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Second Term Evaluation - 2016

7 පුද්‍රය  
ත්‍රිම් 7  
Grade 7

විද්‍යාව  
Science

විට පිටපත  
Two Hours

Name : ..... Index No. .....

Part I

- Answer all questions
- Select the correct answer and underline it.

(1) A substance that converts blue litmus into red is,  
(1) water (2) vinegar (3) lime water (4) surgical spirit

(2) A patch was formed when a piece of soap is kept on an aluminium lid. Reason for this,  
(1) since soap is an acidic substance it reacted with aluminium  
(2) since soap is a salt it reacted with aluminium.  
(3) since soap is a basic substance it reacted with aluminium.  
(4) since soap is an indicator it reacted with aluminium.

(3) Advantage of the stream-lined body shape to the fish is,  
(1) easy to balance the body weight. (2) easy to go up in water  
(3) easy to catch the prey (4) easy to move/swim in water.

(4) Animals show various adaptations for their safety. An animal showing the same colours and patterns of plant leaves is,  
(1) caterpillar (2) butterfly (3) leaf insect (4) stick insect.



Out of the above animals, group of invertebrate animals is,

(1) caterpillar, worm, snail (2) gecko, fish, frog (3) fish, worm, butterfly (4) snail, worm, gecko

(6) Motion of an object by a push or a pull is,  
(1) doing a work (2) utilizing energy (3) applying a force (4) all of the above

(7) An incident related with kinetic energy is,  
(1) a stretched bow (2) blowing wind  
(3) water stored in a reservoir (4) water in the top of a water fall

(8) "Joule" (J) is used to measure,  
(1) pressure (2) power (3) energy (4) force

(9) Energy needed for the artificial satellites is received by,  
(1) petrol (2) electric generators (3) solar panels (4) dry cells

(10) Energy needed to evaporate sea water in the salt industry is,  
(1) kinetic energy      (2) potential energy      (3) heat energy      (4) chemical energy

(11) What will happen when a narrow, parallel beam of light is directed on a convex mirror?  
(1) light is diverged      (2) light is converged  
(3) light travels parallelly      (4) light forms a white colour patch

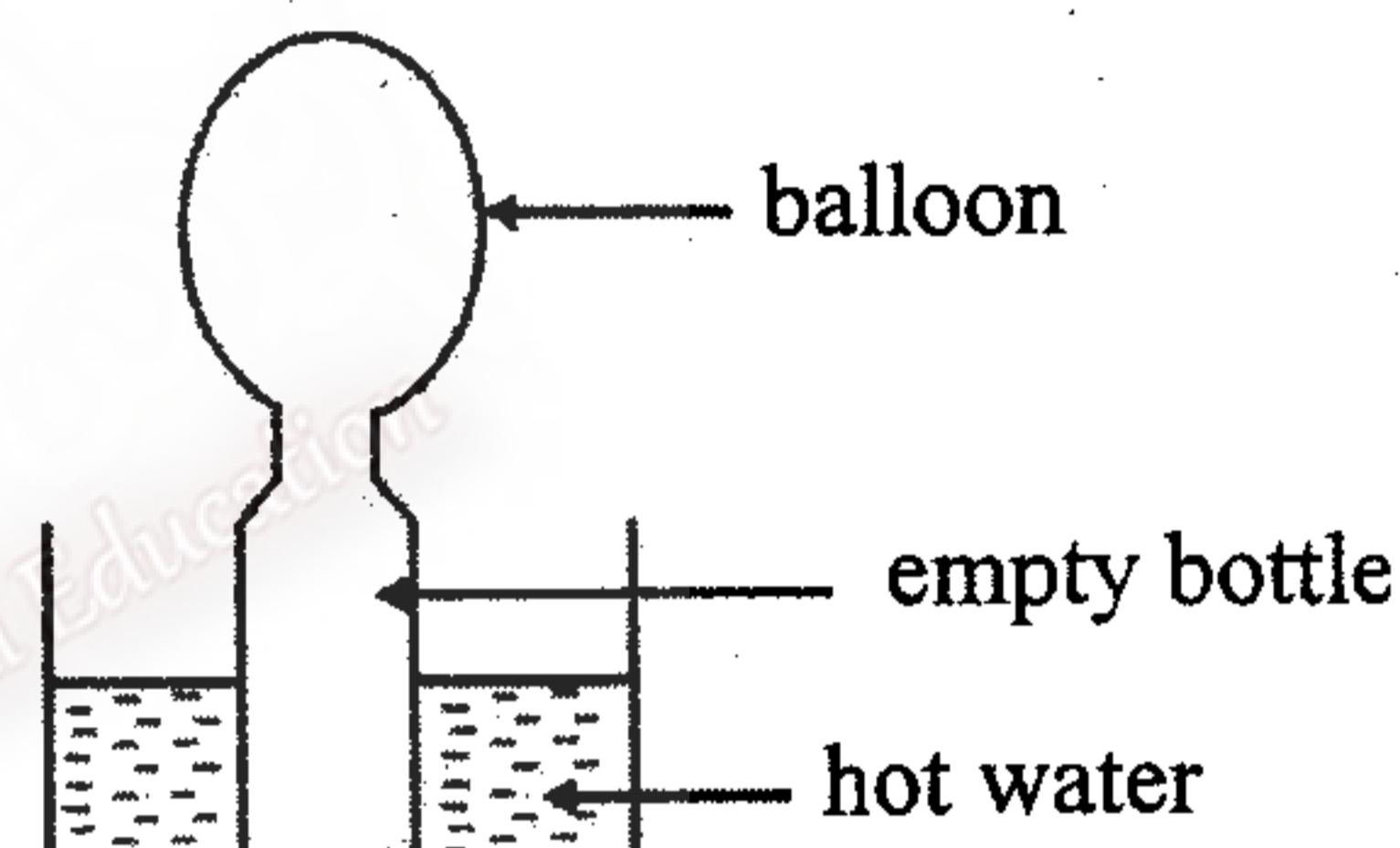
(12) Correct statement regarding the body temperature of the cold-blooded animals is,  
(1) body temperature increases when the environmental temperature increases.  
(2) body temperature is not changed when the environmental temperature changes.  
(3) body temperature increases when the environmental temperature decreases.  
(4) body temperature decreases when the environmental temperature increases.

