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Provincial Department of Education - NWP

Third Term Test - Grade 07 - 2023
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SCIENCE - I

Time: 2 hrs

Name / Index No:

Part I

- **Answer to all questions.**
- **Select and underline to the most suitable answer.**

1. A flowering plant is,

   1. Cycas 2. Shoe flower 3. Drynaria (Beduru) 4. Fern

2. When a bee stings, the appropriate material to apply is,

   1. Lime juice 2. Baking soda 3. Salt water 4. Vinegar

3. Which device converts electrical energy into thermal energy?

   1. Solar cell 2. Dynamo 3. Immersion heater 4. Dry cell

4. In the music room of a school, musical instruments were stored in cupboards as P,Q,R,S.

P	Q	R	S
Drum **Rabana** **Udakkiya**	**Horana** Flute **Conch shell(Hakgediya)**	Guitar Violin Sitar	**Talampata** Xylophone **Pantheruwa**

   Among the above sets, the musical instruments that produce sound by vibrating membrane is,

   1. P 2. Q 3. R 4. S

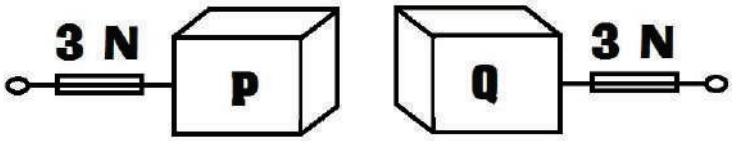
5. What is the answer given in order of organizational levels of living organism?

   1. Cell → system → organ → tissue → organism
   2. Cell → tissue → system → organ → organism
   3. Cell → tissue → organ → system → organism
   4. Cell → organ → system → tissue → organism

6. What is the sentence that does not match with applying digits to the simple thermometer constructed in the laboratory?

1. The numbers should be marked on the paper strip.
2. Read the digits of the mercury glass thermometer.
3. Remove the setup from the hot water and then mark the value read on the paper strip.
4. A few readings of the mercury glass thermometer should be marked on the paper strip.

7.



The diagram shows how two identical wooden blocks P and Q are moved a distance of five meters by applying a force. Accordingly that,

1. Since the applied forces are equal, the displacements of P and Q are equal.
2. Displacements of P and Q are unequal because the direction of force is different.
3. As the direction of force is different, the distance of P and Q are different.
4. Since the force applied is equal, both the distance and displacement of P and Q are equal.

8. A food rich in carbohydrates is,

1. Rice 2. Eggs 3. Sesame seeds 4. Cabbage

9. Which of the following substances is slightly soluble in water?

1. Glucose 2. Kerosene 3. Wax 4. Blue powder

10. What is the false statement from the given statements according to how electricity is produced?

1. Vehicle batteries - by a chemical process
2. Dynamo - by movement
3. Solar cells - by light
4. Electrical cells - by movement

11. Which of the following scientist first pointed out that light substances are attracted to certain substances when they are rubbed?

1. Benjamin Franklin
2. William Gilbert
3. Newton
4. James Watt

12. Nickel and Aluminum metals of earth are located respectively,

1. Core and Crust
2. Mantle and Crust
3. Mantle and Core
4. Crust and Core

13. The lens near the eye when observed under compound light microscope,

1. Concave lens
2. Eye piece
3. Objectives
4. Diaphragm

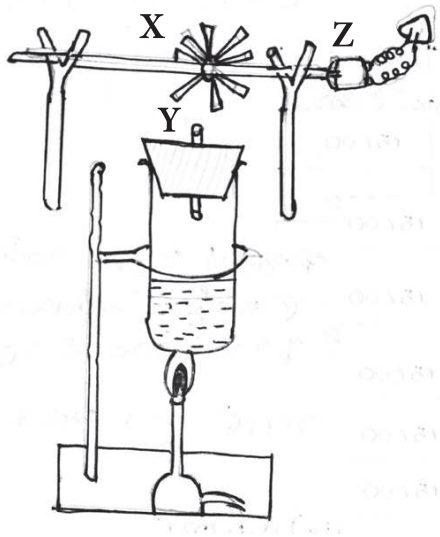
14. Choose the compound that belongs to the mineral of the soil.

