

Index no :

➤ Select the most appropriate answer from questions 1-20 and underline it.

A detailed diagram of a planarian, a flatworm. It shows a pear-shaped body with two long, thin antennae at the anterior end. Internally, the brain is located just behind the head. Two large, circular eyes are positioned on either side of the brain. The digestive system is represented by a central, branching structure. The body is covered in a textured pattern representing the epidermis and underlying tissues.

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Grade 8 Science Colombo Educational Zone

(5) Which of the following pairs correctly gives an adaptation in plants to minimize the rate of transpiration and an example plant in which it is observed?

- (1) Leaves reduced to spines – Kasa/ Sawukku
- (2) Presence of thin leaves - *Valisnaria*
- (3) Presence of thick waxy cuticle – Temple trees
- (4) Leaves arranged in spiral manner around stem - Kanda/ Vattakkanni

(6) Shyama who studies in grade 8, obtained a part of a plant within the soil and observed. It had following features.

- * Presence of tiny scale leaves.
- * Nodes and internodes were observed.
- * Presence of stipules.
- * It has become larger in size.

Which of the following might be the part of the plant observed by Shyama?

- (1) Root of potato plant
- (2) Underground stem of ginger plant
- (3) Underground stem of onion plant
- (4) Roots of carrot plant

(7) David had a balloon inflated by blowing air from the mouth and another balloon with an equal volume filled with hydrogen. Which of the following is the **incorrect** statement regarding two balloons? (Consider that the two balloons are equal in all ways)

- (1) Particles of matter within both balloons move freely and randomly.
- (2) Mass of matter within both balloons are equal.
- (3) Particles of matter within both balloons are not orderly arranged.
- (4) Much space is left among the particles of matter within both balloons.



(8) Which of the following is a non-metal in liquid state?

- (1) Mercury
- (2) Bromine
- (3) Iodine
- (4) Chlorine

(9) Which of the following is a **special property** of modern musical instruments?

- (1) Modern musical instruments possess a pleasant sound than ancient musical instruments.
- (2) The price of modern musical instruments is greater than ancient musical instruments. .
- (3) Modern musical instruments are capable of attracting present youth.
- (4) Using a computer and a keyboard one person can carryout the work done by a complete group of band or many musical instruments.

(10) What is the name given to the number of vibrations generated by a source of sound per unit time?

- (1) Frequency
- (2) Wave length
- (3) Pitch
- (4) Music

[Refer page 3

(11) Consider the following statements about magnets.

- a) Materials which are attracted to magnets are called as magnetic material.
- b) Metals such as Nickel and chromium as well as non metals such as ferrite are called as magnetic materials.
- c) Places of a magnet in which magnetic power is concentrated are called as magnetic poles.
- d) Ferrite is used to generate powerful permanent magnets.

Correct statements among above are,

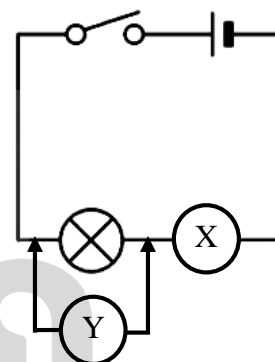
- (1) a,b,c (2) a,c,d (3) b,c,d (4) All

(12) Which of the following is **not** a reason for the loss of magnetic power of permanent magnets?

- (1) Subjected to high temperatures.
- (2) Subjected to vibrations.
- (3) Storing as if the magnetic power is not spread.
- (4) Subjected to strong magnetic fields.

(13) Which of the following statements is incorrect regarding the circuit shown in figure?

- (1) X is an ammeter used to measure the electric current.
- (2) Y is a voltmeter used to measure the potential difference.
- (3) Voltmeter is connected in series to the circuit.
- (4) This circuit has one dry cell connected.



(14) Which of the following statements regarding electric current is correct?

- (1) Electric current flow from negative terminal to positive terminal. .
- (2) Electric current is defined as flow of electric charges within a closed circuit.
- (3) A centre zero voltmeter can be used to identify the direction of electric current.
- (4) All above are correct.

