

**Primary Five  
Science  
Semestral Assessment One**

**Section A (30 X 2 marks )**

**For each question, choose the most suitable answer and write it in the box provided.**

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1. Study the table below.  
The animals have been grouped according to their habitats. Which one of the following groups has been classified **WRONGLY**?

- (1) Bees, Aphids, Spiders
- (2) Lions, Tigers, Elephants
- (3) Termites, Centipedes, Earthworms
- (4) Tadpoles, Dragonfly nymphs, Pond skaters

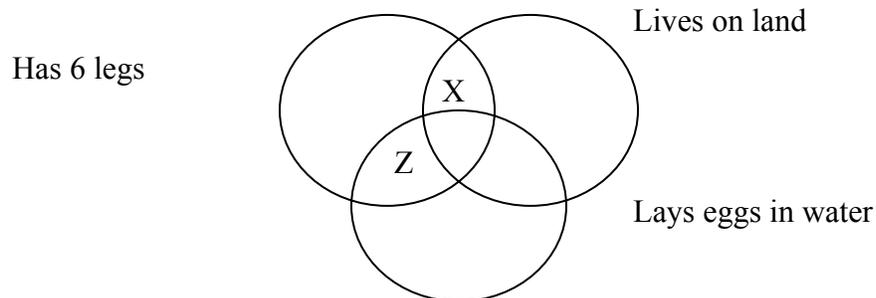
2. Study the animals in the box below.

Kittens	Cats	Caterpillars	Frogs
Butterflies	Toads		Moths

What is the maximum number of populations of animals?

- (1) 3
- (2) 4
- (3) 5
- (4) 7

3. Study the Venn diagram below carefully.



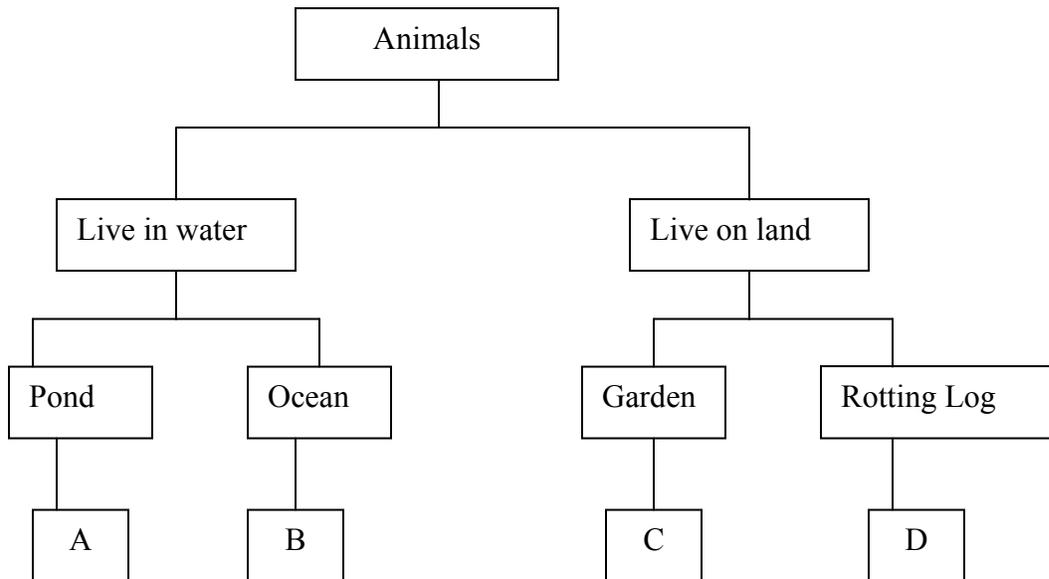
What could “ X” , “ Y” and “ Z” be?

	X	Y	Z
(1)	Housefly	Dragonfly	Water Boatman
(2)	Dragonfly	Butterfly	Housefly
(3)	Water Boatman	Housefly	Dragonfly
(4)	Butterfly	Water Boatman	Butterfly

4. A seashore habitat and a mangrove habitat have some similar conditions. One of them is that they are \_\_\_\_\_.

- (1) Very muddy
- (2) Always sandy
- (3) Exposed to sunlight
- (4) Sometimes flooded by sea water

5. Study the classification table below carefully.

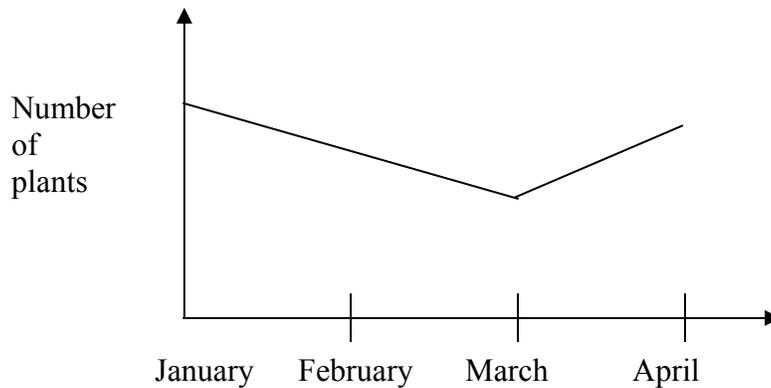


Which of the date below is accurate?

