

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
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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)

පෞර්ව සම්පත් තාක්ෂණවේදය I
உயிர் வளத் தொழினுட்பவியல் I
Bio Resource Technology I

19 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.

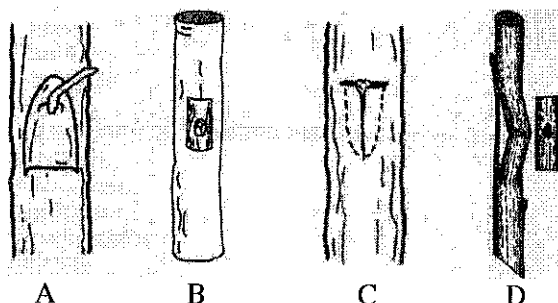
10. Consider the following statements.

- 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.** Eco-tourism is different from conventional tourism because eco-tourism
- (1) minimizes the mass consumption.
 - (2) is popular in developing countries.
 - (3) gives least priority to income generation.
 - (4) always exist in association with natural ecosystems.
 - (5) prioritizes individual tourists than group tourists.

27. Factors that determine the strength of timber are
- (1) tree species, grain pattern and colour.
 - (2) grain pattern, density and colour.
 - (3) density, tree species and maturity.
 - (4) grain pattern, tree species and maturity.
 - (5) tree species, colour and age.
28. Select the most prominent benefit that can be gained by the use of an appropriate timber sawing technique.
- (1) Minimize timber splitting.
 - (2) Increase timber strength.
 - (3) Improve grain pattern.
 - (4) Lessening preservation requirements.
 - (5) Maximize timber yield.
29. Consider the following statements.
- A - All natural forms in a forest ecosystem are bio resources.
 B - All living beings in a forest ecosystem are bio resources.
 C - Guano can be considered as a bio resource.
- 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.
30. Consider the following statements about timber.
- A - Chemical and physical methods are used for timber seasoning.
 B - Graveyard test is done to determine the need of preservation.
 C - Wood preservatives are effective only when applied on dry timber.
- 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.
31. Select the bio resource that is exclusively extracted from natural forests.
- (1) Bee honey
 - (2) Teak (*Tectonia grandis*) timber
 - (3) Gal siyambala (*Dialium ovoideum*) fruits
 - (4) Kitul (*Caryota urens*) sap
 - (5) Edible mushrooms
32. Consider the following statements.
- A - Papain is a proteinase found in plant exudates that could be used for tenderization of beef.
 B - The immature papaya fruits have a latex containing papain.
- 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.

33. Consider the following statements.

A - Coconut vinegar is a product manufactured from coconut sap.

B - Coconut vinegar production process involves the fermentation of sugar into ethanol by *Saccharomyces cerevisiae*.

C - Coconut vinegar production process involves conversion of ethanol into acetic acid by *Acetobacter aceti*.

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

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

34. Organic fertilizer is best described as

- (1) a source of nutrients with a natural origin.
(2) a fertilizer that provides all macro and micro nutrients.
(3) a synthetic material that provides all macro and micro nutrients.
(4) a source of nutrients with a plant or animal origin.
(5) a synthetic product processed locally to suit a farming system.

35. An example for a modified landscape is

- (1) an urban lake. (2) a rubber plantation. (3) a polytunnel.
(4) an urban water park. (5) an apartment building.

36. The most abundant acid found in acid rains is

- (1) Nitric. (2) Hydrochloric. (3) Sulfuric.
(4) Phosphoric. (5) Oxalic.

37. Select the correct statement with regard to yoghurt production.

- (1) Whole milk is usually used.
(2) Sugar, gelatin and preservatives should be added.
(3) Milk is fermented by yeast.
(4) During the production process, lactose is fermented to lactic acid.
(5) Store the mixture in a refrigerator soon after adding the starter culture.

38. Consider the following statements.

A - Bacterial fermentation is used in producing vinegar.

B - Lactic acid, acetic acid and CO₂ produced due to fermentation are useful in producing some of the fermented foods.

C - Yoghurt usually contains lactose.

D - The nutrient composition of fermented milk products is similar to that of milk.

Of the above, the correct statements are

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

39. Select the **incorrect** statement about the multi-day fishing vessels used in Sri Lanka.

- (1) Propel through water by sails.
(2) Contain telecommunication equipment.
(3) Contain freezer cabins for fish storage.
(4) Eco-sounders help to find the fish stocks.
(5) Gill nets and trawl nets are the main fishing gears.

40. Consider the following statements.

A - A minimum of 60 cm gap between the bottom of a lake and the cage is maintained in cage fish culture.

B - The natural water circulation around the cage should be higher.

Of the above

- (1) Both A and B are correct.
 - (2) A is correct but B is incorrect.
 - (3) A is incorrect but B is correct.
 - (4) A is correct and it is further explained by B.
 - (5) B is correct and it is further explained by A.
41. Select the main difference between fish pens and fish cages.
- (1) Cages are mainly used for fish while pens are often used for prawns.
 - (2) Natural foods are the main source of food in cages while pens are maintained with artificial food.
 - (3) Cages are always floating and pens are fixed to the bottom of the water body.
 - (4) Higher stocking densities can be used in cages compared to that of pens.
 - (5) Nylon nets are often used to make pens, which is not the case in cages.

