

සියලු ම හිමිකම් ඇවිරිණි / முழுப் பதிப்புரிமையுடையது / All Rights Reserved

නව/පැරණි නිර්දේශය - புதிய/பழைய பாடத்திட்டம் - New/Old Syllabus


 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  
 இலங்கைப் பரීட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம்

අධ්‍යයන පොදු ඝනකික පත්‍ර (උසස් පෙළ) විභාගය, 2020  
கல்விப் பொதுத் தராதரப் பத்திர (உயர் தர)ப் பரீட்சை, 2020  
General Certificate of Education (Adv. Level) Examination, 2020

කෘෂි තාක්ෂණවේදය I  
விவசாயத் தொழில்நுட்பவியல் I  
Agro Technology 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.

- The major field of soft technology is
  - Nanotechnology.
  - Biotechnology.
  - Industrial technology.
  - Food technology.
  - Information technology.
- The major atmospheric pollutant that is generated from agricultural activities is
  - CH<sub>4</sub>
  - CO<sub>2</sub>
  - NO<sub>2</sub>
  - N<sub>2</sub>O
  - CFC
- The basement of the food pyramid represents the required amount of
  - fat for a balanced diet.
  - proteins for a balanced diet.
  - vitamins for a balanced diet.
  - minerals for a balanced diet.
  - carbohydrates for a balanced diet.
- Select the correct formula that is used to calculate the Body Mass Index (BMI) of an individual.
  - $BMI = \frac{\text{Height of a person (cm)}}{[\text{Weight of the person (kg)}]^2}$
  - $BMI = \frac{\text{Height of a person (cm)}}{\text{Weight of the person (kg)}}$
  - $BMI = \frac{\text{Weight of a person (kg)}}{[\text{Height of the person (m)}]^2}$
  - $BMI = \frac{\text{Weight of a person (kg)}}{\text{Height of the person (m)}}$
  - $BMI = \frac{\text{Weight of a person (kg)}}{[\text{Height of the person (cm)}]^2}$
- The macro nutrients in food mainly contribute to
  - prevention from diseases.
  - successful reproduction.
  - growth and development.
  - maintaining a healthy body.
  - improve brain function.

6. Consider the following statements.  
A - Oxidation of lipids can be explained as a non-enzymatic process.  
B - Peroxides are the final products generated from lipid oxidation.  
C - Photo-oxidation of lipid can be controlled by using carotenoids.  
Of the above, the correct statement/s is/are  
(1) A only. (2) B only. (3) C only.  
(4) A and B only. (5) A and C only.
7. The non-organoleptic parameter which can change due to spoilage of food is  
(1) taste. (2) colour. (3) texture. (4) odour. (5) mineral content.
8. Food security and food safety are best explained as,  
(1) accessibility of food with no health hazards and adequate food, respectively.  
(2) availability of adequate food and food with moderate health hazards, respectively.  
(3) accessibility for non-hazardous food and adequate food, respectively.  
(4) availability of nutritious food and its ability to safeguard human health, respectively.  
(5) availability of adequate food with correct nutrition and no health hazards, respectively.
9. Consider the following statements.  
A - Use of cold chain to distribute fruits and vegetables may assure food security at the national level.  
B - Practice of cold chain may extend the shelf-life of fruits and vegetables.  
Of the above,  
(1) Both A and B are correct.  
(2) A is correct and B is incorrect  
(3) A is incorrect and 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.
10. A farmer transplanted chilli seedlings obtained from a nursery bed and covered them with coconut leaves. The purpose of providing cover for the seedlings after transplanting is to protect them from  
(1) wind. (2) rain. (3) insects. (4) frost. (5) direct sun light.
11. The environmental parameter/s, which influence the soil genesis is/are  
(1) humidity. (2) temperature. (3) rainfall.  
(4) humidity and temperature. (5) rainfall and temperature.
12. Consider the following statements.  
A - Seed dormancy would help seeds to overcome unfavourable conditions.  
B - Scarification of passion fruit (*Passiflora edulis*) seeds helps removing seed dormancy.  
C - Mature viable crop seeds have a dormancy period of more than 2 weeks.  
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.
13. An advantage of row seeding as a method of field establishment of crop seeds is the  
(1) facilitation of removing unhealthy seedlings.  
(2) facilitation of weed control using weeding equipment.  
(3) ability to provide optimum conditions for seed germination.  
(4) ability to transplant excess seedlings in the extra spaces available in rows.  
(5) ability to obtain vigorous seedlings compared to other crop establishment methods.

