



Part - I

- Answer all questions.
- Underline the most appropriate answer.

01. A pathogen cause tuberculosis to the human is,

The image contains four numbered diagrams of microorganisms. Diagram (1) shows a chrysotrich with a long, pointed cilia-covered flagellum and a rounded body. Diagram (2) shows a paramecium with a long, pointed cilia-covered flagellum and a rounded body with internal organelles. Diagram (3) shows a trichomonad with a long, pointed cilia-covered flagellum and a rounded body with internal organelles. Diagram (4) shows an amoeba with a rounded body and a single, irregular cilia-covered flagellum.

02. Audible range of human ear is,
(1) 20Hz - 20000 Hz (2) 20Hz - 2000 Hz (3) 200Hz - 2000 Hz (4) 200Hz - 20000 Hz

06. A component can be separated by steam distillation is,

(1) Cinnomon oil (2) Sugar (3) Salt (4) Coconut oil

09. Given below are sub atomic particles of an atom of element,
a. Electron b. Proton c. Neutrons

10. The Criteria based on bio diversity is,

- (1) Bio - chemical evolution
- (2) Spontaneous generation theory
- (3) Evolution theory
- (4) Nebular theory

11. The use of microbes in bio leaching is,

- (1) Extraction of metals from metal ores.
- (2) Producing dairy products
- (3) Used for environmental conservation
- (4) Producing biodegradable plastics

12. Due to microorganism brown spots can be seen on the potato leaves and later it turn in to black. Above disease in known as,
(1) Powderly mildew (2) Leaf curley
(3) Late blight (4) Wilting

13. The blood vessel starts from the left ventricle of human heart is,
(1) Aorta (2) Pulmonary artery
(3) Superior vena cava (4) Inferior vena cava

14. Which of the following instance increase the pressure,
(1) Use large number of wheel in heavy vehicles.
(2) Increase the width of a strips of school bag.
(3) The bottom of the skates used by skiers to made sharp like a knife edge.
(4) A sac of paddy carrying on a back of a man.

15. Given below are some functions of parts of a ear,
A - Semi circular canal contributes to maintain the balance of body.
B - Eustachian tube controls the pressure either sides of the tympanic membrane.
C - Auditory nerve interpreted the sound.
The correct statement are,
(1) only A (2) A and B (3) A and C (4) ABC all

16. Given below are some statements of ideas put forward by a student related to the functions of blood.
A - Transport excretory products to the relevant organ.
B - Destroy pathogenic microbes.
C - Coagulation of blood during the external bleeding.
The correct statements are,
(1) only A (2) only B (3) only C (4) ABC all

17. The factor affected for keep erect of non-woody plant is,
(1) Air (2) Hormone (3) Water (4) Chemical substance

18. Which of the following answer is correct about the products evolve at each electrode during the electrolysis of acidulated water,

<u>Electrode</u>	<u>Product</u>
(1) Positives	Hydrogen gas
(2) Negative	Hydrogen gas
(3) Positives	Carbon dioxide gas
(4) Negative	Oxygen gas

19. Which of the following is correct about a building process green concept,
(1) High cost of maintenance.
(2) Increase the use of fossil fuel.
(3) Waste management take place with minimum waste products.
(4) Do not consume water.

20. Incorrect statement about green transportation is,
(1) Can be promoted vehicles with solar panels.
(2) Minimize the usage of vehicles by individuals.
(3) Use bicycles for short distance travels.
(4) Increase the food mile is feature of a green transportation.

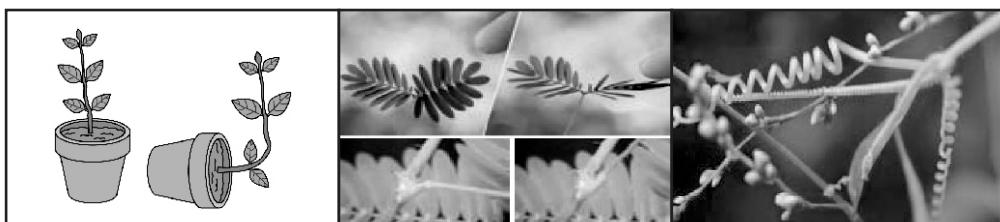
- Use separate papers to answer this part.
- The first question is compulsory
- Answer 4 other questions out of other 06 questions.