1. Humus
2. Air
3. Water
4. Clay

15. Which layer of the atmosphere contains the most ozone gas?

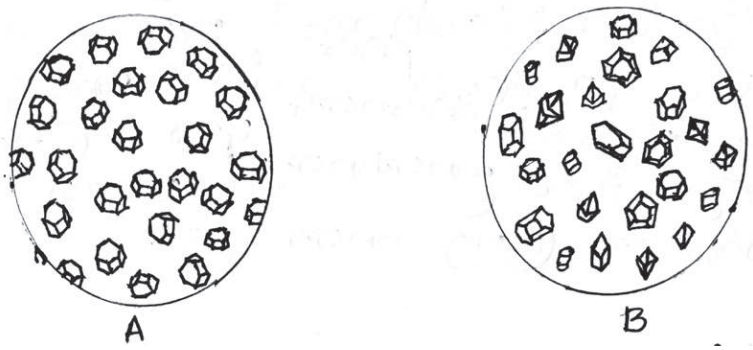
1. Mesosphere
2. Troposphere
3. Stratosphere
4. Thermosphere

16. An arrangement where electricity can be generated is shown in the picture. Choose the correct statement according to it.



1. Reducing the diameter of the Y hole increases the brightness of the bulb.
2. Increasing the area of the pellets in X decreases the rotation speed.
3. A chemical reaction produces electrical energy in here.
4. A renewable energy source is used to run the plant.

17. Two pieces of stone A and B were taken and scraped with a strong knife blade. The following diagram shows the observations of the two powder samples under the medium power of the microscope.



Choose the correct statement to the above observations.

1. A is a mineral because all crystals are identical.
2. B is a mineral because it contains various crystals.
3. A is a rock because the crystals are all the same.
4. Insufficient data to reach a correct decision.

18. With a backbone. Nourish from milk. The skin is hairy. Choose the answer that includes the category of animal that matches the above characteristics.

1. Squirrel, Deer, Cow, Rat
2. Cat, Kingfisher, Rat
3. Bat, Hawk, Parrot
4. Cow, The Yellow-billed Babbler (Demalichcha), Bat

19. Choose the answer that correctly indicates how the image of the letter **P** looks like observed in a plane mirror.

1. **P**
2. **ꟼ**
3. b
4. d

20. As a student learning science, which of the following should you do?

1. Burning garbage.
2. Use of fossil fuels whenever possible.
3. Burying things like polythene and batteries.
4. Using solar heat to heat water.

Part II

Instructions:

- 1st question is compulsory.
- Answer 4 questions out of 6 questions.
- Use another sheet for write your answers.
- 16 marks allocated for the first question and 11 marks for the remaining questions.

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01) The image below shows an environment observed by a group of grade 7 students.

The following were observed in the environment observed by the students.

- A few small empty bottles
- Dead fish
- Fishbone templates
- The seeds of the "Hora" plant
- A few floating coconuts
- Paper boat
- Small cashew plant
- Mushrooms formed in the haystack

Answer the following questions related to the above environment.

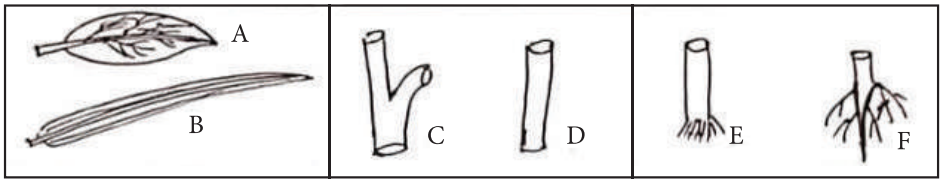
(A) (i) By which method that the following seeds are dispersed?

a. Coconut (01 mark)

b. "Hora" (01 mark)

(ii) Which plant family does the cashew plant belong, according to the number of seed leaves in the seed? (01 mark)

(iii) (a) From the following plant parts, select and write the letters representing the leaves, stem and root of the paddy plant. (01 mark)



(b) Write a function performed by the root system of this paddy plant. (01 mark)

(iv) Write a plant with compound leaves found in this environment. (01 mark)

(v) Students who brought some water from river into the classroom were tested for micro-organisms.

