

❖ Answer all questions. Underline the most suitable answer.

- What is the compound which is among the fibers of coconut and Palmyra plants that keep them bound together?  
(1) Protein (2) Phosphate (3) Pectate (4) Penedin
- What is the phenomenon that occurs when white light passes through a glass prism?  
(1) Reflection of light (2) Refraction of light  
(3) Dispersion of light (4) Spectrum of light
- What is the correct statement out of the Following?  
(1) Distant objects cannot be seen clear in long sightedness  
(2) Spectacles with convex lenses can be worn to correct short sightedness.  
(3) Long sightedness and short sightedness are two common eye diseases.  
(4) Glaucoma is an eye disease due to damage of optic nerve.
- An organ which is responsible for the best method to separate different types of oil from crude oil  
(1) Eustachian tube (2) Semi-circular tube (3) Cochlea (4) Auditory nerve
- Out of the following which one is the best method to separate different types of oil from crude oil?  
(1) Simple distillation (2) Fractional distillation  
(3) Steam distillation (4) Filtration
- Out of the following which one cannot be considered as an element?  
(1) Oxygen (2) Sulphur (3) Methane (4) Chlorine
- Which particles can be seen inside the nucleus of an atom?  
(1) Proton electron (2) Electron and neutron  
(3) Neutron and Proton (4) No particles are in the nucleus of an atom
- What is the symbol for International unit of weight?  
(1) N (2) Nm (3) Kg (4) kg
- A perpendicular force of 270N was applied on an area of  $3\text{m}^2$ . What is the pressure exerted on the surface?  
(1)  $0.9\text{ Nm}^{-2}$  (2)  $9\text{ Nm}^{-2}$  (3)  $90\text{ Nm}^{-2}$  (4)  $900\text{ Nm}^{-2}$
- Which of the following should not be done to maintain healthy blood circulation system  
(1) Reducing salt consumption  
(2) Reduce consumption of fatty foods  
(3) Having more fruits and vegetables in meals  
(4) Refrain from engage in physical exercises

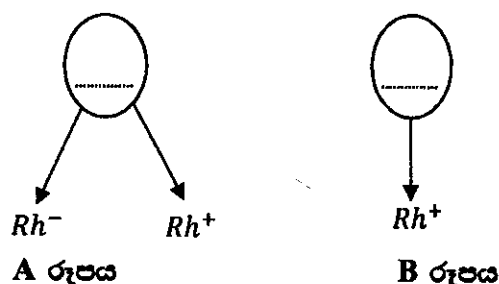
11. Apex of a plant growth towards sunlight is known as,
  - (1) Positive geo tropic movement
  - (2) Negative geo tropic movement
  - (3) Positive photo tropic movement
  - (4) Negative photo tropic movement
12. Which of the following organism has enough fossil records to study the complete evolutionary history?
  - (1) Salamander
  - (2) Dragonfly
  - (3) Horse
  - (4) Tortoise
13. Out of the following which one is not considered as a simple machine?
  - (1) Motor
  - (2) Nut cracker
  - (3) Inclined plane
  - (4) Pulley
14. What is the best method to prevent of lightning accidents?
  - (1) Staying on tall trees
  - (2) Staying on a roof of a vehicle
  - (3) Staying inside a fully covered vehicle
  - (4) Standing in an open area
15. Selecting the answer with all elements contained in glucose molecule.
  - (1)  $C, H, S$
  - (2)  $C, H, O$
  - (3)  $C, O$
  - (4)  $C, H, O, N$
16. Images formed by plain mirrors always,
  - (1) Larger than the object
  - (2) Smaller than the object
  - (3) Same size as the object
  - (4) cannot say exactly
17. Out of the following which group of vertebrates consider as originated first?
  - (1) Mammals
  - (2) Fish
  - (3) Amphibians
  - (4) Reptiles
18. What is the strategy used in horticulture to maintain a herb instead of a tree to enhance beauty?
  - (1) The tree is covered with organic fertilizers in layers
  - (2) By cutting shoot apex of the tree very often.
  - (3) By spraying suitable chemical fertilizer
  - (4) By removing a layer of stem
19. Bicuspid and Tricuspid valves in the human heart is located respectively,
  - (1) In between left and right auricles and ventricles.
  - (2) In between right and left auricles and ventricles.
  - (3) At the opening place of superior and inferior vena cava.
  - (4) At the opening place of pulmonary artery and aorta.
20. What is the type of pathogenic organism that causes corona which is spread worldwide?
  - (1) Bacteria
  - (2) Fungi
  - (3) Virus
  - (4) cannot say