	A	B	C	D
(1)	Water snail	Sea Anemone	Bee	Scorpion
(2)	Sea Anemone	Water snail	Bee	Scorpion
(3)	Water snail	Sea Anemone	Scorpion	Bee
(4)	Sea Anemone	Water snail	Scorpion	Bee

6. The number of plants in 4 flowerbeds from January to April was recorded.

Flower Beds	Number of plants			
	A	B	C	D
January	90	70	40	60
February	70	50	40	55
March	20	30	35	45
April	50	70	60	70



The above graph shows the change in the number of plants in one of the flowerbeds. Which one is it?

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

7. Six animals are classified into 2 groups as shown below.

<b>Group A</b>	<b>Group B</b>
Toad	Moth
Damselfly	Mosquito
Grasshopper	Mealworm

The animals have been grouped according to \_\_\_\_\_.

- (1) Their habitat
- (2) Their ways of movements
- (3) The number of stages in their life cycles
- (4) Whether they are useful or harmful animals

8. Jerry observed the movements of some aquatic animals in an aquarium and recorded his observations in the table below.

<b>Animal</b>	<b>Stays near surface</b>	<b>Swims around</b>	<b>Stays at bottom</b>
Guppy	No	Yes	No
Backswimmer	Yes	No	No
Mosquito larva	No	No	Yes
Damselfly nymph	No	No	Yes

His observation of one of the animals is recorded wrongly. Which animal is it?

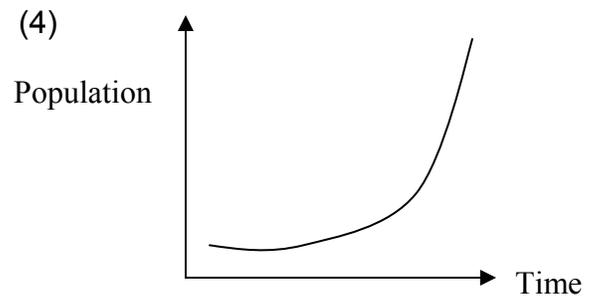
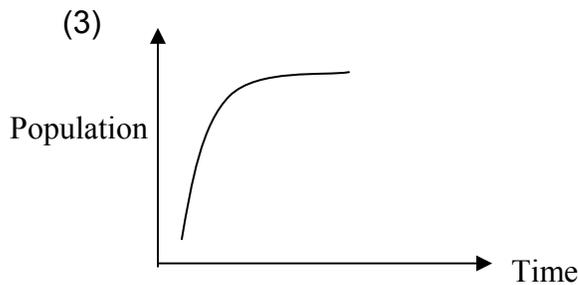
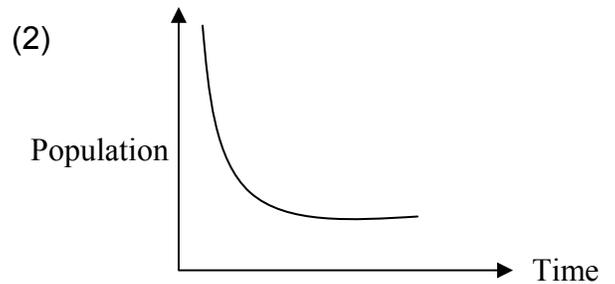
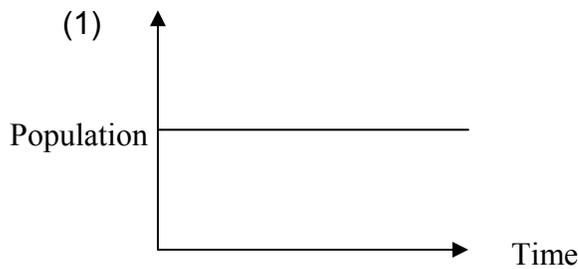
- (1) Guppy
- (2) Backswimmer
- (3) Mosquito Larva
- (4) Damselfly nymph

9. If you want to investigate whether the type of music affects the fish in an aquarium, which of the following variables should you keep constant?