01. (A) Given below are some instances occurred in the past on earth.

- A simple unicellular organisms are created in oceans due to biochemical reactions.
- Simple organisms gradually took place many changes to form organisms in modern earth.
- Mark trace of organisms who trapped among lava flows from volcanoes.

- What is the name given for instance (a). (01m.)
- Write letter of the statement that explain process of evolution. (01m.)
- What is the name of trace occurred due to the instance (c) (01m.)
- What is the name given for organisms survive even today retaining their physical properties unchanged. (02m.)
- Write an example for above organism. (01m.)

(B) Diagrams given below are some plant movements.



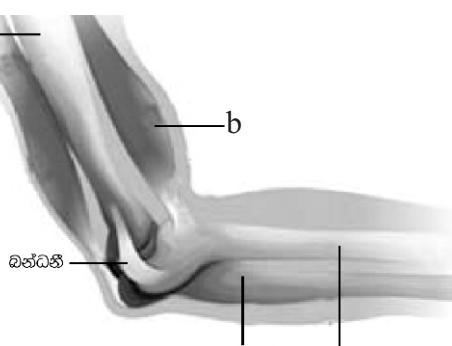
A

B

C

- What is the substance contributes for control the plant movements? (01m.)
- What is the name of the plant movement shown by the figure A. (01m.)
- Give an example for plant which shows movement as figure B. (01m.)
- What is the advantage of movement shown by figure C. (01m.)
- What is known as positive hydrotropism (02m.)

(C) a _____



Given below is an elbow joint of a human hand.

- Name a and b. (02m.)
- What is the muscle contributes for bend the arm. (01m.)
- Write another function of bones instead of showing movements. (01m.)

02. Given below is a stranded representation of an element.



- Write number of electrons protons and neutrons respectively. (03m.)
- Given below is a diagram of a methane molecule which is created by a student. Write standard symbols of relevant elements inside the circles. (02m.)
- Above molecule is a heteroatomic molecule explain what is heteroatomic molecule. (02m.)



(iv) Write an example for homogenous mixture. (01m.)

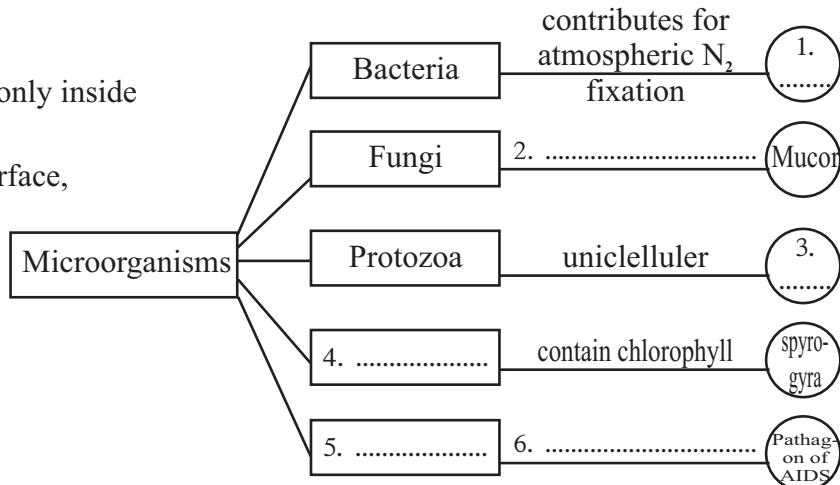
(v) There is a mixture of sulphur powder and iron powder. Is it a homogenous mixture or heterogeneous mixture. (01m.)

