PROVINCIAL DEPARTMENT OF EDUCATION - NORTH WESTERN PROVINCE

Second Term Test 2018

SCIENCE

Grade 7 **Time : 2 hours**

Name / Index No.

Part I

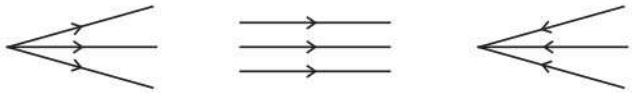
- **Select the most suitable answer and underline it.**

01. What is the energy transformation that occurs when electricity is generated by wind?
(1) Electrical energy ⟶ Kinetic energy (2) Potential energy ⟶ Electrical energy
(3) Kinetic energy ⟶ Electrical energy (4) Mechanical energy ⟶ Electrical energy

02. A fire cracker contains,
(1) Chemical energy (2) Sound energy (3) Heat energy (4) Light energy

03. What is the letter that shows the lateral inversion?
(1) O (2) S (3) V (4) H

04. Name the following light beams respectively,



(1) Converged, Diverged, Parallel (2) Converged, Parallel, Diverged
(3) Diverged, Parallel, Converged (4) Diverged, Converged, Parallel

05. The resolving power of the naked human eye,
(1) 10 mm (2) 0.01 mm (3) 1 m (4) 0.1 m

06. Sound travels more faster through,
(1) Steel (2) Water (3) Air (4) Vaccum

07. Select the answer which include parts that should be vibrated to produce sounds of the following musical instruments respectively,
(1) Membrane, String, Air
(2) Membrane, Air, String
(3) String, Membrane, Air
(4) String, Air, Membrane

08. What is the organ that absorb water in the digestive system of man?
(1) Large intestine (2) Anus (3) Small intestine (4) Oesophagus

09. What is the atmospheric layer that the international space station is situated?
(1) Stratosphere (2) Thermosphere (3) Mesosphere (4) Exosphere

10. The function of Phloem tissue in the plant body,
(1) transport food (2) transport water (3) produce energy (4) produce food

11. Pharynx of the human digestive system is the,
(1) Starting point of the digestive tract.
(2) Starting point of the respiratory tract.
(3) Common cavity of the digestive tract and respiratory tract.
(4) Starting point of food digestion.

12. The percentages of Nitrogen and Oxygen in the atmospheric layer which is the most important for living beings,

(1) 78% and 21% (2) 28% and 72% (3) 72% and 28% (4) 21% and 78%

13. Sithila thought that drying of colourful clothes under high light intensity is not suitable. The possible reason for it is,

(1) the shape of clothes is deformed by heat energy.

(2) the colours of clothes are changed by heat energy.

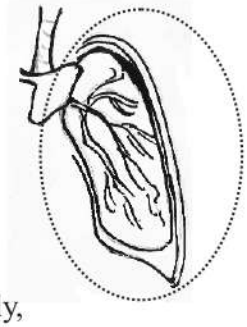
(3) over drying of clothes by heat energy.

(4) because all of the above.

14. The place where a Seismometer is installed in Sri Lanka,

(1) Matale (2) Arankele (3) Kantale (4) Pallekele

15. The following figure shows an organ belongs to the human respiratory system. The function of the circled part is,



(1) Intake of inhaled air

(2) Inhaled air gets warmed

(3) Exchange of air

(4) all the above

16. Which answer contains an acid, a base and a neutral substances respectively,

(1) Tamarind, Shampoo, Glucose (2) Glucose, Soap, Salt

(3) Lime, Soap, Vinegar (4) Soap, Glucose, Tamarind

17. Select the incorrect statement related to solar eclipse and lunar eclipse,

(1) Solar eclipse and lunar eclipse occur due to shadows.

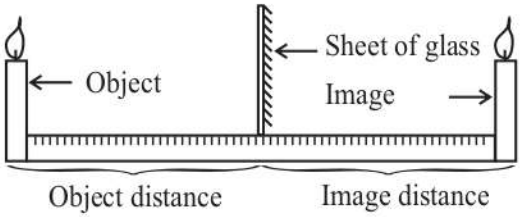
(2) Solar eclipse occurs in a new moon day.