(13) Energy transformation of an electric bulb is,  
(1) kinetic energy  $\longrightarrow$  electric energy      (2) electric energy  $\longrightarrow$  kinetic energy  
(3) electric energy  $\longrightarrow$  light energy      (4) light energy  $\longrightarrow$  electric energy

(14) A balloon fixed to an empty bottle, when kept in hot water, was inflated.

Reason for this.

(1) volume of air in the bottle increased by the heat energy.  
(2) volume of the container with hot water increased by the heat energy.  
(3) shape of the bottle changed and balloon was inflated by the heat energy.  
(4) shape of hot water changed by the heat energy.



(15) Energy transformation in a winding clock,  
(1) electrical energy  $\longrightarrow$  kinetic energy      (2) potential energy  $\longrightarrow$  kinetic energy  
(3) kinetic energy  $\longrightarrow$  electrical energy      (4) kinetic energy  $\longrightarrow$  potential energy

(16) Elements found in the earth's core are,  
(1) nickel and silicon      (2) nickel and aluminium  
(3) molten iron and nickel      (4) molten iron and silicon

(17) Instrument used to measure time using the length of the shadow as an arbitrary unit is,  
(1) sun dial      (2) pendulum clock      (3) sand clock      (4) water clock.

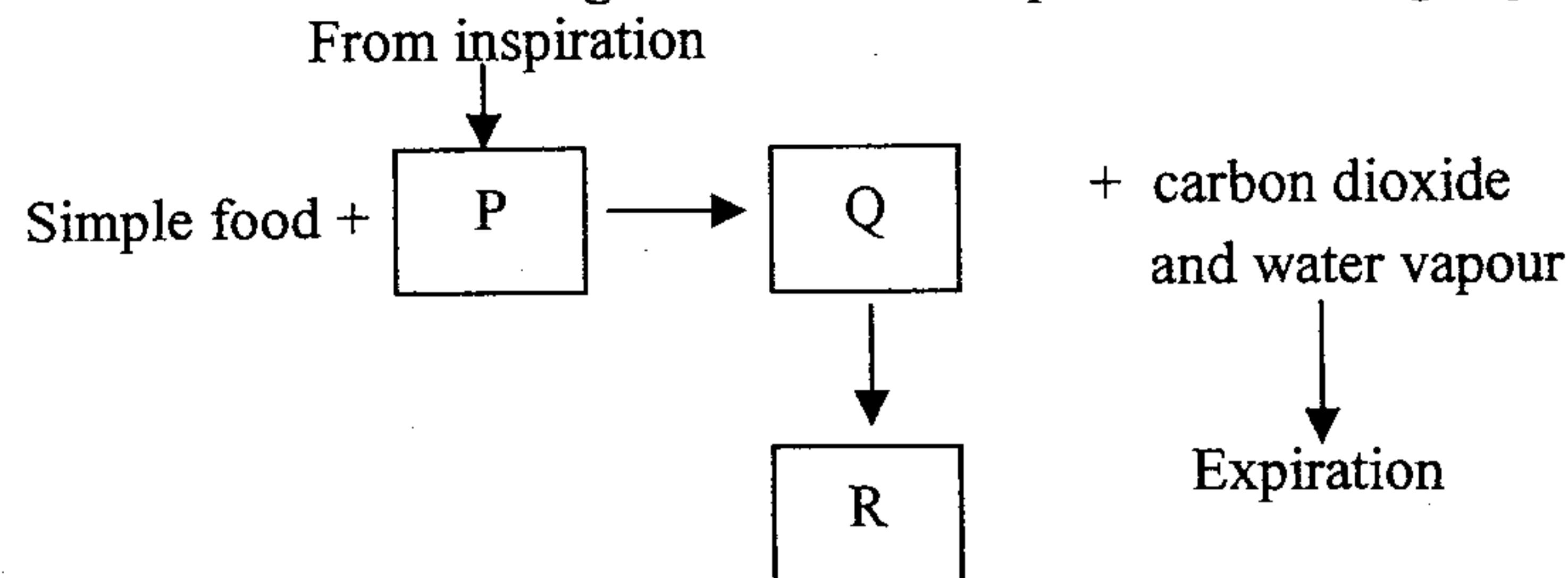
(18) Multiple images are formed when two or more plane mirrors are kept at angle. When the angle between two mirrors decreases, the number of images,  
(1) decreases      (2) increases      (3) becomes equal      (4) becomes zero

(19) Instrument used to magnify small objects which are visible to the naked eye in the laboratory is,  
(1) compound microscope      (2) simple microscope      (3) electron microscope      (4) convex mirror

(20) Correct statement about "vibration" is,  
(i) sound is produced by the vibrations of objects.  
(2) violin is an instrument that produces sound by the vibration of membranes.  
(3) human ear can identify all the types of vibration in the environment.  
(4) no relationship between sound production and vibration.

(20 x 2 = 40 marks)

(v) Following chart explains the utilization of digested food for respiration of living organisms.



