (4) L and M. (5) M and N.
18. The absorption of minerals by plants **without** direct expense of metabolic energy is called
 (1) mass absorption. (2) active absorption. (3) xylem absorption.
 (4) passive absorption. (5) facilitated absorption.
19. The percentage of nitrogen in urea is
 (1) 16%. (2) 24%. (3) 36%. (4) 46%. (5) 58%.
20. In addition to the moisture content and temperature, the other major factors that affect composting process would be
 (1) aeration, C/N ratio and salt content.
 (2) aeration, C/N ratio and particle size of raw materials.
 (3) C/N ratio, particle size of raw materials and salt content.
 (4) mineral content, C/N ratio and particle size of raw materials.
 (5) microorganisms, particle size of raw materials and mineral content.
21. The ridge and furrow irrigation is more suitable for
 (1) potato, sugarcane, groundnut, guava and grapes.
 (2) maize, grapes, brinjal, guava and coconut.
 (3) maize, potato, sesame, tomato and sugarcane.
 (4) grapes, groundnut, brinjal, coconut and sesame.
 (5) maize, brinjal, sugarcane, groundnut and potato.
22. A direct effect to tomato crop due to poor drainage would be
 (1) leaf curling.
 (2) leaf yellowing.
 (3) elongating the leaf petiole.
 (4) forming fleshy leaves.
 (5) forming rough leaves.

- Use the given diagram to answer question 23.

23. The traditional water lifting device illustrated in this diagram can be best described as

- (1) syphon.
- (2) shadoof.
- (3) hand pump.
- (4) swing scoop.
- (5) paddle wheel.



24. The products of plant respiration that act as raw materials for photosynthesis would be

- (1) CO_2 and O_2 .
- (2) CO_2 and H_2O .
- (3) ATP and H_2O .
- (4) $\text{C}_6\text{H}_{12}\text{O}_6$ and O_2 .
- (5) ATP and $\text{C}_6\text{H}_{12}\text{O}_6$.

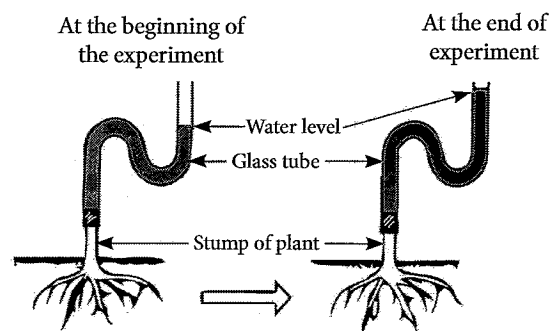
25. The first step of the seed germination process would be

- (1) splitting of seed coat.
- (2) activation of the enzymes inside the seed.
- (3) uptake of water by imbibition through hilum.
- (4) uptake of water by imbibition through seed coat.
- (5) uptake of water by diffusion through seed coat and hilum.

- The given diagram illustrates an experiment conducted by a student. Use this diagram to answer question 26.

26. The phenomenon shown in this diagram can be best described as

- (1) imbibition.
- (2) root pressure.
- (3) reverse osmosis.
- (4) osmotic potential.
- (5) transpirational pull.



27. The internal factors affecting the rooting of stem cuttings are

- (1) temperature and humidity.
- (2) plant species and rooting media.
- (3) rooting media and hormone content.
- (4) maturity and hormone content.
- (5) maturity and rooting media.

28. The main environmental constraint that has to be considered in designing a protected house for low country in Sri Lanka is

- (1) wind.
- (2) rainfall.
- (3) humidity.
- (4) temperature.
- (5) light intensity.

29. A student planted seeds collected from a cross-pollinated plant under controlled conditions in a greenhouse. When plants were matured, he observed distinct morphological variations among the plants. The most possible reason for these variations could be

- (1) climate changes. (2) genetic factors. (3) gene mutations.
(4) greenhouse effect. (5) environmental factors.

30. If consumers assume that the price of rice will increase in near future, the market

- (1) supply of rice will increase.
(2) supply of rice will decrease.
(3) demand for rice will increase.
(4) demand for rice will decrease.
(5) supply and demand for rice will be unaffected.

31. Following are two statements regarding sustainable agriculture.

A - Sustainable agriculture maintains the productivity of land over a long period of time.