(a) Name the device they used for this. (01 mark)

(b) On which part of the apparatus was the glass slide placed? (01 mark)

(vi) The "Pera Kolayaa" is on a guava leaf took the same shape and color as the guava leaf. So it was difficult to distinguish it easily.

(a) What is the term used to mention the difficulty in distinguishing animals easily from their environment? (01 mark)

(b) Write an advantage of it to these animals. (01 mark)

(B) (i) Students say that the water in this stream is polluted.

(a) Write an observation here to identify water is polluted. (01 mark)

(b) Write one human activity that could have caused this water to become polluted. (01 mark)

(ii) A paper boat placed on water by a student was float down stream. Which energy does flowing water have? (01 mark)

(iii) The students brought the mushrooms to the laboratory which were on a pile of hay in the haystack near the farmer's house and tested for protein.

(a) One step of this test is given below. Write the next two steps with the chemicals are added.

1st Step - Take about 2 ml of the solution prepared by grinding mushrooms and dissolving them in water in a test tube. (02 marks)

2nd Step -

3rd Step -

(b) What can be the conclusion of this experiment? (01 mark)

(Total 16 marks)

02) (A) Mirrors are used in various activities of daily life.

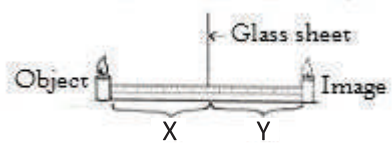
(i) Given below are some such cases. Write down which type of mirror is used in those cases.

(a) To increase the number of goods in stores. (01 mark)

(b) To focus light on to the microscope stage. (01 mark)

(ii) Draw and show how the mirror should be placed at the case indicated in 'a' above. (01 mark)

(iii) The image below shows an activity done by taking two identical candles One identical candle was placed on the image of the candle placed in front of the glass plate.



(a) Write the observation regarding the size of the image. (01 mark)

(b) If the x distance is 7 cm, what is the y distance? (01 mark)

(B) Some of the foods we eat contain fiber as an ingredient. Certain fibers are microscopic and the magnification and resolution of the microscope are important when observing them.

(i) (a) Define resolution. (01 mark)

(b) Write an instance where electron microscope is used in the field of biology. (01 mark)

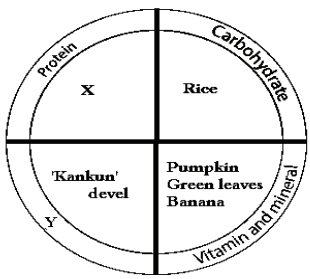
(ii) Mention an importance of consuming fiber rich foods. (01 Mark)

(iii) Eating a balanced diet is very important for staying healthy.

(a) What are the types of nutrients contained in a balanced diet? (01 mark)

(b) Below is a balanced meal prepared for lunch by a grade 7 student.

Write what matches the x and y positions there. (02 Marks)



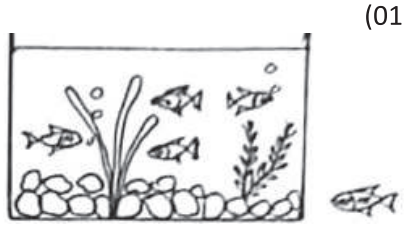
(Total 11 marks)

03) (A) A fish swimming in a fish tank is pulled out of the water by a small child. After a while the fish was dead.