42. The highest use of absorbents in ornamental fish industry is in

- (1) breeding.
- (2) export.
- (3) harvesting.
- (4) cleaning.
- (5) spawning.

43. Following are few materials/equipments used in different stages of aquarium fish industry.

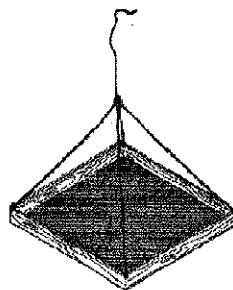
- A - Polythene bags
- B - Styrofoam boxes
- C - Aerators
- D - Sedatives
- E - Antibiotics

The materials/equipment used in ornamental fish export trade is/are

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

44. The given structure is used to

- (1) aerate a fish pond.
- (2) offer feed to a fish pond.
- (3) weigh the harvested fish.
- (4) catch the fish from a pond.
- (5) remove dead fish from a pond.



45. Of the following aquatic species, the bottom feeder is

- (1) bivalve.
- (2) prawn.
- (3) thilapia.
- (4) catla.
- (5) rohu.

46. An activity that would fit best with the scope of a community-based organization is to

- (1) maintain a COVID-19 quarantine centre.
- (2) implement a national level irrigation project.
- (3) operate a turtle hatchery.
- (4) operate a saw mill.
- (5) run a gem lapidary.

47. Select the direct source function of bio-diversity.

- | | | |
|--------------------|---------------------------------------|------------------|
| (1) Pollination | (2) Nitrogen fixing | (3) Soil genesis |
| (4) Air regulation | (5) Maintenance of hydrological cycle | |

48. An example for an indigenous species is

- | | | |
|----------------------|------------------------|------------------|
| (1) pinus. | (2) thilapia. | (3) blue magpie. |
| (4) snake-head fish. | (5) golden palm civet. | |

49. A district in Sri Lanka where evergreen rainforests are found is

- | | | |
|------------------|-----------------|----------------|
| (1) Hambantota. | (2) Jaffna. | (3) Ratnapura. |
| (4) Nuwaraeliya. | (5) Kurunegala. | |

50. The minimum contribution through agro-forestry is for

- | | | |
|-------------------------|--------------------------------|--------------------|
| (1) soil conservation. | (2) biodiversity conservation. | (3) food security. |
| (4) climate regulation. | (5) recreation. | |

* * *

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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)

ජෛව සම්පත් තාක්ෂණවේදය II
உயிர் வளத் தொழினுட்பவியல் II
Bio Resource Technology II

19 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 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
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column

1. (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
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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.

.....

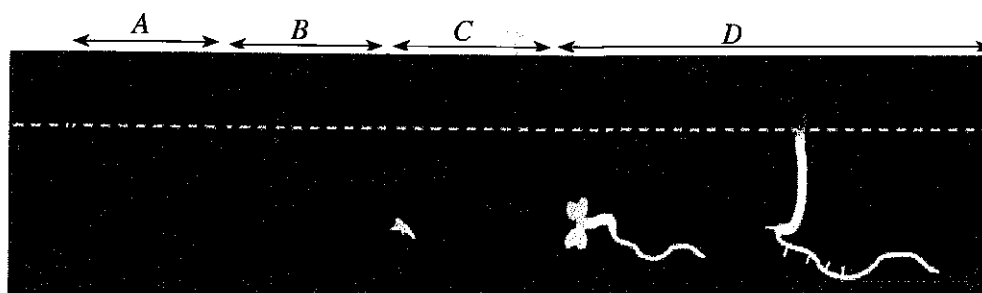
.....

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

.....

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



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
column(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:

-
-

Q. 2

100

3. (A) State **two** approaches that ensure sustainable use of bio resources in a natural forest.

- (1)
- (2)

(B) Write **two** important factors that should be considered in a feasibility study of an ecotourism project.

- (1)
- (2)

(C) State **two** characteristics of wood used as fuel.

- (1)
- (2)

(D) Write **two** traits of timber which directly influence its strength.

- (1)
- (2)

(E) State **two** commercial uses of timber mill waste.

- (1)
- (2)

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column

(F) State an example for each of the following uses of **non-timber** forest resources.

(1) Non-alcoholic beverages:

(2) Rural housing construction:

(G) List **two** external factors that affect the existence of wildlife.

(1)

(2)

(H) Name **two** tree species popular in commercial forest plantations in Sri Lanka.

(1)

(2)

(I) Biomass energy is one of the important sources of energy at present. Name **two** methods of biomass energy production.

(1)

(2)

(J) There are 36 biodiversity hotspots identified throughout the world.

(i) State **two** criteria used to declare an area or a region as a biodiversity hotspot.

(1)

(2)

(ii) Name **two** biodiversity hotspots in the Asian region.