(3) Lunar eclipse occurs in a full moon day.

(4) The earth is in between the sun and the moon in a solar eclipse.

18. Following is an activity which was done to find out the place of the image formed of an object that placed infront of a plane mirror.

Select the relationship between object distance and image distance out of the below statements.



(1) Image distance is larger than the object distance.

(2) Object distance is larger than the image distance.

(3) Object distance is twice as the image distance.

(4) Image distance is equal to the object distance.

19. What is the answer which contains a vertebrate and invertebrate respectively?

(1) Elephant, Turtle (2) Star fish, Butterfly

(3) Earth worm, Bat (4) Sea horse, Snail

20. What is the statement that can not be agreed when using foot cycles for transportation,

(1) No environmental pollution (2) Efficiency is high

(3) A good activity for excercises (4) Less expenditure

- **First question is compulsory.**
- **Answer five questions including the first question.**

01. Saveesha who is studying in grade 7, visited an exhibition with her class mates. When she entered a certain stall she was able to see her image from all sides.

(i) What is the instrument you have created in your classroom to see multiple images related to the above incident? (01m.)

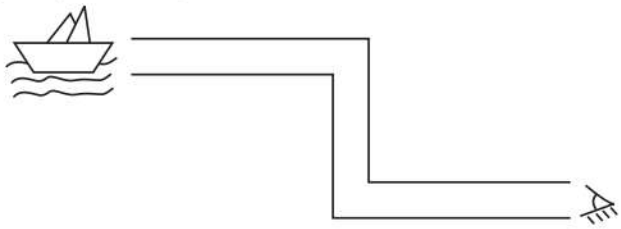
(ii) Which type of mirrors are used to create this instrument? (01m.)

(iii) Write a feature of an image formed by the type of mirror which you have mentioned. (01m.)

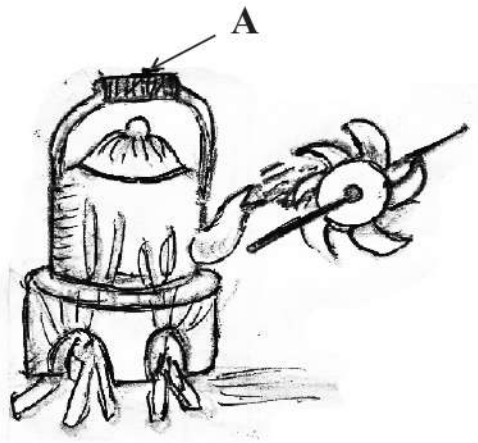
(iv) When she went forward along the exhibits stall, she saw her image smaller than her at an instance and at an another instance she saw her image larger than her. Mention two types of mirrors that are used in the above two instances respectively. (02m.)

(v) Write 2 instances where concave mirrors are used. (02m.)

(vi) Figure shows an instrument with plane mirrors. Draw its 2 plane mirrors and the way of the light ray correctly. (02m.)



02. A Mother placed the kettle on the wood hearth and fired it to boil some water. When water is boiled, Ruwan held a simple turbine to steam comes out through the spout of the kettle. Then the turbine starts to rotate and Ruwan shouted happily. Mother came to this place hearing that sound and warned Ruwan saying "Don't burn your hand".



(i) Write two sources of energy and forms of energy generated by them that you are identified related to the above incident.

Source of energy	Forma of energy

(02m.)

(ii) What is meant by energy transformation ? (01m.)

(iii) Write down the energy transformation that occurs when rotating the turbine by steam. (01m.)

B (i) When creating the handle of the kettle that is shown in the above figure, write a suitable material to make the place denoted as A. (01m.)

(ii) Write a quality which should have in this material. (02m.)

C Some toys operate by winding a spring. When winding, energy is stored in the spiral spring.

(i) How do we name the energy that stored when winding the spiral spring. (01m.)

(ii) What is the basic energy source of all the above mentioned forms of energy. (01m.)

