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 இலங்கைப் பரீட்சைத் 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  
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81 E I, II

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 கல்விப் பொதுத் தராதரப் பத்திர (சாதாரண தர)ப் பரீட்சை, 2015 டிசெம்பர்  
 General Certificate of Education (Ord. Level) Examination, December 2015

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

පැය තුනයි  
 மூன்று மணித்தியாலம்  
 Three hours

## Agriculture and Food Technology I

## Note :

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

- Out of the following, in which crop is grown in the largest area in Sri Lanka?  
 (1) Tea (2) Coconut (3) Rubber (4) Paddy
- Nutritional requirements of a person vary with their activities. Out of the following which person requires the highest amount of energy generating food?  
 (1) School children (2) Men doing heavy work  
 (3) Breast feeding mothers (4) Young ladies
- The main reason for the self sufficiency of Sri Lanka during the ancient King's reign was,  
 (1) practicing high technology in irrigation.  
 (2) cultivating hybridized crops.  
 (3) producing pest and disease resistant varieties of crops.  
 (4) chemical fertilizer free crop cultivation.
- The role of tanks is vital for agriculture in Sri Lanka. The structure which used to remove excess water from a tank is,  
 (1) salapanawa. (2) biso-kotuwa. (3) sluice gate. (4) spillway.
- A farmer selected seeds to start the cultivation. He soaked the seeds in water about 12 hours and planted them in the field. By soaking he expected to  
 (1) control diseases. (2) control insects.  
 (3) induce germination. (4) acquire drought resistancy.
- Relative humidity of the atmosphere is a factor that affects crop cultivation. When relative humidity of the atmosphere increased,  
 (1) transpiration rate of plants is increased. (2) plant diseases and pest damages are increased.  
 (3) water absorption of plant roots is increased. (4) storage period of cereals is increased.
- Due to the influence of various factors, parent rock is withered and parent material is formed. In which horizon (layer) of the soil profile, this parent material exists?  
 (1) In horizon A (2) In horizon B (3) In horizon C (4) in horizon O
- A student planted a chilli seedling in a pot and added surplus water to it. The water that retains in the soil after draining excess water from the hole in the bottom of the pot is/are  
 (1) capillary water and gravitational water. (2) hygroscopic water and gravitational water.  
 (3) hygroscopic water and capillary water. (4) hygroscopic water only.
- A farmer applied a nitrogen fertilizer to the vegetable cultivation which was one month old, and irrigated. After a while a heavy rain occurred. He thought that all the fertilizer he added was washed out and he was frustrated. But after few days he observed that the crop was grown well and he realized that all the fertilizers were not washed out. The reason for this incidence is  
 (1) soil cation exchange. (2) soil structure.  
 (3) soil pH. (4) soil texture.

[see page two]

10. The repellent plants that could be used to minimize pest damages in environmental friendly crop cultivation are  
 (1) winged bean and green gram. (2) chrysanthemum and sun flower.  
 (3) balsam and Ixora. (4) brinjal and okra.
11. A student obtained seeds from a ripped tomato fruit and planted them without any treatment, but they were not germinated during the relevant period. The reason for this would be  
 (1) hard seed coats. (2) impermeable seed coats.  
 (3) presence of inhibitors. (4) dormancy of embryos.
12. In an experiment carried out to determine germination percentage by Petri dish method, 80 seeds were used. Out of those, 60 were germinated. The germination percentage of this seed sample was,  
 (1) 45%. (2) 60%. (3) 75%. (4) 85%.
13. Three statements regarding the selection of scion for budding plants are listed below.  
 A - should be obtained from a mother plant with good quality.  
 B - should be obtained from a plant belongs to the family of the stock plant.  
 C - should be obtained from a plant with a strong root system.  
 Out of the above, the correct statements are,  
 (1) A and B. (2) A and C. (3) B and C. (4) All A, B and C.

14. A table on land preparation implements is shown below.

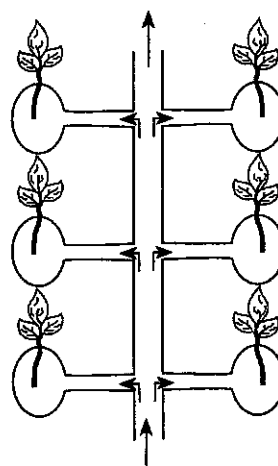
	Primary tillage implements	Secondary tillage implements	Inter cultivation implements
A	mamoty	three point cultivator	disc harrow
B	hand fork	disc plough	Japanese rotary weeder
C	trampling fork	disc harrow	chopping hoe
D	disc plough	mould board plough	disc harrow