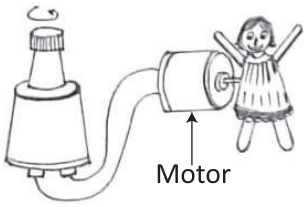
(i) Why did the fish die? (01 mark)

(ii) a) Growing aquatic plants in a fish tank is very important. What is the property of water that allows fish to survive in water? (01 mark)

b) Write another case where the property mentioned in 'a' is used. (01 mark)



(B) Generating electricity is also a benefit of water. Dynamo is used for this.
In the picture below shows a design called "Dancing Rukada Pancha " made from cardboard by a child using a dynamo.



i) How does the "Rukada Pancha" move when the head of the dynamo rotates in one direction during operation? (01 mark)

ii) What is the principle used in generating electricity by the dynamo used here? (01 mark)

iii) a) What is the name which can be used to introduce the current produced by the above circuit according to the direction of the current flow? (01 mark)

b) What instrument can be used to detect the direction of the current? (01 mark)

iv) The student said that when a dry cell is connected in place of the dynamo, "Rukada Pancha" start to Jumping and dancing (Rotating).

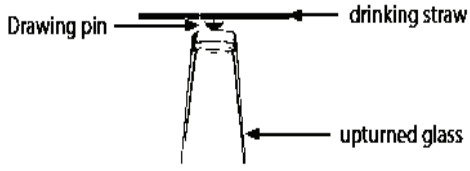
a) Briefly explain the reason for it. (01 mark)

b) How was electricity produced in the dry cell? (01 mark)

(C) The picture below shows a drinking straw rubbed with a piece of polythene placed on an upturned glass.

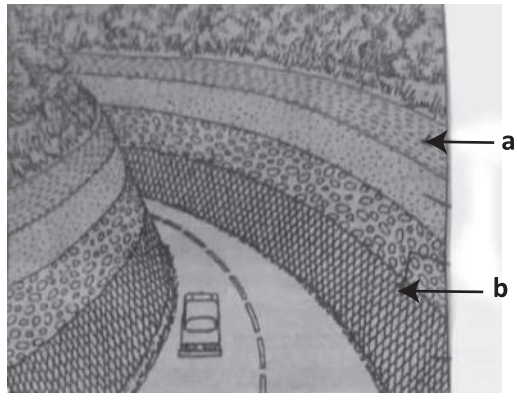
i) Light substances were attracted when brought close to the drinking straw. What is the reason for that? (01 mark)

ii) When a negatively (-) charged rod brought towards the drinking straw is repelled. What type of charge is on the drinking straw? (01 mark)



(Total 11 marks)

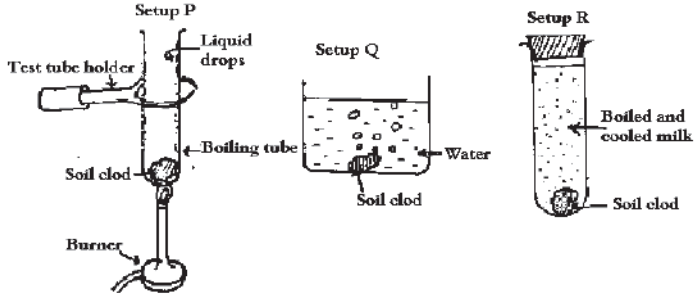
04) (A) The diagram clearly shows how the vertical section of the earth's crust is formed when a road is cut through the middle of a mountain.



i) Write the name of the vertical section of the natural soil. (01 mark)

ii) Three main areas can be identified in a soil profile. Name the areas **a** and **b** mentioned here. (01 mark)

iii) Three soil samples taken from the hill without break the structure were used separately for three activities as follows.



a) Write an observation obtained when R is kept for one day. (01 mark)

b) Write the name of the chemical substance used to detect liquid droplets deposited on P. (01 mark)

c) Write a benefit of the identified compound from Q to the plants. (01 mark)

iv) Rock weathering occurs in two ways. Write the following type of weathering.

a) Fruit juice falling on rocks. (01 mark)

b) Water that collects between cracks in the rock turns into ice. (01 mark)

v) You are provided with the following materials to find which soil sample holds the least water.

