



Maha Bodhi School
2007 Semestral Assessment 2
Science

Name : _____ ()

Date : 31 October 2007

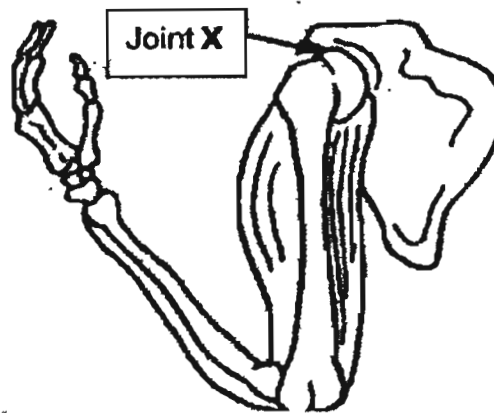
Class : Pr 4 ()

Duration : 1 h 30 min (Parts I & II)

Part I: (60 marks)

For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet (OAS).

1. Study the diagram below.



Which **other** part of the body can Joint X be found?

- (1) Hips
 - (2) Knee
 - (3) Finger
 - (4) Elbow
2. Our digestive system consists of the mouth, gullet, stomach, small intestine and large intestine. What happens if the small intestine is missing?
- (1) Solid waste cannot be passed out from the body.
 - (2) Water cannot be absorbed from the digested food.
 - (3) Digested food cannot be absorbed into the bloodstream.
 - (4) Small balls of food cannot be pushed down into the stomach.

3. Study the diagrams below.



Banana tree



Bracket fungus



Cat

Which of the following statements are **true** about all these three things?

- A. They can grow.
- B. They can reproduce.
- C. They need air, food and water.
- D. They move from place to place.

- (1) C only
- (2) B and D only
- (3) A, B and C only
- (4) A, B, C and D

4. Some pupils tested four materials (A, B, C and D) and recorded their results as shown in the table below.

Material	A	B	C	D
Is waterproof	√	√	√	X
Can be folded	X	√	X	√
Breaks when dropped	√	X	X	X

Which one of the following materials is suitable for making raincoat?

- (1) A
- (2) B
- (3) C
- (4) D

5. The process of shedding old skins and growing new ones is called moulting. In the life cycle of the butterfly, this process takes place during the _____ stage.

- (1) Adult
- (2) Larva
- (3) Nymph
- (4) Pupa

6. Nina was walking past a heap of rubbish on her way to school.

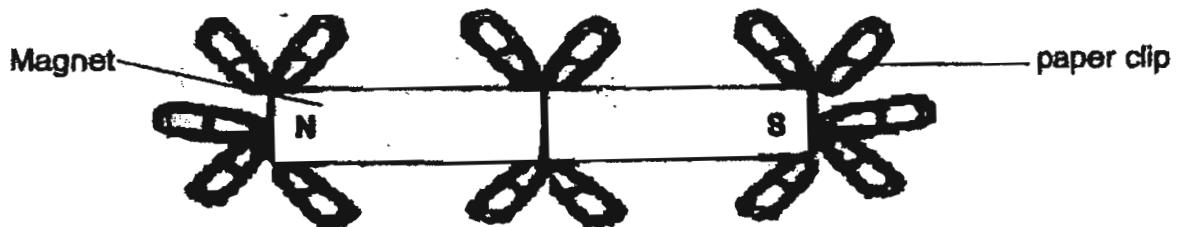


Based on the above picture, which two sense organs did Nina use to cause her to respond this way?

- A: Ears
- B: Eyes
- C: Skin
- D: Nose

- (1) A and B
- (2) B and C
- (3) B and D
- (4) C and D

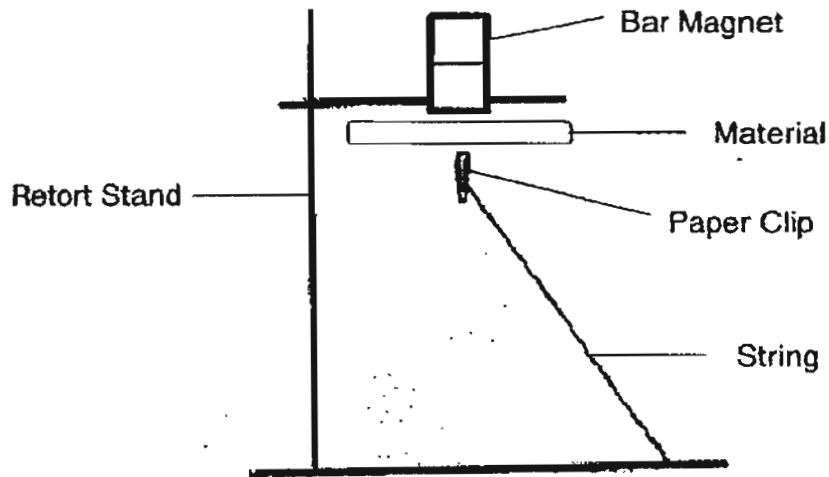
7. Benjamin found some paper clips hanging from a magnet as shown below.



Which one of the following statements can Benjamin conclude correctly?

- (1) The paper clips are non-magnetic.
- (2) The N-pole is stronger than the S-pole.
- (3) The paper clips are temporary magnets.
- (4) The pull of a magnet is strongest at the poles.

8. Clarice set up an experiment as shown below. She noted that when she placed different materials of 5mm thickness between the bar magnet and the paper clip, the paper clip remained floating in the air.



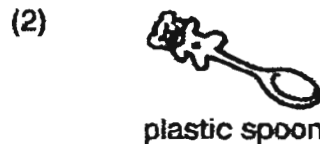
Which of the following materials would allow the paper clip to remain floating in the air?

- A: Iron
- B: Steel
- C: Wood
- D: Glass
- E: Plastic

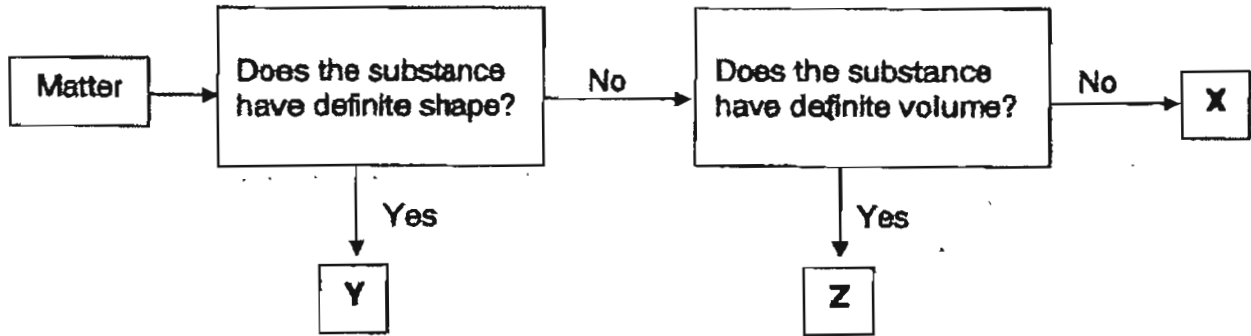
- (1) A, B and C only
- (2) A, B and D only
- (3) B, C and D only
- (4) C, D and E only

9. Dave was investigating the properties of a metal ruler, a plastic spoon, a rubber band and a porcelain mug. He found that one of these objects was able to float, was flexible and did not break easily.