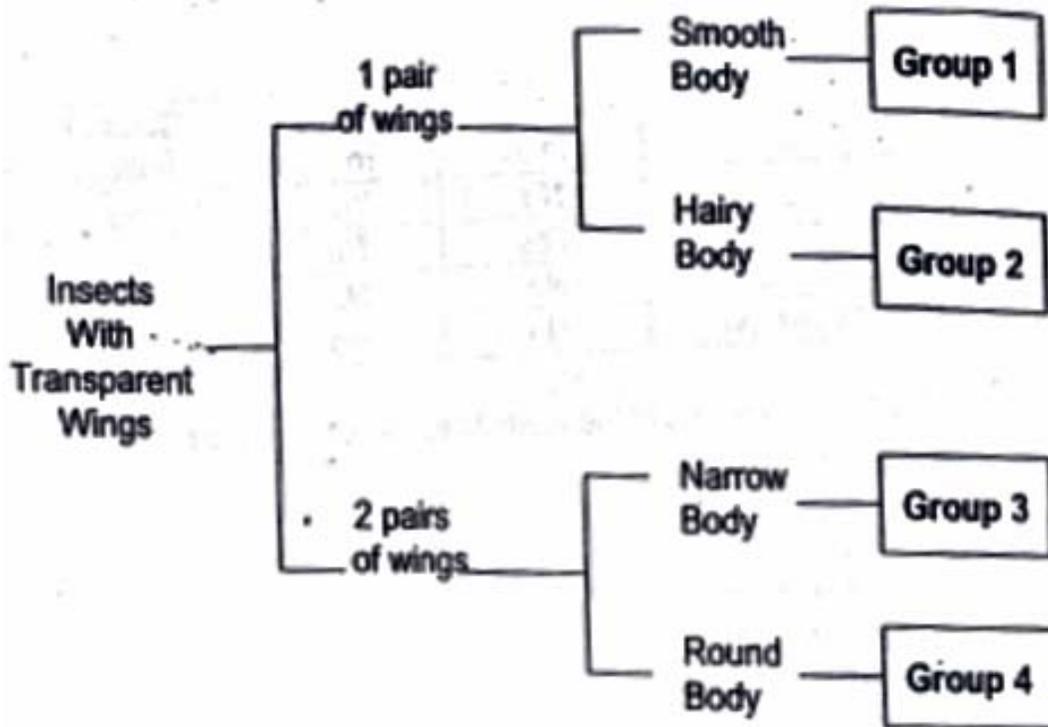
- A. Type of fish
- B. Number of fish
- C. Volume of music
- D. Amount of water

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

10. Which one of the following graphs indicates that a population has been preyed upon by new predators introduced into its community?



11. Study the classification table below.



Use the given information to classify the insect shown below.

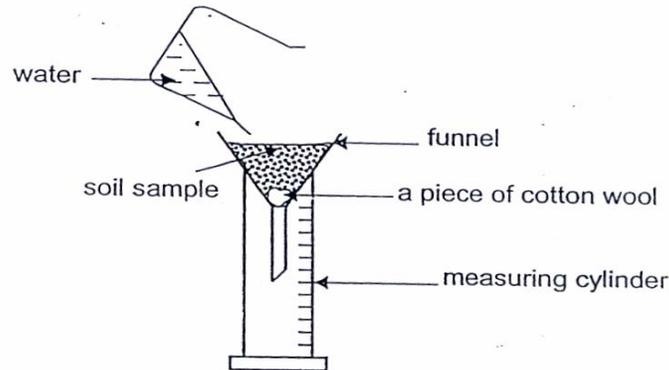


Carpenter Bee

It belongs to \_\_\_\_\_.

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

12. In an experiment,  $50 \text{ cm}^3$  of a soil sample is placed in a filter funnel as shown below.  $100 \text{ cm}^3$  of water is slowly poured into the soil. When the water stops dripping from the funnel, the volume of water collected in the measuring cylinder is recorded. The experiment is conducted with 3 samples of soil. They are sandy soil, clayey soil and garden soil.

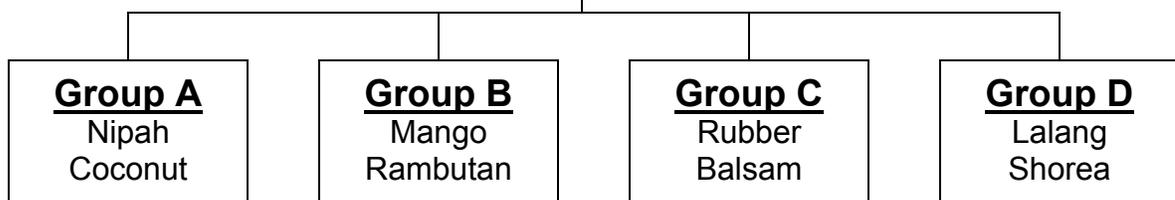


Which one the following sets of readings have been correctly matched to the soil sample investigated?

	<b>Sandy soil/ <math>\text{cm}^3</math></b>	<b>Clayey soil /<math>\text{cm}^3</math></b>	<b>Garden soil/ <math>\text{cm}^3</math></b>
(1)	20	60	80
(2)	60	20	80
(3)	80	60	20
(4)	80	20	60

- 13.

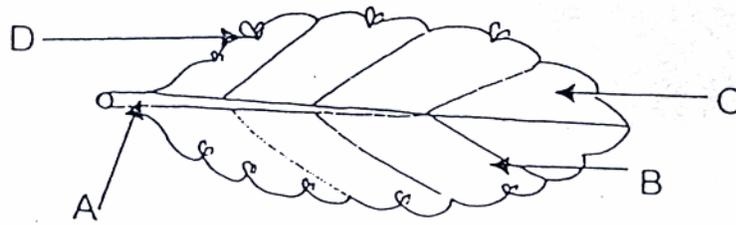
### Fruits and seeds



The fruits and seeds above are grouped according to the ways they are scattered. Which one of the following statements is NOT true of the four different groups of fruits and seeds, A B, C and D?