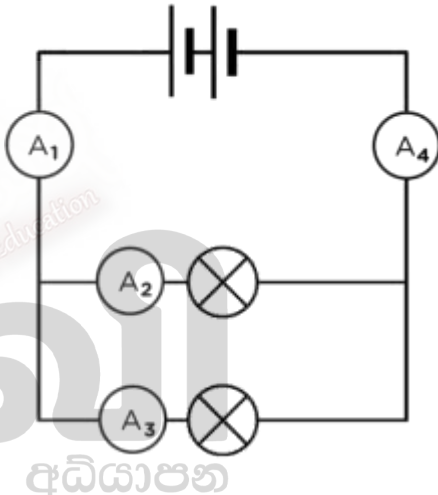
(15) When crystals of iodine was heated in a crucible iodine turns directly into gas. What is the name given to this change in state?

- (1) Condensation (2) Freezing (3) Fusion (4) Sublimation

(16) During an activity planned by grade 8 group of students, the apparatus made to mix sodium chloride and lead nitrate solutions is given below. An evidence to prove that a chemical reaction would have been occur is,

- (1) Formation of yellow precipitate
- (2) Release of brown colour gas
- (3) Formation of white precipitate
- (4) Release of a gas



- (17) Which of the following statements is true regarding combustion.
- (1) Combustion is the occurrence of a chemical reaction between combustible substance and supporter of combustion present in air.
 - (2) Release of heat and light energy is a special feature of combustion.
 - (3) For a combustible substance to start the reaction between oxygen gas, which is the supporter of combustion, need not heating upto the ignition temperature is not needed.
 - (4) Ignition temperature of objects which would burn easily is high .
- (18) As the main health problems faced by Sri Lanka at present, non-infectious disease, kidney failure can be considered. Which of the following is not a reason for kidney failure?
- (1) Accumulation of heavy metals and poisonous chemicals in the body.
 - (2) Some medicine which are used continuously for some diseases.
 - (3) Smoking and consumption of alcohol.
 - (4) Using pain killers more than the requirement.
- (19) A_1, A_2, A_3, A_4 in the circuit shown are ammeters. Two identical bulbs were connected to the circuit. Correct statement regarding this circuit is,
- (1) A_1, A_2, A_3, A_4 ammeters show equal readings.
 - (2) A_1 and A_4 ammeters show equal readings.
 - (3) A_1 and A_2 ammeters show equal readings.
 - (4) A_3 and A_4 ammeters show equal readings.
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- (20) There was a great damage as a result of the sliding of Wellampitiya, Meethotamulla garbage heap in the recent past in Sri Lanka. Which of the following can be given as a very appropriate method to prevent such damages in the future?
- (1) Remove human settlements located close to the garbage heap, allowing people to construct houses beyond 500m boarder.
 - (2) Segregating waste and it can be used for recycling, electricity generation and manufacturing natural fertilizers.
 - (3) Filling lowlands in the town areas and out of towns using waste material.
 - (4) Filling coastal areas using waste material.

Part II

* Answer the first question and four other questions.

* Total number of questions which should be answered is five.

- (1) Science teacher of grade 8, divided the students into 5 groups and arranged 5 activities for testing the changes which would occur in matter. He arranged 5 workstations in the laboratory. Materials which were made available at workstations are given below.

Group - 1

Magnesium strip
Spirit lamp
Tongs

Group - 2

Beaker
Water
Salt
Tripod
Bunsen burner

Group - 3

Conical flask, Thread,
Ignition tube, Cork,
Lead nitrate 1g
20 ml water
Sodium chloride 1g