14. Seed purity percentage is a main factor that should be considered in the seed industry. Presence of seeds belonging to the paddy variety Bg358 and the weed *Echinochloa crus-galli* in a seed lot of the paddy variety Bg360, could be best described as an issue related to
- (1) physical purity only.
  - (2) genetic purity only.
  - (3) species and physical purity only.
  - (4) genetic and physical purity only.
  - (5) weed and physical purity only.
15. Kothalahimbutu (*Salacia reticulata*) is used to treat
- (1) asthma.
  - (2) chicken-pox.
  - (3) measles.
  - (4) Mumps..
  - (5) diabetes.
16. Select the medicinal plant that the roots are used for de-coxing mixtures.
- (1) Bulu
  - (2) Aralu
  - (3) Ginger
  - (4) Nelli
  - (5) Adathoda
17. From the following, select the most appropriate tool to obtain the economically important harvest of Savandara for medicinal purposes.
- (1) Knife
  - (2) Pair of Scissors
  - (3) Spoon
  - (4) Scraper
  - (5) Crow bar
18. Select the fish that needs a brackish water environment to complete its life cycle.
- (1) Snake-head fish (Loola)
  - (2) Cat fish (Magura)
  - (3) Carp
  - (4) Tilapia
  - (5) Wekkaya
19. The most appropriate example to describe a method of lowering post-harvest losses is
- (1) making curd from milk.
  - (2) wrapping of papaya fruits using paper during transportation.
  - (3) use of rice bran as an animal feed.
  - (4) feeding of leftover food to domestic animals.
  - (5) application of bio-pesticides to control leafhopper.
20. The post-harvest losses of fruits and vegetables in Sri Lanka is generally considered to be
- (1) 5%-10%.
  - (2) 10%-20%.
  - (3) 20%-40%.
  - (4) 40%-60%.
  - (5) 60%-80%.
21. The foundation unit of a living organism is
- (1) tissue.
  - (2) protein.
  - (3) cell.
  - (4) organelle.
  - (5) nucleic acid.
22. A fresh graduate in management studies plans to start a poultry farm. A suitable land and a market with high demand are available for this project, but several companies supply chicken meat for this market. According to the SWOT analysis the strength, weakness, opportunity and threat of this business are
- (1) suitable land, insufficient training, market and other suppliers, respectively.
  - (2) market, suitable land, insufficient training and other suppliers, respectively.
  - (3) suitable land, management degree, market and insufficient training.
  - (4) other suppliers, management degree, insufficient training and market.
  - (5) market, other suppliers, insufficient training and management degree.
23. An example for a production-oriented food based technological entrepreneurship is
- (1) food catering service.
  - (2) operating a restaurant.
  - (3) operating a dairy cattle farm.
  - (4) operating a yoghurt factory.
  - (5) selling face masks to get protected from COVID - 19 disease.

24. Select the correct statement regarding composting.

- (1) The C:N ratio declines with the composting of the raw material.
- (2) The release of CO<sub>2</sub> is more at the end of composting.
- (3) The C content increases in the pile during composting.
- (4) There is a continuous increase of temperature of the pile during composting.
- (5) The moisture content in the compost pile increases at the end of composting.

25. Different production processes could be explained using standard symbols. The correct procedure to represent the manufacturing process of set-yoghurt using standard symbols is

- (1) ○ → △ → □ → ▽
- (2) △ → ○ → □ → ▽
- (3) □ → △ → ○ → ▽
- (4) ○ → □ → △ → ▽
- (5) □ → ○ → △ → ▽

26. Consider the following statements.

A - Hardware infrastructures are essential to use software

B - Internet is required to use software

C - Use of commercial software without licence is an offence

Of the above, the use of software in technological applications is best described by

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

27. Ploughs are normally used for

- (1) digging ditches.
- (2) inter-cultivation.
- (3) making plant beds.
- (4) primary land preparation.
- (5) secondary land preparation in low lands.