(vi) Write a strategy to separate components of above mixture. (01m.)

(vii) What is the compound written as C_2H_5OH . (01m.)

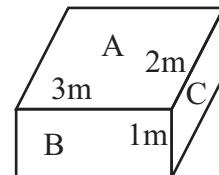
03. (A) Given concept map illustrate information about microorganisms write answer in the spaces choose from words within brackets.

(Corona, Amoeba, reproduce only inside the living cell, Rhizobium, Fungi, Alge grow on moist surface, Virus, Filamentous)



(1×6=6 m.)

(B) Given below is a concrete slab with the weight of 200N which keep on the ground. The length width and height of the slab are 3m, 2m, 1m respectively. It exert pressure perpendicular on the earth.

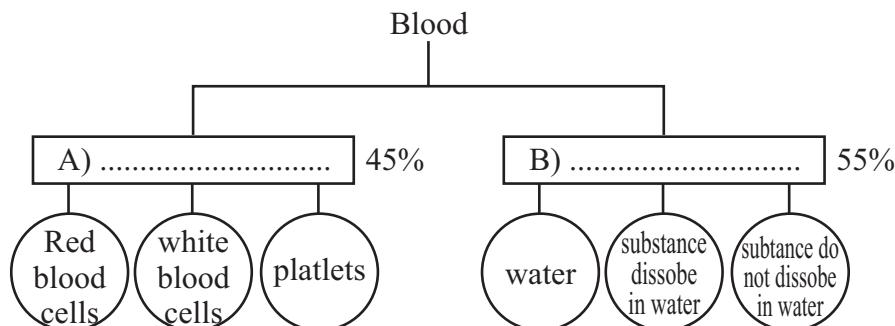


(i) What is known as pressure. (02m.)

(ii) Write the length and width of a surface which exert highest pressure on the ground. (01m.)

(iii) Find the maximum pressure can be exerted by the slab in above instance. (02m.)

04. (A) Give below is a Chart of Component of blood.



(i) Write suitable words for space A and B. (02m.)

(ii) What are the components of blood contributes for transport substances given below.

(a) Oxygen (b) Protein (02m.)

(iii) What is the component of blood cause rapid decline during the infectious disease as leptospirosis "Me Una". (01m.)

(iv) Write a structural difference between artery and veins. (01m.)

(v) The doctor advice to a patient to transfused only blood with group "O" what can be the blood group of above patient. (01m.)

(vi) Write a favourable habit to maintain healthy blood circulatory system. (01m.)

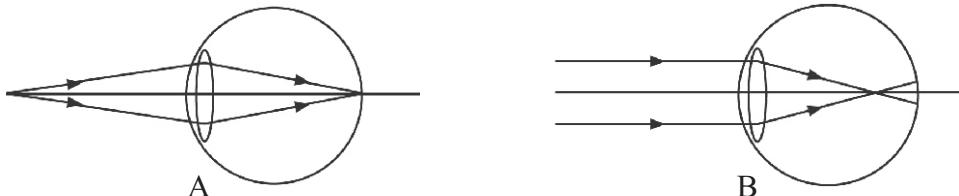
(B) Given below is a instance of pushing vehicle using a force.

(i) Write two changes can be done on an object applying a force. (02m.)

(ii) Name the point on which the force is acting on the object to move it. (01m.)



05. (A) Given below are two instances of focusing light rays on eye of the person with defects of vision.



(i) What is the figure used to shows the defect of vision of above person. (01m.)