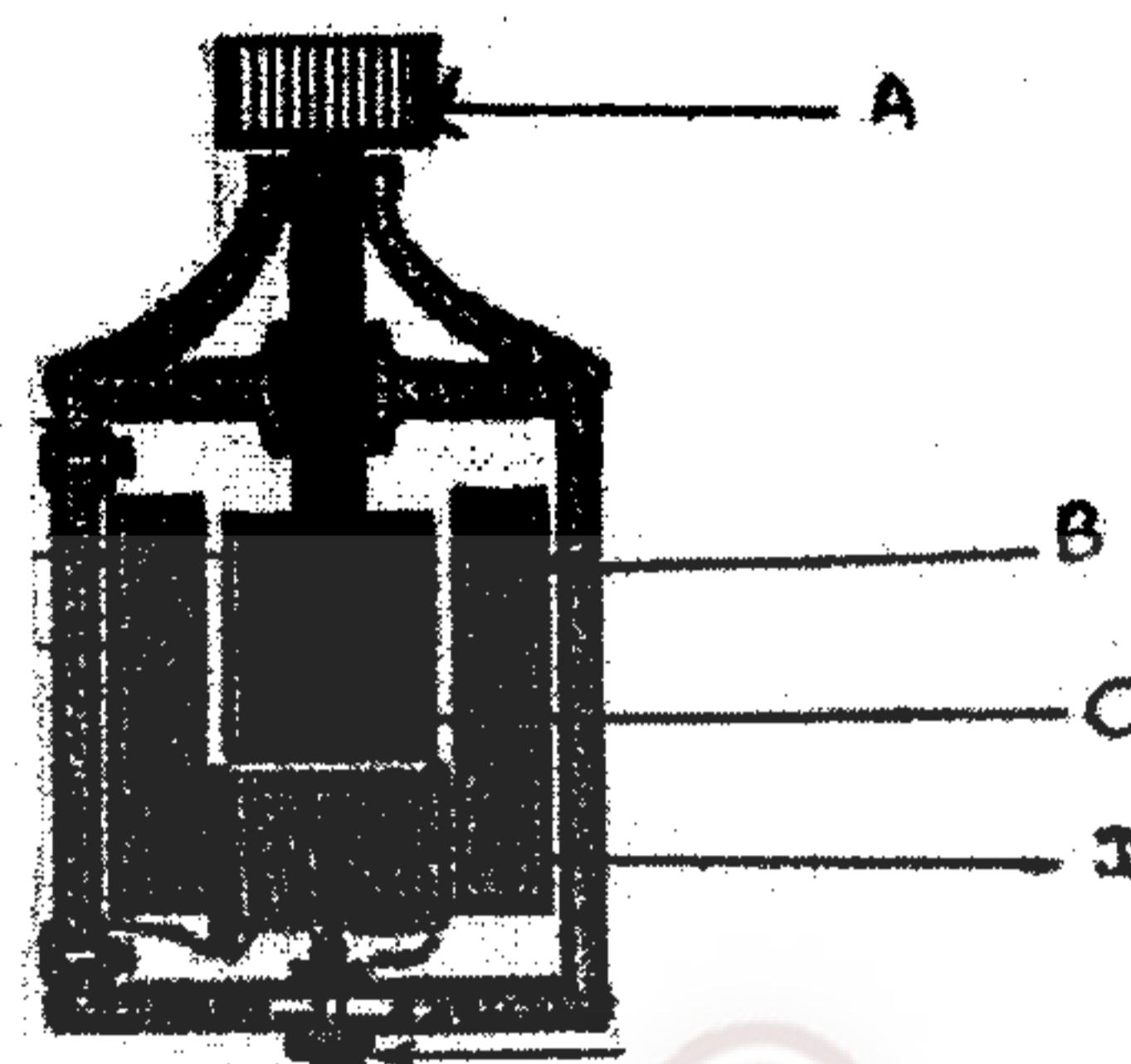
Name P, Q and R respectively.

(3 marks)

(vi) What is the common chamber for both respiratory and digestive system?

(1 mark)

(4) Electricity is a type of energy. Following diagram illustrates one method of generating electricity out of several methods used in day-to-day life.



(A) (i) What is the instrument given in the above diagram? (1 mark)

(ii) Mention the method used in this to generate electricity. (1 mark)

(iii) Name A, B, C and D parts of the above instrument. (2 marks)

(iv) Write down the energy conversion taking place in it. (1 mark)

(v) Mention one method to increase the amount of current generated by this instrument. (1 mark)