- (1) A floats on water
- (2) B can be eaten by man
- (3) C splits open when ripe
- (4) D has a wing-like structure

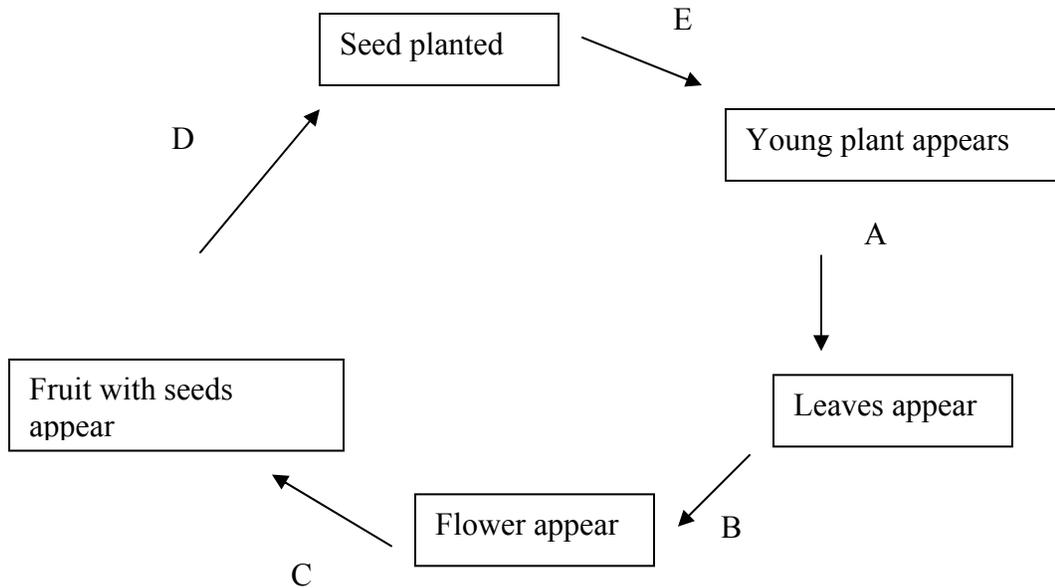
14. The diagram below shows the leaf of a bryophyllum plant.



A new bryophyllum plant can grow from \_\_\_\_\_.

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

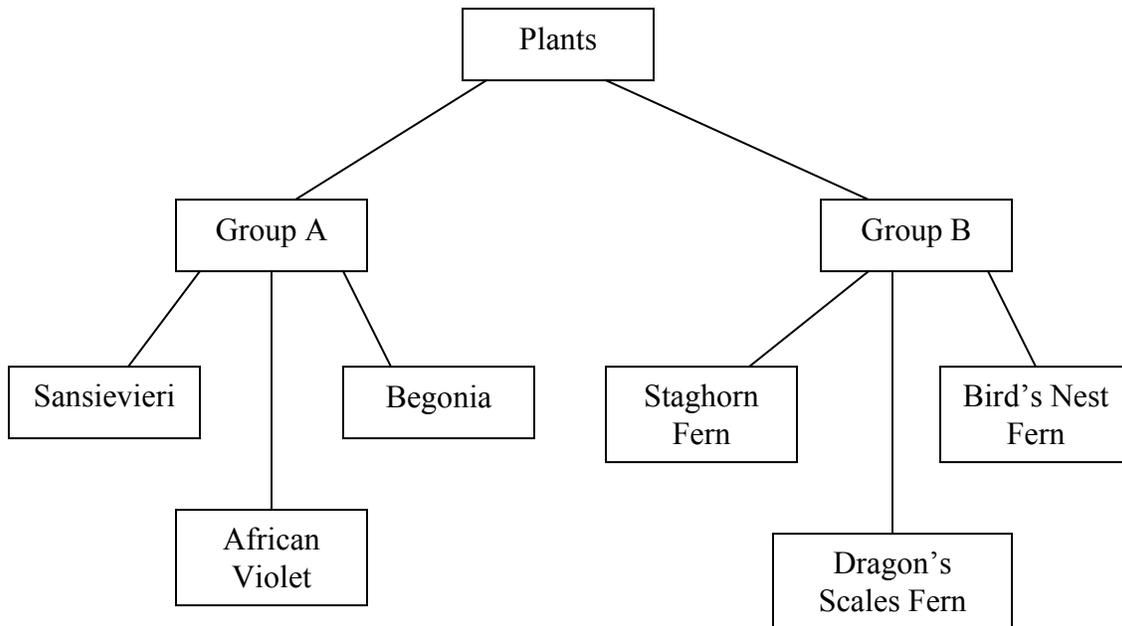
15. The diagram below shows the life cycle of a string bean plant.



The flowers are fertilized at Stage \_\_\_\_\_.

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

16. Study the classification table below.



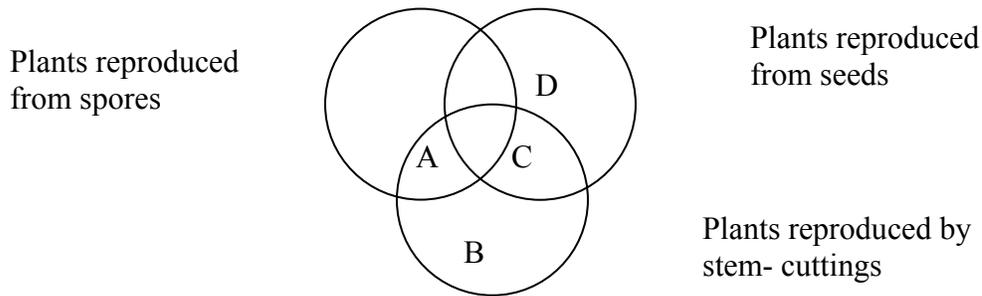
What is the difference between the plants in Group A and Group B?