03. A The earth and the atmosphere around it supply favourable environmental conditions to the existance of life.

(i) Name the layers which have the following features among layers that are divided from the earth surface to the inner part of the earth.

a) The layer with metals like iron and nickel are in liquid state due to high temperatures like 4400°C - 5000°C. (01m.)

b) The layer consists of rocks and soil. (01m.)

(ii) Write a method to obtain information about the inner part of the earth by geologists. (01m.)

(iii) What is the process that rocks in the inner part of the earth are brought to the surface of the earth? (01m.)

B Atmosphere is a thin layer of gases that surrounds the earth.

(i) Write two factors that change according to the altitude of the atmosphere. (01m.)

(ii) Mention five layers of atmosphere which are divided based on the above factors from earth surface to the top of atmosphere. (02m.)

(iii) What is the reason for existing a high temperature in the layer which lies the Ozone layer. (01m.)

04. Sound is generated due to Vibrations of particles of medium.

(i) What is known as Vibration ? (01m.)

(ii) Below shows an equipment which can be used in the laboratory to demonstrate that sound is generated due to vibrations. Name this equipment. (01m.)

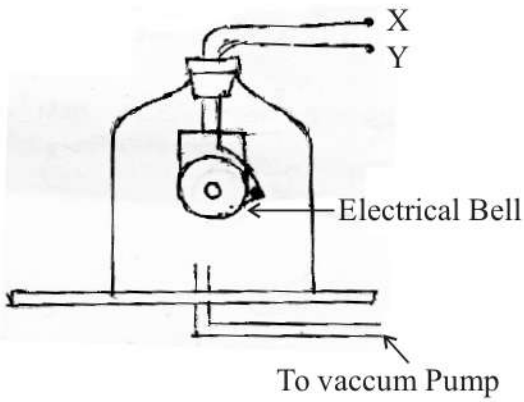
(iii) Following is a setup made to find out that a medium is essential for sound propagation.

a) To where the terminals X and Y of the above equipment should be connected? (01m.)

b) What is the observation of the above set up? (01m.)

c) What is the expected function of connecting a Vaccum pump? (01m.)

d) What is the observation after operating the vaccum pump? (02m.)



e) What is the conclusion you can come according to the above observation. (02m.)

05. (i) Name the parts shown by A, B, C, D. (02m.)

(ii) What is the function of X ? (01m.)

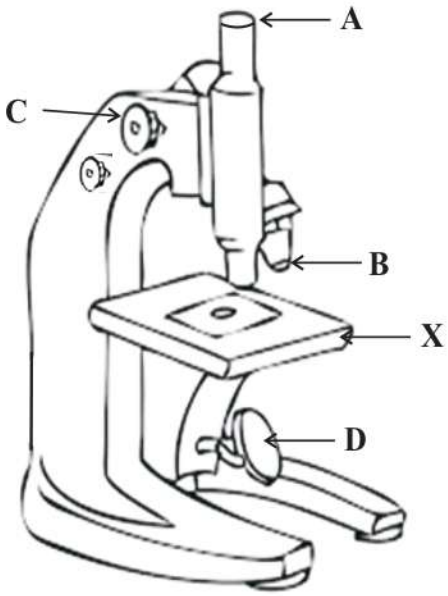
(iii) Write 02 factors to be considered when the microscope is used. (02m.)

(iv) Draw the linear diagram of a tissue (a leaf of Rhoeo / peel of onion, cheek cells, ... etc.,) which you have observed through the microscope. (01m.)

(v) The magnification power of objective lens was X40 and the magnification power of eye piece was X10 in a particular microscopic observation. What is the magnification of the microscope. (01m.)

(vi) Write an instance where the electron microscope is used. (01m.)

(vii) Draw the figure of the type of lens which is used in the compound microscope. (01m.)



06.A The process of producing energy in organisms is respiration. The respiratory process can be shown as follows.

Simple food + [1] ⟶ [2] + Carbon dioxide + [3]

(i) Rewrite the above expression by applying relevant words to 1, 2, 3 places using the below mentioned words,

★ Energy

★ Water vapour

★ Oxygen (03m.)

(ii) Draw and name the figure related to the activity which was done in your class room to demonstrate the process of respiration using a rubber membrane, rubber balloons, a bell jar, or a plastic bottle and a Y tube. (02m.)