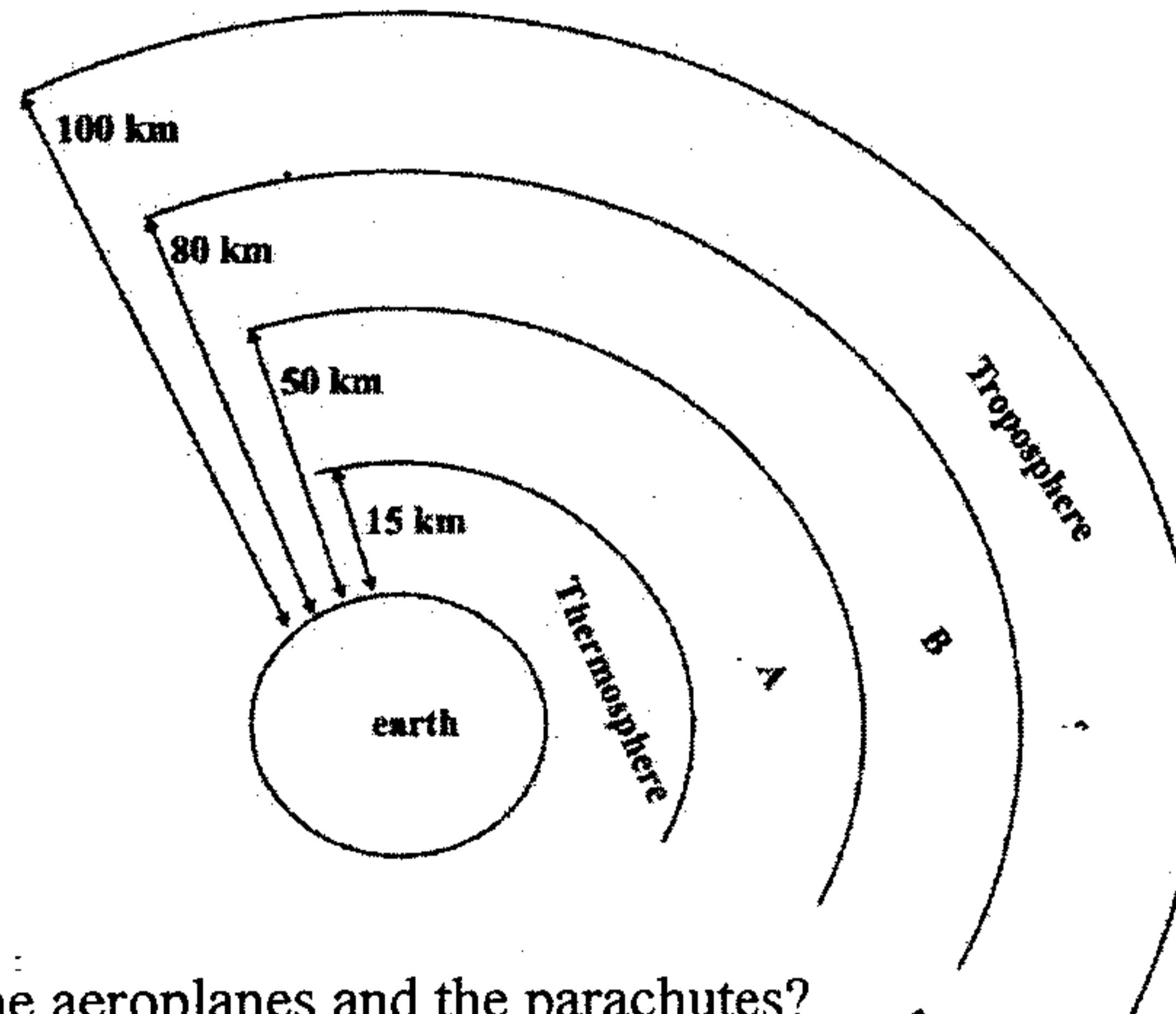
(B) Simple cell is the first chemical cell designed to generate electricity.

(i) Name the acid contained in the simple cell. (1 mark)

(ii) Name the positive and the negative terminals of it in order. (2 marks)

(iii) Write two weaknesses in the simple cell. (2 marks)

(5) (A) Following diagram illustrates the different layers of the atmosphere when go up in the air.



(i) Which layer is used by the aeroplanes and the parachutes? (1 mark)

(ii) Name A and B layers. (2 marks)

(iii) In which layer the ozone layer is present? (1 mark)

(iv) What layer is used to hold the International Space Station? (1 mark)

(v) Name the layer having the lowest temperature. (1 mark)

(B) (i) Composition of the troposphere is given in the table below. Fill in the blanks of it.

	Type of the gas	Volume percentage	
(1)	.....	78%	
(2)	Oxygen	.....	(2 marks)

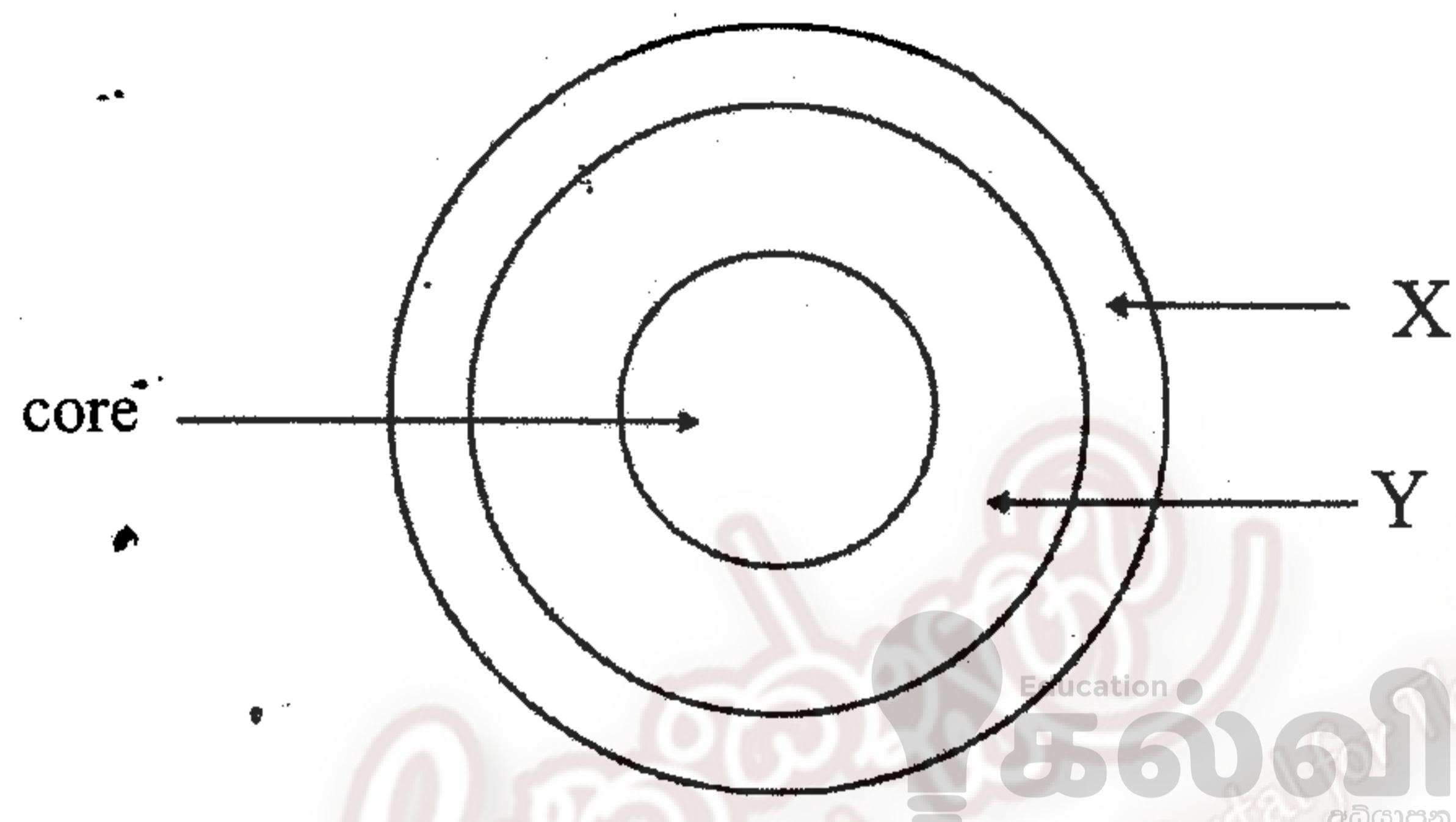
(ii) Argon is one of the gases in the troposphere. Write one use of that gas. (1 mark)