Which one of the following objects has the properties described above?



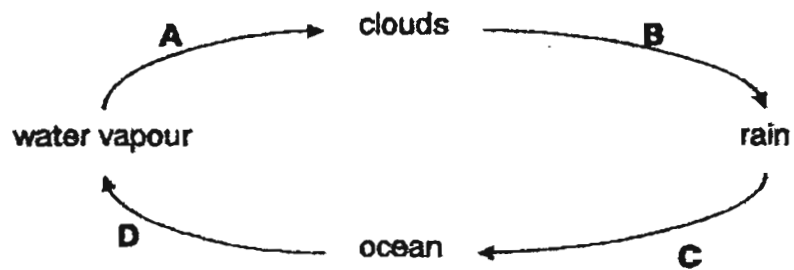
10. Christopher made use of the flow chart below to determine the state of some substances.



What could the state of substances X, Y and Z be?

	X	Y	Z
(1)	Solid	Liquid	Gas
(2)	Gas	Solid	Liquid
(3)	Liquid	Gas	Solid
(4)	Gas	Liquid	Solid

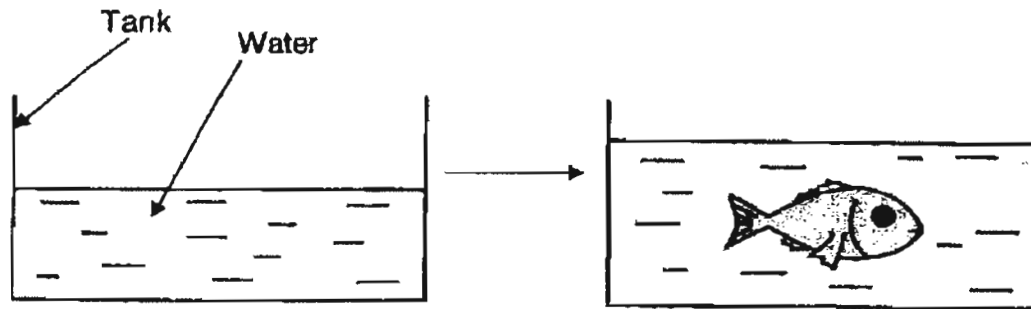
11. Study the water cycle below.



Evaporation takes place at the stage marked _____.

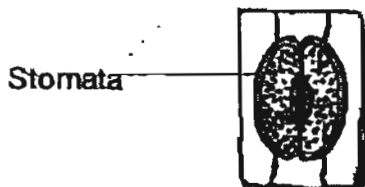
- (1) A
 (2) B
 (3) C
 (4) D

12. Jenny filled a tank half-filled with water. When she placed a big fish into the tank, the water level rises.



Which one of the following properties of matter does this experiment show?

- (1) Matter has mass.
 - (2) Matter occupies space.
 - (3) Matter has a definite shape.
 - (4) Matter has a definite volume.
13. Study the diagrams below carefully.



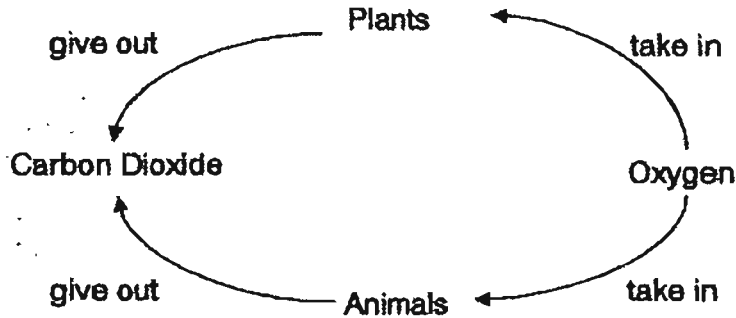
Which of the following statement(s) is/are **correct**?

- A: Stomata are found in plants and gills are found in fish.
 - B: The stomata allow the organism to take in carbon dioxide and give out oxygen.
 - C: Both the stomata and the gills allow the organisms to take in oxygen and give out carbon dioxide.
- (1) B only
 - (2) C only
 - (3) A and B only
 - (4) A, B and C

14. Which one of the following pairs of systems works together so that the whole body can receive oxygen?

- (1) Skeletal system and Digestive system
- (2) Digestive system and Circulatory system
- (3) Muscular system and Respiratory system
- (4) Respiratory system and Circulatory system

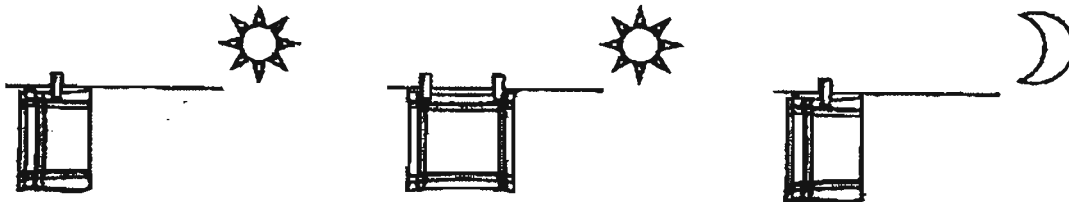
15. The diagram below shows the exchange of gases in plants and animals.



The process shown in the diagram above is _____ which takes place _____.

- (1) photosynthesis.....only during the day
- (2) photosynthesis.....throughout the day and night
- (3) respiration.....only during the day
- (4) respiration.....throughout the day and night

16. Three cotton handkerchiefs A, B and C of equal size are hung on a laundry line for a period of time during the day and night. Handkerchiefs A and B are hung out at 12 noon for 3 hours while handkerchief C is hung out at night at 8pm for 3 hours too.



Handkerchief A
(Folded in half)

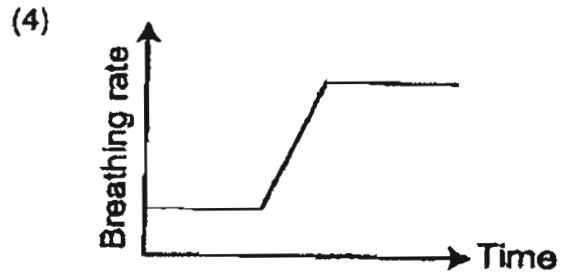
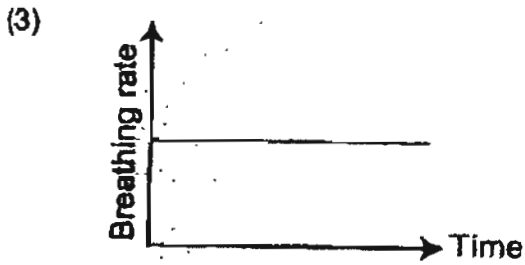
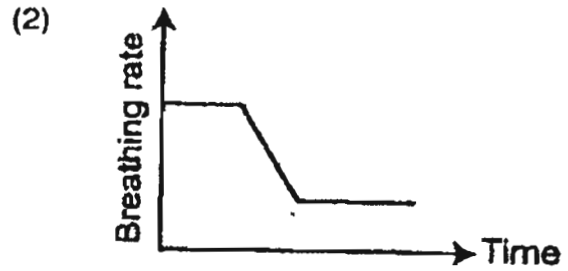
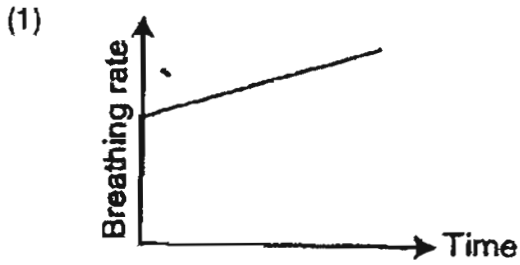
Handkerchief B
(Not folded)