	<b>Group A</b>	<b>Group B</b>
(1)	Green plants	Non-green plants
(2)	Flowering plants	Non-flowering plants
(3)	Dispersed by water	Dispersed by wind
(4)	Reproduce by stem- cuttings	Reproduced by spores

17. No plants can reproduced from their \_\_\_\_\_.

- (1) Roots
- (2) Stems
- (3) Leaves
- (4) Flowers

18. Study the Venn diagram below carefully.



Where would you place the plant "orchid" ?

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

19. Kenneth wants to find out if a young stem or an old stem of coleus plants will grow roots faster. Which variable must he change?

- (1) Age of stems
- (2) Amount of water
- (3) Length of stems
- (4) Number of leaves on the stems

20. Noel found a fruit at the bus stop near his school. It has many stiff hairs at the base of the fruit. The fruit is likely to be dispersed by \_\_\_\_\_.

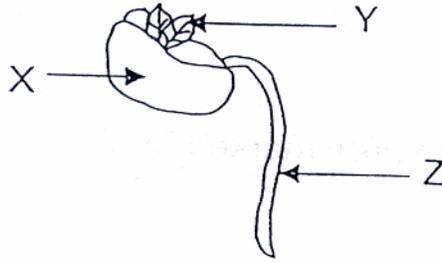
- (1) Wind
- (2) Water
- (3) Explosive action
- (4) Man and animals

21. A bee is useful because it \_\_\_\_\_.

- A : helps in pollination
- B : provides us with honey
- C : provides flowers with nectar
- D : gives out honey whenever it stings

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

22.



A seedling

The seedling shown above gets its food from the part (s) marked \_\_\_\_\_ for the seedlings.

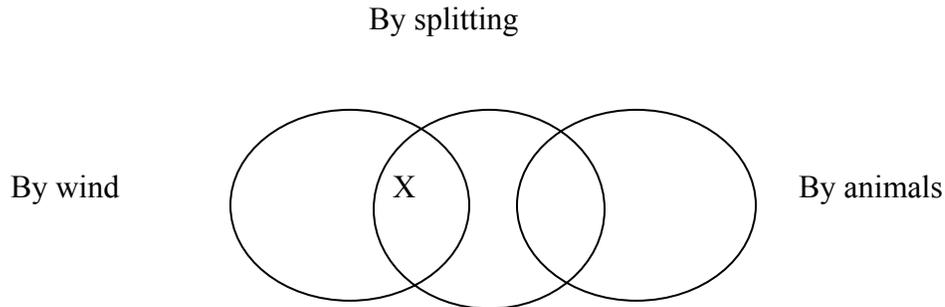
- (1) X because it contains food
- (2) Y because it is ready to make food
- (3) Z because it absorbs food
- (4) X, Y and Z is because these combine to make food

23. Which of the following plants reproduce in the same way as the anion plant?

- A. ginger
- B. potato
- C. water chestnut

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

24. The diagram below shows the methods of dispersal of seeds by plants.



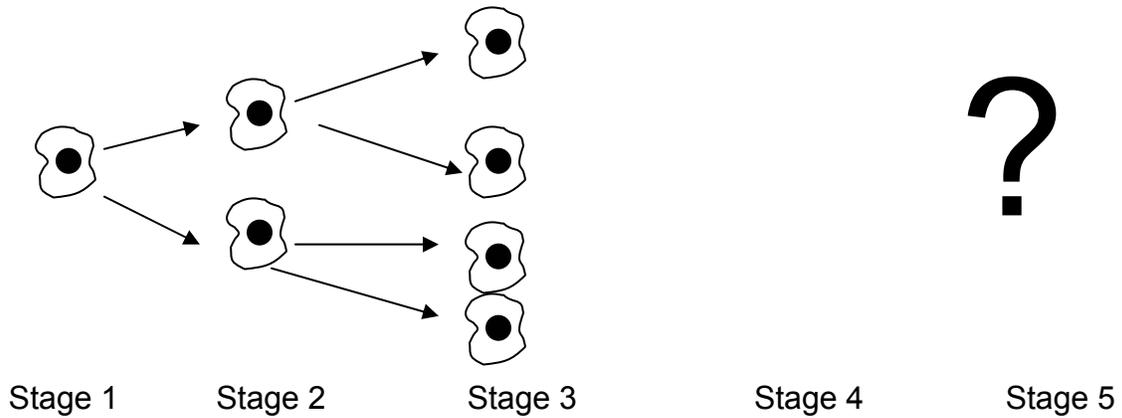
Which plant will you place in the area marked "X"?

