

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
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අධ්‍යයන පොදු සහතික පත්‍ර (උසස් පෙළ) විභාගය, 2021(2022)
 கல்விப் பொதுத் தராதரப் பத்திர (உயர் தர)ப் பரீட்சை, 2021(2022)
 General Certificate of Education (Adv. Level) Examination, 2021(2022)

කෘෂි තාක්ෂණවේදය I
 விவசாயத் தொழினுட்பவியல் I
 Agro Technology I

18 E I

පැය දෙකයි
 இரண்டு மணித்தியாலம்
 Two hours

Instructions:

- * Answer **all** 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.

1. Select an appropriate example to describe the application of soft technology.

- (1) Manufacturing of a new type of screwdriver.
- (2) Use of a simple wood-fired oven for bread making.
- (3) Development of a new yeast strain for alcohol fermentation.
- (4) Introduce a new methodology to produce an organic fertilizer.
- (5) Use of an electronic soil moisture sensor in irrigation.

2. Spread-sheet software is more appropriate for

- (1) writing letters to customers.
- (2) presentation of progress in a meeting.
- (3) programming an application software.
- (4) web development and web page maintenance.
- (5) tabulation of data and plotting of graphs.

3. Consider the following statements.

- A - Goitre condition can be caused by protein energy malnutrition.
 B - Cassava and okra are examples for the foods that contain goitrogens.
 C - Seafood helps to prevent the formation of goitre.

Of the above,

- (1) Only A is correct.
- (2) Only B is correct.
- (3) Only C is correct.
- (4) Only A and B are correct.
- (5) Only B and C are correct.

4. Select the **incorrect** statement regarding proteins.

- (1) All enzymes are proteins.
- (2) Secondary structure of proteins gets denatured at high temperature.
- (3) Proteins are polypeptides.
- (4) Certain amount of proteins are converted into fat in the human body.
- (5) Urea is one of the by-products of protein metabolism.

5. An enzyme or a group of enzymes responsible for the rancidity is

- (1) lipase.
- (2) amylase.
- (3) catalase.
- (4) peptidase.
- (5) polyphenol oxidase.

6. A microorganism which is used in food processing is

- (1) *Bacillus cereus*. (2) *Staphylococcus aureus*.
 (3) *Lactobacillus bulgaricus*. (4) *Clostridium perfringens*.
 (5) *Clostridium botulinum*.

7. Consider the following.

- A - Homegardening
 B - Surplus of fresh fruits and vegetables
 C - Sufficient food in market
 D - Adequate family income

Of the above, the factors that could positively affect the household food security are

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

8. In a soil profile, Horizon C consists of

- (1) humus containing more nutrients.
 (2) partly withered rock.
 (3) soil made out of humus, clay and minerals.
 (4) sub-soil containing clay and other minerals.
 (5) loose layer of leaves and other plant materials.

9. Select the correct answer that best reflects land degradation.

- (1) Removal of top soil from the land.
 (2) Removal of vegetation from the soil surface.
 (3) Loss of economic productivity of land.
 (4) Reduction of biological productivity of land due to human influence.
 (5) Negative effects on the land due to natural or human-induced processes.

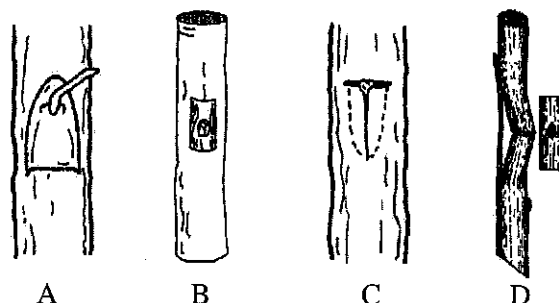
10. Consider the following statements.

- A - Breeder seeds are the seeds of a new variety that has the highest purity.
 B - Foundation seeds are the first progeny of the breeder seeds.
 C - Registered seeds are the first progeny of the certified seeds.

Of the above, the correct statement/s is/are

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

11. The diagram given below shows four commonly used budding methods denoted as A, B, C and D.



Select the answer which shows the correct budding methods.

