

Tao Nan School
Primary 5 Science Mid-Year Examinations – 2007

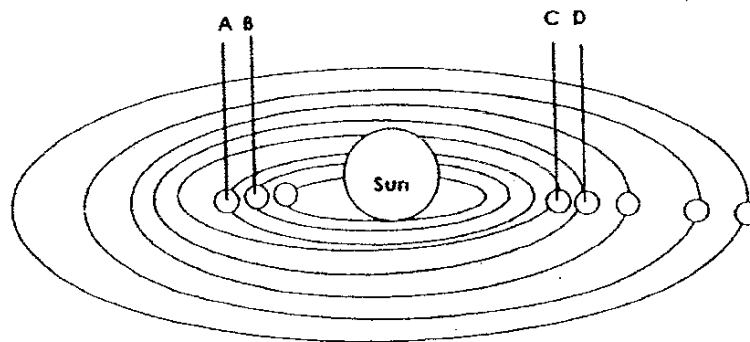
Name: _____)
Class: P5 (I)
Parent's Signature: _____

Date: 10 May 2007
Duration: 7.45 a.m.–9.15 a.m.
Marks: _____ / 100

Section A (30 x 2 marks)

For each question, choose the most suitable answer and shade its correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. The diagram below shows a model of the Sun and its eight planets.



Which planet, A, B, C or D represents our planet Earth?

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

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2. Which of the following is **true** about the movement of the Sun and the Earth?

- (1) The Sun takes 24 hours to revolve around the Earth and 365 days to rotate about its own axis.
- (2) The Earth takes 24 hours to revolve around the Sun and 365 days to rotate about its own axis.
- (3) The Sun takes 24 hours to rotate about its own axis and 365 days to revolve around the Earth.
- (4) The Earth takes 24 hours to rotate about its own axis and 365 days to revolve around the Sun.

3. Before mounting a specimen slide, the first thing we must do to a microscope is to _____.

- (1) look into the eyepiece
- (2) put the slide on the stage
- (3) adjust the correct objective lens over the slide
- (4) turn the focus knobs to bring the stage lower

4. Who do we inherit our characteristics from?

- (A) parents
- (B) grandparents
- (C) siblings
- (D) cousins

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

5. Which of the four processes in the life cycle of a flowering plant is in a **correct** order?

- (1) seed dispersal → pollination → germination → fertilization
- (2) fertilisation → seed dispersal → pollination → germination
- (3) pollination → fertilisation → seed dispersal → germination
- (4) germination → fertilisation → seed dispersal → pollination

6. The picture shows a bryophyllum plant.



Which of the following plants reproduces the way the bryophyllum plant reproduce?

- (1) Orchid
- (2) Begonia
- (3) Heliconia
- (4) Morning glory

7. Which of the following plants reproduce from suckers?

- | | |
|--------------------|---------------|
| A – Heliconia | B – Pineapple |
| C – African violet | D – Banana |

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

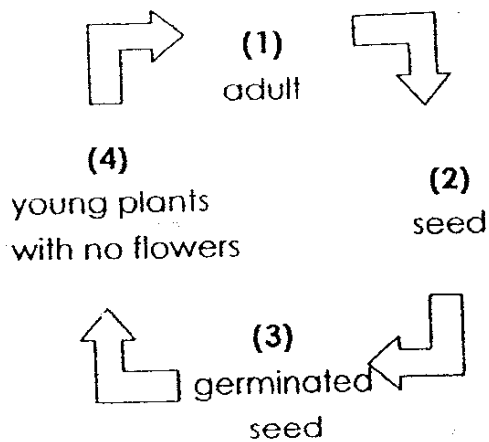
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8. Which of the following about human reproduction are **true**?

- (A) Sperms are produced and stored inside the testes.
- (B) Normally, only one egg is fertilised by many sperms.
- (C) The zygote will develop into a foetus after fertilisation.
- (D) Fertilisation always takes place inside the ovary of a female.