Group - 4

Dilute Hydrochloric Acid
Zinc pieces
Boiling tube

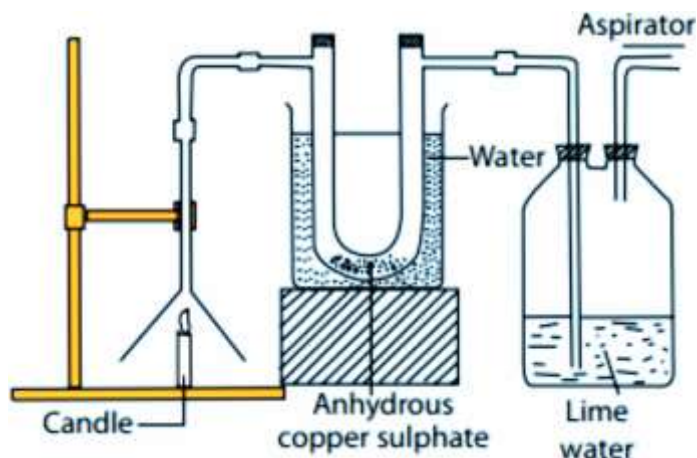
Group - 5

Candle, Delivery tubes, Lime water,
Stand, Cold water, Funnel, Beaker,
Anhydrous Copper Sulphate,
Bottle, U tube

- (A) Answer following questions considering the material made available at workstations.

- (i) Which of the above 5 groups carried out activities in which chemical reactions are involved?
- (ii) Which of the above group/ groups carried out activity in which a physical change took place?
- (iii) State the observations of the activity carried out by group 1, write the chemical reaction taking place in it.
- (iv) Which group carried out an experiment to prove law of conservation of mass?
- (v) What are the evidences to prove that there was a chemical reaction occurred during the activity you mentioned in (iv) above?
- (vi) What are the measurements which should be recorded to prove the law of conservation of mass?
- (vii) A yellow flame was produced in the bunsen burner, when group 2 students were using it. How they would have obtained a blue flame?
- (viii) State 2 observations recorded by students of group 2.

(B) The apparatus for the activity carried out by students of group 5 is shown in the figure. Answer following questions using the above set-up.



- (i) What is the purpose of carrying out above activity?
- (ii) State reasons for using anhydrous copper sulphate and lime water.
- (iii) What can be the observations of this activity?
- (iv) What is the reason for placing U tube within a beaker containing cold water?
- (v) State one ability which you gained by studying science based on activities.

(2) **Various living processes such as respiration, digestion, absorption, excretion, transport of materials, movement, homeostasis, reproduction takes place within human body. Various cells, tissues, organs, organ systems collectively form the human body.**

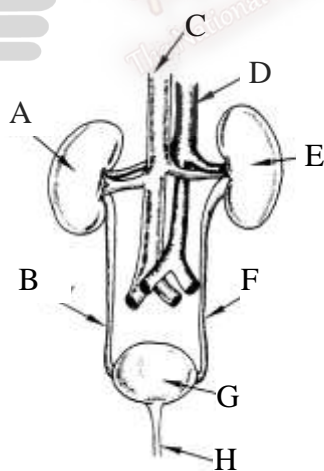


Figure – I

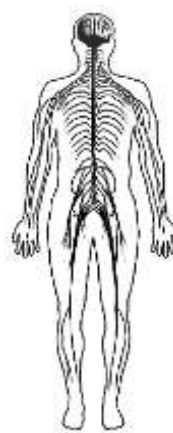


Figure – II

- (i) Among various living processes mentioned above, two systems which would perform two living processes are given above. State the two biological processes carried out by them.
- (ii) Name the two systems which has been adapted for performing above living processes.

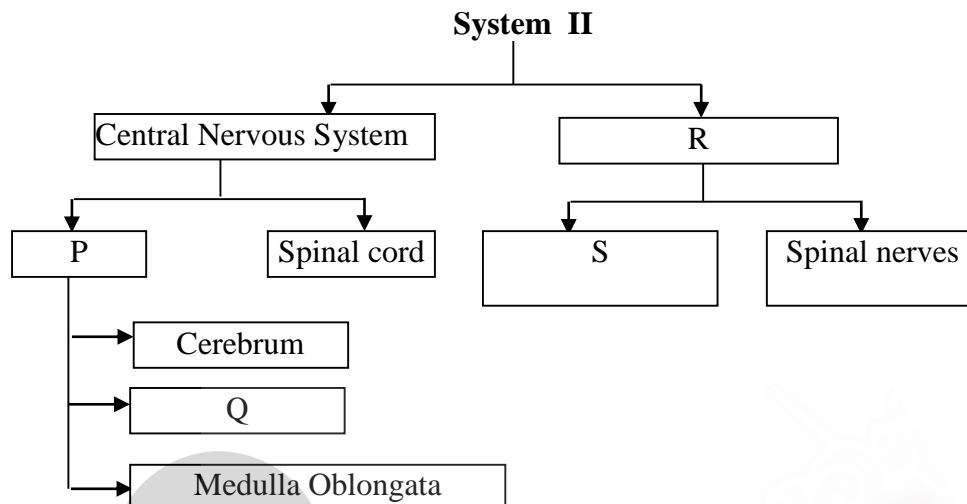
(iii) What is meant by excretion?