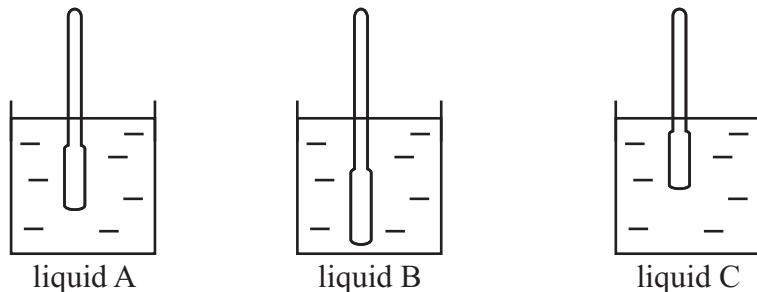
(ii) Name the above defect of vision. (01m.)

(iii) What is the type of lens can be used to correct above defect of vision. (01m.)

(iv) Write two common eye diseases instead of defect of vision. (02m.)

(v) Write a precautionary measure should be followed to prevent health problems of the eye. (01m.)

(B) Three diagrams given below shows the same hydrometer float on different liquids.



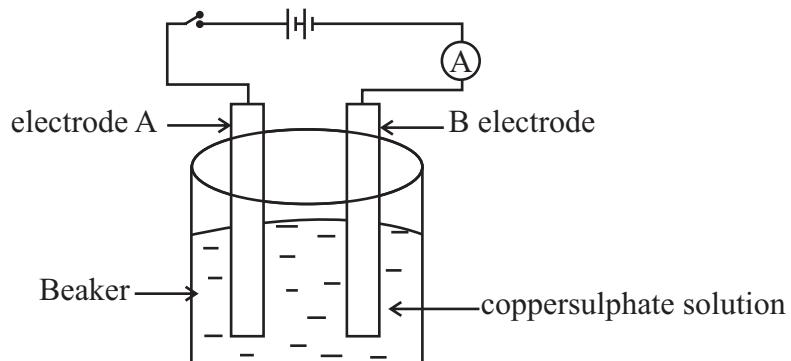
(i) Write descending order of the density of above three liquids. (01m.)

(ii) B and C liquids are immiscible to each other, Draw a diagram to show the location of liquids when it is pour in to a same vessel. (01m.)

(iii) A is named as water what is the change can be seen in hydrometer when salt is dissolve in water. (01m.)

(iv) The mass of 0.5 m^3 of water is 500kg . Calculate the density of water. (02m.)

06. (A) The diagram below shows a set up used to electrolysis of copper sulphate solution.



- (i) Name most suitable material for A and B electrodes. (01m.)
- (ii) State a special property of above electrodes instead of electric conductivity. (01m.)
- (iii) Draw the table in your answer sheet and fill the spaces according to the observations.

Place of the setup	Observation	
a) In the copper sulphate solution	
b) At A electrode	
c) At B electrode	(03m.)

- (iv) A student said keroasine oil can not be electrolysed. Explain the reason for above statement. (02m.)
- (B) Electrolysis process can be used to plate copper on iron nail.
 - (i) Mention positives electrode and negative electrode separately in above activity. (02m.)
 - (ii) How to prepare the solution for increase the quality of electroplating. (01m.)
 - (iii) State a industrial use of electroplating. (01m.)

07. (A) A built environment was taken place on the natural environment because of the man who changed the natural environment according to their requirements. Therefore come to limelight of the green concept.

- (i) Write a environmental crisis which face due to human activities. (01m.)
- (ii) Define, green concept. (02m.)
- (iii) Green concept also used in agricultural proposes. Write a method of applying green concept in given instances.
 - (a) Control pest and diseases. (01m.)
 - (b) Water management (01m.)
- (iv) People pay attention to facilitating transporting method through water, write advantage of above method. (01m.)

(B) Sri Lanka consist with verions eco-systems.

- (i) What is known as eco-system. (02m.)
- (ii) Write an example for eco-system. (01m.)
- (iii) Write a plant type can be seen mostly in above eco-system. (01m.)
- (iv) Write importance of eco-system with brakish water. (01m.)