(iii) Atmospheric pollution takes place due to collection of pollutants. Name two "solid – pollutants" that pollute the atmosphere. (2 marks)

(6) Earth is the only planet with life in our solar system. There are number of reasons for the existence of life on it.

(i) Mention one reason for the existence of life on the earth. (1 mark)

(ii) Following diagram illustrates the inner nature of the earth.



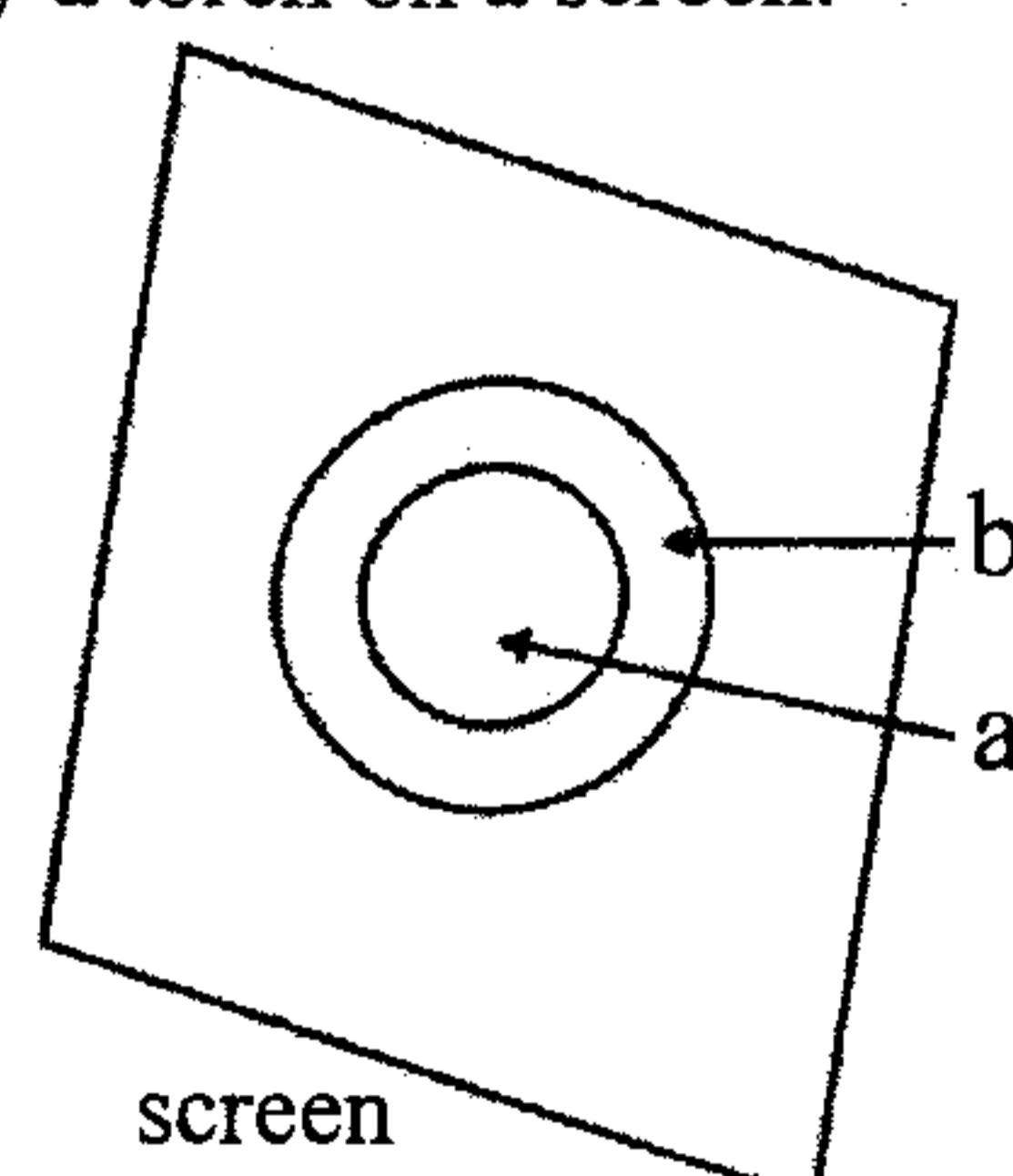
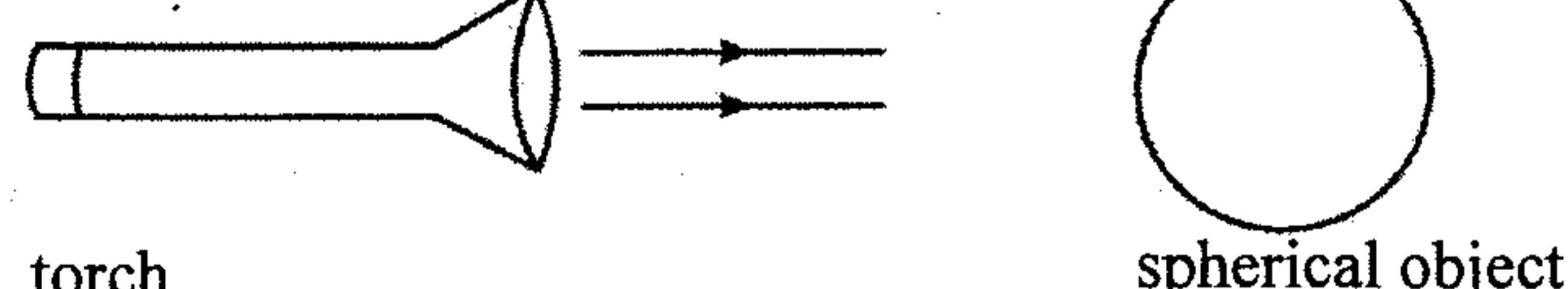
(a) Name X and Y parts of the earth (2 marks)