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

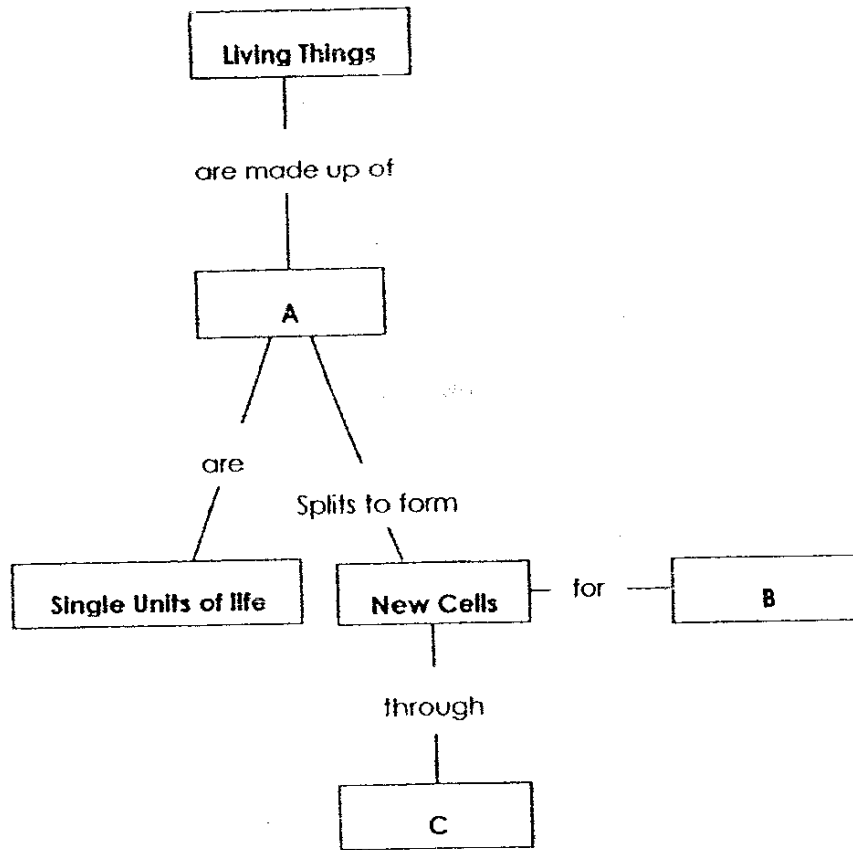
9. The life cycle of a mango plant is represented below.



At which stage of the life cycle of the mango plant does sexual reproduction take place?

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10. Study the concept map below.



What are **A**, **B** and **C**?

	A	B	C
(1)	Nuclei	Growth	Cell division
(2)	Cell	Growth	Cell division
(3)	Cell	Cell division	growth
(4)	Nuclei	reproduction	Fusion of nuclei

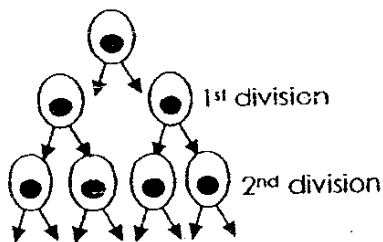
11. The table below shows the age and average height of four different healthy Chinese males, A, B, C and D. Whose height is most **unlikely** to increase any further?

	Male	Age	Average Height in cm
(1)	A	12	150
(2)	B	15	168
(3)	C	17	171
(4)	D	21	160

12. As a plant grows, its stem becomes thicker and its leaves and roots become bigger and longer. The increase in size is possible because of the _____.

- (1) oxygen intake
- (2) rate of binary fission
- (3) shape of the stomata
- (4) number of cell division

13. The diagram below shows a cell division.



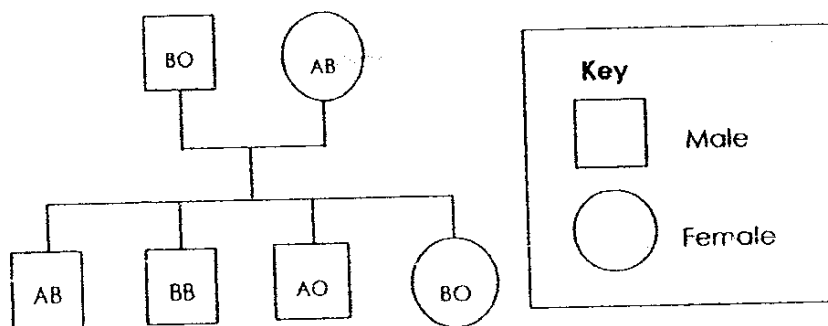
How many cells will there be after the 5th division?

- (1) 8
- (2) 16
- (3) 32
- (4) 64

Study the table and the family tree below and answer questions 14 and 15. The table below shows the four different blood-types: A, B, AB and O. Each blood group is determined by two genes.

Blood-type A	Blood-type B	Blood-type AB	Blood-type O
AA	BB	AB	OO
AO	BO		

The family tree of the Lim family is shown below.



14. How many children of the Lim family has/have **blood-type A**?

- (1) 1
- (2) 2
- (3) 3
- (4) 4

15. Which blood type does the daughter of the Lim family have?

- (1) A
- (2) B
- (3) AB
- (4) O

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16. Which of the following methods can be used to find out whether a fruit is dispersed by water?