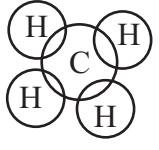
Answer Paper - Part I

01. (2) 02. (1) 03. (2) 04. (4) 05. (2) 06. (1) 07. (4) 08. (1) 09. (3) 10. (3)
 11. (1) 12. (3) 13. (1) 14. (3) 15. (2) 16. (4) 17. (3) 18. (2) 19. (3) 20. (4)

(2 x 20 = 40 marks)

Part - II

01. (A) (i) bio chemical evalution (01m.) (ii) b (01m.)
 (iii) fossil (01m.) (iv) living fosil (02m.)
 (v) Cockroach, Dragon fly (01m.)
 (B) (i) Plant growth substance (01m.)
 (ii) positives phototropism / Negative geotropism (01m.) (iii) Memosa (01m.)
 (iv) Clinging of the coiling with the support (01m.)
 (v) Part of a root grow towards the water (02m.)
 (C) (i) A - Humarus B - Bicep muscle (02m.)
 (ii) Bicep muscle (01m.)
 (iii) Provide support (01m.) (16 marks)

02. (i) • Electron - 13 (ii)  (02m.)
 • Proton - 13
 • Neutron - 14 (03m.)

(iii) form moluclar with defferent atoms (02m.)
 (iv) Suitable answer (01m.) (v) Hetrogenous (01m.)
 (vi) Spearate using amagnet (01m.) (vii) Etyel alchoel (01m.)

03. (A) (1) Rhizobium (2) grow on moist bread
 (3) Amoeba (4) Alge
 (5) Virus (6) Reproduce in side lle livery cell. (1x6=6m.)

(B) (i) A perpendicular force act on an unit area. (02m.)
 (ii) C (01m.)

$$\text{Pressure} = \frac{F}{A} \quad \text{or} \quad \frac{200}{2} \quad (01\text{m.})$$

$$\text{Pressure} = 100 \text{ Pa or } 100 \text{ Nm}^{-2} \quad (01\text{m.})$$

(11 marks)

04. (A) (i) A - Corpusculs B - blood plasma (02m.)
 (ii) (a) Red blood cells (b) blood plasma (02m.)
 (iii) Platlets (01m.) (iv) Suitable answer (01m.)
 (v) O group (01m.) (vi) Suitable answer (01m.)
 (B) (i) Stop the moving object / Change the speed (02m.)
 (ii) Point of application (01m.)

(11 marks)

05. (A) (i) B (01m.) (ii) Short sight (01m.)
 (iii) Concave lens (01m.) (iv) Glucoma catracts (02m.)
 (v) Suitable answer (01m.)

(B) (i) C>A>B (01m.) (ii)  (01m.)
 (iii) Hydrometer goes up (01m.)
 (iv) density =
$$\frac{\text{mass}}{\text{value}}$$

$$= \frac{500}{0.5}$$

$$= 1000 \text{ (kgm}^{-3}\text{)} (01m.)$$

(11 marks)

06. (A) (i) Carbon / Platinum (01m.)
 (ii) Electric conductivity / Insert with electrolyte (01m.)
 (iii) location observation
 a) CuSO₄ solution reduce colurs
 b) At A electrode evolving air bubbles
 c) At B electrode Deposit reddish brown substances (03m.)
 (iv) No mobile ions / Not a electrical conductor (02m.)

(B) (i) • Positive - Copper plate • Negative - Iron nail (02m.)
 (ii) Solution become dilate (01m.)
 (iii) Suitable answer (01m.)

(11 marks)

07. (A) (i) Answer like increasing global warning. (01m.)
 (ii) Correct explanation (02m.)
 (iii) (a) Traditional agricultural stratenge (01m.)
 (b) Suitable method (01m.)
 (iv) Minimize environemtal pollution, Power management, attraction of tourist (01m.)

(B) (i) Correct explain for, (02m.)
 (ii) Lagoon (01m.)
 (iii) Mangrooves, Sonarati, Ginpol (01m.)
 (iv) Suitable answer (01m.)

(11 marks)