(iv) Identify and name A, B, C, D, E, F, G, H in figure I.

(v) What is the reason for A being located somewhat lower level than E in figure I?

(vi) What is the name given to the disease condition in which glucose is expelled with urine?

(vii) Following chart shows parts of system II given above. Write suitable terms for P, Q, R, S.

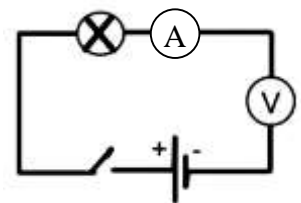


(3) **Students of grade 8A at Laxapana Madya Maha Vidyalaya were divided into 4 groups by their science teacher, and carried out few activities to identify effects of electricity.**

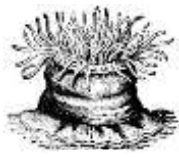
- Name 4 main effects of electricity.
- Write one instance in which each effect what you mentioned in (i) are used.
- Draw a simple setup which can be used to make an electro magnet and name its parts.
- State two ways by which the magnetic power of electro magnet can be increased.
- State reasons why it is considered that using LEDs are better than light bulbs.

(4) **A circuit made by a student to measure the potential difference on either side of a light bulb and the electric current through it is shown below.**

- Is this circuit suitable to fulfil his requirement?
- State reasons for your answer.
- Redraw the circuit after correcting the defect.
- State two factors which should be taken into consideration when you connect ammeter, voltmeter into the circuit in respective order.
- What is meant by resistance? What is the unit used to measure that?
- What is the name given to the resistors, in which the resistance change with the light falling onto the resistor?
- State two instances in day today life, that measuring potential difference and electric current are important.



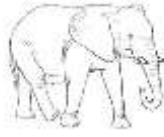
(5) **Animals can be grouped mainly as vertebrates and invertebrates.**



A



B



C



D



E

Identify the animal/s with following features and write the English letter/s representing the animal/s in the blanks given.

- | | | |
|--------|--|-------|
| (i) | Possess eyes without eyelids | ..... |
| (ii) | Gills are present as breathing organ | ..... |
| (iii) | Temperature of blood is constant | ..... |
| (iv) | Radially symmetrical body | ..... |
| (v) | Skin is covered with feathers | ..... |
| (vi) | Called as segmented worms | ..... |
| (vii) | Possess well developed external ear lobe | ..... |
| (viii) | Possess cnidocytes | ..... |
| (ix) | Streamlined body shape | ..... |
| (x) | Invertebrates | ..... |
| (xi) | Vertebrates | ..... |

(6) **Animals and plants in our environment show a vast diversity.**

- (i) What is meant by diversity?
- (ii) What are the main parts of a plant?
- (iii) What is meant by leaf arrangement?
- (iv) State one example for plants with following leaf arrangement.
 1. Leaves are on alternate sides of stem -
 2. Leaves attached in spiral manner around stem -
- (v) What is meant by photosynthetic stem? State one example for it.
- (vi) State one example for each of following types of roots.
 1. Storage of food in tap root -
 2. Aerial roots -
- (vii) What should you take into consideration when studying about plants, as a student who learn science?

(7) **Micro organisms are helpful as well as harmful to human.**

- (i) What are micro – organisms?
- (ii) Write one disease each caused by following groups of micro organisms.
Viruses, Bacteria, Protozoa, Fungi
- (iii) How can you obtain a sample to observe the micro organism called *Paramecium*?
- (iv) Who is the first scientist to observe micro organisms?
- (v) Write two uses of micro organisms.
- (vi) Write two harmful effects of micro organisms.
- (vii) State two main products manufactured using micro organisms.

(viii) Write two factors required for the activity of micro organisms.



May

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