- (A) Weigh the fruit.
- (B) Place the fruit into a basin of water.
- (C) Examine the fruit for hooks and spines.
- (D) Check whether the fruit has a fibrous husk.

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

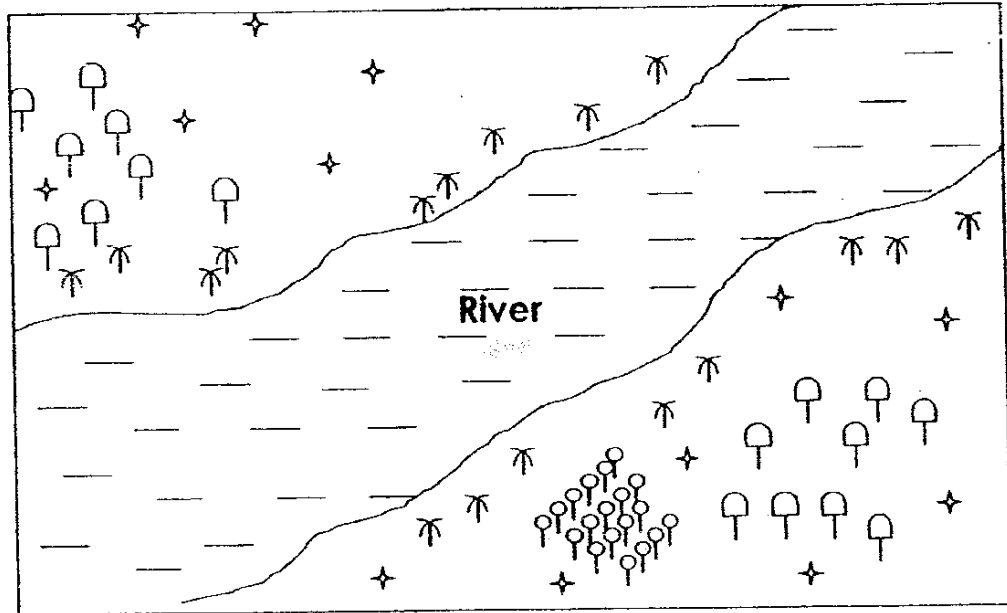
17. Lalang fruits are dispersed by wind because they _____.

- (A) are dry and flat
- (B) are small and light
- (C) have fluffy seedheads
- (D) have wing-like structure

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

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18. The diagram below shows the distribution of four types of plants near a river.

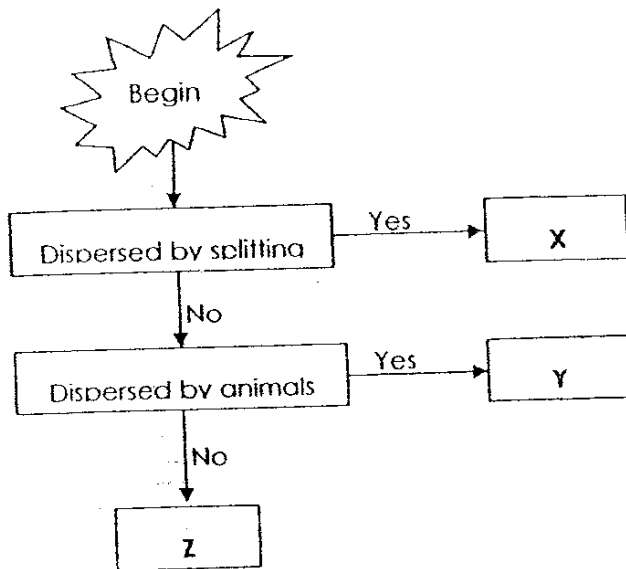


Which of the four types of plant is most likely **not** dispersed by natural means?

- (1) ✦
- (2) ⚡
- (3) ○
- (4) ◻

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19. The diagram below shows a flow chart.



Which of the following can be classified in X, Y and Z?

	X	Y	Z
(1)	Kapok	Red Mangrove	Pong Pong
(2)	Lotus	Papaya	African Tulip
(3)	Saga	Mimosa	Shorea
(4)	Flame of the Forest	Love Grass	Cherry

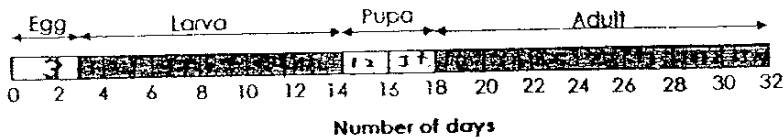
20. Which of the following substances pass through the umbilical cord that connects the developing foetus and its mother?