28. When using mechanical seeders, the plant spacing in the row is controlled by

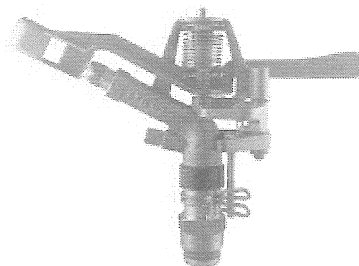
- (1) the seed tube.
- (2) the furrow opener.
- (3) pressing wheel.
- (4) the forward speed.
- (5) seed metering device.

29. Pitcher irrigation is more suitable for

- (1) greenhouses in the up-country of Sri Lanka.
- (2) coconut grown in sandy soils in Sri Lanka.
- (3) vegetables grown in sandy soils in Sri Lanka.
- (4) field crops in the wet zone of Sri Lanka.
- (5) orchards in the dry zone of Sri Lanka.

30. This equipment is a part of

- (1) a plough.
- (2) a knapsack sprayer.
- (3) an irrigation system.
- (4) a land preparation equipment.
- (5) a plant protection equipment.



31. An example for subsurface irrigation is

- (1) deep open ditch. (2) drip irrigation. (3) furrow irrigation.  
(4) ring irrigation. (5) basin irrigation.

32. Consider the following condition.

"Leaf mottling, wilting of tip of the leaf blade and chlorosis in mature leaves were observed in maize plants".

The above condition could be properly described as

- (1) deficiency of Cl as Cl is a mobile micro element.  
(2) deficiency of Zn as Zn is a mobile micro element.  
(3) deficiency of Cl as Cl is a non-mobile micro element.  
(4) deficiency of Zn as Zn is a non-mobile micro element.  
(5) deficiency of Cu as Cu is a non-mobile micro element.

33. Consider the following statements regarding Phospho-compost.

- A - Phosphorous-enriched compost made by mixing 10% w/w of rock phosphate with goat manure and pig manure.  
B - Phosphorous-enriched compost made by mixing 15% w/w of rock phosphate with pig manure.  
C - Phosphorous-enriched compost made by mixing 5% w/w of rock phosphate with goat manure, pig manure and cattle manure.

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.

34. Improving the use-efficiency of agricultural inputs is one of the major ways to increase crop productivity. In this respect, select the most correct statement from the following.

- (1) Triple super phosphate is an essential component of basal fertilizer in paddy cultivation in Sri Lanka.  
(2) Application of the total requirement of Muriate of Potash as a basal dressing will increase the uptake of  $K_2O$  by plants.  
(3) Nitrogen losses from urea can be minimized by single application of the total nitrogen requirement of the crop as a top dressing.  
(4) Application of slow release fertilizer as a basal dressing will provide adequate nutrients to crops after flowering.  
(5) Nano-technology can be effectively used to improve timely and continuous release of nutrients from fertilizer.

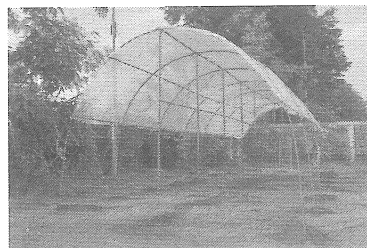
35. The hormone that is responsible for breaking dormancy in seeds is

- (1) Ethylene. (2) Gibberellins. (3) Cytokinin.  
(4) Abscisic acid. (5) Indoleacetic acid.

36. Select the correct statement from the following regarding plant tissue culture.

- (1) Formation of callus tissue is called organogenesis.  
(2) Potato dextrose is the most suitable gelling agent.  
(3) Mercuric bromide is used for surface sterilization of ex-plants.  
(4) Proteolytic enzymes help production of protoplasts from the callus tissue.  
(5) Serum albumin is a basic component used in culture media.