- (1) A : Patch budding, B : H-budding, C : T-budding and D : Chip budding
 (2) A : Chip budding, B : Patch budding, C : T-budding and D : H-budding
 (3) A : Patch budding, B : Chip budding, C : T-budding and D : H-budding
 (4) A : T-budding, B : Chip budding, C : H-budding and D : Patch budding
 (5) A : Chip budding, B : H-budding, C : T-budding and D : Patch budding

12. Consider the following statements.

- A - Soaking in water at 30 °C for 2 hours, is the most efficient method to overcome dormancy in teak (*Tectona grandis*) seeds.
 B - The main cause of delay in the germination of teak seeds is the thick pericarp, which does not soften sufficiently for the embryo cells to multiply.

Of the above

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

13. A few medicinal plants are given below.

- A - *Adathoda*
 B - *Kothalahimbutu*
 C - *Katupila*

Of the above, the plant/s commonly found in the Dry Zone of Sri Lanka is/are

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

14. Akkapana (*Kalanchoe pinnata*) is a medicinal plant used to treat

- (1) sore throat.
- (2) kidney stones.
- (3) hypertension.
- (4) worm infestations.
- (5) diabetes.

15. A destructive activity which takes place away from the coral habitats affecting the coral ecosystem is

- (1) coral mining.
- (2) sand mining.
- (3) surface runoff.
- (4) ocean acidification.
- (5) anchorage of marine vessels.

16. Drying is a common preservation method of agricultural commodities. Preservation by drying is achieved due to

- (1) disinfection.
- (2) thermal treatment.
- (3) destruction of pathogens.
- (4) lowering moisture content that reduces biochemical activities.
- (5) inability of micro-organisms to survive on dried materials.

17. The longest shelf life of milk can be achieved by

- (1) sterilization.
- (2) chilling.
- (3) freezing.
- (4) pasteurization.
- (5) use of preservatives.

18. Microbial fermentation is used to process

- (1) soya meat.
- (2) beer.
- (3) ice cream.
- (4) Maldivian fish.
- (5) peanut butter.

19. 'SWOT' analysis is most appropriate for

- (1) developing a strategic plan of an institution.
- (2) preparing the annual budget of an institution.
- (3) assessing the previous year's progress of an institution.
- (4) purchasing goods for an institution.
- (5) conducting a sensory evaluation of a newly developed product by an institution.

20. Some of the main factors that should be considered in selecting a business opportunity are
- (1) labor requirement, political stability and family background of a consumer.
 - (2) labor requirement, market and technology available.
 - (3) religious factors, competitors and demand for the product.
 - (4) availability of educated human resources, capital investment and social factors.
 - (5) sources of funds, availability of modern technology and management skills.

21. Following data are recorded from a plant nursery during one year period.

Capital investment	Rs. 4 million
Salaries and wages	Rs. 1 million
Other costs	Rs. 1 million
Annual depreciation	Rs. 0.5 million
Income from total sales	Rs. 3.5 million

The net profit of the plant nursery would be, Rs.

- (1) 0.1 million.
 - (2) 0.5 million.
 - (3) 1.5 million.
 - (4) 2.5 million.
 - (5) 3.0 million.
22. The risk of technological failures in agriculture can be lessened by
- (1) applying suitable remedial measures.
 - (2) adhering to traditional knowledge.
 - (3) training and developing skills of users.
 - (4) avoiding prevailing technology in agricultural production systems.
 - (5) use of technology in sectors that have no direct interaction with human.
23. An industry that makes the highest contribution to the global greenhouse gas emission is
- (1) hydroelectric power generation.
 - (2) steel manufacturing.
 - (3) manufacturing of cement.
 - (4) plastic manufacturing.
 - (5) livestock farming.

24. Consider the following statements.

- A - Sun drying of fish to make dry fish is an example for application of soft technology.
 B - Development of a new computer software is an example for soft technology.
 C - Assembling an irrigation system is an example for hard technology.

Of the above, the correct statement/s is/are

- (1) A only.
 - (2) B only.
 - (3) A and B only.
 - (4) B and C only.
 - (5) All A, B and C.
25. Following are few bio-resources.

- A - Paddy husk B - Saw dust
 C - Cow dung D - Swill

Of the above, the materials that can be directly used in biogas production are,

- (1) A and B only.
 - (2) A and C only.
 - (3) B and C only.
 - (4) B and D only.
 - (5) C and D only.
26. An environmental factor that has limited the use of new technology for agricultural development in Sri Lanka is the
- (1) changing day length.
 - (2) solar radiation.
 - (3) unexpected changes of rainfall.
 - (4) changing light intensity.
 - (5) wind direction.