Handkerchief C
(Folded in half)

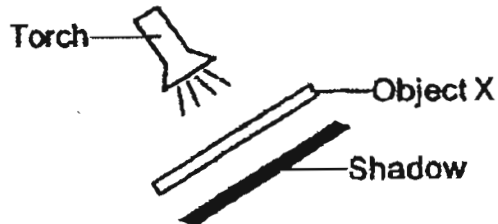
Which one of the following shows the correct order of the handkerchiefs that dries the fastest to the one that dries the slowest?

	Fastest	→	Slowest
(1)	A		B C
(2)	A		C B
(3)	B		A C
(4)	C		A B

17. Which one of the following graphs **correctly** shows the change in Pat's breathing rate as she cools down after a game of tennis?



18. Study the diagram below carefully.

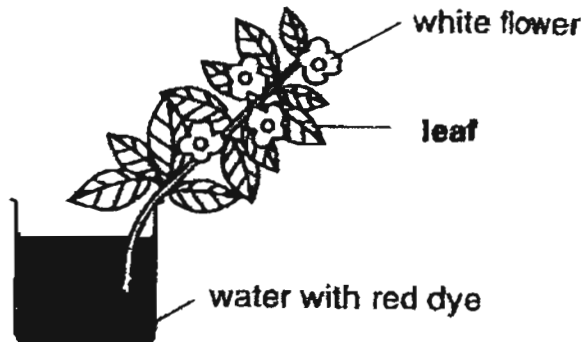


The shadow cast by Object X was very dark.

Which one of the following materials could Object X be possibly made of?

- (1) Metal
- (2) Clear glass
- (3) Tracing paper
- (4) Frosted glass

19. Roslinda filled a beaker with some water and mixed some red dye in it. She then put in a plant and left the set-up in the garden for one week.

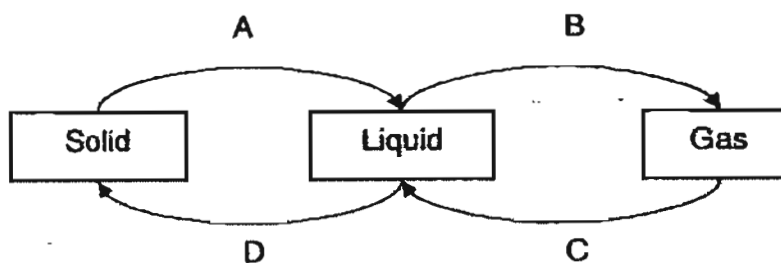


When Roslinda observed the flowers, leaves and a cross-section of its stem after one week, what would she observe?

- A: The leaves are stained red.
- B: The flowers are stained red.
- C: The tiny tubes are stained red.

- (1) B only
- (2) C only
- (3) A and B only
- (4) A, B and C

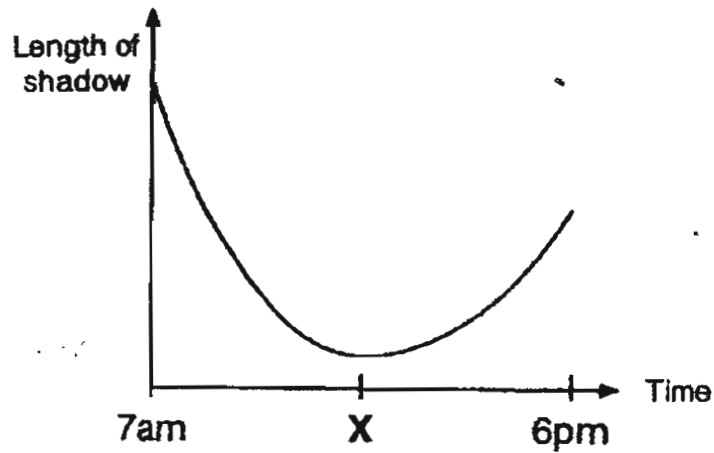
20. Water may undergo one of the processes A, B, C or D as shown in the diagram below.



In which two processes will water lose heat to its surroundings?

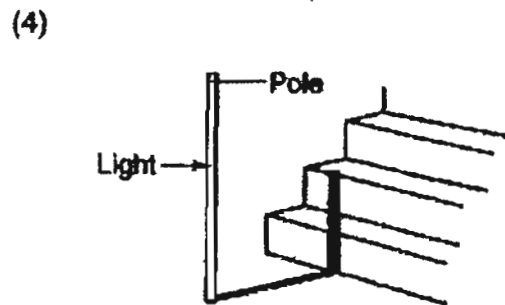
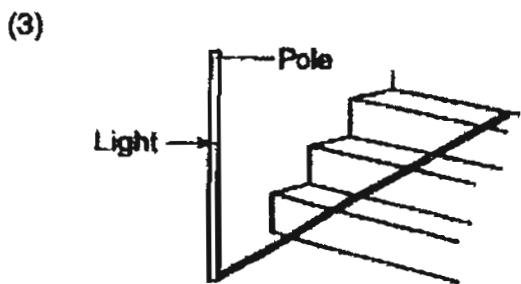
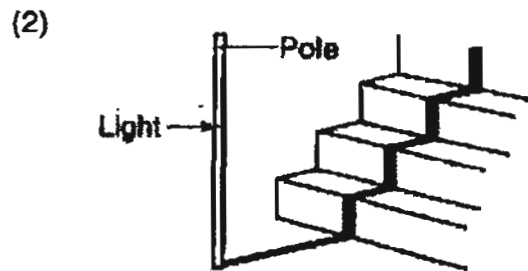
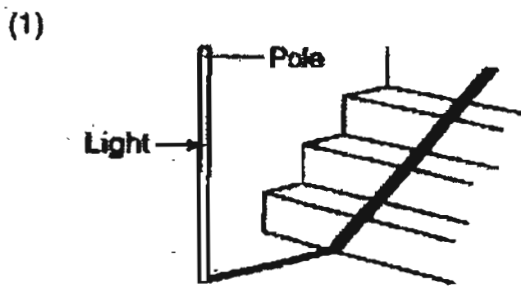
- (1) A and B
- (2) A and C
- (3) B and D
- (4) C and D

21. The graph below shows how the length of Sherry's shadow changes throughout the day.

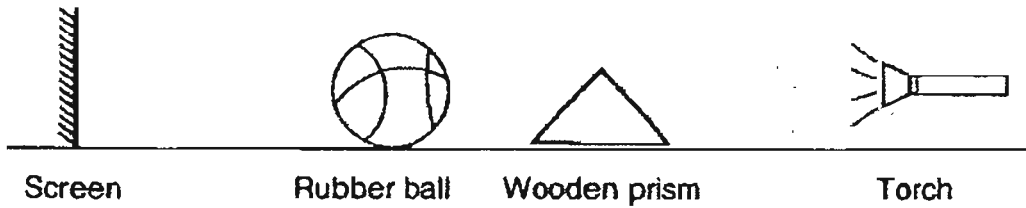


From the graph, the time marked 'X' is most likely to be _____.