(b) Write down a method used by geologists to obtain information about the inner part of the earth. (1 mark)

(c) Name two (02) solid substances found in part X. (2 marks)

(iii) What is the reason for the existence of substances in the inner core as solids? (1 mark)

(iv) Following diagram illustrates forming a shadow of a spherical object by a torch on a screen.



(a) Write a characteristic possessed by the spherical object to form the shadow as in the above way. (1 mark)

(b) What is the change in part b in the shadow, when the torch is moved away from the spherical object? (1 mark)

(v) Convex mirrors are used as the side mirror of vehicles. The word "AMBULANCE" is written opposite in them. Explain the reason for this. (2 marks)

(2) Dressing table mirror is a smooth – shiny surface. In science it is called a plane mirror.

(A) Following diagram illustrates the reflection of light by a plane mirror.



(i) What do you mean by the reflection of light? (1 mark)  
(ii) Write down two factors needed for the vision? (1 mark)  
(iii) Draw a divergent beam of light (1 mark)  
(iv) Write two instances where concave mirrors are used in our day-to-day life. (2 marks)

(B) (i) Sound is produced by the vibration of an object. What structures in the human body vibrate to produce the voice? (1 mark)  
(ii) What is vibrated in each of the following instrument to produce the sound?

A. Flute



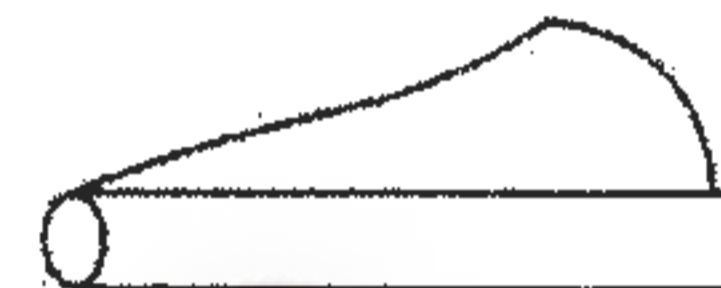
(1 mark)

B. horn made out of coconut leaves



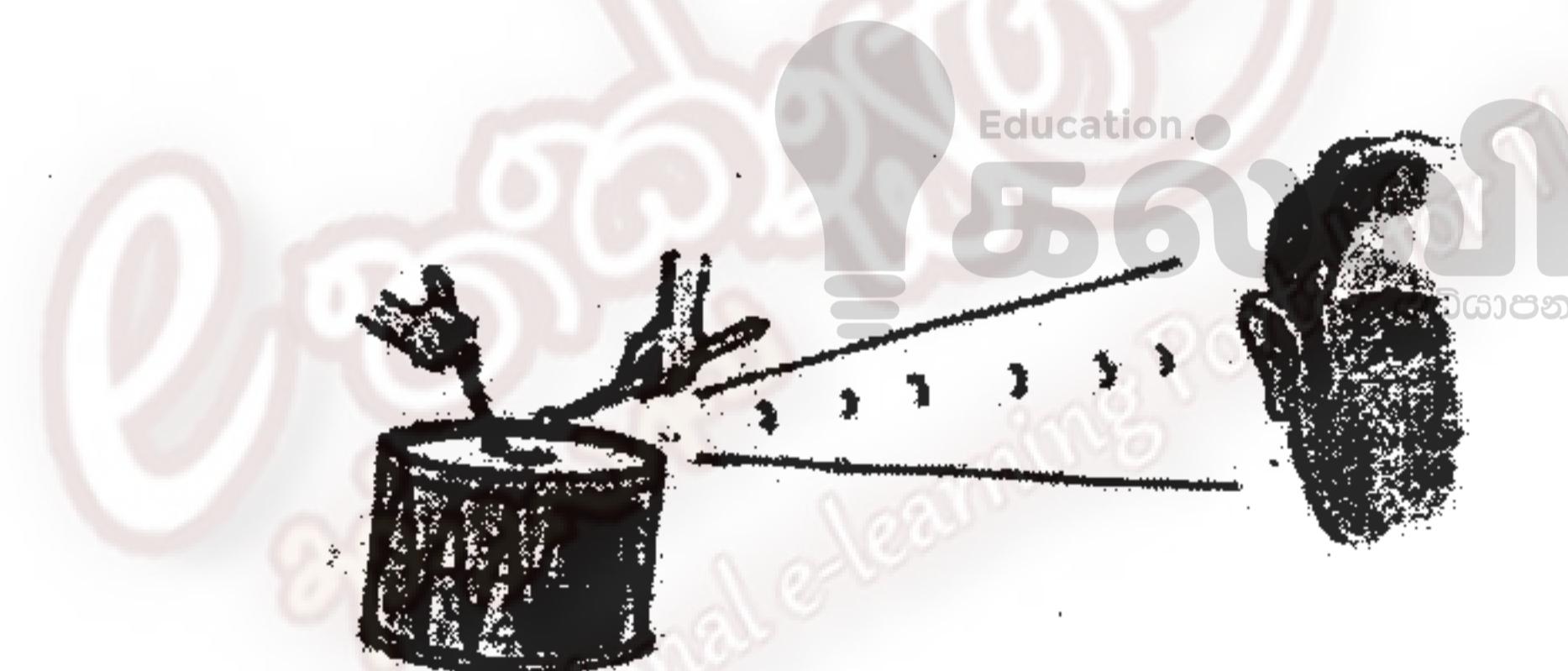
(1 mark)