04. A poster on a wall shows the following poem in red

*Protect me*

*Giving a drop of blood*

- (i) Write two qualifications a donor must fulfill. (Marks 02)
- (ii) Write two factors that consider to minimize the harm to recipient when blood transfusion takes place. (Marks 02)
- (iii) Who are the
  - a) universal donor
  - b) universal recipient in the process of blood transfusion. (Marks 02)
- (iv) Complete the following diagram, compatibility of Rhesus factor by filling them.



- (v) Explain blood transfusion. (Marks 02)
- (vi) Suggest a common name for red blood cells, white blood cells and platelets. (Marks 01)

05. A) We can do many things by applying a force

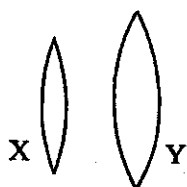
- (i) Write 2 changes that can be obtained of an object by exerting a suitable force . (Marks 01)
- (ii) What could happen to the following object when exerting two forces given in the diagram? (Marks 02)



- (iii) Find the resultant force of the above and indicate it correctly (Marks 02)
- (iv) What are symbolizes, when a force is graphically representing
  - a) by the length
  - b) by the arrow head (Marks 02)

B) The eye is the optical sensory organ in our body

- (i) Where is the eye situated in the skull? (Marks 01)
- (ii) Write another function of ciliary muscle other than the support to the hold the lens. (Marks 01)
- (iii) Given below are 2 convex lenses X and Y
  - a) Which lens has the lower curvature?
  - b) Which lens has the higher focal length compared to the other? (Marks 02)



06. A) ) Plants that grow for sale are grown beautifully when compared with the domestic flower plants
- (i) a) Air, water and Sunlight are essential factors for growth of plants. Name substance that maintain the growth of plants. (Marks 01)  
b) Write 2 ways the above mentioned substance help in the growth of plants (Marks 01)
  - (ii) Write a natural oxygen found in a plant. (Marks 01)
  - (iii) Name a substance that delay plant ageing. (Marks 02)
  - (iv) Write 2 examples where pulvinus located at each leaflet and petiole . (Marks 02)
- B) Nano science or Nano Technology is not a new concept for the nature.
- (i) What is meant by lotus effect which can be seen in lotus effect which can be seen on lotus leaves ? (Marks 01)
  - (ii) What is the size of 'Nano' in meter ? (Marks 01)
- C) Scientists have observed that earthquakes do not occur as a result of natural causes. Some activities could also be the reason.
- (i) Write a human activity that would cause earthquake. (Marks 01)
  - (ii) What is the apparatus which automatically record the information related seismic waves ? (Marks 01)
07. A) Instead of the Earth covered with green colour in the past, what is left today is an artificial environment.
- (i) What is the term used for maintaining goods and services so that the natural environment on Earth is minimally harmed ? (Marks 01)
  - (ii) At present the world attention has been drawn to maintain minimal damage to natural environment when using agricultural and industrial lands
    - a) Write 2 reasons for using organic fertilizer is more suitable than using chemical fertilizers. (Marks 02)
    - b) Write 2 reasons traditional agricultural strategies used to control pest in cultivation. (Marks 02)
    - c) Name the irrigation system which water source are laid only to the root system of every crop plant. (Marks 01)
    - d) Name the critical disease faced by man today by using insecticides and agro chemical very often ? (Marks 01)
- B) Sri Lanka is a beautiful land with different eco-systems
- (i) Write an example for
    - a) Natural aquatic environment in Sri Lanka
    - b) Natural terrestrial environment . (Marks 02)
  - (ii) Write 2 ways of minimizing emission of CO<sub>2</sub> and NO<sub>2</sub> gases in green transportation concept. (Marks 02)