27. A limitation of minimum land preparation is

- (1) low germination of seeds.
- (2) high soil erosion.
- (3) high soil compaction.
- (4) high evaporation.
- (5) high infiltration.

28. An implement used for inter-cultivation is the

- (1) disk harrow.
- (2) chopping hoe.
- (3) tine tiller.
- (4) moldboard plough.
- (5) disk plough.

29. Incorporation of organic matter to a sandy soil will

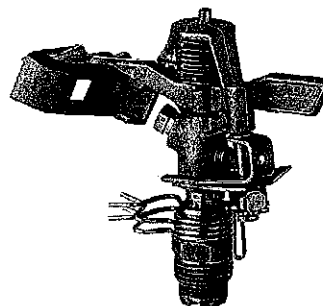
- (1) compact the soil.
- (2) increase wind erosion.
- (3) increase bulk density.
- (4) decrease the cation exchange capacity.
- (5) increase the water holding capacity.

30. Soil compaction is an issue in agricultural lands mainly due to the

- (1) use of agro-chemicals.
- (2) practice of mono-cropping.
- (3) use of animal driven implements.
- (4) use of heavy machinery.
- (5) use of saline water for irrigation.

31. The method of irrigation that uses the following equipment is

- (1) Sub-surface irrigation.
- (2) Basin irrigation.
- (3) Surface irrigation.
- (4) Flood irrigation.
- (5) Drip irrigation.



32. Following are some statements regarding basin irrigation.

- A - It requires less amount of water compared to sprinkler irrigation.
- B - It is commonly used in orchards.
- C - It is practiced in paddy cultivation.

Of the above, correct statement/s is/are

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

33. Select the activity suitable for increasing the soil drainage in a crop field.

- (1) Use of flood irrigation
- (2) Breaking the hardpan using subsoiler
- (3) Use of a tine tiller in secondary land preparation
- (4) Use of heavy machinery in land preparation
- (5) Practicing zero tillage

34. Consider the following statements.

A - Growing Azolla in a paddy field could reduce the application of urea.

B - Azolla contains *Anabaena azollae*, a nitrogen fixing cyanobacterium that could fix environmental nitrogen.

Of the above

- (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.

35. Consider the following statements.

Bio-char could be described as

A - a nitrogenous biomass obtained from appropriate sources to sustainably enhance the agricultural and environmental value of a soil.

B - a porous material that can help retain water and nutrients in the soil for the plants to take up as they grow.

C - an adsorbing material that may have the potential to immobilize heavy metals and pesticides.

Of the above, the correct statement/s is/are

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

36. Consider the following statements.

A - Sugarcane is a C3 plant.

B - Maize is a C3 plant.

C - Majority of the grass weeds in paddy fields are C4 plants.

D - The nutrient use efficiency in C4 plants is higher compared to that of C3 plants.

Of the above, the correct statements are

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

37. Callus differentiation of plant tissue is supported by the hormones

- (1) abscisic acid and auxins.
- (2) cytokinin and ethylene.
- (3) ethylene and gibberellic acid.
- (4) auxin and cytokinin.
- (5) abscisic acid and gibberellic acid.

38. Select the correct statement regarding crop protection.

- (1) Insecticides are the most widely used synthetic pesticide to paddy cultivation in Sri Lanka.
- (2) Resistance development in weeds is a major environmental problem due to continuous use of herbicides.
- (3) Integrated pest management techniques do not include use of synthetic pesticides.
- (4) Biological control agents are heavily used to control grass weeds in the paddy fields of Sri Lanka.
- (5) Use of biopesticides is the most common pest control technique in the global agriculture.

39. A herbicide can be best described as

- (1) a pesticide.
- (2) an inorganic chemical.
- (3) a plant growth inhibitor.
- (4) an environmental pollutant.
- (5) a chemical produced by multinational companies.

40. The bordeaux mixture is

- (1) a solution made out of copper hydroxide and salt.
- (2) a mixture of copper sulfate, lime and water.
- (3) used mainly to control bacterial infections in animals.
- (4) an organic substance that is used to control fungal diseases in crops.
- (5) an essential component of disease management techniques used in paddy.