C. drum made out of bamboo stem



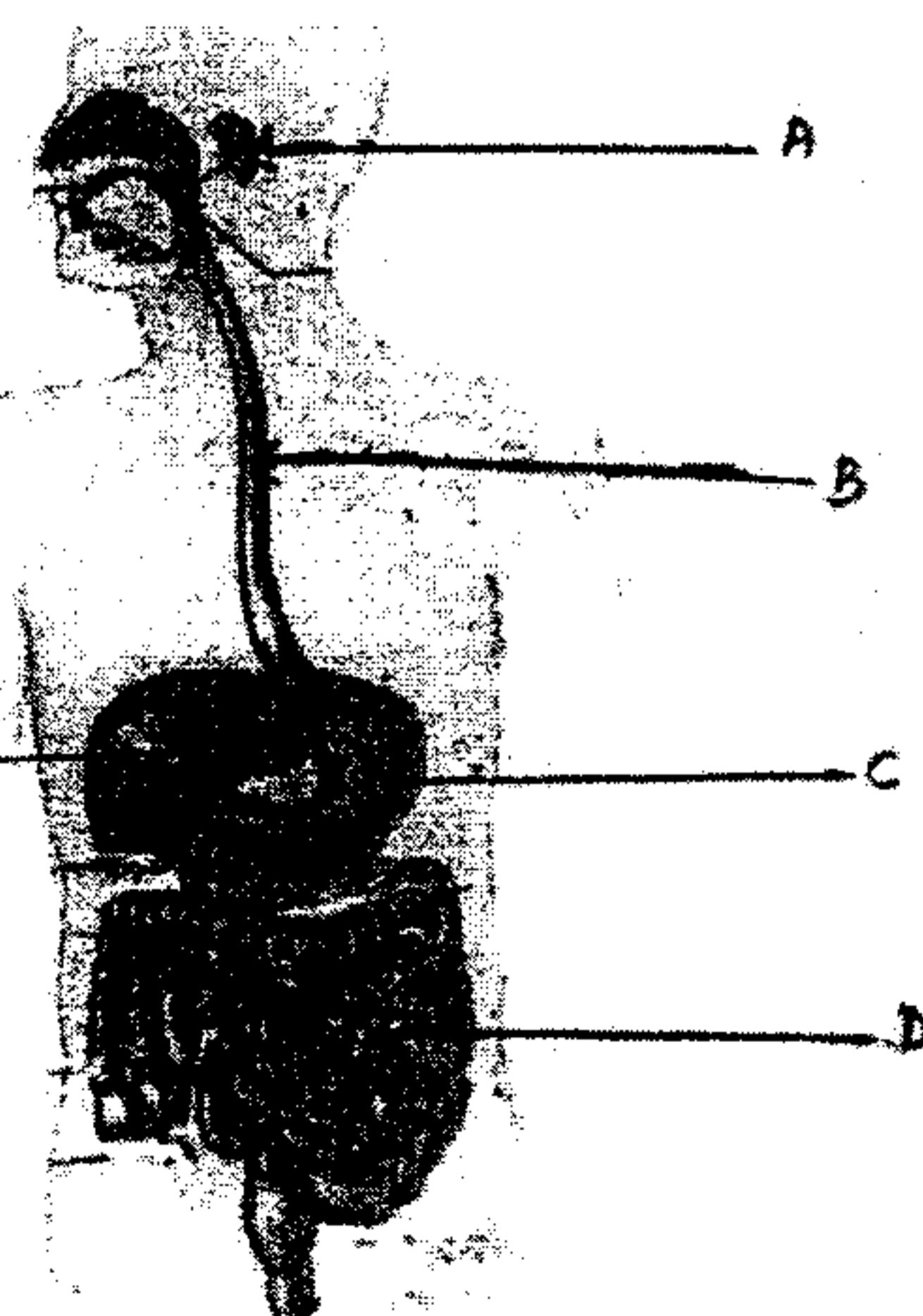
(1 mark)

• Following diagram illustrates the propagation of sound between the source of sound and the ear



(iii) What is needed for the propagation of sound from one place to another place? (1 mark)  
(iv) Out of the solids, liquids and gaseous mediums, which has the highest speed of sound? (1 mark)

(3) A group of grade 7 students designed a model of the human respiratory system. Following diagram illustrates it. Use it to find the answers for the questions given.



(i) Write two main functions of the human digestive system. (2 marks)  
(ii) Digestion of food starts in the mouth. Write a change takes place in food in the mouth. (1 mark)  
(iii) Name A, B and C parts in the diagram. (3 marks)  
(iv) Write the main function of D (1 mark)

## Part II

- Answer the first question and four other questions. 16 marks are allocated for the first question and 11 marks for each of the others.