- (1) Rubber
- (2) Silk cotton
- (3) African violet
- (4) Purple bauhinia

25. Which one of the following statements is TRUE?

- (1) All animals go through the same life cycles
- (2) The young of an animal looks exactly like its parents
- (3) The life cycles of all animal have the same number of stages
- (4) The young of an animal will go through the same life cycle as its parents.

26. The diagram below shows the reproduction of amoebae. How many amoebae will there be at Stage 5?

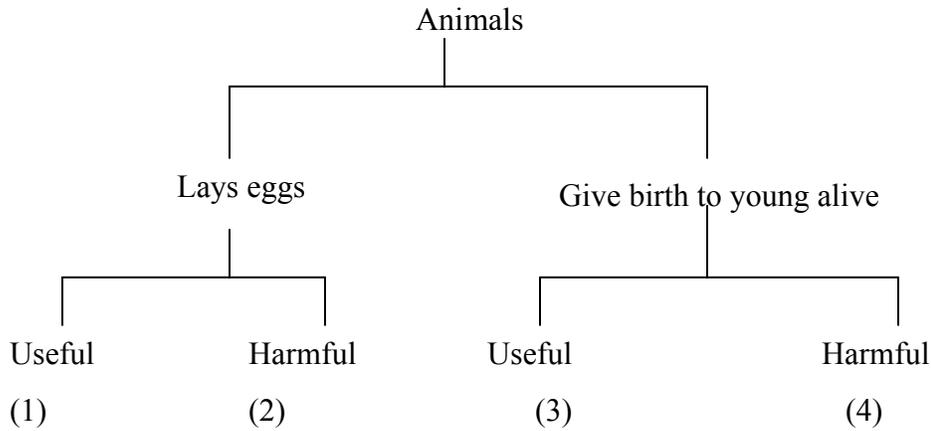


- (1) 8
- (2) 12
- (3) 16
- (4) 20

27. Keith bought some chicken eggs from the market and put them into an incubator. After 7 weeks, the eggs had not hatched into chicks. What was the reason?

- (1) The eggs were not fertilized
- (2) The eggs were not ready to hatch
- (3) The eggs prefer the warmth of a hen
- (4) There was not enough food for the embryo

28. Study the classification table below carefully.  
Where would you place “ earthworm” in the table below?




29. Which of the following statements (s) is/ are true?

Animals that lay eggs	
Group X	Group Y
Frog	Moth
Chicken	Housefly

- A : The young in Group Y shed their old skins but not those in Group X.  
 B : The young in Group X look like their parents but not those in Group Y.  
 C : The animals are grouped according to the number of stages in their life cycles.

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

30. Which one of the following is in a different stage of its life cycle from the rest?

(1)



Grasshopper nymph

(2)



Frog

(3)



Chick

(4)



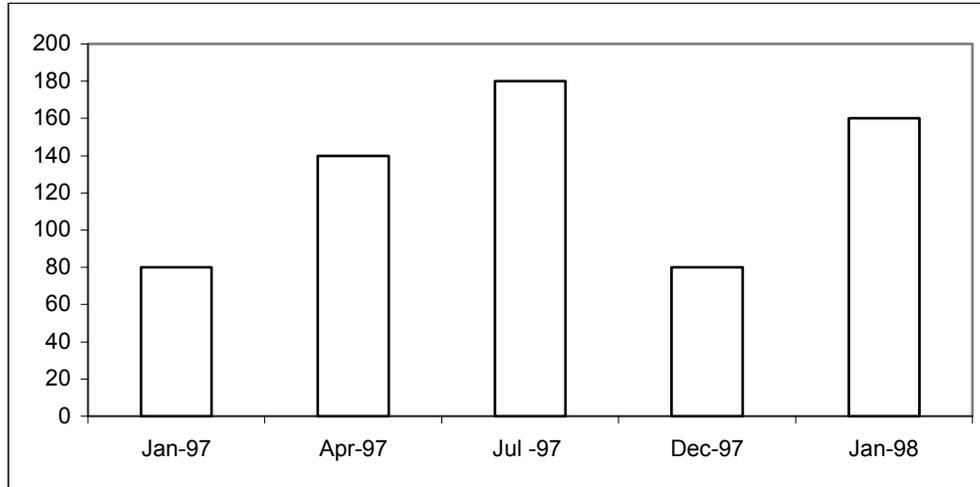
Caterpillar

**Section B ( 40 marks )**

**Answer the following questions in the spaces provided.**

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31. The graph below shows the population of frogs in a pond community. (4m)



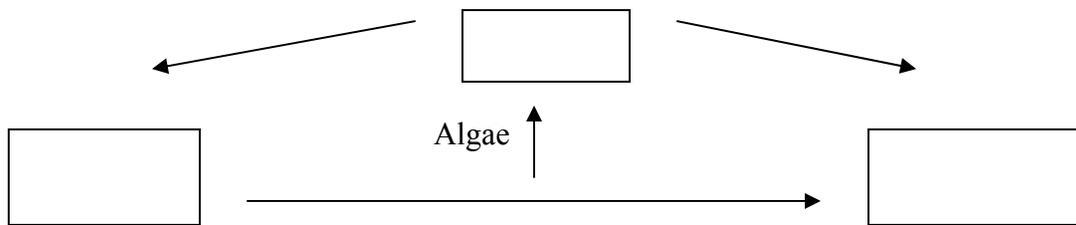
Tick (✓) the correct box after each statement.