41. Consider the following statements.

A - Insects use spiracles to breathe.

B - Pupa stage is an inactive stage of a life cycle of an insect.

C - The excreta of the earthworms is called the vermi-compost.

Of the above, the correct statement/s is/are

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

42. Poly-tunnels are more suitable for the up country of Sri Lanka because in upcountry the

- (1) atmospheric temperature is low.
- (2) rainfall is high.
- (3) relative humidity is high.
- (4) cloud cover is high.
- (5) wind damages to the crop is high.

43. The most suitable method for irrigation and fertigation in growing tomato in a poly-tunnel is

- (1) sprinkler irrigation.
- (2) flood irrigation.
- (3) drip irrigation.
- (4) sub-surface irrigation.
- (5) pot irrigation.

44. Of the following, select the characteristic that is **not** suitable for a good propagation medium.

- (1) Allows easy movement of roots within the container
- (2) Free of insects and diseases
- (3) Good aeration and drainage
- (4) Good water holding capacity
- (5) pH value 4.0 - 6.5

45. The growth regulator that increases the flower size of Geranium and accelerates flowering in Alpine violet is

- (1) gibberellic acid.
- (2) abscisic acid.
- (3) ethylene.
- (4) auxin.
- (5) cytokinin.

46. Farm animals are divided into two groups, namely, ruminants and non-ruminants. This grouping is done based on their

- (1) utility.
- (2) origin.
- (3) body size.
- (4) type of main product.
- (5) feeding habits and nutrition.

47. An example for a fodder grass is

- (1) Brachiaria. (2) Napier. (3) Pueraria. (4) Sorghum. (5) Acacia.

48. Following are three statements regarding incubation of chicken eggs.

A - During the process of incubation, candling should be done to remove unfertile eggs.

B - For a successful incubation, egg turning should be done 24 times a day.

C - Any fertile egg laid by a hen is suitable for incubation.

Of the above,

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

49. The estrus cycle of a cow can be divided into four stages, namely, proestrus, estrus, metestrus and diestrus. The ovulation usually occurs in

- (1) proestrus. (2) estrus. (3) metestrus.
(4) diestrus. (5) between proestrus and estrus.

50. Select the most correct statement on preservation of foods of animal origin.

- (1) Both meat and milk are preserved to enhance their nutritional quality.
(2) Preservatives must be always added to preserve meat and milk.
(3) Spray drying of milk is a sterilization process.
(4) Both pasteurization and sterilization kill all micro-organisms in milk.
(5) Any preservation technique will always reduce the nutritional value of meat and milk.

* * *

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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
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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, 2021(2022)
கல்விப் பொதுத் தராதரப் பத்திர (உயர் தர)ப் பரீட்சை, 2021(2022)
General Certificate of Education (Adv. Level) Examination, 2021(2022)

කෘෂි තාක්ෂණවේදය II
விவசாயத் தொழினுட்பவியல் II
Agro Technology II

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

Index No. :

Instructions:

- * This question paper consists of 10 questions in 09 pages.
- * This question paper comprises of Parts A, B and C.
- The time allotted for all three parts is three hours.

Part A - Structured Essay (2 - 8 pages)

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

Part B and C - Essay : (page No. 9)

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

For Examiner's Use only

Part	Question No.	Marks
A	1	
	2	
	3	
	4	
B	5	
	6	
	7	
C	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
column1. (A) State **two** environmental benefits of technological interventions in agriculture.

(1)

(2)

(B) Write **one** source of information that can be used in starting a new business for each of the following categories.

(1) Printed media :

(2) Electronic media :

(C) State **two** reasons for **not** having a rapid increase of blood sugar level after consumption of certain carbohydrate-rich foods.

(1)

(2)

(D) State **two** benefits of consumption of leafy vegetables.

(1)

(2)

(E) List **four** physical changes that can be observed in spoiled food.

(1)

(2)

(3)

(4)

(F) State **two** deficiency symptoms of vitamin A in humans.

(1)

(2)

(G) State **two** examples of foods considered to be in the apex of the food pyramid.

(1)

(2)

(H) State **two** ways how cultivation of the same crop by the majority of farmers in the same season could affect the national food security.

(1)

(2)

Do not
write
in this
column

- (I) (i) State the
- three**
- major climatic zones in Sri Lanka and their average annual rainfall.