B - Sustainable agricultural practices minimize the negative impacts of farming on environment.

Of the above statements,

- (1) both A and B are incorrect.
(2) A is correct but B is incorrect.
(3) B is correct but A is incorrect.
(4) A is correct and it is further explained by B.
(5) B is correct and it is further explained by A.

32. An agricultural instructor has found following problems in a cucumber cultivation.

A - Very low transpiration of plants

B - Heavy infection of powdery mildew

The main reason for the above situations would be

- (1) mild wind. (2) low sunlight. (3) high humidity.
(4) severe drought. (5) high temperature.

- Following table describes the market situation of pumpkin during a particular time period. Use this table to answer question 33.

Price (Rs/kg)	Quantity demanded (kg)	Quantity supplied (kg)
90	10	100
70	20	80
50	30	60
40	40	40
30	50	20

33. If the price of 1 kg of pumpkin is Rs. 70,

- (1) a surplus of 30 kg would exist and price would tend to fall.
(2) a surplus of 60 kg would exist and price would tend to rise.
(3) a surplus of 60 kg would exist and price would tend to fall.
(4) a shortage of 30 kg would exist and price would tend to rise.
(5) neither shortage nor surplus would exist and price would remain unchanged.

34. The combination of climatic factors that significantly reduces the production performance of a farm animal could be

- (1) long daytime and high light intensity.
- (2) low ambient temperature and high rainfall.
- (3) low ambient temperature and low relative humidity.
- (4) high ambient temperature and low relative humidity.
- (5) high ambient temperature and high relative humidity.

35. Following are few statements regarding animal feeds.

A - Roughage feeds contain more than 18% fibre.

B - The most abundant nutrient found in poultry feed is protein.

C - Non-ruminants are usually fed with more concentrate feeds but ruminants need more roughage feeds.

Of the above, the correct statement/s would be

- (1) A only.
- (2) B only.
- (3) C only.
- (4) A and B only.
- (5) A and C only.

36. If the price of wheat increases while all other inputs in the wheat flour industry remain **unchanged**

- (1) the supply of wheat flour will increase.
- (2) the supply of wheat flour will decrease.
- (3) the demand for wheat flour will increase.
- (4) the supply of wheat flour will be unaffected.
- (5) both demand and supply of wheat flour will increase.

37. The correct statement on *Yala* season would be

- (1) "It commences with the onset of South-West monsoon rains".
- (2) "Effect of first inter-monsoonal rains continues throughout the *Yala* season".
- (3) "Raining duration of *Yala* season is same in all wet, dry and intermediate zones".
- (4) "It exists from March to August and receives rains from both first inter-monsoon and South-West monsoon".
- (5) "During *Yala* season, wet zone receives the highest rainfall from March to April and dry zone receives the highest rainfall from March to June".

38. Following are few statements on poultry management.

A - The chick guard in a brooder is used to protect chicks from predators.

B - In Sri Lanka, village chicken are usually reared under free range system.

C - The average length of incubation of chicken eggs depends on the breed of chicken.

Of the above, the correct statement/s would be

- (1) A only.
- (2) B only.
- (3) C only.
- (4) A and B only.
- (5) B and C only.