		True	False	Impossible to tell
(a)	The number of frogs increased from Jan to Apr 1997.			
(b)	There were no predators around in Jul 1997.			
(c)	Female frogs lay eggs at the beginning of each year.			
(d)	There is a constant increase in the population for the year 1997.			

32. Study the table below carefully.

Animal	Nature of food
Young tadpole	Algae
Dragon nymph	Tadpole, worm, backswimmer
Water Beetle	Backswimmer, tadpole, dragonfly nymph

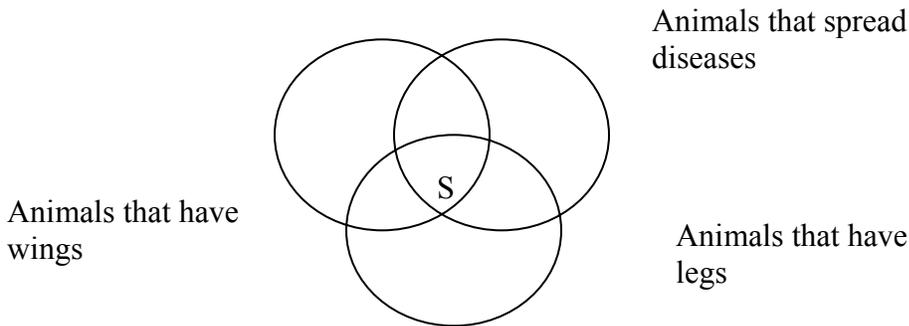
Using the information given in the table, complete the food web below .  
 ( → means eaten by) (2m)



33. Match the following plants to their ways of reproduction. Use a pencil and uler to do so. (2m)

- |                   |                  |
|-------------------|------------------|
| (a) Ginger        | Grafting         |
| (b) Soursop       | Stem cutting     |
| (c) Life plant    | Leaf cutting     |
| (d) Bougainvillea | Underground stem |

34. Study the Venn diagram below carefully.



(a) What can you say about Animal S from the diagram above? (1m)

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(b) Write "H" for housefly and "B" for bee in the diagram above. (2m)

35. Mango trees are usually reproduced from grafting instead of from seeds. List 2 advantages of doing so. (2m)

(i)

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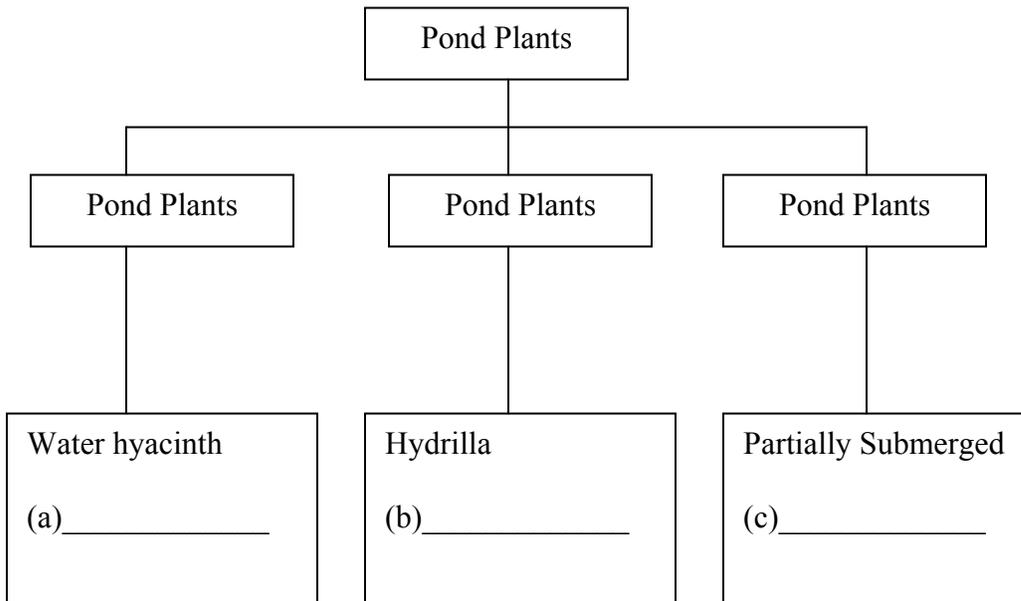
(ii)

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36. Below is a classification table of pond plants. Fill in the blanks with suitable words given in the box below. (3m)

Orchid	Mimosa	Love grass
Arrowhead	Tape-grass	Duckweed



37. Derek wants to find out whether the skin of an orange helps it to float on water. Which of the following variable(s) must be changed?  
Put a tick (✓) in the correct box(es) below. (2m)

		Change
(a)	Size of orange	
(b)	Weight of orange	
(c)	Presence of skin	
(d)	Amount of water in the pail	

38. Pollination must take place to ensure the reproduction of new plants. The \_\_\_\_\_ grains are transferred from the \_\_\_\_\_ part of the flower to the \_\_\_\_\_ part of the flower by animals or by \_\_\_\_\_. (2m)

39. The frog and its young have some similarities and difference. State them by completing the table below. (3m)

		Adult	Young
(a)	Food		
(b)	Habitat		
(c)	Body part for movement		

40. Alvin observes 4 fruits and describes them as follows :

- Fruit A : The fruit has a fibrous coat that traps air.  
 Fruit B : The fruit has a bright orange skin and is fleshy.  
 Fruit C : The fruit is pod-like and has a dry brown skin when ripe.  
 Fruit D : The fruit is small and one-seeded. It is tipped with a tuft of fine hair.