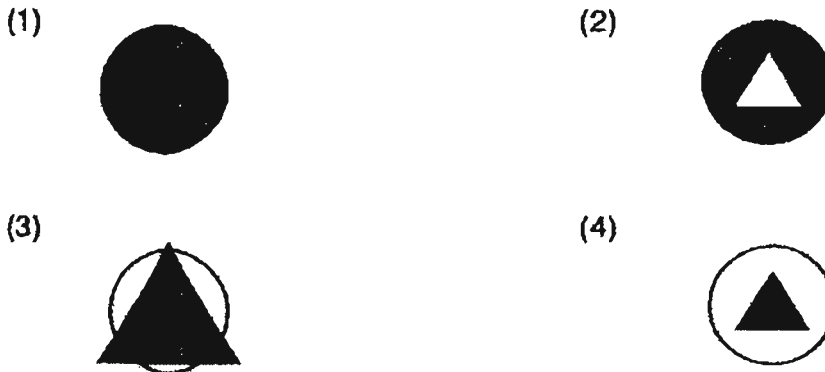
- (1) 12.00 am
 - (2) 6.00 am
 - (3) 12.00 pm
 - (4) 2.00 pm
22. Ahmad placed a pole in front of a flight of steps. He shone a light onto the pole as shown in the diagram below. Which one of the following diagrams **correctly** shows how the shadow of the pole would look like as it fell across the steps?



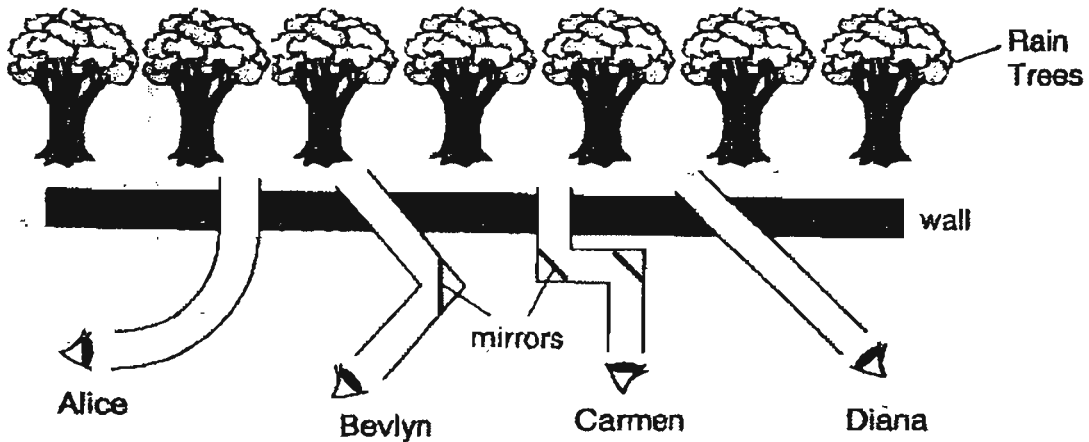
23. A torch is shone on a rubber ball and a wooden prism as shown below.



Which one of the following diagrams **correctly** shows the shadow that is cast on the screen?



24. Four girls stand behind a high wall as shown below.

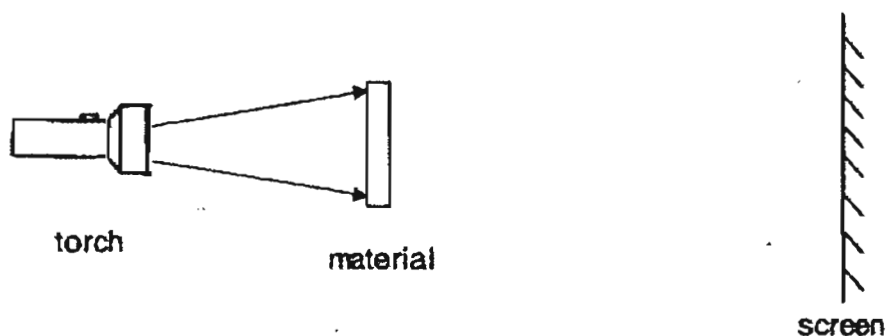


Each girl uses a different cardboard tube to look over the high wall at the rain trees growing behind the wall.

Which of the following girls will be able to see the rain trees through their tubes?

- (1) Alice and Diana only
- (2) Bevlyn and Carmen only
- (3) Bevlyn, Carmen and Diana only
- (4) Alice, Carmen and Diana only

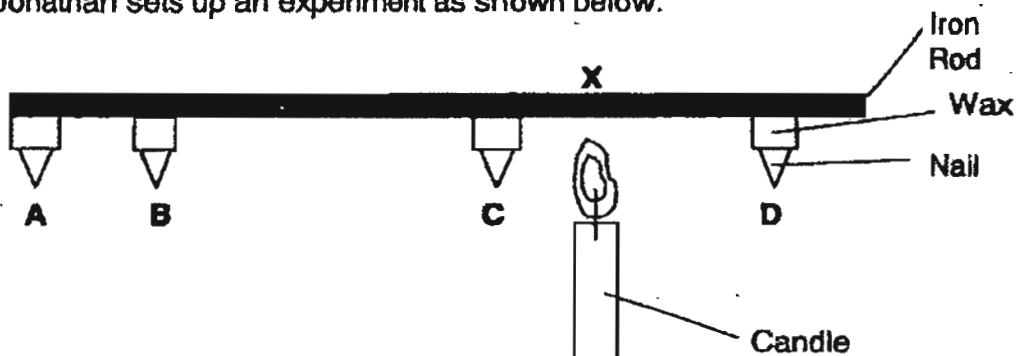
25. Li Jie conducted an experiment to find out how much light is allowed to pass through three different materials A, B and C. She set up the experiment as shown below.



First, she used material A. Then she replaced it with material B, followed by material C.

Which one of the following variables must she keep the same in order to conduct a fair test?

- (1) Size of material
 - (2) Type of material
 - (3) Colour of material
 - (4) Thickness of material
26. Jonathan sets up an experiment as shown below.

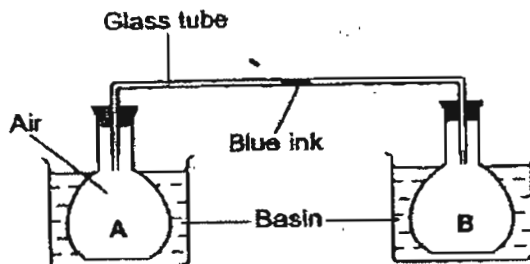


He used some wax to attach 4 similar nails A, B, C and D to the iron rod. He lit a candle and held it near the rod at the part marked X.

Which one of the following lists shows the correct order in which the nails will drop first from the rod?