- (A) Water
- (B) Digested food
- (C) Carbon dioxide
- (D) Waste materials

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

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21. The time-line below shows the four stages in the life cycle of a mosquito.



Which of the following shows the **correct** duration for each stage?

Stages				
	Egg (days)	Larva (days)	Pupa (days)	Adult (days)
(1)	2	14	2	32
(2)	3	14	4	32
(3)	3	11	4	14
(4)	4	11	2	14

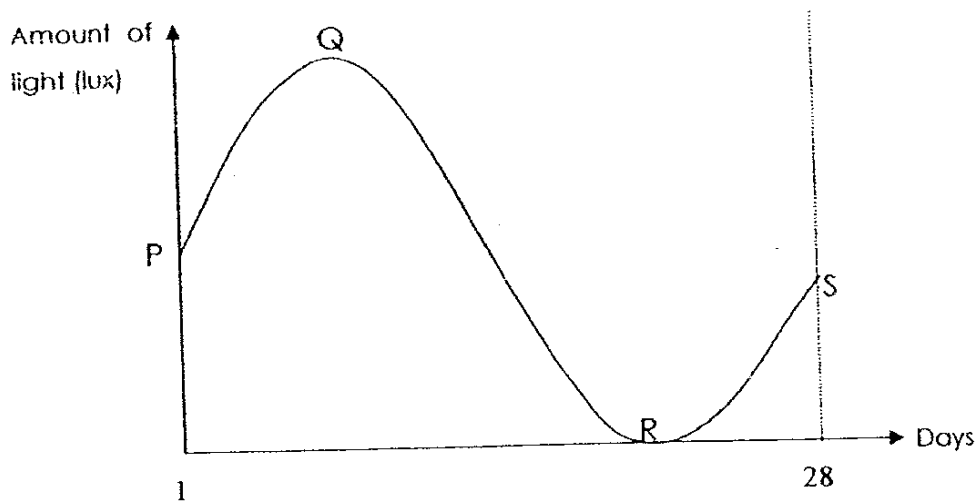
22. Which of the following classification is **correct**?

	Asexual reproduction	Lay eggs	Give Birth to its young
(1)	Yeast	Swordtail	Python
(2)	Potato	Scorpion	Platypus
(3)	Mushroom	Kingfisher	Guppy
(4)	Paramecium	Toad	Spiny anteater

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23. The graph below shows the result of measuring the amount of light received from the Moon using the light sensor of a data-logger. The measurements were made every day for four weeks when the Moon is directly overhead.

Which parts of the graph show the "full moon" and "new moon" as viewed from Earth?



- (1) P and Q only
- (2) P and S only
- (3) Q and R only
- (4) R and S only

24. Which of the following about cells is false?

- (1) Cell sap can be found in a vacuole.
- (2) A cell wall is a semi-permeable membrane.
- (3) Both the animal and plant cells have vacuoles.
- (4) Cell sap makes the plant cell firm and holds it upright.

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25. A description about an organism is given below.

It lives in water.

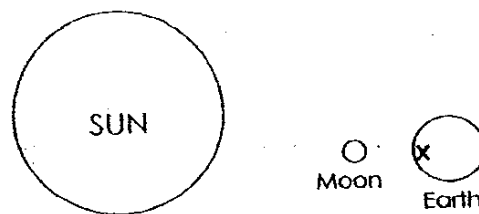
It can make its own food.

It can be made up of one type or many types of cell.

Which of the following organisms best fits the description?

- (1) Algae
- (2) Hydrilla
- (3) Amoeba
- (4) Paramecium

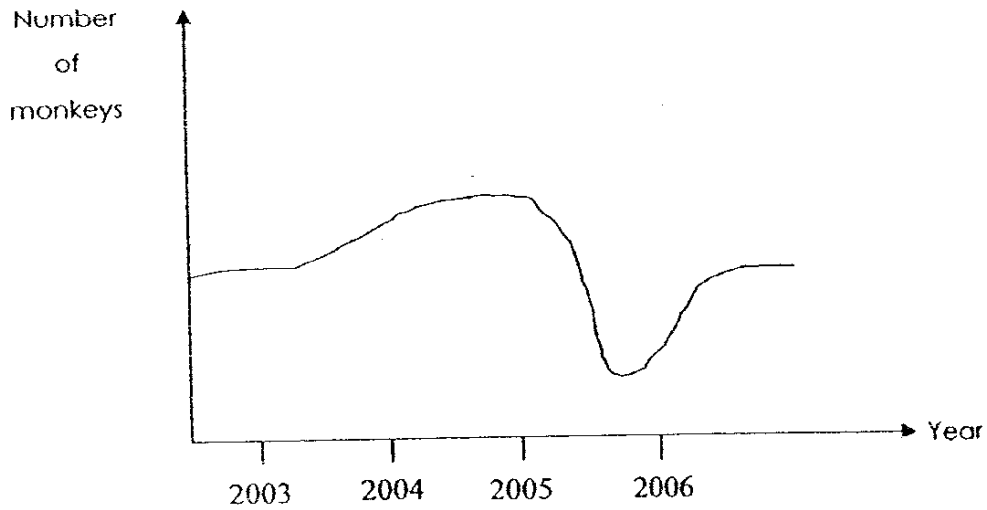
26. In the diagram below, the Sun, the Moon and the Earth form a straight line.