39. In order to increase the milk production potential of indigenous cattle in the next generation, the best possible method is to
- (1) practice mass selection.
 - (2) practice free mating within the herd.
 - (3) mate selected indigenous cows with a Jersey bull.
 - (4) mate selected indigenous cows with a Friesian bull.
 - (5) mate selected indigenous cows with a selected indigenous bulls.
40. The correct statement regarding the digestive tract of farm animals would be
- (1) "In an adult ruminant, esophagus opens to the reticulum".
 - (2) "All farm animals have only one caecum in their digestive tract".
 - (3) "The complex stomach of a cow is functionally similar to the gizzard of a hen".
 - (4) "Rumen is the largest compartment when compared to the volume of the entire digestive tract of a cow".
 - (5) "The digestive functions of complex stomach of a ruminant and simple stomach of a non-ruminant animal are identical".
41. A self-employer produces paper bags with a fixed cost of Rs. 4,000. If the average variable cost and average total cost of a paper bag are Rs. 25 and Rs. 30, respectively, the number of paper bags produced is
- (1) 200. (2) 400. (3) 600. (4) 800. (5) 1000.
42. The market structure with a large number of sellers deals in heterogeneous and differentiated form of a commodity is called,
- (1) retail market. (2) oligopoly market. (3) wholesale market.
(4) perfect competition market. (5) monopolistic competition market.
43. A farmer having an agricultural land leased by the government on annual permit, went to a government bank to get an agricultural loan to cultivate his land. Bank refused to give him the loan. This could be due to legal matter related to
- (1) subsidies. (2) marketing. (3) crop insurance.
(4) land ownership. (5) irrigation water supply.
44. Following are two statements regarding land preparation.
- A - Land preparation reduces herbicide usage.
- B - The aim of the land preparation is to make soil in the best physical condition for establishment and growth of crops.
- Of the above statements,
- (1) both A and B are correct.
 - (2) A is correct but B is incorrect.
 - (3) B is correct but A is incorrect.
 - (4) A is correct and it is further explained by B.
 - (5) B is correct and it is further explained by A.

45. Following are two statements regarding inter-cultivation.

A - It is practiced just before the establishment of crops.

B - It helps growth, yield and overall health of cultivated plants.

Of the above statements,

- (1) both A and B are correct.
- (2) A is correct but B is incorrect.
- (3) B is correct but A is incorrect.
- (4) A is correct and it is further explained by B.
- (5) B is correct and it is further explained by A.

46. An example for a perennial weed is

- (1) Gandapana (*Lantana camara*).
- (2) Kuppameniya (*Acalipa indica*).
- (3) Kadu pahara (*Emila sonchifolia*).
- (4) Monarakudumbiya (*Vernonia cinera*).
- (5) Rice flat sedge (*Cyperus iria*).

47. An example for a systemic pre-emergence weedicide is

- (1) 2,4-D. (2) MCPA. (3) Parquet. (4) Atrazine. (5) Glyphosate.

48. An example for an air born plant disease would be

- (1) leaf curl disease in chilli. (2) blister blight disease in tea.
- (3) late blight disease in potato. (4) banana mosaic disease.
- (5) white root disease in rubber.

49. A particular flying insect predator that destroys different growth stages of pests, needs water to complete its life cycle. This predator can be best identified as

- (1) wasp. (2) locust. (3) fruit fly. (4) dragon fly. (5) black soldier fly.

50. Following are few statements regarding human health and nutrition.

A - Obesity may increase the risk of coronary heart disease.

B - Diet with high amount of fibre may increase the nutrient absorption.

C - Low level of iron in the diet is directly related to the protein and energy under-nutrition conditions.

Of the above, the correct statement/s would be

- (1) A only. (2) B only. (3) C only.
- (4) A and B only. (5) B and C only.

* * *

AL/2024/08/E-II

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
 இலங்கைப் பரீட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம்
 Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka
 ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව
 இலங்கைப் பரීட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம் இலங்கைப் பரīட்சைத் திணைக்களம் இலங்கைப் பரīட்சைத் திணைக்களம்
 Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka

අධ්‍යයන පොදු සහතික පත්‍ර (උසස් පෙළ) විභාගය, 2024
 கல்விப் பொதுத் தராதரப் பத்திர (உயர் தர)ப் பரீட்சை, 2024
 General Certificate of Education (Adv. Level) Examination, 2024

කෘෂි විද්‍යාව II
 விவசாய விஞ்ஞானம் II
 Agricultural Science II

08 E 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 you will answer and decide which of them you will prioritise.

Index No. :

Instructions:

- * This question paper consists of 10 questions in 11 pages.
- * This question paper comprises Part A and Part B. The time allotted for both parts is three hours.

PART A – Structured Essay (Pages 2 - 10)

- * Answer all questions on this paper itself.
- * Write your answers in the space provided for each question. Note that the space provided is sufficient for your answers and extensive answers are **not** expected.

PART B – Essay (Page 11)

- * Answer four questions only. Use the papers supplied for this purpose. At the end of the time allotted for this paper, tie the two parts together so that Part A is on the top of Part B before handing over to the supervisor.
- * You are permitted to remove only Part B of the question paper from the Examination Hall.