	First	→			Last
(1)	A	B	D	C	
(2)	C	B	A	D	
(3)	C	D	B	A	
(4)	D	A	B	C	

27. In the set-up as shown below, a drop of blue ink is placed in the glass tube connecting the two flasks A and B. Each flask is placed in a basin of water.



Which one of the following set-ups will cause the drop of blue ink move towards Flask A?

	Flask A is placed in a basin of	Flask B is placed in a basin of
(1)	ice water	water at 90°C
(2)	water at 90°C	water at room temperature
(3)	water at 90°C	ice water
(4)	water at room temperature	ice water

28. Lionel has difficulty opening the metal lid of a glass bottle of jam. His mother asked him to invert the bottle and place it in a basin of hot water. What is the effect of the hot water on the bottle of jam?

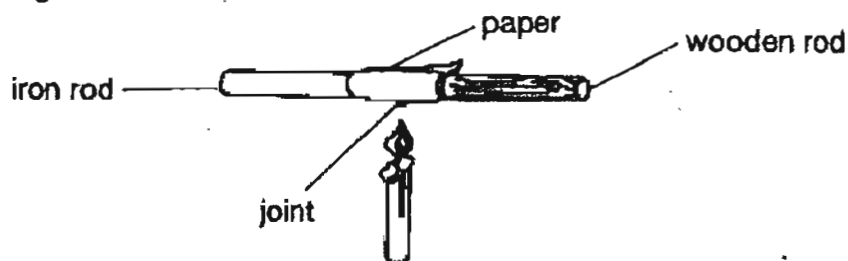
- (1) It causes the metal lid to contract.
- (2) It causes the glass bottle to contract.
- (3) It causes the metal lid to expand more than the glass bottle.
- (4) It causes the glass bottle to expand more than the metal lid.

29. Which of the following statement(s) about heat is/are **true**?

- A: Our main source of heat is electricity.
 B: Solids contract when they are heated.
 C: Heat can be produced by rubbing two objects together.
 D: Heat moves from a hotter region to a colder region of an object.

- (1) B only
- (2) A and D only
- (3) C and D only
- (4) B, C and D only

30. A piece of iron rod and a piece of wooden rod were joined together. A piece of paper was wrapped around the section where the two rods were joined as shown in the diagram below...



The joint was heated for a few seconds. After heating, it was found that the section of paper around the iron rod showed no change while the section around the wooden rod appeared slightly burnt.

Which one of the following statements explains the observation?

- (1) Wood supports burning but iron does not.
- (2) Wood and iron burn at different temperatures.
- (3) Iron conducts heat to the wood and causes it to burn.
- (4) Iron is able to conduct the heat away from the paper while wood cannot.

END OF PART 1



Maha Bodhi School
2007 Semestral Assessment 2

Science

Name : _____ ()

Class : Pr 4 ()

Duration : 1 h 30 min (Parts I & II)

Date : 31 October 2007

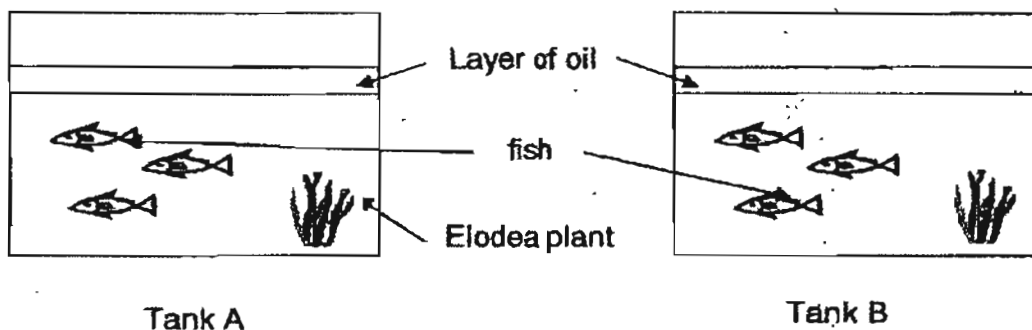
Parent's Signature : _____

Part I (60 marks)	
Part II (40 marks)	
SA2 (100 marks)	

Part II: (40 marks)

Write your answers to questions 31 to 46 in this script.

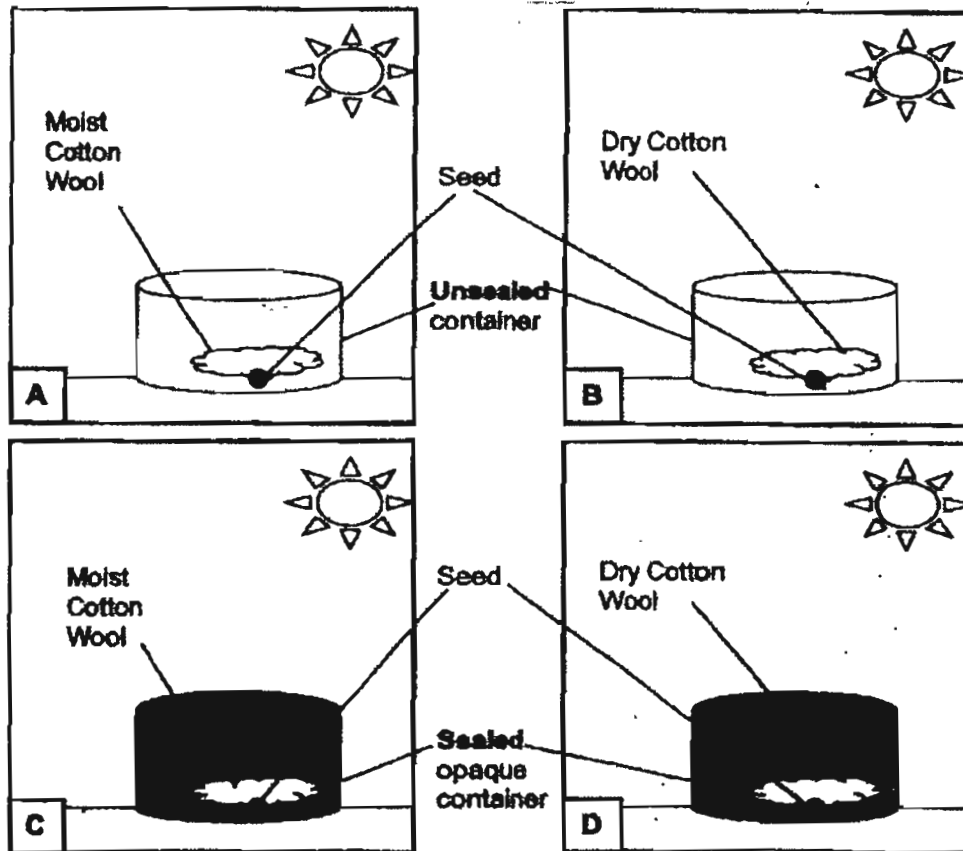
31. Minghui set up an experiment as shown below. She put Tank A near a window and Tank B in a cupboard for 5 days.