Climatic Zone**Average Annual Rainfall (mm)**

(1)

(2)

(3)

- (ii) How many agro-climatic zones are there in Sri Lanka?

- (J) Write one traditional preservation method used for each of the following agricultural produce.

Agricultural Produce**Traditional preservation method**

(1) Paddy

(2) Fish

(3) Milk

(4) Meat

Q. 1

100

2. (A) Germination percentage is an estimate of the viability of seeds. A study was conducted to evaluate the germination percentage of legume seeds and results are shown in the table given below.

Days from the commencement of the study	Total viable seeds in the Petri dish	Number of germinated seeds
0	50	0
2	48	35
3	42	38
4	41	39
5	41	37
6	40	38

- (i) Write a suitable equation to calculate the seed germination percentage.

.....

.....

- (ii) Calculate the seed germination percentage at the end of the 6
- th
- day of the study period.

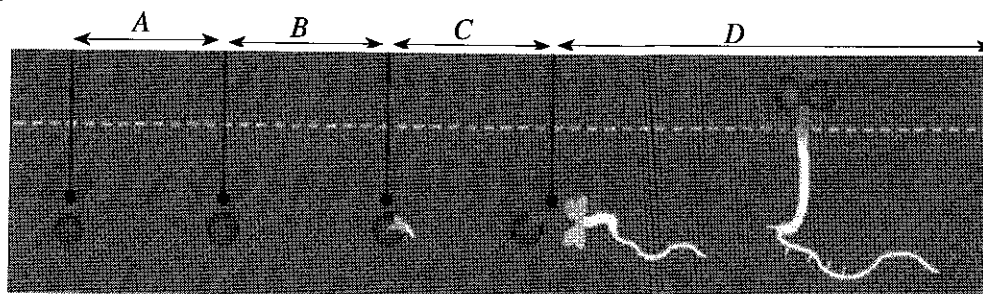
.....

.....

- (iii) State an internal factor that affects the legume seed germination.

.....

- (B) Seed germination stages A, B, C and D of a legume crop are illustrated in the figure given below.



Do not
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column

State the germination stages given in the diagram.

A - B -
C - D -

- (C) List **two** important factors to be considered in selecting suitable plants for a medicinal garden.

(1)
(2)

- (D) Name **three non-traditional** structures that can be introduced to a medicinal garden.

(1)
(2)
(3)

- (E) Name **one** appropriate drying method that can be used for medicinal plants/products.

.....

- (F) State **two** examples for modern biotechnological techniques used in commercial agriculture.

(1)
(2)

- (G) State whether the following enterprises are production-oriented or service-oriented by deleting the **incorrect** answer given in brackets.

- (1) Conducting training programs to rice farmers in order to increase the rice production.
(production-oriented/service-oriented)
(2) Operating a fruit processing factory to produce fruit juices.
(production-oriented/service-oriented)

- (H) State **two** examples for service-oriented businesses related to bioresources technology.

(1)
(2)

Do not
write
in this
columnQ. 2
100

(I) State the **four** main steps of successful management of a business.

- (1)
- (2)
- (3)
- (4)

(J) State the human health risk associated with each of the following technological advancements.

(1) Use of food additives:

.....

.....

(2) Use of plant-based pesticides in agriculture:

.....

.....

3. (A) Use of appropriate technology is important in commercial crop production. List **two** appropriate technologies used in commercial water lifting or water pumping for agriculture without burning fossil fuels.

- (1)
- (2)

(B) Name an implement suitable for each stage of land preparation given below.

- (1) Primary land preparation
- (2) Secondary land preparation
- (3) Inter-cultivation

(C) State **three** major objectives of primary land preparation.

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

(D) State **two** suitable biological soil conservation methods used in steep lands.

- (1)
- (2)

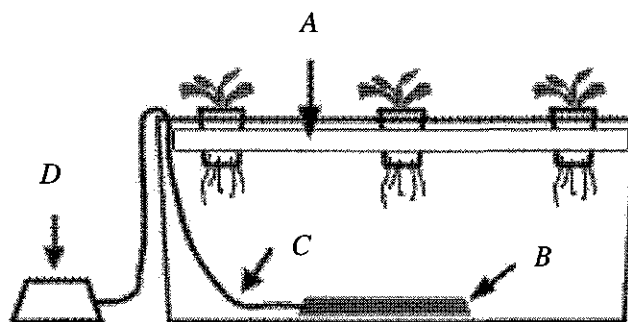
(E) Write **three** characteristics of a plant that is naturally grown in an ill-drained soil.