For Examiners' Use only

(08) Agricultural Science - II		
Part	Question No.	Marks
A	1	
	2	
	3	
	4	
B	5	
	6	
	7	
	8	
	9	
	10	
Total		

Total	
In Numbers	
In Letters	
Code Numbers	
Marking Examiner 1	
Marking Examiner 2	
Marks checked by	
Supervised by	

Part A - Structured Essay*Answer all questions on this paper itself.**(Each question carries 100 marks.)*Do not
write
in this
column

1. (A) Multi-purpose development projects facilitate the agricultural development in various ways. State **two** recently implemented multi-purpose development projects in Sri Lanka.

(i)

(ii)

(B) Climatic factors affect agricultural productivity through influencing plant growth.

(i) State **two** helpful effects of wind on the crop production.

(1)

(2)

(ii) Main potato cultivation season in Jaffna is from October to February. What is the main climatic factor in determining the potato cultivation season in Jaffna?

.....

(iii) State **one** harmful effect of high relative humidity on crop production.

.....

(C) Rock weathering is essential for soil genesis.

(i) State **two** biological factors that affect weathering of rocks.

(1)

(2)

(ii) State **two** physical factors that affect weathering of rocks.

(1)

(2)

(D) Moisture in soil is vital for survival of both plants and soil organisms.

(i) Name the **three** moisture statuses in soil.

(1)

(2)

(3)

(ii) Name a method that can be used to measure soil moisture content in the laboratory.

.....

- (E) Fertilizers are classified into three main groups. State the **three** groups of fertilizers with an example for each.

Do not
write
in this
column

Fertilizer group		Example
(i)
(ii)
(iii)

- (F) Seeders are used to establish crops in the field.

- (i) Name **two** commonly used seeders in lowland paddy cultivation.

(1)

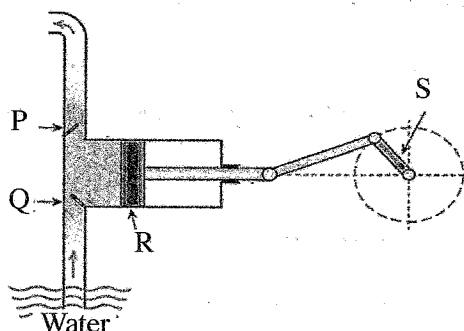
(2)

- (ii) State **two** main advantages of using seeders in crop establishment.

(1)

(2)

- (G) Use the following diagram to answer questions (i) and (ii).



- (i) Name the type of the water pump shown in the above diagram.

.....

- (ii) Name the parts labelled as P, Q, R and S in the above diagram.

(1) P

(2) Q

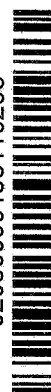
(3) R

(4) S

- (H) Pollinators play a vital role in increasing crop production. State **two** techniques that help to protect pollinators in crop fields.

(i)

(ii)

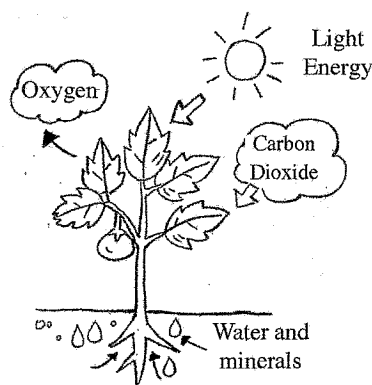


2. (A) The ratio of the amount of water used for consumptive needs of the crop to the total volume of water supplied is called irrigation water efficiency. State **three** techniques to increase irrigation water efficiency.

Do not
write
in this
column

- (i)
- (ii)
- (iii)

- (B) Use the following diagram to answer questions (i) and (ii).



- (i) State the physiological process shown in the above diagram.

.....

- (ii) State **three** techniques that can be used to enhance the efficiency of the physiological process shown in the above diagram.

- (1)
- (2)
- (3)

- (C) Seed dormancy is the state in which a viable seed is unable to germinate, even under ideal growing conditions. State the most suitable method to remove seed dormancy in following crops.

- (i) Mango

.....

- (ii) Tamarind

.....

- (iii) Teak

.....

- (iv) Papaya

.....