(1)

(2)

(iii) Name a flagship species in Sri Lanka.

.....

(K) Write **two** main objectives of establishing an environmental landscape design.

(1)

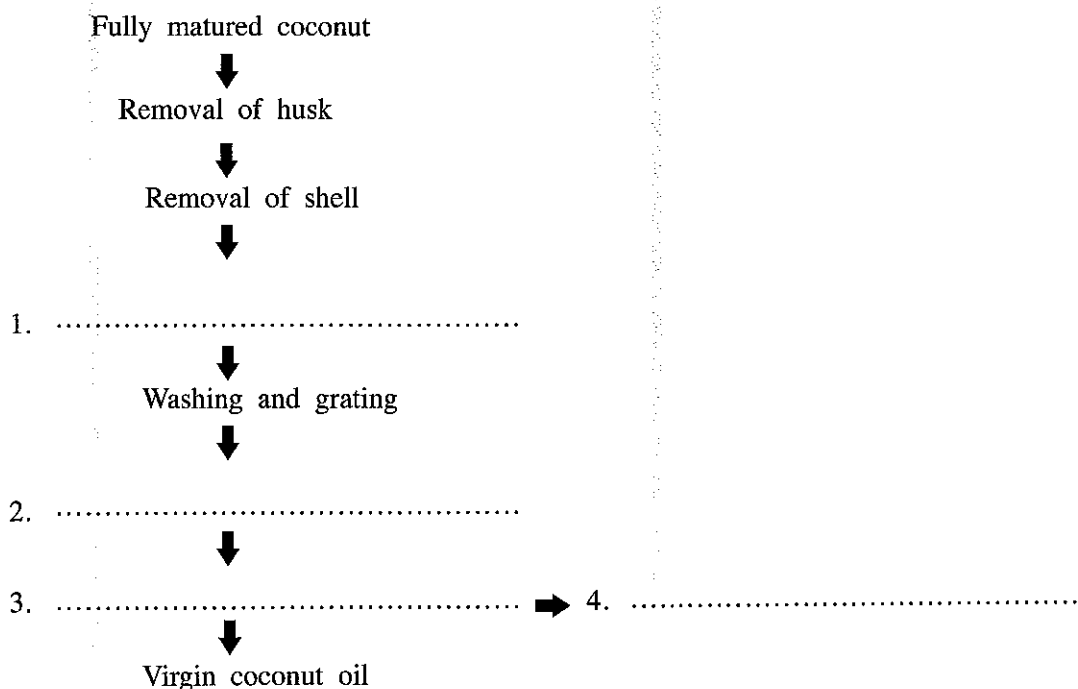
(2)

Q. 3

100

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4. (A) Manufacturing procedure of virgin coconut oil is given below. Complete the process flow chart by filling in the blanks.



- (B) State **two** major differences between normal coconut oil and virgin coconut oil.

	Normal coconut oil	Virgin coconut oil
(1)
(2)

- (C) State **two** differences between yoghurt and curd.

- (1)
- (2)

- (D) State **one** reason for using each of the following substances in producing wine.

- (1) Sodium metabisulfite :
- (2) *Saccharomyces cerevisiae* :

- (E) Sea grasses are one of the important plant resources found in oceans. List **two** ecological importance of sea grasses.

- (1)
- (2)

Do not
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(F) Integrated poly-culture is a technique used to maximize the resource use efficiency in aquaculture.

(i) List **two** major components that are available in integrated poly-culture systems in aquaculture.

(1)

(2)

(ii) State **one** benefit for each of the components of a poly-culture system given below.

(1) Fish :

(2) Farm animals :

(3) Crop :

(iii) State **two** factors to be considered in selecting a site for an aquaculture pond.

(1)

(2)

(iv) Sri Lanka earns a considerable amount of foreign exchange through ornamental fish trade. State **two** basic qualities of ornamental fishes that would be selected for export.

(1)

(2)

(G) State **two** benefits a person would get by being a member of a community-based organization.

(1)

(2)

(H) State **two** methods that can be used to improve the fertilizer use efficiency of urea.

(1)

(2)

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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ජෛව සම්පත් තාක්ෂණවේදය II

உயிர் வளத் தொழினுட்பவியல் II

Bio Resource Technology II

19 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) Comment on the following statement.
 "Manufacturing of compost from agricultural waste is an example for bio resource utilization"
 (ii) Describe a method to estimate the timber volume of a large tree.
 (iii) Explain how integrated plant nutrient management could help in minimizing nutrient losses in paddy fields.
5. (i) Explain the existing technologies to protect the agro-biodiversity in Sri Lanka.
 (ii) Describe the different aspects to be considered when selecting plant species for a landscape design.
 (iii) Describe various industrial uses of retting technique.
6. (i) Explain the importance of wildlife for the sustainable existence of the world.
 (ii) Describe the industrial scale manufacturing procedure of Ribbed Smoked Sheet (RSS) rubber in Sri Lanka.
 (iii) Explain the incubation procedure of Artemia in ornamental fish industry.