37. Pre-emergence herbicides are used to
- (1) destroy weed seedlings when they are at 2-3 leaf stage.
  - (2) kill above ground vegetative organs.
  - (3) control weeds in non-agricultural land.
  - (4) control weeds before planting the crop.
  - (5) control propagules of weeds found in soil.
38. The most effective preventive technique to control brown plant hopper attack in paddy is
- (1) deep ploughing.
  - (2) continuous flooding.
  - (3) repeated use of pesticides.
  - (4) scattered planting of rice in the area.
  - (5) increase seed paddy rates for planting.
39. Select the correct statement on pest and disease management of crops in Sri Lanka.
- (1) Virus diseases are the most common category of crop diseases.
  - (2) Leaf curl disease is the most devastating disease of chilli.
  - (3) Copper sulphate is the most widely used fungicide.
  - (4) Soil sterilization in plant nursery controls majority of the insect pests of crops.
  - (5) Flooding is the most effective post-planting technique to control pests and diseases in rice.
40. The most important Personal Protection Equipment (PPE) to be used in pesticide application is
- (1) reading the label.
  - (2) wearing gloves.
  - (3) using an appropriate spraying equipment.
  - (4) not to spray during strong winds.
  - (5) covering the whole body with suitable clothing.
41. The protected culture structure shown in the diagram having a polythene canopy and open sides is a
- (1) greenhouse.
  - (2) Lath house.
  - (3) solar propagator.
  - (4) rain shelter.
  - (5) polytunnel.



42. One of the major limiting factors for using greenhouses for agricultural production in Sri Lanka is the
- (1) strong wind.
  - (2) high temperature.
  - (3) high rainfall.
  - (4) high capital cost.
  - (5) low humidity at night.
43. The correct procedure that should be followed to prepare Gerbera cut flowers, after harvesting and removing the woody basement part, for the export market is
- (1) packing individual flowers vertically in shallow cardboard containers, dipping flower stems in 100 ppm silver nitrate solution and storage at 1°C.
  - (2) dipping flower stems in 100 ppm silver nitrate solution, packing individual flowers horizontally in shallow cardboard containers and storage at 1°C.
  - (3) dipping flower stems in 40 ppm sodium hypochlorite solution, packing individual flowers horizontally in shallow cardboard containers and storage at 1°C.
  - (4) dipping flower stems in 100 ppm silver nitrate solution, packing individual flowers horizontally in shallow cardboard containers and storage at 10°C.
  - (5) dipping flower stems in 100 ppm sodium hypochlorite solution, packing individual flowers vertically in shallow cardboard containers and storage at 1°C.

44. Consider the following statements which were described the best stage for harvesting roses as cut flowers.

- A - Open-bud stage when the colour is fully developed with 1-2 mature leaves.
- B - Tight-bud stage when the colour is fully developed with 1-2 mature leaves.
- C - Tight-bud stage when the colour is fully developed with 3-4 mature leaves.

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.

45. One of the objectives of using border plants is

- (1) weed control.
- (2) to fill the free space.
- (3) to attract animals.
- (4) moisture conservation.
- (5) to cover unwanted views.

46. The main nutrient found in maize seeds is

- (1) lipids.
- (2) fibre.
- (3) starch.
- (4) proteins.
- (5) vitamins.

47. Following are some statements on formulation of animal feeds.

- A - Compared to broiler feeds, layer feeds should contain more calcium and less protein.
- B - Compared to milking cow feeds, heifer feeds should contain more protein and calcium.
- C - Among all poultry feeds, the highest protein content is found in feed given to broiler chicks.
- D - Pigments are usually added to all types of poultry feeds.

Of the above, the correct statements 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.

48. Candling during incubation is carried out

- (1) to observe the position of the embryo.
- (2) for sexing of chicks.
- (3) to calculate the hatching percentage.
- (4) after fifteen days of incubation.
- (5) to remove the unsuitable eggs from the incubator.

49. Following statements are on artificial insemination of cattle.

- A - Transmission of sexual diseases will be reduced due to artificial insemination.
- B - The objective of semen dilution is to preserve semen for future use.
- C - Sperm concentration of semen can be estimated by visual test.

Of the above,

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

50. Of the following, select the most correct statement.

- (1) Fresh milk can be kept for about two weeks under refrigeration.
- (2) Milk is preserved to enhance its nutritional quality.
- (3) Sterilized milk can be kept for a longer period than pasteurized milk.
- (4) Pasteurized milk can be kept for a longer period than sterilized milk.
- (5) Both pasteurization and sterilization of milk could kill all micro-organisms in milk.

\* \* \*