What will Sean see in the night sky if he is standing on the Earth at position X?

- (1) A full moon
- (2) A half moon
- (3) A crescent moon
- (4) A new moon

27. The graph below shows the number of monkeys in a forest from 2003 to 2006.

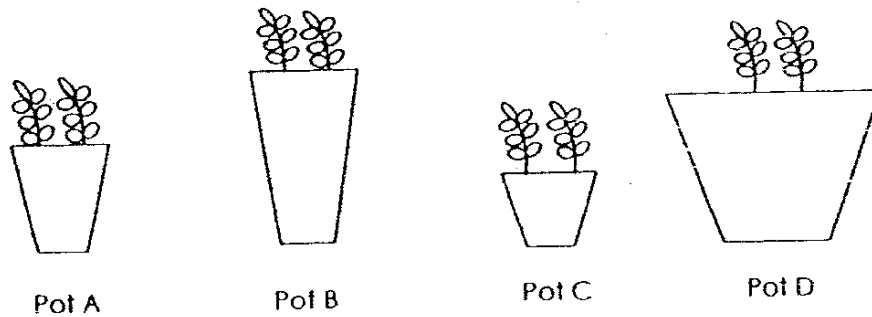


Which of the following interprets the graph **correctly**?

- (1) The number of monkeys was largest in 2003.
- (2) A forest fire could have taken place in 2004.
- (3) A disease could have struck the population in 2005.
- (4) The population started to decline in 2006.

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28. Some bean seedlings are planted in four pots of garden soil A, B, C and D as shown in the diagram below. The plants are watered daily to ensure that the soil is kept moist all the time.



In which pot will the bean seedlings most likely grow into the healthiest adult plants?

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

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29. The table below shows the characteristics of the fruits A, B and C.

Fruit	Characteristics
A	Red, fleshy and juicy
B	Grey, flat, thin and light
C	Brown, small, light and has hooks

Which of the fruit(s) is/are dispersed by animals?

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

30. In an experiment, equal numbers of chilli and tomato seeds are placed in jars P, Q, R and S. The table below shows the record of the experiment.

Jars	Type of Seeds	Type of Soil used	Where the Jar was placed
P	Chilli	Clay	In the sunlight
Q	Chilli	Garden soil	In the shade
R	Tomato	Sand	In the sunlight
S	Tomato	Garden soil	In the shade

Which two jars of seeds should you compare if you are to find out whether chilli or tomato seeds grow into seedlings faster?

- (1) P and Q only
- (2) R and S only
- (3) Q and S only
- (4) P and R only

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Tao Nan School
Primary 5 Science Mid-Year Examinations – 2007

Name: _____ ()

Marks: _____ / 40

Class: P5 ()

Parent's Signature: _____

Section B (40 marks)

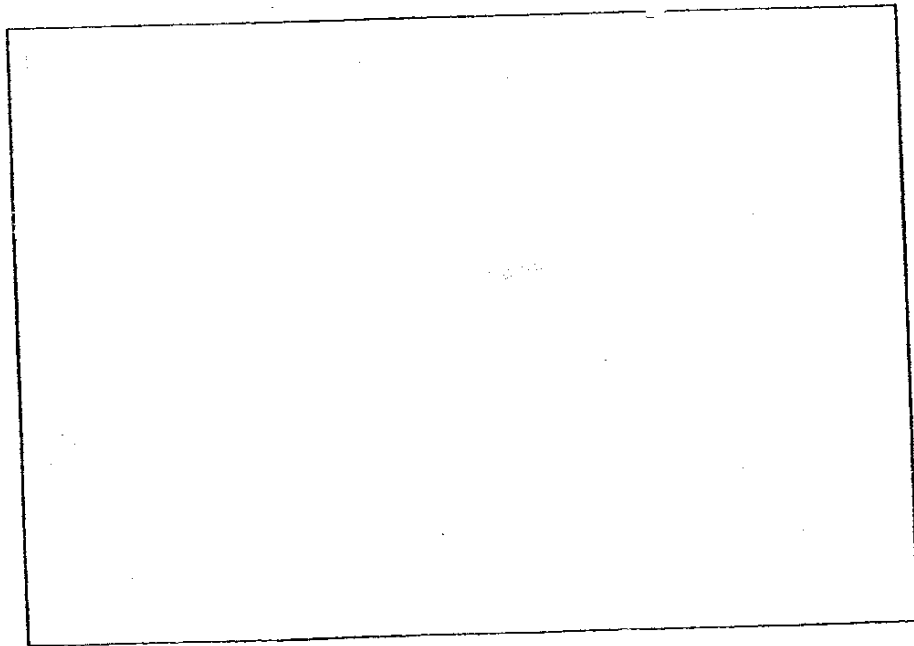
Answer the following questions in the spaces provided.