B Below shows the organisational level of multicellular oganisms.

Cells ⟶ Tissues ⟶ Organs ⟶ Systems ⟶ Organism

(i) Name,

a) a tissue

b) an Organ

c) a system

in the plant body. (03m.)

(ii) What is the tissue which transports water and minerals through the plant body. (01m.)

Answer Sheet - Part I

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

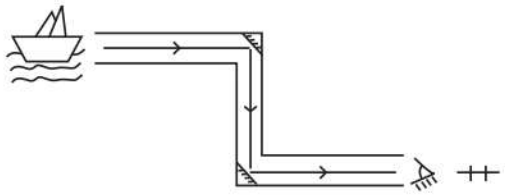
Part II

01. (i) Kaleidoscope (01m.) (ii) Plane mirror (m.01)

(iii) Size of the image is equal to the size of the object / Distance from the mirror to the object is equal to the distance from mirror to the image / Lateral inversion / Virtual (01m.)

(iv) Image small - Convex mirror (01m.) / Image Larger - Concave mirror (01m.)

(v) Used for shaving / For dentists to examine teeth of patients / Use in reflecting telescopes / To Construct solar cookers (02m.)

(vi) 

Drawing 2 mirrors at an angle of 45°C. - (01m.)

Drawing of light ray - (01m.) (total mark 09)

02.A(i)

Source of energy	Forms of energy
Steam	Heat energy
Fire wood	Chemical energy

(02m.)

(ii) Conversion of one form of energy to another form of energy (01m.)

(iii) Heat / Thermal energy → Kinetic energy (01m.)

B (i) Wood / Plastic (01m.)

(ii) Heat insulator / Poor conductors of heat (02m.)

C (i) Potential energy (01m.) (ii) Sun (01m.) (total mark 09)

03.A (i) a) Core (01m.) b) Crust (01m.)

(ii) by examining earthquakes / By examining different types of rocks which are brought out by volcanic eruptions. (01m.)

(iii) Volcanic eruptions (01m.)

B (i) Pressure / Temperature (02m.)

(ii) Troposphere, Stratosphere. Mesosphere, Thermosphere, Exosphere (02m.)

(iii) Absorb ultraviolet rays of the sun by ozone layer (01m.)

(total mark 09)

04. (i) to and fro movement of partictes of a medium (01m.)

(ii) Tuning fork (02m.)

(iii) a) To electricity / to battery (01m.)

b) Hearing the ringing of electric bell (01m.)

c) to evacuate air in the bell jar (01m.) d) ringing of he bell faded off (02m.)

e) Sound needs a medium to travel (02m.) (total mark 09)

Answer Sheet

05. (i) A - Eye piece B - Objective lens C - Coarse adjustment D - Mirror(½ x 4 = 02m.)

(ii) To keep the slide of the specimen (01m.)

(iii) For two facts (02m.)

(iv) To a correct diagram (01m.) (total mark 09)

(v) Magnification of the microscope = Magnification of the eye piece x Magnification of the objective lens

= 10 x 40

= 400 (01m.)

(vi) ★ To observe the activity of pathogenic microorganisms.

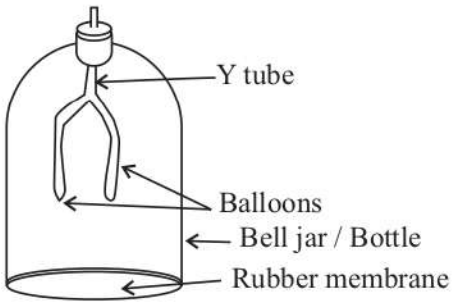
★ To lean about internal structure of the cell in detail.

★ Use in genetic research. (01m.)

(vii)  (02m.)

06.A (i) 1 - Oxygen 2 - Energy / Water vapour 3 - Water vapour / Energy (03m.)

(ii)



(02m.)

B (i) a - Xylem / Phloem (01m.) b - Stem / Buds / Fruits / Leaves / Flowers / Roots (01m.)

c - Shoot system / Root system (01m.)

(ii) Xylem tissue (01m.) (total mark 09)