- (a) After 5 days, in which tank would the fish be dead? [1]

- (b) Explain your answer in (a). [2]

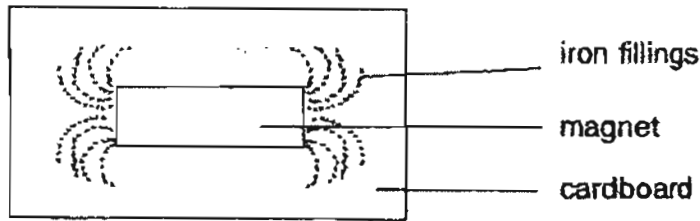
32. Sheryl wanted to find out the conditions that allow seeds to germinate. She conducted an experiment by placing four identical seeds in four containers A, B, C and D as shown below. Containers A and B allow light to pass through while containers C and D do not allow light to pass through.



- (a) In which containers A, B, C and D will the seed(s) start to germinate? [1]

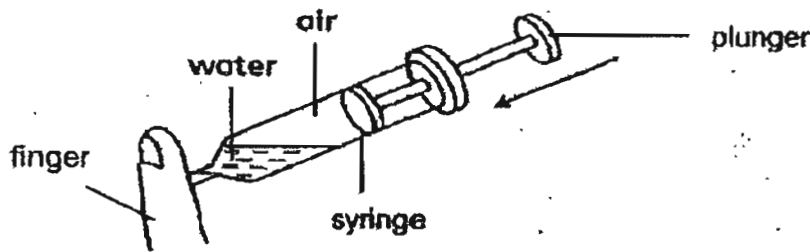
- (b) State three conditions that are needed in order for a seed to germinate. [2]

33. Ronny placed a piece of cardboard over a bar magnet and sprinkled some iron filings on the cardboard. He then tapped the cardboard lightly and the following pattern appeared.



Why were the iron filings found mostly at the two ends of the magnet? [1]

34. The diagram below shows a syringe filled with air and water.

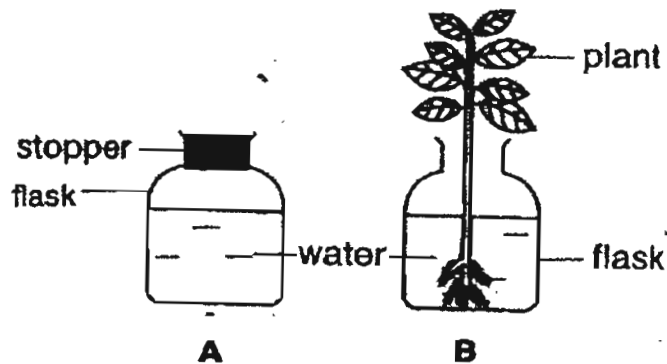


- (a) What will happen to the volume of air and water when the plunger is pushed in? Put a tick (✓) under the correct headings. [2]

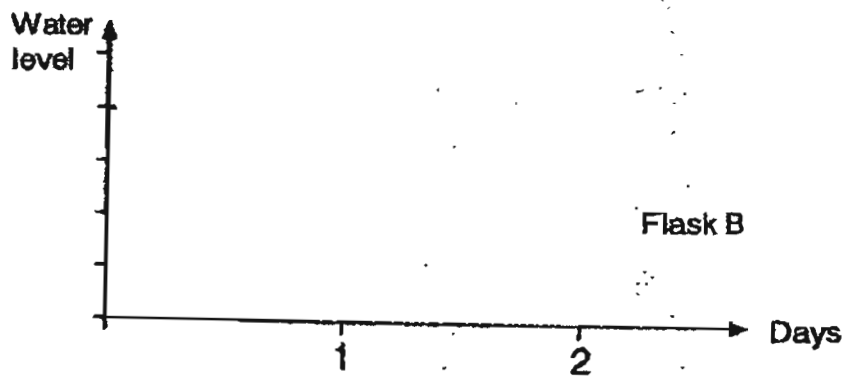
	Increases	Decreases	Remains the same
i) Volume of air			
ii) Volume of water			

- (b) State one difference between the property of air and water as shown in this experiment. [1]

35. Ivy conducted an experiment to investigate if plants take in water through their roots. She prepared two setups A and B as shown below.



She recorded the water level in each set-up for 2 consecutive days and plotted the graph for flask B as shown below.



- (a) Based on the graph above, **draw a line graph and label it** to show the water level of Flask A over the 2 days in the graph above. [2]

From the graph, she concluded that plants take in water through their roots. However, her brother, Ben, said that her results were not accurate.

- (b) What was wrong with Ivy's experiment? [1]

- (c) What should Ivy have done to get accurate results? [1]

36(a) Give one similarity between the Sun and stars. [1]

(b) Give one difference between stars and the moon. [1]

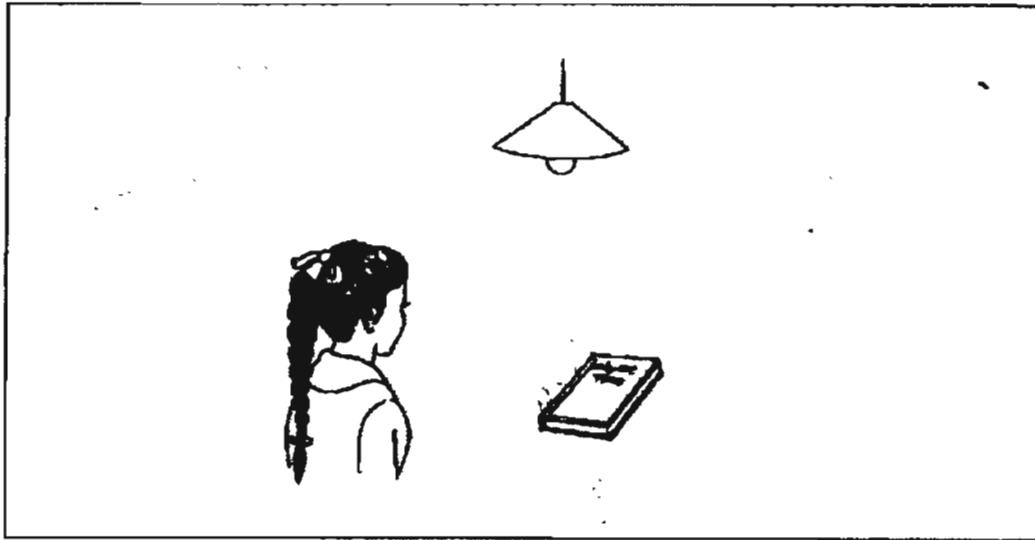
37. The table below shows Marcus' pulse rate as he carry out activities A, B and C.

