

SOUTHERN PROVINCIAL DEPARTMENT OF EDUCATION

MID YEAR TEST - 2019

GRADE - 7

SCIENCE

Name/ Index No :-

Time : 2 Hours

Part - I

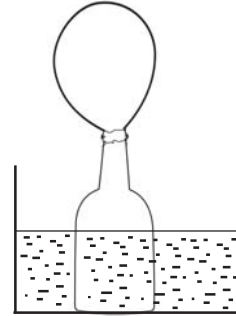
1. **Underline the most suitable answer.**

01. Which of the following plants is a non-flowering plant?
(1) Idda (2) Jak (3) Salvinia (4) Katarolu
02. The group of plants in which root system is adapted for vegetative propagation is,
(1) Banyan, Kirala, Betel (2) Jak, Bread fruit, Curry leaves
(3) Pandanus, Sweet Potatoes, Mimosa (4) Bread Fruit, Slime Apple, Curry Leaves
03. Which part of the flower becomes the fruit after pollination?
(1) Ovary (2) Ovule (3) Stigma (4) Pollens
04. Select the answer which contains only monocotyledonous plants.
(1) Paddy, Chick Pea (Kadala), Green Grams (2) Coconut, Maize, Paddy
(3) Peanut, Paddy, Coconut (4) Jak, Coconut, Bread Fruit
05. The positive (+) terminal of a simple voltaic cell is,
(1) Copper plate (2) Carbon rod (3) Zinc plate (4) Lead plate
06. The substance that dissolves well in water is,
(1) Glucose, Blue powder, Condis (2) Sugar, Salt, Wax
(3) Salt, Naphthalene balls, Baking soda (4) Baking soda, Vinegar, Condis
07. This is not a plant with a weak stem.
(1) Pepper (2) Betel (3) guava (4) Winged beans
08. The animal which does not use water as its respiratory medium is,
(1) "Kelavalla" (2) Thilapiya (3) "Diyabariya" (4) Shark
09. The colour of pH papers present in the laboratory is,
(1) Blue (2) Red (3) Yellow (4) Orange
10. What property of water is the reason for using water to control heating the vehicle engine excessively?
(1) Solvent property (2) Coolent property
(3) Lubricant property (4) All the above properties

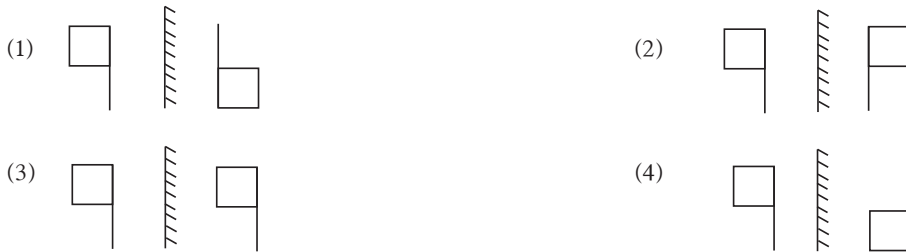
11. The energy transformation taken place when a winding clock operates is,
- (1) Electric energy \rightarrow Kinetic energy (2) Kinetic energy \rightarrow Potential energy
 (3) Potential energy \rightarrow Kinetic energy (4) Chemical energy \rightarrow Electric energy

12. A balloon was fixed into the mouth of the bottle and bottle was immersed in hot water. The main reason for inflating the balloon is,

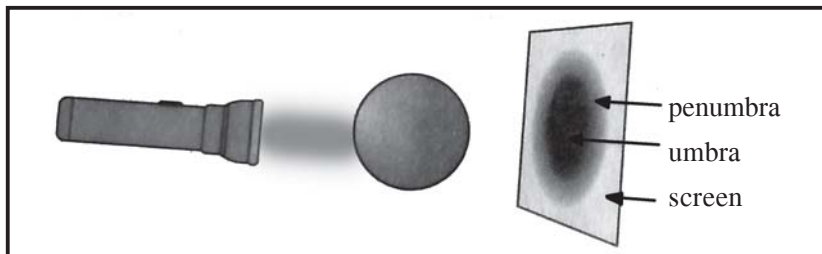
- (1) expanding the bottle
 (2) expanding water
 (3) expanding air
 (4) all of the above



13. Select the correct diagram which shows an object placed in front of a plane mirror and its image.



14. The instrument which produces its sound by vibrating strings is,
 (1) flute (2) horaneva (3) sitar (4) tabla
15. The most suitable mirror for a dentist to observe teeth is,
 (1) Concave mirror (2) Convex mirror (3) Plane mirror (4) All of the above
16. The energy possessed by a nut in a tree is,
 (1) potential energy (2) kinetic energy (3) chemical energy (4) thermal energy
17. This diagram shows a set-up used to demonstrate formation of umbra. Select the incorrect statement regarding it from the given statements.