Suggest a different method of dispersal for each of these fruits. (2m)

	Method of dispersal
Fruit A	
Fruit B	
Fruit C	
Fruit D	

41. Christina conducted a fair test to investigate the effects of overcrowding on the growth of plants. She recorded her findings in the table below.

Pot	Number of plants	Average height of plants (cm)	Average width of stems (cm)
<b>A</b>	2	14	1.8
<b>B</b>	24	40	0.7
<b>C</b>	5	18	1.6
<b>D</b>	15	28	1.0
<b>E</b>	19	32	X

- (a) What do you think is the value of X? (1m)

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- (b) What is the relationship between the number of plants and their average height? (2m)

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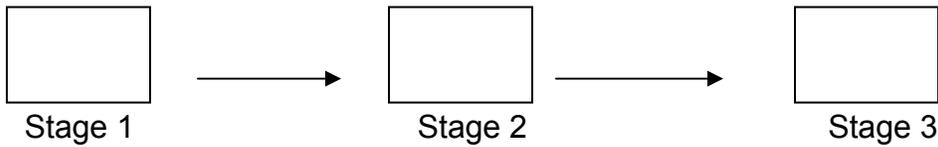


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42. The dispersal of seeds of the African Tulip plant goes through a few stages.

(a) Arrange the stages in the correct order by writing the letters in the boxes. (2m)

- A. The fruit ripens.
- B. The fruit splits open.
- C. The seeds are blown away.

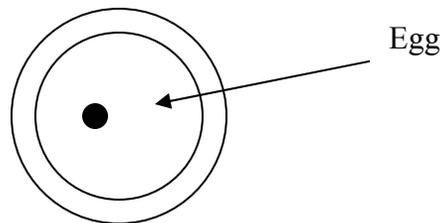


(b) Why is the African Tulip plant able to disperse its seeds further than that of the Rubber tree? (2m)

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43.



The diagram above shows a human egg. (2m)

(a) What must be joined to the egg before a new life can begin?

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(b) How long does a fertilized egg take to develop before it becomes a fully formed human being?

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44. Read the following statements carefully. Write the letter "T" in the box if the statement is True and the letter "F" if it is False. (2m)

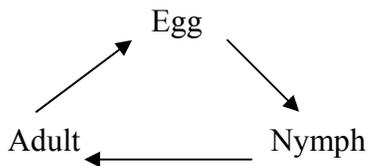
(a) The ovule develops into a fruit.

(b) Some plants have the male and female parts in separate flowers.

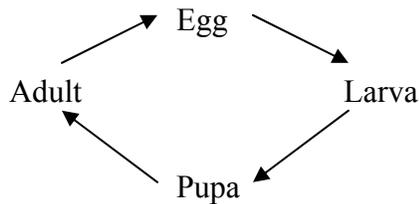
(c) The main function of flowers is to produce pollen grains for reproduction.

(d) Cross-pollination occurs when pollination happens between different flowers on the same plant.

45. Study the 2 life cycles below carefully. (2m)



Life cycle of Insect A



Life cycle of Insect B

(a) State a similarity between the 2 life cycles.

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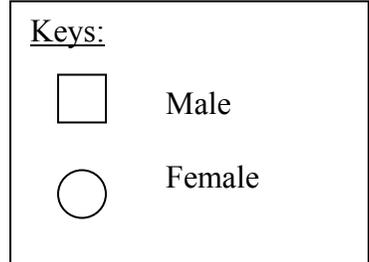
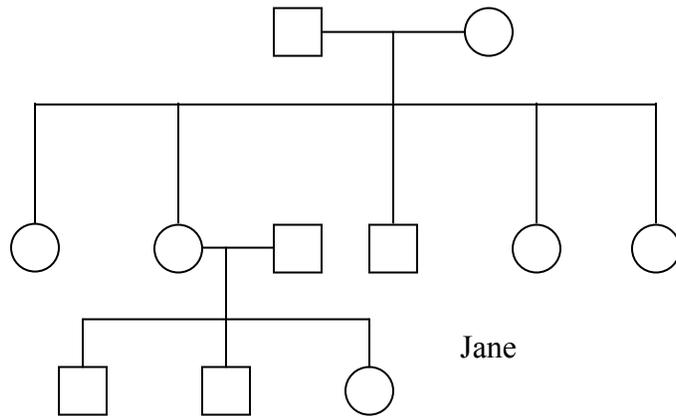
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(b) State a difference between the 2 life cycles.

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46.



Study the family tree above. (2m)

(a) How many brother (s) does Jane's mother have?

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(b) How many sister (s) does Jane have?

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