(1)

(2)

(3)

(F) Name the parts labelled as A, B, C and D of a hydroponic system illustrated below.



A - B -

C - D -

(G) Name **two** commonly used hydroponic systems other than the system shown in 3 (F) above to grow vegetables.

(1)

(2)

(H) State **two** characteristics to differentiate between C3 plants and C4 plants.

(1)

(2)

(I) State **two** advantages and **two** disadvantages of vegetative propagation of plants.

Advantages		Disadvantages	
(1)		(1)	
(2)		(2)	

Do not
write
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column

Q. 3

100

4. (A) Perennial weeds in an agricultural land are difficult to control compared to annual weeds. State **two** reasons that contribute to the survival of the perennial weeds.

Do not
write
in this
column

(1)

(2)

- (B) State **two** methods used by farmers in Sri Lanka to control infestation of fall army worm in maize.

(1)

(2)

- (C) What is meant by "integrated plant disease management"?

.....

.....

- (D) Name **two** growing media used in protected agriculture and state an example for a crop or plant suitable to be grown in each of the media.

Growing media		Example (crop or plant)	
(1)		(1)	
(2)		(2)	

- (E) State **three** major factors that could determine the optimum stage of harvesting cut roses.

(1)

(2)

(3)

- (F) State **three** main factors affecting the growth and flowering of cut roses.

(1)

(2)

(3)

(G) Following is a list of few feedstuffs available in Sri Lanka.

Soybean meal, rice bran, coconut poonac, paddy straw, maize, fresh grass, fish meal and shell grit powder.

Of the above, state **one** feedstuff for each of the following feed categories.

Feed category	Feedstuff
(1) Energy supplement	:
(2) Plant protein supplement	:
(3) Mineral supplement	:
(4) Dry forage feed	:

(H) Newly hatched chicks are culled before being sent to commercial farms. State **three** criteria used to select chicks for a commercial layer farm.

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

(I) Name **two** hormones that are used for embryo transfer process in cattle.

- (1)
- (2)

(J) State **three** main differences between pasteurization and sterilization of milk.

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

* *

Do not
write
in this
column

Q. 4

100

ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව
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 கல்விப் பொதுத் தராதரப் பத்திர (உயர் தரப் பரீட்சை, 2021(2022)
 General Certificate of Education (Adv. Level) Examination, 2021(2022)

කෘෂි තාක්ෂණවේදය II
 விவசாயத் தொழினுட்பவியல் II
 Agro Technology II

18 E II

Essay

- * Select two questions from each of the Parts B and C and answer four questions only.
- * Each question carries 150 marks.

Part B

1. (i) Describe the uses of internet in successful management of a business.
 (ii) Briefly describe the use of food composition tables for the formulation of a balanced diet.
 (iii) Briefly explain the soil formation process.
2. (i) Describe the problems associated with assuring national food security of a country.
 (ii) Describe the process of preparing herbal porridge using one or few medicinal herbs, highlighting the steps to maintain the quality of the product.
 (iii) Explain potential uses of recombinant DNA technology in food and agriculture.
3. (i) Explain the importance of using improved vegetative propagation methods in fruit crops in Sri Lanka.
 (ii) Describe the post harvest handling and processing practices of a selected spice grown in Sri Lanka.
 (iii) Describe the management methods suitable to ensure sustainable use of aquatic ecosystems.

Part C

4. (i) Describe the advantages of row planting of paddy compared to broadcasting.
 (ii) Explain soil acidity, alkalinity and their impact on crops.
 (iii) Describe the selection and transportation of day-old chicks to be dispatched to a commercial layer farm.
5. (i) Describe the establishment of a hydroponic system for a selected crop.
 (ii) Outline a suitable integrated weed management program for lowland rice cultivation in Sri Lanka.
 (iii) Explain a suitable feeding program for calves from birth upto one year old.
6. (i) Describe the suitable integrated plant nutrient management methods for an upcountry vegetable farm.
 (ii) Explain the factors that need to be considered when preparing cut flowers and foliage for the export market.
 (iii) Explain the basic principles of eco-friendly crop production.

* * *