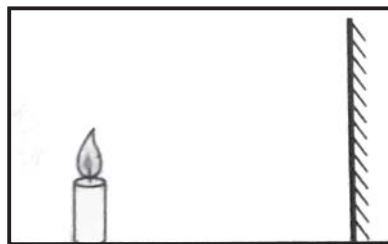
- (1) Umbra is formed due to not travelling light through the ball.
 (2) Umbra is not cleared when the ball and the torch are very closer.
 (3) Penumbra is formed when the torch is taken away from the ball.
 (4) Penumbra disappears when the torch is taken away from the ball.

18. Which part of the compound microscope, controls the amount of light reaches to the specimen?
(1) Eyepiece (2) Stage (3) Objective Lens (4) Diaphragm

19. A lighted candle is placed in front of a plane mirror.

The features of the image formed by it are,

- (1) Upright, real, equal to the size of the object.
(2) Inverted, virtual, equal to the size of the object.
(3) Upright, virtual, equal to the size of the object.
(4) Upright, virtual, smaller than the object.



20. The gas which avoids entering harmful radiations from the sun to the earth is,

- (1) nitrogen (2) oxygen
(3) ozone (4) carbon dioxide

Part - II

1. **Question no 01 is compulsory. Select any four questions from the other six questions and answer for 05 questions.**

01. (A) The list below shows several species of plants and animals identified by a group of students in a field trip.

Coconut, Mango, Banana, Baenduru, Rampe,
Mimosa, Cycas, Grasshopper, Rat snake,
Butterfly, Squirrel, Earthworm

- (i) Name the main two methods that the plants in the above list can be classified.
(ii) Write an example each for the plants which show characteristics shown below from the list.
(a) Stilt roots
(b) Root nodules
(c) Underground stem
(iii) What is the main difference between the root systems of coconut and mango plants?

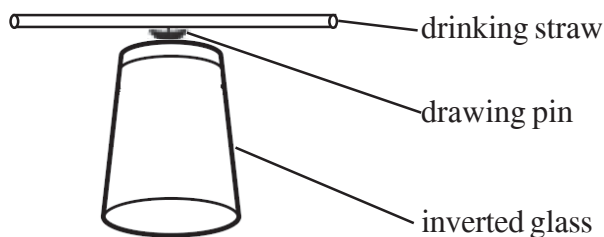
(B)

- (i) Name the two main groups that the animals present in the list belong.
(ii) What is the characteristic you used to separate them for the above two groups.

(C) There are instances of obtaining advantages for animals due to blending their body colour with the environmental colour.

- (i) What is the scientific word used for introducing this adaptation?
(ii) Write one advantage obtained by animals from it.
(iii) Classify the plants coconut, mango, banyan, mimosa, cycas using a dichotomous key.

02. (A) This diagram shows how a drinking straw rubbed with a polythene membrane is placed on a drawing pin which is kept on an inverted glass in a study of static electric charges.

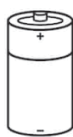


- (i) a. What can be observed when a similar drinking straw is taken closer to the above drinking straw?
b. What can be observed when the polythene membrane used for rubbing is taken closer to the above drinking straw?
(ii) Write the reasons for the above observations in the instances (a) and (b).
(iii) What is the advantage of balancing the drinking straw on the glass with the help of a drawing pin?

(B)

- (i) Write the type of static charges obtained by each material when a glass rod is rubbed with a silk cloth.
(ii) Write an event related to static electric charges that takes place in day to day life.
(iii) Write one instance of using static electric charges.
(iv) What is the instrument that store static electric charges?

03. These diagrams show several sources of electricity.



A



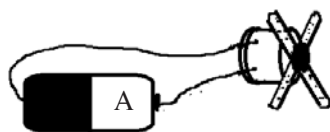
B



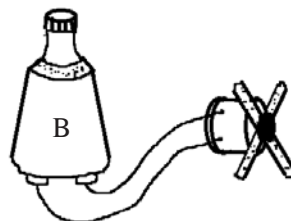
C

- (i) Name the sources of electricity shown as A, B and C.
(ii) Write separately the methods of producing electricity by them.
(iii) What is the principle used to produce electricity by B?
(iv) Write the energy transformation taken place in the production of electricity by C.

- (B) The X and Y diagrams show how electricity is supplied to A and B sources of electricity separately by connecting them to a motor.



X



Y

- (i) Write separately the observations that can be seen in the wind vane connected to the motor in the instances X and Y.
- (ii) Write the reason for these observations.

04. (A) Several substances present in the home are shown below.