(1) Grade 7 students were divided into 4 groups as A, B, C and D for an assessment. 100 small pieces of ekles were coloured by **red, green, white, brown** and divided equally among the groups. Each group got 25 pieces, in one colour. All these 100 pieces of ekles were mixed in a box and spreaded in a lawn with grasses randomly. 4 students were appointed to pick up the respective coloured ekles in one minute.

Use the above activity to find the answers for the questions below.

(A) (i) What colour ekles were picked up least within one minute, out of the four groups in A, B, C and D? (1 mark)

(ii) What is the reason for the least picking up of that coloured ekles? (1 mark)

(iii) What colour ekles were picked up highest within that time period? (1 mark)

(iv) What is the reason for the highest picking up of that coloured ekles? (1 mark)

(v) When all these ekles were spreaded on a gravel floor, what colour ekles were picked up last? (1 mark)

(B) After the end of this activity one child in group C told to the teacher that there is a grass-hopper hidden among grasses. But it was difficult to find it.

According to the above description,

(i) Why was it difficult to find the place of the grass hopper? (1 mark)

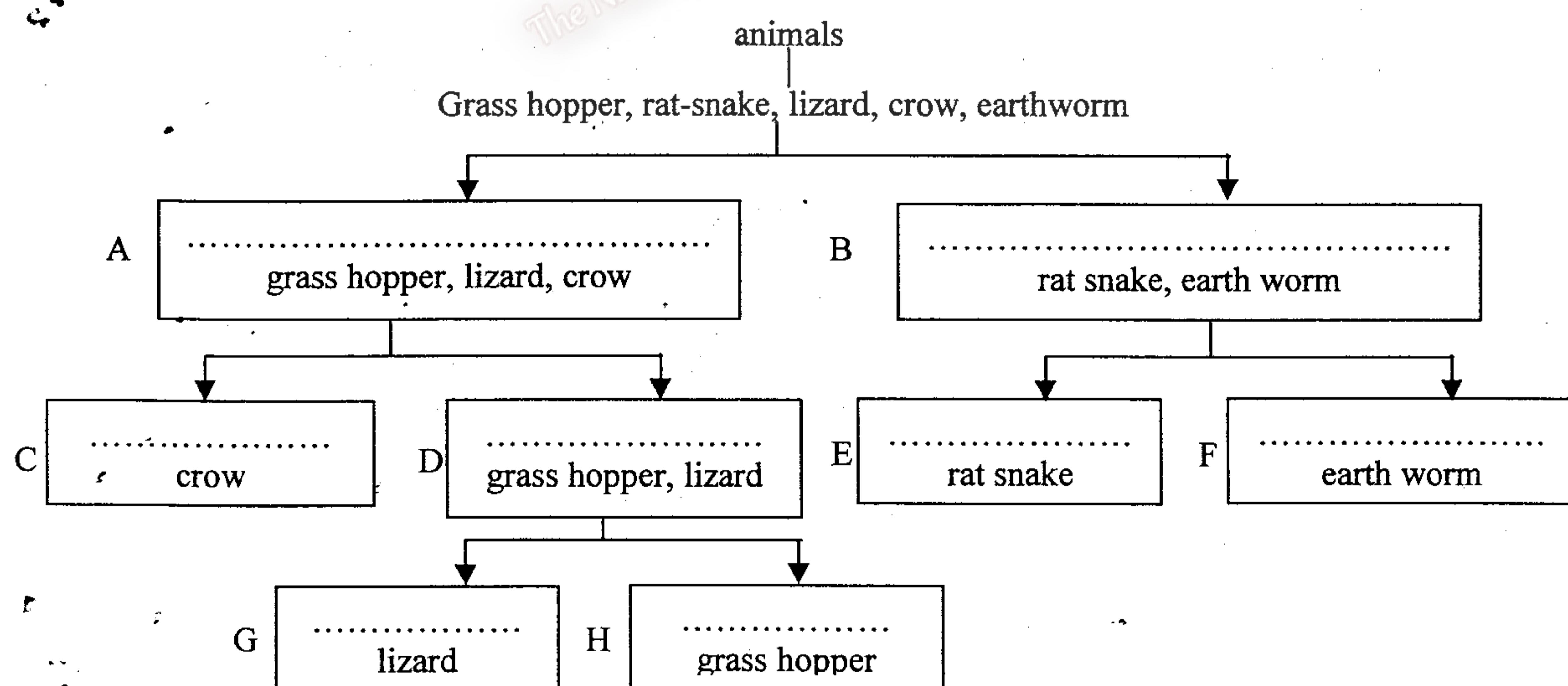
(ii) What is it called the difficulty to identify the animals separately from their environment? (1 mark)

(iii) Write two advantages of this type of adaptations to the animal. (2 marks)

(iv) Name two animals which are well adapted to the colour of the environment, except the grass-hopper. (2 marks)

(v) Mention whether the grass hopper is a vertebrate or an invertebrate animal. (1 mark)

(vi) Complete the following dichotomous key writing the correct feature of animals.



$(\frac{1}{2} \times 8 = 4 \text{ marks})$

(7) Chemicals can exist as solids liquids or gases. Most of the chemicals contain a **large amount of energy**.

- What is the energy given when L.P gas is burnt? (1 mark)
- Write down the energy conversion in the above instance. (burning L.P gas) (1 mark)
- Name two solid fuels which contain chemical energy. (2 marks)
- Write the type of energy stored in each of the following.
  - A fruit in a tree (1 mark)
  - In petrol (1 mark)
- Complete the following table.

Equipment	form of energy given to the equipment	other forms of energy generated by it	
(1) immersion heater	(a).....	(b) .....	(2 marks)
(2) radio	electric	(c).....	(1 mark)

- Write two uses of sound energy in our day-to-day life activities. (2 marks)