- Three soil samples of 150 g each
  - a) Under a tree
  - b) From the river bank
  - c) From a paddy field
- Three 50 ml measuring cylinders
- Three glass funnels
- Three filter papers for each
- Three beakers with 50 ml of water

Draw a labeled diagram of an activity that can be done using the above materials. (02 marks)

(B) Write the source of energy and renewable/non-renewable according to the letters in the blank box as per the description given below.

i)
- High heat energy released from magma.
- There is also solar heat that enters through the cracks of the earth.
- Contributes to the formation of hot springs.

Source of energy	S -
Renewable/Non-renewable	V -

(01 mark)

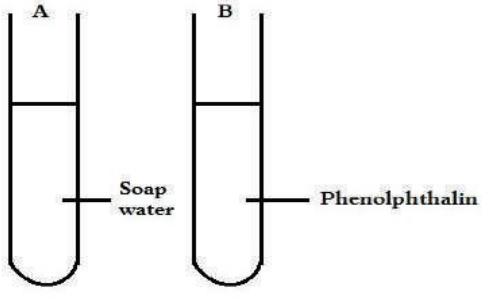
ii)
- Trapped in underground caves.
- Threats to environmental pollution during consumption are low.
- Methane gas is also included.

Source of energy	U -
Renewable/Non-renewable	W -

(01 mark)

(Total 11 marks)

05) (A) Some daily used substances and the chemicals used in laboratories can be identified as acids, bases and neutral substances.



i) What is the color produced when a drop of the solution in B is added to tube A? (01 mark)

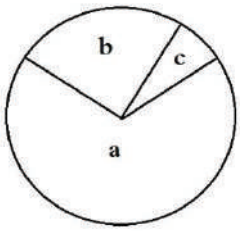
ii) Write a substance you find at home as a replacement to the liquid in tube B. (01 mark)

iii) Write a substance which has the similar properties as soap water which you found in the lab. (01 mark)

(B) Earth is made up of many tectonic plates.

i) Write a way of geologists obtains information about the nature of the Earth's interior. (01 mark)
ii) Which tectonic plate does Sri Lanka belong to? (01 mark)
iii) What is the name of the phenomenon caused by the collision of two tectonic plates? (01 mark)
iv) Which of the Earth's layers has the highest temperature? (01 mark)

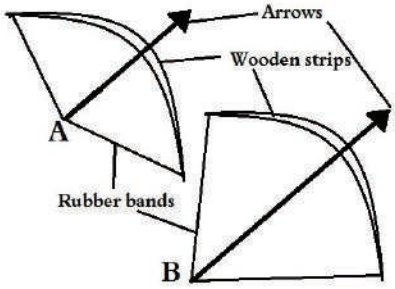
(C) Below is a picture showing the main constituents of air in the Troposphere.



i) Name the types of gases a and b. (02 marks)
ii) Write a benefit one of that gas. (01 mark)
iii) What is the natural process which b gas enters to the environment? (01 mark)

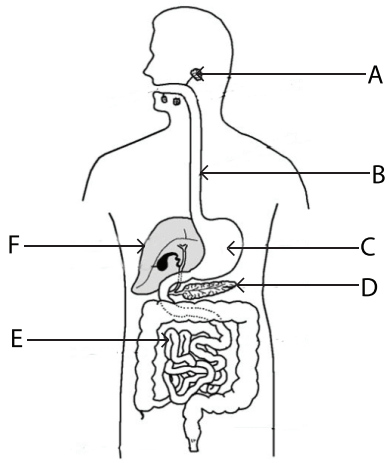
(Total 11 marks)

06) (A) Two students used a rubber banded bow and shot two arrows into the distance.



i) What is the type of energy stored in rubber band? (01 mark)
ii) What is the energy transformation that occurs when shooting arrows? (01 mark)
iii) By which method did the student get the energy to shoot the arrows? (01 mark)
iv) Which arrow is thrown the farthest? A or B? (01 mark)