Water, Vinegar, Salt, Baking Soda, Sugar, Soap, Wood ash, Lemon, Milk of magnesia

- (i) Write selecting an acidic substance and basic substance from the above substances.
- (ii) Name two natural substances obtained from the environment that can be used to separate acids and bases.
- (iii) What is the common name used to identify such materials?
- (iv) What is the most common substance used as the medicine for gastritis?
- (v) Explain why this substance can control gastritis.

- (B) The solutions of salt, vinegar and baking soda are present in three test tubes named as P, Q and R. The table below shows the observations obtained from an activity done to identify them.

Solution	When blue litmus is added	When red litmus is added
P	Blue	Blue
Q	Red	Red
R	Blue	Red

- (i) Identify the solutions relevant for P, Q and R letters and name them.
- (ii) When pH papers are added, what solution will give the colour relevant for number 7?

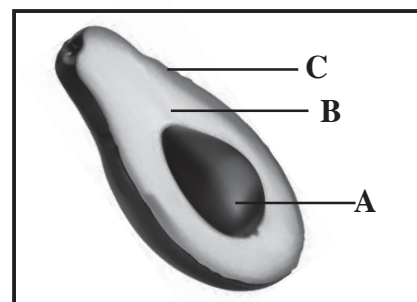
05. (A) The diagram below shows a set-up operated using thermal energy.

- (i) What is the name used to identify this set-up?
- (ii) Write a special observation that can be seen when the water in the tin vessel is heated?
- (iii) What are the materials used to prepare the turbine?
- (iv) Write the energy transformation taken place when this set-up is operated.



(B) This diagram shows a cross section of an avocado.

- (i) Name the parts respectively present in the earth which correspond to A, B, C areas.
- (ii) In which area do tectonic plates exist?
- (iii) On which tectonic plate is Sri Lanka situated?



06. (A) This diagram shows how a motor and a wind vane are connected to a solar panel.

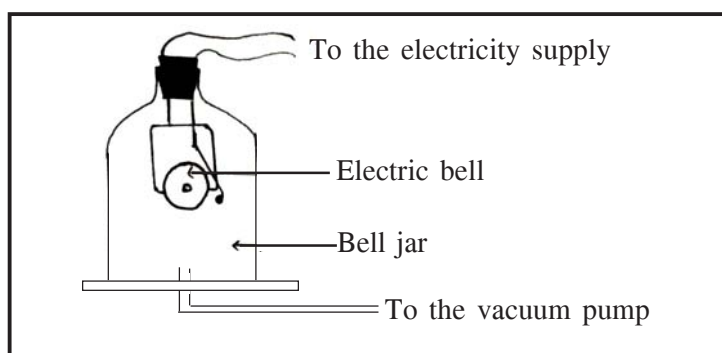
- (i) With what energy does the solar panel operate?
- (ii) Wind vane rotates when the motor is operated.

Write the energy transformation taken place in the motor.

- (iii) What is the observation that can be seen when a torch bulb is connected removing the motor and the wind vane?



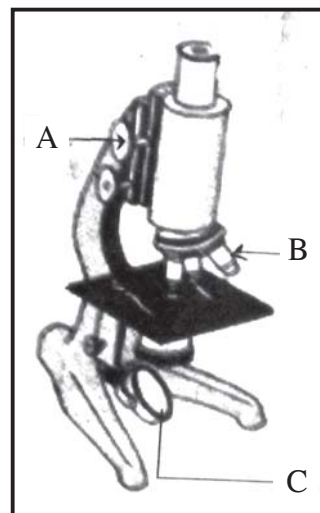
(B) The diagram below shows a set-up prepared in an activity related to sound.



- (i) To demonstrate what characteristic related to sound is this set-up prepared.
- (ii) What is the function done by the vacuum pump?
- (iii) What is the observation obtained when the vacuum pump is operated while electric bell is ringing?
- (iv) Through which medium does sound travel faster out of the media solid, liquid and gas?

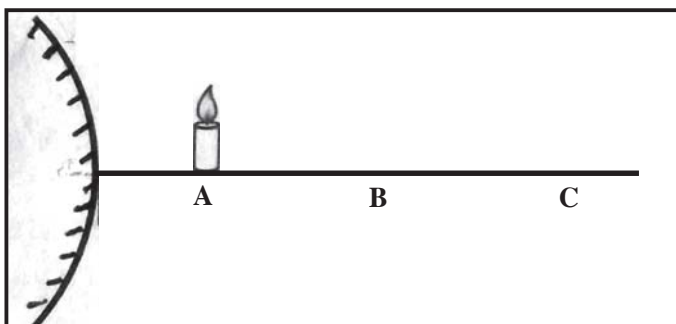
07. (A) The diagram below shows the parts of a compound microscope.