(D) Plant propagation is the process of multiplication of plants. State the most suitable propagule for propagation of following crops.

Do not
write
in this
column

(i) Tulip

(ii) Turmeric

(iii) Agave

(iv) Pineapple

(E) Layering is a vegetative propagation technique where the stem or a branch of a plant is covered with moist growing media to promote root development while still attached to the mother plant. Sketch appropriate line diagrams to illustrate following ground layering methods.

(i) Simple layering

(ii) Compound layering

(iii) Trench layering

(iv) Mound layering

000253

01030000188110253



Do not
write
in this
column

(F) Plant tissue culture is a widely used technique for the production of a large number of genetically identical plantlets. State the function of the following ingredients in a plant tissue culture media.

- (i) Inorganic nutrients
- (ii) Sugar
- (iii) Growth regulators
- (iv) Gelling agents

(G) Plant genetic resources are important in crop improvement.

(i) State the **two** main methods of plant genetic resources conservation.

- (1)
- (2)

(ii) State **two** main importance of plant genetic resources conservation.

- (1)
- (2)

(H) Snake bites in agricultural fields are common in the dry zone. State **two** measures farmers should follow to prevent snake bites while they are working in the agricultural fields.

- (i)
- (ii)

100

3. (A) Protected agriculture is a process of growing crops in a controlled environment. State **two** environmental factors controlled in protected agriculture.

- (i)
- (ii)

(B) Soilless culture is defined as growing plants in any media without soil as the growing medium. State **two** important properties that should be found in a solid soilless media.

- (i)
- (ii)

(C) Mechanical or physical control of pests is an integral part of successful integrated pest management plan. State the most appropriate mechanical or physical method to control following pest damages.

- (i) Fruit fly damage in Guava

Do not
write
in this
column

(ii) Bats damage in Rambutan

.....

(iii) Stem borer damage in rice

.....

(D) Insecticides are substances used to kill or repel insect pests. Categorize insecticides based on their physical nature, chemical nature and mode of action.

(i) Based on physical nature

(1)

(2)

(3)

(4)

(ii) Based on chemical nature

(1)

(2)

(3)

(4)

(iii) Based on mode of action

(1)

(2)

(3)

(4)

(E) A farmer went to his crop field to spray insecticide. When his son came to know that father has gone to spray insecticide, he also rushed to the field taking farmer's cloths and a towel tightly wrapped in a polythene bag, soap and water along with him and kept his eye on his father until spraying is over.

(i) Why farmer's son rushed to the field and stayed there until the spraying is over?

.....

(ii) Why he brought soap and water to the field?

.....

Do not
write
in this
column

(iii) Why he brought farmer's cloths and a towel to the field?

.....

(iv) Why he tightly wrapped cloths and towel in a polythene bag?

.....

(F) Good Agricultural Practices (GAP) are a set of standards for the safe and sustainable production of crops and livestock. One of its main objectives is to assure food safety and quality. List **four** main activities needed to be carried out during the GAP certification process.

(i)

(ii)

(iii)

(iv)

(G) Mixed cropping is known as growing two or more crops on the same land simultaneously.

(i) State **two** advantages of mixed cropping.

(1)

(2)

(ii) State **two** disadvantages of mixed cropping.

(1)

(2)

100

4. (A) State **four** pre-harvest factors needed to be considered at the time of harvesting in order to minimize the postharvest losses of fruits and vegetables.

(i)

(ii)

(iii)

(iv)

(B) During the first quarter of the year 2024, high ambient temperature was experienced in many parts of Sri Lanka. State **two** behavioural responses of laying hens in a farm to this situation.

(i)

(ii)

[see page nine]

(C) A farmer cut fresh grass on a rainy day to prepare grass silage. He spread the cut grass on the floor under a roof for one day and then placed them in a pit silo while pressing well. Soon after filling with grass, he covered the silo with thick polythene sheet and sealed.

Do not
write
in this
column

State the main reason for each of the following activities.

(i) Spreading grass on the floor for one day

.....

(ii) Spreading grass under a roof

.....

(iii) Pressing grass in the silo

.....

(iv) Sealing the silo after the filling

.....