31. List **two** reasons why the Sun is so important to our Earth. (2m)

(i) _____

(ii) _____

32. Draw a leaf cell and label its cell wall, cell membrane, cytoplasm, nucleus, sap and chloroplast. (3m)

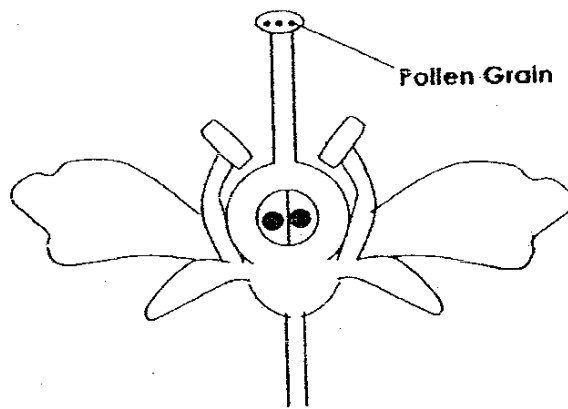


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33. Put a 'T' for statements that are true or an 'F' for statements that are false. (2m)

- (a) All plant cells have nuclei. ()
- (b) All cells have cytoplasm. ()
- (c) All plant cells have chloroplasts. (T)
- (d) All cells go through budding. (F)

34. The diagram below shows an important process in the reproduction of a flowering plant.



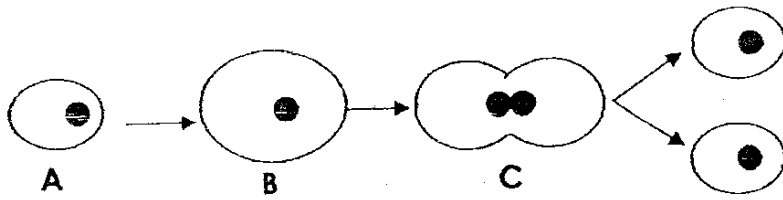
Cross-section of a flower

(a) State the part of a flower in which pollen grains are produced. (1m)

(b) Will fertilisation occur if the parts in (a) are removed from the flower? Explain your answer. (2m)

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35. Study the diagram below carefully.



(a) What happens to the cell from stage A to B? (1m)

(b) What happens to the nucleus from stage B to C? (1m)

36. Study the table below carefully.

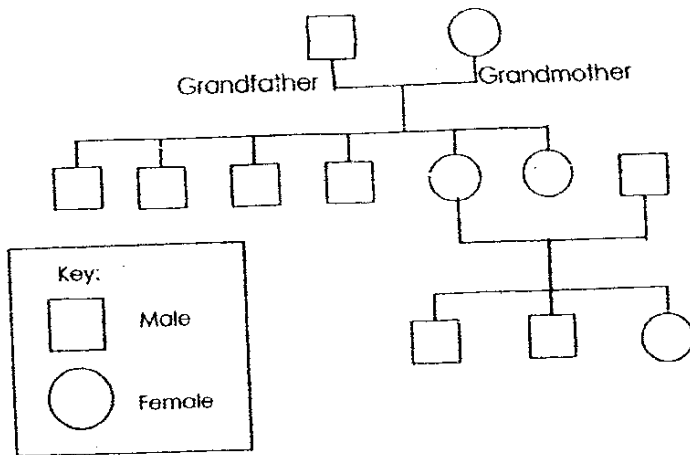
Planets	Distance from the Sun
W	68 million km
X	110 million km
Y	160 million km
Z	6.9 billion km

(a) Which planet has the highest temperature? (1m)

(b) Which planet has the lowest temperature? Why? (2m) ^{1m}

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37. Jennifer drew her family tree as shown below.