- (i) Name the parts shown by the letters A, B and C.
- (ii) Write an instance of using this instrument.
- (iii) The magnification of the eye piece was X10 and the magnification of the objective lens was X20 in a microscopic observation. What is the magnification of the microscope?
- (iv) What is the maximum magnification of a compound microscope?



(B)

- (i) What type of mirror is shown by the diagram shown below?



- (ii) Write two features of the image obtained when the candle is placed at A.
- (iii) Will there be a change or not in the above features when the candle is placed at the places B and C?
- (iv) Write an instance of using the above mirror in day to day life.

SOUTHERN PROVINCIAL DEPARTMENT OF EDUCATION
MID YEAR TEST - 2019
GRADE - 7
SCIENCE ANSWER

Part - I

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

Part - II

01. A. i. Flowering plants, Non flowering plants (02 Marks)
 ii. a) Rampe
 b) Mimosa (03 Marks)
 c) Banana (02 Marks)
 iii. Coconut has a fibrous root system and mango has a tap root system.
- B. i. Vertebrates, Invertebrates (02 Marks)
 ii. Having a vertebral column or not. (01 Mark)
- C. i. Camouflage (01 Mark)
 ii. Protection / supplying food (prey) (01 Mark)
 iii. For any correct dichotomous key (04 Marks)
 (16 Marks)
02. A. i. a) Repulsion (01 Mark)
 b) Attraction (01 Mark)
 ii. Repulsion takes place due to like charges. (01)
 Attraction takes place due to unlike charges. (01) (02 Marks)
 iii. Easy to obtain observations / (due to reducing friction) (01 Mark)
 Drinking straw rotates easily.
- B. i. Glass rod (+) Silk cloth (-) (02 Marks)
 ii. Occurrence of thunders.
 Hearing a tick sound when ironing clothes.
 Attracting hair towards the television, when the hand is kept closer to the TV.
 (For any answer) (01 Mark)
 iii. Photocopy mechine, Electronic circuits like television and radio (For any answer) (01 Mark)
 iv. Condensor (02 Marks)
 (11 marks)
03. A. i. A - Dry cell
 B - Dynamo
 C - Solar cells / Solar panel (02 Marks)
 ii. A - By a chemical process
 B - Movement / by rotation
 C - By solar energy (03 Marks)
 iii. Electro magnetic induction (01 Mark)
 iv. Light energy → electric energy (01 Mark)

Answer

- B. i. X - Rotating the wind vane. (01 Mark)
Y - Vibrating the wind vane either sides (01 Mark)
- ii. • Flowing a direct current (to one direction) through the dry cell in X. (01 Mark)
• Flowing an alternating current (changing the direction alternately) through the dynamo in Y. (01 Mark)
-
04. A. i. Acidic substance - Vinegar / Lemon (02 Marks)
Basic substance - Baking Soda / Soap / Ash (02 Marks)
- ii. Juice of shoe flowers / juice of nil katarolu flowers / turmeric boiled water / arecanut boiled water / juice made by boiling red cabbage / Girithilla flower extraction. (02 Marks)
- iii. Indicators (01 Mark)
- iv. Milk of Magnesia (01 Mark)
- v. Acids in the stomach get neutralized due to basic property (01 Mark)
- B. i. P - Baking Soda
Q - Vinegar
R - Salt (03 Marks)
- ii. Salt (01 Mark)
-
05. A. i. Steam turbine (01 Mark)
ii. Rotating the turbine (01 Mark)
iii. Cork stopper / Aluminium plate / Wire (02 Marks)
iv. Heat energy → kinetic energy (02 Marks)
- B. i. A - Core
B - Mantle
C - Crust (03 Marks)
- ii. C / Crust (01 Mark)
- iii. Australian Indian tectonic plate (01 Mark)
06. A. i. Solar energy (11 Marks)
ii. Electric energy → Kinetic energy (02 Marks)
iii. Lighting the bulb (01 Mark)
- B. i. Medium is needed for transmission of sound. (02 Marks)
ii. Removing air inside the bell jar (02 Marks)
iii. Sound of the electric bell disappears gradually. (01 Mark)
iv. Solid (01 Mark)
-
07. A. i. A - coarse adjustment knob
B - Objective lens
C - Mirror (03 Marks)
- ii. To observe micro-organism / To observe plant cells / To observe animal cells. (Any acceptable answer) (01 Mark)
- iii. $10 \times 20 = 200$ (01 Mark)
- iv. 2000 times (01 Mark)
- B. i. Convex mirror (01 Mark)
ii. Upright / Small / Virtual (02 Marks)
iii. No (01 Mark)
iv. Side mirrors of vehicles (01 Mark)
-
- (11 Marks)**
-