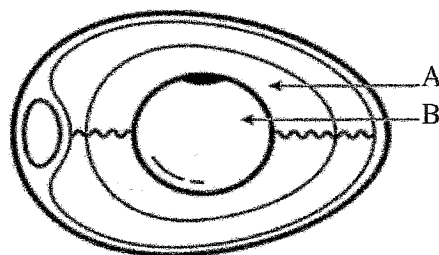
(D) State **three** main differences between rumen and gizzard.

(i)

(ii)

(iii)

(E) Following diagram illustrates the structure of a chicken egg. Use this diagram to answer questions (i) and (ii).



(i) Name the parts labelled as A and B.

(1) A

(2) B

(ii) State the main nutrient containing in parts A and B.

(1) A

(2) B

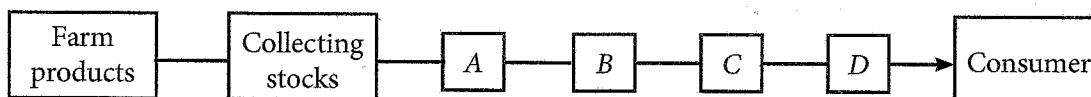
(F) State whether the following statements are **True** or **False**.

True/False

Do not
write
in this
column

- (i) During first 7 days after the birth, calves should be fed with colostrum.
- (ii) In order to get clean eggs, at least one egg nest per 4-5 hens should be kept in a deep litter layer house.
- (iii) The average fat content in milk of a Friesian cow is 3.5%, but this could be higher in the milk of Asian cows.

(G) Agricultural marketing refers to the process of promoting, selling and distributing agricultural products from farms to consumers. The following diagram shows the various components of function chain in agricultural marketing.



- (i) Name the components labelled as *A*, *B*, *C* and *D* in the above diagram.
- (1) *A*
- (2) *B*
- (3) *C*
- (4) *D*
- (ii) Middlemen in marketing are intermediaries who should facilitate the movement of goods from producers to consumers. Name **three** types of middlemen in marketing.
- (1)
- (2)
- (3)
- (iii) Dedicated economic centres have been established to facilitate the distribution and sale of agricultural produce. Name **three** such dedicated economic centres found in Sri Lanka.
- (1)
- (2)
- (3)

* *

100

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
இலங்கைப் பரீட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம்
Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka
ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව
இலங்கைப் பரීட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம் இலங்கைப் பரīட்சைத் திணைக்களம் இலங்கைப் பரīட்சைத் திணைக்களம்
Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka

අධ්‍යයන පොදු සහතික පත්‍ර (උසස් පෙළ) විභාගය, 2024
கல்விப் பொதுத் தராதரப் பத்திர (உயர் தர)ப் பரீட்சை, 2024
General Certificate of Education (Adv. Level) Examination, 2024

කෘෂි විද්‍යාව II
விவசாய விஞ்ஞானம் II
Agricultural Science II

08 E II

Part B - Essay

Instructions:

- * Answer **four** questions only.
- * Give clearly labelled diagrams where necessary.
(Each question carries **150** marks.)

5. (i) State the advantages and disadvantages of propagation of plants from seeds.
(ii) Describe the Deep Flow Technique of soilless culture with the help of a diagram.
(iii) Describe the internal factors affecting the transpiration of a plant.
6. (i) Describe drainage methods used to improve drainage in crop fields with suitable diagrams.
(ii) Describe the classification of weeds based on morphology and habitat.
(iii) Describe the importance of demarcating agro-ecological zones.
7. (i) Describe the impact of up country plantation sector on Sri Lankan agriculture.
(ii) Explain the similarities and differences between insects and mites.
(iii) Explain how foods are preserved by fermentation.
8. (i) Describe factors affecting the yield and composition of milk of a cow.
(ii) Explain the importance of using maturity indices in harvesting of fruits and vegetables.
(iii) Describe causes of soil acidity and its impact on crops.
9. (i) Name the production factors and state **two** strategies to increase each of their productivity.
(ii) Describe the factors affecting the composting process.
(iii) Describe the main steps in basic land preparation for crop cultivation.
10. (i) Describe the factors affecting the market equilibrium of rice.
(ii) Stating advantages and disadvantages, compare the extensive and intensive rearing of laying hens.
(iii) Describe the importance of Kandyan homegardens.

* * *