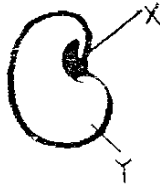
(a) Is Jennifer drawing her paternal or maternal family tree? (1m)

(b) According to the family tree, how many uncles does Jennifer have? (1m)

(c) How many siblings does Jennifer have? (1m)

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38. Study the diagram of a seed below.



(a) Identify the part that will be responsible for making food after the seed develops into a seedling and label it 'X'. (1m)
Identify the part that provides the energy and food for the germinating seed and label it 'Y'. (1m)

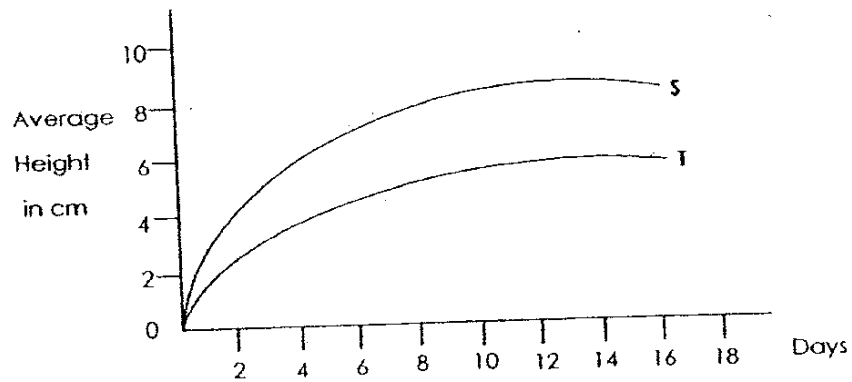
(b) Besides air, state two other conditions that the seed need before germination can take place. (1m)

39(a) Which organelle in a plant cell gives plants their green colour?
(1m)

(b) Explain why a plant with red leaves can still carry out photosynthesis. (2m)

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40. Some plants in two identical pots are grown in a garden under the same conditions. One pot has more plants than the other. The average height of the plants is recorded once every two days. The data is presented in the graph below.

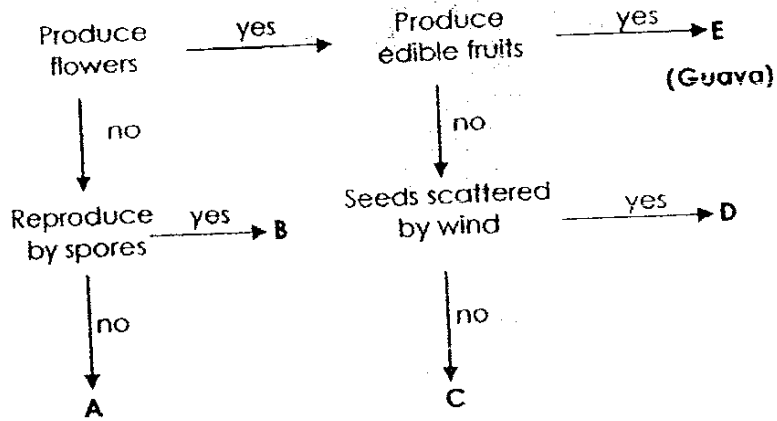


(a) Which line (S or T) on the graph shows the pot with more plants?
(1m)

(b) Give a reason for your answer in (a). (1m)

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41. Study the flow chart below carefully.



Put each of the four organisms, **love grass**, **cattail**, **fern** and **yeast** through the process of the flow chart and find out at which point (A, B, C or D) each one will end up.

Write your answers in the empty boxes below. (2m)

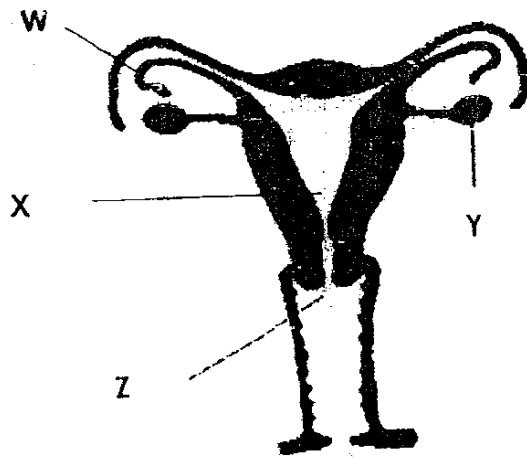
Point	A	B	C	D	E
Organisms					Guava

42. List any four ways in which a plant can reproduce. (2m)

- (i) _____
- (ii) _____
- (iii) _____
- (iv) _____

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43. The diagram below shows the reproductive system of a woman.