(B) Below is a linear diagram of the digestive system.



i) Write the English letter for two parts of the digestive system. (02 marks)
ii) Write the English letter for two glands that secrete digestive juices. (02 marks)
iii) Name a system in a plant. (01 mark)

(C) i) Vibrations of which structure helps to produce our voice? (01 mark)
ii) Explain why two people talking in space cannot be heard. (01 mark)

(Total 11 marks)

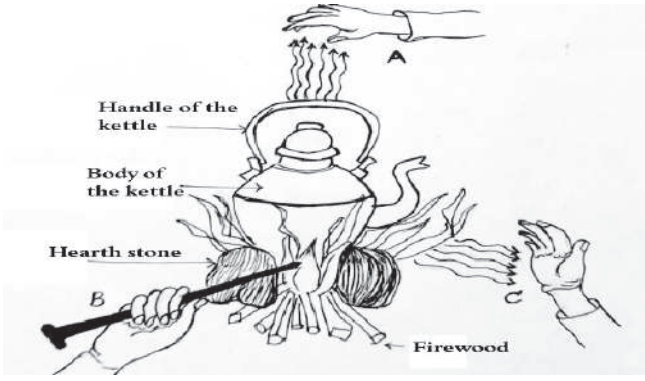
07) (A) A school student suddenly fell ill and was taken to the hospital. The following table is shown data recorded by measuring his body temperature in degrees of Celsius every day at 4 pm.

Date	01	02	03	04	05	06	07	08	09
Temperature	40	41	41	40.6	40.4	39.5	39	37	37

i) How many days did it take for his body temperature return to normal? (01 mark)

ii) Name the liquid contained in the device that measured body temperature and write the type of energy received by that liquid. (01 mark)

iii) Name the temperature at which the cologne evaporates when a cloth impregnated with cologne is placed on the forehead. (01 mark)

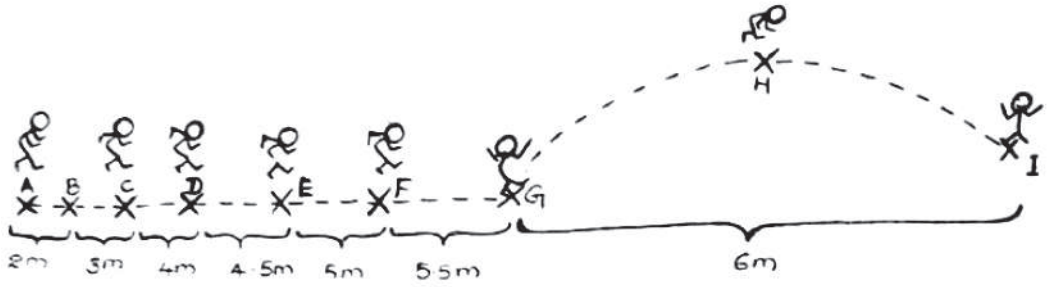


iv) In the diagram above showing the heating of a kettle, write down the two ways in which heat is transferred to arms A and B. (01 mark)

v) Name another location on this diagram where heat flows as B. (01 mark)

vi) Draw and briefly describe a simple activity that can be done to show that the material inside the dark surface is heated rapidly by the heat flowing in the C method mentioned here. (02 marks)

(B) The points of motion of a student participating in a long jump event is represented by the crosses (**x**).



i) Write the letters that can show the distance in this motion. (01 mark)

ii) What is the maximum displacement? (01 mark)

iii) Write which factor affecting the force changes in moving from A to G and G to I. (01 mark)

iv) A newton balance calibrated in grams and in Newton was procured and three objects were weighed and the information was entered in a table.

The object weighed	Mass (g)	Weight (N)
Packet of Sugar	100 g	1 N
Piece of Stone	200 g	2 N

v) a) Express the value of 1 N in grams.
b) Write 500 g in Newton.
(01 mark for both)

(Total 11 marks)