	Activities		
	A	B	C
Duration of activity (in min)	30	30	30
Number of heartbeats per min	120	90	70

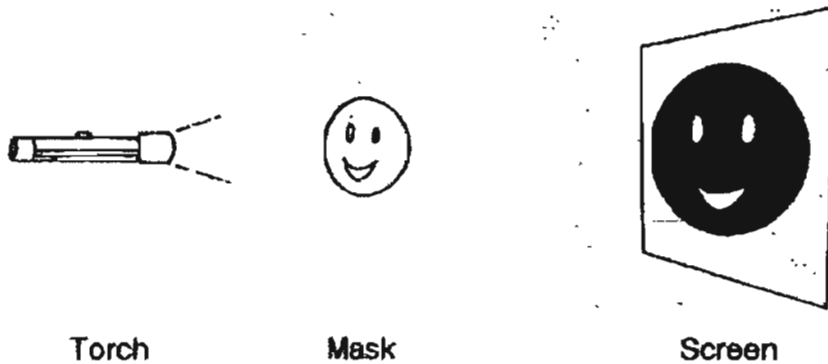
(a) Which activity required the most amount of oxygen? [1]

(b) Could activity A possibly be Marcus taking a nap? Explain your answer. [1]

38. **Draw** two arrows in the diagram below to show the path taken by the light rays in order for Siti to see the book. [1]



39. Rick cast a shadow on a screen by positioning a mask in the path of light from a torch as shown below.



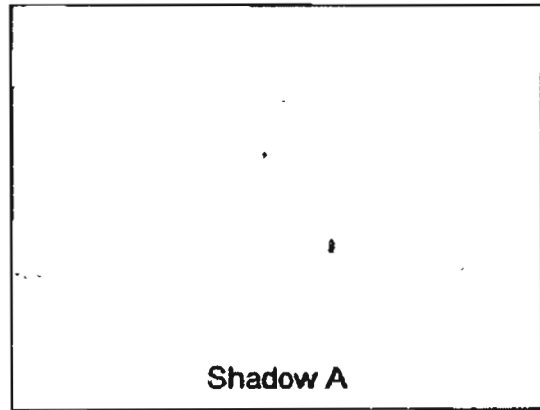
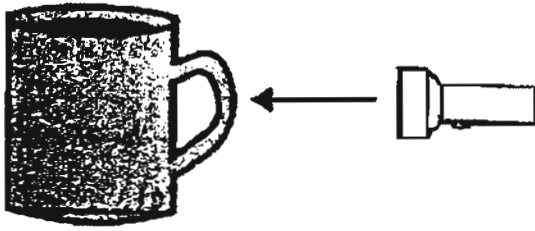
Suggest **two** different ways in which Rick can increase the size of the shadow formed. [2]

- (i) _____

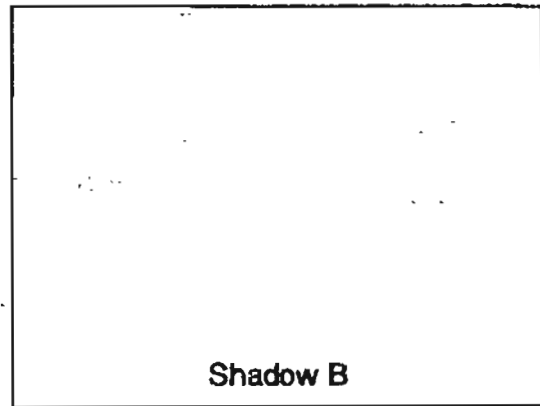
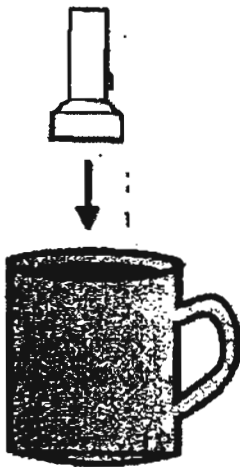
- (ii) _____

40. Sandra wanted to find out how the shadow of a cup may look like from different angles. Draw two shadows A and B cast by the cup when shone at different angles in the box below. [2]

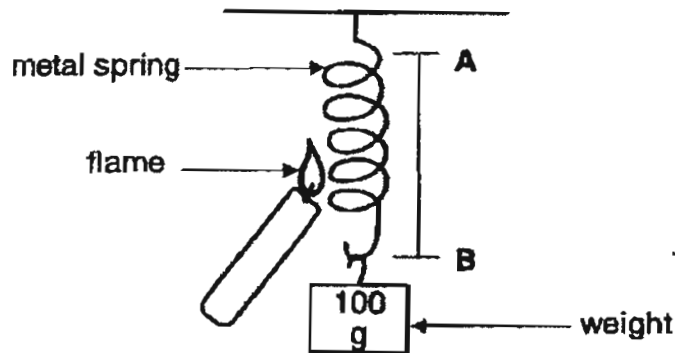
(i)



(ii)



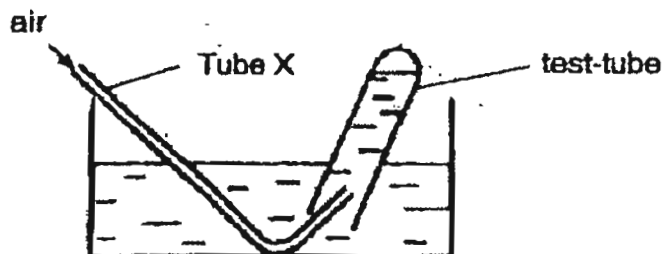
41. David attached a weight to a metal spring and measured the length of the spring from A to B. He then heated the spring as shown in the diagram below.



- (a) What happened to the length of the spring after 5 minutes? [1]

- (b) What can you conclude from the above experiment? [1]

42. John inverted a test-tube in a basin as shown in the diagram below. He then blew air into tube X.



- (a) State one observation made by John. [1]

- (b) What does this experiment show? [1]

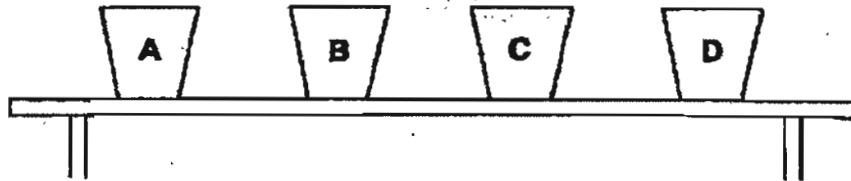
43. Christine placed a metal spoon and a plastic spoon in a glass of ice cubes as shown in the diagram below.



(a) Christine touched the two spoons after five minutes. Which spoon feels colder after five minutes? [1]

(b) Explain your answer in part (a). [2]

44. Four cups A, B, C and D were each made of different materials. Each of the cups was filled with 200ml of hot water at 80°C. They were then placed on a table as shown below.



After 20 minutes, the temperature of the water in each cup was measured and recorded in the table below.

Cup	Temperature (°C) after 20 minutes
A	35
B	30
C	60
D	45

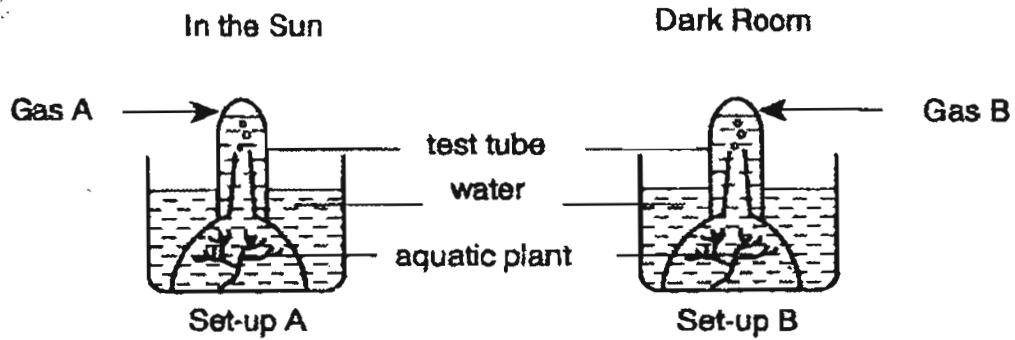
(a) From the table, which cup would you choose if you want the hot water to stay warm longer? [1]

(b) Suggest one possible material for Cup B and Cup C. [2]

(i) Cup B: _____

(ii) Cup C: _____

45. Adam sets up the experiment shown below and puts Set-up A in the sun and Set-up B in a dark room. Soon, he notices that gas is collected in each of the test-tubes.