(a) Name the parts W, X, Y and Z. (2m)

W: _____

X: _____

Y: _____

Z: _____

(b) Where does fertilisation of an egg cell normally take place? (1m)

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44. Celine conducts an experiment on the germination of broad beans. She puts some moist cotton wool and a broad bean on a Petri dish. She then leaves the Petri dish beside a window where there is light. She repeated the process but kept the second Petri dish inside a cupboard in the same room.

(a) What change in the two Petri dishes would Celine observe after a few days? (1m)

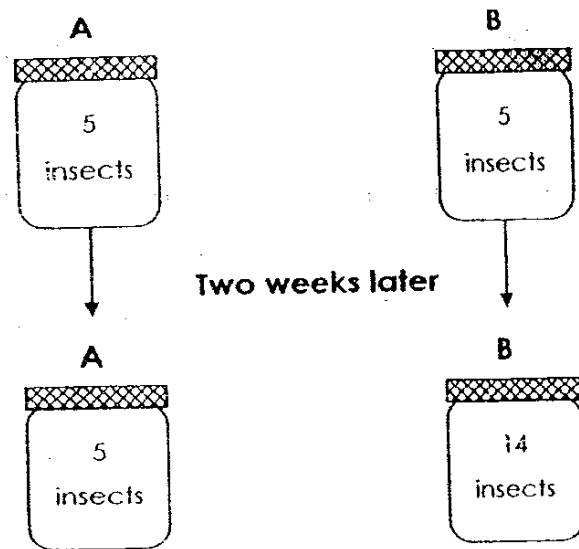
(b) What conclusion can Celine draw from this experiment? (1m)

45. Reproduction takes place in both animals and plants. State the respective animal parts which have a similar function as the plant parts. (3m)

	Plant Part	Animal Part
(a)	Ovules	
(b)	Anther	
(c)	Pollen grains	

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46. Study the diagram below. The containers A and B contain insects of the same type. They are given the same amount of food and water. They are covered with plastic nettings which allow air to pass through. Containers A and B are left in the dark for two weeks.



- (a) Why are there more insects in container B two weeks later? (1m)
-

- (b) Why is there the same number of insects in container A two weeks later? (1m)
-

End of paper

Tao Nan Primary School
Primary 5 Science SA1 Exams (2007)

Answer Keys

SECTION A : (60 MARKS)

Qn no.	Ans
1	1
2	4
3	4
4	1
5	3
6	2
7	3
8	1
9	1
10	2

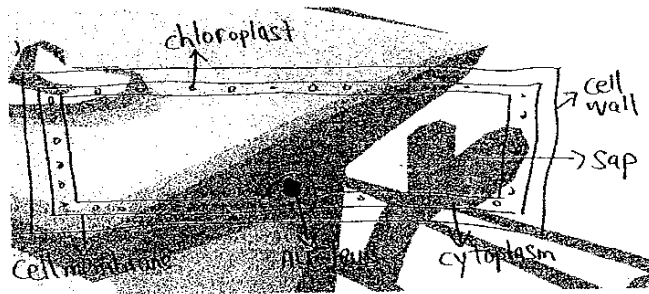
Qn no.	Ans
11	4
12	4
13	3
14	1
15	2
16	3
17	2
18	3
19	3
20	4

Qn no.	Ans
21	3
22	3
23	3
24	2
25	1
26	4
27	3
28	4
29	2
30	3

SECTION B (40 MARKS)

- 31(i). It provides us with warmth and sunlight.
 31(ii). It enables plants to photosynthesis.

32.



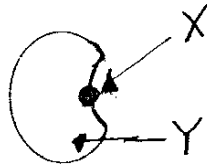
- 33a. T
 33b. T
 33c. F
 33d. F

- 34a. Anthers
 34b. Yes. The plant can still reproduce by cross pollination.

- 35a. It becomes bigger.
 35b. It makes copy of itself.

- 36a. W.
 36b. It is the furthest from the sun.
 37a. Material.
 37b. Four.
 37c. Two.

38a



38b. Warmth and water.

- 39a. Chloroplast.
 39b. It still has chlorophyll within the leaves.

- 40a. S.
 40b.

41. A : Yeast
 B : Fern
 C : Love grass
 D : Cattail

- 42(i) Stem cutting
 42(ii) Suckers.
 42(iii) Underground stem
 42(iv) Leaves

- 43a W: Fallopian tube X: Womb Y: Ovary Z: Vagina
 43b In the fallopian tube.

- 44a Both Petri dishes of seeds would germinate.
 44b Sunlight is not needed for germination of seeds.

- 45a Egg cell.
 45b Testes
 45c Sperms

- 46a Some of the insects in container B reproduced.
 46b All the insects in container A are of the same sex.