The row that all the implements mentioned correctly is

- (1) A. (2) B. (3) C. (4) D.
15. By sending properly processed crops harvests to the market, losses are reduced and farmers can get higher income. Which is the correct order of steps of sending harvest from farm to market?  
 (1) cleaning and selecting → grading → packing → transportation  
 (2) grading → cleaning and selecting → packing → transportation  
 (3) selecting and grading → cleaning → transportation → packing  
 (4) cleaning → transportation → grading → packing
16. The objectives of secondary tillage are  
 (1) turning soil and pulverising. (2) pulverising and levelling.  
 (3) controlling weeds and pulverising. (4) turning soil and controlling weeds.
17. The respective order of recommended planting beds for budded mango plants and potatoes are  
 (1) raised beds and sunken beds. (2) ridge and furrow beds and sunken beds.  
 (3) sunken beds and single planting holes. (4) single planting holes and ridge and furrow beds.
18. The nurseries prepared in order to minimize root damages of seedling when transplanting is  
 (1) lowland nurseries. (2) dapog nurseries. (3) nursery beds. (4) neridoko nurseries.
19. What is the respective order of crops which are suitable for quadruple crop rotation method?  
 (1) chillies, okra, maize and cowpea. (2) maize, green gram, sweet potato and okra.  
 (3) banana, cowpea, manioc and winged bean. (4) papaw, chillie, lufa and maize.
20. The most suitable crops to grow far from the house and closer to the fence under multi storeyed cropping system are  
 (1) cloves, pepper and banana. (2) lemon, pomegranate and guava.  
 (3) gotukola, brinjal and papaw. (4) jak, durian and mango.
21. It is recommended that coir dust to be steamed before use as a planting medium in soilless culture. The reason for this is  
 (1) to improve drainage. (2) to improve aeration.  
 (3) to eliminate pathogens. (4) to remove unfavourable chemicals.

22. The choice that includes broad-leaved weeds **only** is,  
 (1) wedelia, mimosa, eichhornia. (2) illuk, gandapana, monarakudumbiya.  
 (3) thunessa, kalanduru, mana. (4) maruk, bajiri, pathenium.
23. The leaves of a banana plant were small and closed to each other and growth was retarded. The reason for this would be a  
 (1) bacterial infection. (2) virul infection.  
 (3) fungal infection. (4) nematodal infection.
24. The main factor for soil erosion in Sri Lanka is  
 (1) waves of the sea. (2) moving water.  
 (3) wind with high velocity. (4) animal activities.
25. According to the physical classification of land use, which is recommended to grow in very steeply lands?  
 (1) plantation crops. (2) pasture grass. (3) forest cultivations. (4) fruit crops.
26. Out of the following fertilizers, the incomplete fertilizer mixture is,  
 (1) basal fertilizer mixture used in paddy cultivation.  
 (2) top dressing mixture used in paddy cultivation.  
 (3) Alen Cooper's mixture.  
 (4) Albert's mixture.

27. The irrigation method shown in this diagram is  
 (1) furrow irrigation.  
 (2) border irrigation.  
 (3) ring irrigation.  
 (4) basin irrigation.




28. The farm animal that could be reared successfully with low expenditure, in shrubby lands of the dry zone in Sri Lanka is  
 (1) buffalo. (2) goat. (3) fowl. (4) pig.
29. In the following table, type of farm animals, their common diseases and causal agents are mentioned.

	Farm animal	Disease	Causal agent
A	Cattle	Mastitis	Fungus
B	Fowl	Raniket	Virus
C	Cattle	Foot and mouth disease	Bacteria
D	Fowl	Anthrax	Virus

The correct row of the above is

- (1) A. (2) B. (3) C. (4) D.
30. Several statements regarding the objectives of having 60 days dry period for cows are mentioned below.  
 A - To acquire required nutrition for foetus.  
 B - Facilitating the calving of next calf.  
 C - Avoiding feebleness of cow.  
 Out of these, the correct statements are  
 (1) A and B. (2) A and C. (3) B and C. (4) all A, B and C.
31. The conserved cattle food prepared by cutting grasses at the beginning of flowering stage, drying them in air to retained the green colour is  
 (1) hay. (2) silage. (3) fodder grass. (4) pasture grass.