- (a) Name the gases collected in the test-tubes in Set-ups A and B. [2]

(i) Gas A: _____

(ii) Gas B: _____

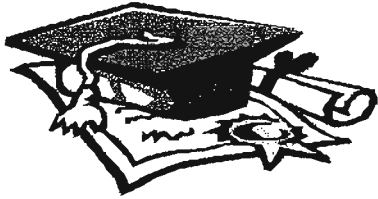
- (b) Explain the process that takes place in Set-up A and B. [2]

46. Evelyn accidentally stepped on her brother's ping pong ball and the ball was dented.

- (a) What can she do to make the ball round again? [1]


- (b) Explain your answer in (a). [2]

END OF PAPER



ANSWER SHEET

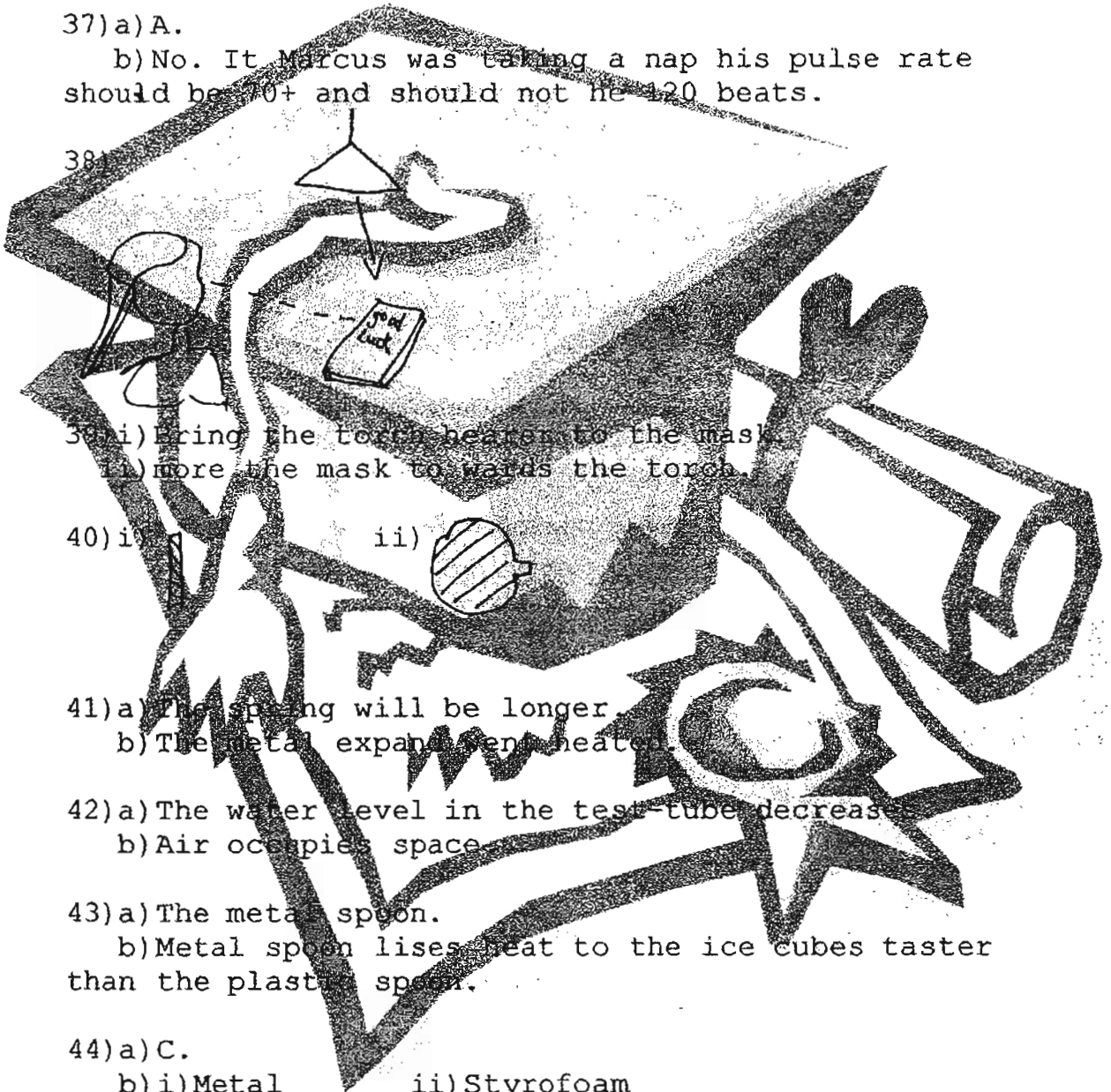
MAHA BODHI PRIMARY SCHOOL - PRIMARY 4 SCIENCE 2007
SEMESTRAL ASSESSMENT (2)

1. 1
 2. 3
 3. 3
 4. 2
 5. 2
 6. 3
 7. 4
 8. 4
 9. 3
 10. 2
 11. 4
 12. 1
 13. 1
 14. 1
 15. 1
 16. 3
 17. 1
 18. 1
 19. 1
 20. 1
 21. 3
 22. 2
 23. 1
 24. 3
 25. 4
 26. 3
 27. 1
 28. 3
 29. 3
 30. 4
- 31) Tank B.
- 32) a) A or B and C.
b) The plant cannot photosynthesize to produce oxygen for the fish to live.
- 33) A magnet is strongest at its ends
- 34) a) i) Decreases ii) Remains the same
b) Air can be compressed but water cannot be compressed.
- 35) a) 
- b) There was a stopper in Flask A but not Flask B.
- c) She should have covered the mouth of flask with a stopper.
- 36) a) They give out light by themselves.
b) The stars give out its own light while the moon reflects to light from the sun.

37) a) A.

b) No. If Marcus was taking a nap his pulse rate should be 70+ and should not be 120 beats.

38)



39) i) Bring the torch nearer to the mask.

ii) Move the mask towards the torch.

40) i)

ii)

41) a) The spring will be longer.

b) The metal expands when heated.

42) a) The water level in the test-tube decreases.

b) Air occupies space.

43) a) The metal spoon.

b) Metal spoon loses heat to the ice cubes faster than the plastic spoon.

44) a) C.

b) i) Metal

ii) Styrofoam

45) a) i) oxygen ii) carbon dioxide

b) In test tube A, the plant photosynthesizes in the presence of sunlight and produces oxygen. In test tube B, the plant cannot carry out photosynthesis so it only produces carbon dioxide during respiration.

46) a) Put the ping pong ball into the hot water.

b) The air in the ping pong ball heats and expands to take up more space.