32. To control shoot and fruit borer of brinjal, the recommended control measure is  
 (1) spraying contact insecticides. (2) spraying soap water.  
 (3) spraying systemic insecticide. (4) introducing red ants.
33. Out of the following groups of food, the group that contains highest amount of vitamin A is  
 (1) nelli, orange, papaw and mango.  
 (2) tomato, green gram, soya bean and kurakkan.  
 (3) ground nut, rice with bran, pineapple and fish liver.  
 (4) carrot, papaw, egg yolk and green leaves.
34. In which answer the correct steps of producing curd are stated?  
 (1) filtering → pasteurization → adding rennet → putting into containers → keeping for fermentation  
 (2) adding rennet → filtering → pasteurization → putting into containers → keeping for fermentation  
 (3) pasteurization → filtering → putting into containers → adding rennet → keeping for fermentation  
 (4) filtering → adding rennet → pasteurization → putting into containers → keeping for fermentation
35. The diagram depicts a drainage system used to remove excess water from a cultivated land. This system is known as  
 (1) grid iron.  
 (2) parallal.  
 (3) herring bone.  
 (4) kondol drains.
- 
36. The cation exchange capacity of four soil samples named as A, B, C and D are 20, 24, 30, 35 milli equivalents / 100 grams of soil respectively. Out of these the most fertile soil is,  
 (1) A. (2) B. (3) C. (4) D.
37. The most suitable stage for harvesting papaw is the stage that the,  
 (1) peel colour turns from green to yellow.  
 (2) peel get shining appearance.  
 (3) peel get cracked appearance.  
 (4) area around the stalk of the fruit turns green to yellow.
38. Which percentage of body weight of a calf that should be fed as milk, when rearing separately from its mother?  
 (1) 6% (2) 10% (3) 15% (4) 18%
39. The characteristics of a litter used in deep litter system of poultry management are exist as  
 (1) dusty form and should absorb moisture.  
 (2) larger particles and should have sharp edges.  
 (3) smaller particles and should not be a food of poultry.  
 (4) smaller particles and should be a food of poultry.
40. A student purchased a packet of milk from the market. It was indicated as UHT on the label and instructed to keep in a refrigerator after open it. The packet contains  
 (1) pasteurized milk. (2) sterilized milk. (3) unpreserved milk. (4) skimmed milk.

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

### Agriculture and Food Technology II

\* Answer five questions only, selecting the first question and four others.

- In order to get high profit margin from agricultural enterprises, it is important to pay more attention to sustainability of land and on effective management practices in crop cultivation and animal husbandry.
  - Write **two** advantages of basic land preparation in crop cultivation.
  - (a) What is 'soil erosion'?  
(b) Write **two** agricultural methods used in soil conservation.
  - (a) What is meant by irrigation in crop cultivation?  
(b) Name **two** surface irrigation methods used in crop cultivation.
  - Write **two** methods that would be followed in soil water conservation.
  - (a) Mention **two** factors required for seed germination.  
(b) What is 'seed dormancy'?
  - (a) Name an insect pest that damages commonly to cucurbitaceae fruits.  
(b) Explain its damage done to the above fruits.
  - Name **two** dairy cattle breeds recommended to rear in the dry zone of Sri Lanka.
  - Name **two** milk products that are produced by using micro-organisms.
  - (a) Name a common bacterial disease in poultry.  
(b) Write **two** symptoms of that disease.
  - (a) Write **two** advantages of rearing poultry in deep litter system.  
(b) Write **two** food substances that could be added to provide protein in poultry rations.
- Producing new plants by using other parts of the plant excluding seeds is vegetative propagation.
  - Write **four** advantages of vegetative propagation.
  - Mention **two** characteristics of a plant that could be used as a stock plant.
  - Describe wedge grafting procedure of a mango seedling, with labelled diagrams.
  - Mention **two** substances that are used to induce rooting of stem cuttings.
- Weed control is essential for successful crop cultivation.
  - (a) Mention **four** common characteristics of weeds.  
(b) Write **four** damages caused by weeds in crop cultivation.
  - Write **two** advantages of integrated weed control.
  - Describe briefly:
    - Alien invasive weeds
    - Contact weedicides

4. When applying fertilizer to the crops, they are usually applied to the soil, while sometimes applied them as foliar applications in liquid form.
- (i) Mention **two** methods of applying chemical fertilizers to the soil in crop cultivation.
  - (ii) Write **four** measures that could be taken to increase the efficiency of chemical fertilizer added to the soil.
  - (iii) (a) Explain what is 'direct fertilizer' and 'mixed fertilizer'. State **one** example for each of them.  
(b) Name **two** natural liquid fertilizers that could be prepared domestically.
5. Plant diseases could be diagnosed on the basis of the symptoms shown by the plants.
- (i) (a) Write **four** common symptoms of fungal diseases in crops.  
(b) Name **two** fungal diseases of paddy.
  - (ii) Mention **four** preventive methods that could be used to get rid of plant diseases.
  - (iii) (a) Name a common disease found in nursery stage of solanaceae crops.  
(b) Mention **two** symptoms of that disease.  
(c) State **two** control measures that could be taken to prevent that disease.
6. Various cropping systems are practiced in order to obtain high yields in crop cultivation.
- (i) (a) What is 'integrated farming'?  
(b) Mention **four** advantages of integrated farming.
  - (ii) Mention **four** importance of agro forestry.
  - (iii) (a) Mention **two** advantages of growing crops under controlled environment.  
(b) Name **two** types of houses (structures) that are used in crop cultivation under controlled environment.
7. High profits could be obtained by proper management practices in animal husbandry.
- (i) (a) What is meant by 'artificial insemination' in cattle management?  
(b) Mention **four** advantages of artificial insemination.
  - (ii) (a) Write **four** advantages of culling in poultry management.  
(b) Mention **four** characteristics of poultry eggs which are suitable for incubation.
  - (iii) Mention
    - (a) the causal organism
    - (b) **two** symptoms
    - (c) **two** control measuresof coccidiosis in fowl.

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