



DEPARTMENT OF  
EDUCATION

LOWER SECONDARY  
SCHOOL CERTIFICATE  
EXAMINATIONS

**AGRICULTURE**

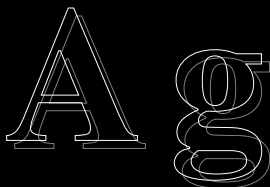
Thursday

06 October 2011

Time allowed:

3 hours

8:00 am – 11:00 am



**INSTRUCTIONS TO CANDIDATES:**

*(To be read out by the external invigilator before the start of the examination)*

There are **50 questions** in this paper. Attempt ALL questions even if you are not so sure of some of the answers.

The Examination is divided into three parts:

**PART A: Multiple-Choice (Questions 1 to 25)**

**PART B: Short-Answer (Questions 26 to 45)**

**PART C: Extended Response (Question 46)**

The Answer Sheet is part of the Examination Booklet. Take out the middle pages and remove the Answer Sheet by tearing along the perforation. You may use the blank sheet for rough work.

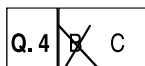
For each question in **PART A** choose the best answer by writing the letter A or B or C or D in the space provided on the **ANSWER SHEET**.

For each question in **PART B and PART C** work out the answer and write the answer in the space provided on the **ANSWER SHEET**.

If you find a question very difficult, do not spend too much time thinking about it. Leave the question out and go on with the rest of the paper. If you have time in the end, return to the difficult questions and think about them more carefully.

Write your answers in BLUE or BLACK ink (pen or biro).

If you decide to change an answer, make your correction as shown below so that it is clear to the markers what your final answer is. Do NOT use **correction fluid** on your answer sheet.



Hand in BOTH the Answer Sheet and the papers used for rough work at the end of the examination.

**Extra time will NOT be allowed to complete the examination under any circumstances.**

**The penalty for cheating or assisting others to cheat in national examinations is non-certification.**

**DO NOT TURN OVER THIS PAGE AND DO NOT WRITE UNTIL YOU ARE TOLD TO START.**





**QUESTION 11**

How does HIV and AIDS have a negative impact on food security?

- A. threatens the labour force.
- B. causes food contamination
- C. lowers immune system of animals
- D. security officers die of AIDS.

**QUESTION 12**

Which of these is a cereal crop?

- A. sweet potato
- B. peanut
- C. corn
- D. bean

**QUESTION 13**

What are swim bladders in fish used for?

- A. for buoyancy
- B. breathing
- C. movement
- D. reproduction

**QUESTION 14**

Which part of the world did kaukau originate?

- A. South Africa
- B. South America
- C. Philippines
- D. Europe

**QUESTION 15**

Herbicides are chemicals used for controlling

- A. weeds.
- B. pests.
- C. diseases.
- D. fungi.

**QUESTION 16**

Organic matter in soil comes from

- A. remains of plants and animals.
- B. rocks and minerals.
- C. remains of plants only.
- D. bacterial action on artificial manure.

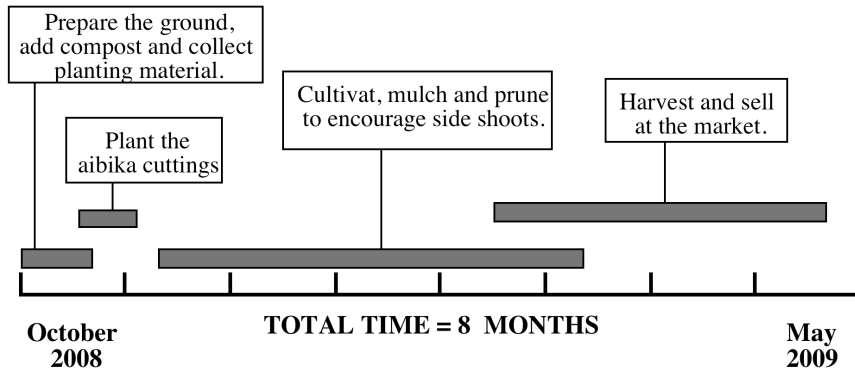
**QUESTION 17**

Agriculturalists, food technologists and farmers are encouraged to address food security. Which of the following does NOT address food security?

- A. drying chilli
- B. covering raw fish with a cloth
- C. smoking fish
- D. rice packed in a plastic bag

For Questions 18 and 19, refer to the project timeline.

**PROJECT TIMELINE**



**QUESTION 18**

When was the aibika first harvested?

- A. February 2008
- B. October 2008
- C. May 2009
- D. February 2009

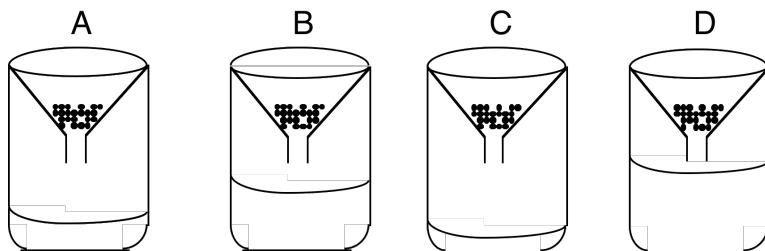
**QUESTION 19**

In order to have continuous production, when should you prepare and plant the next aibika garden?

- A. January 2008
- B. January 2009
- C. November 2008
- D. May 2009

**QUESTION 20**

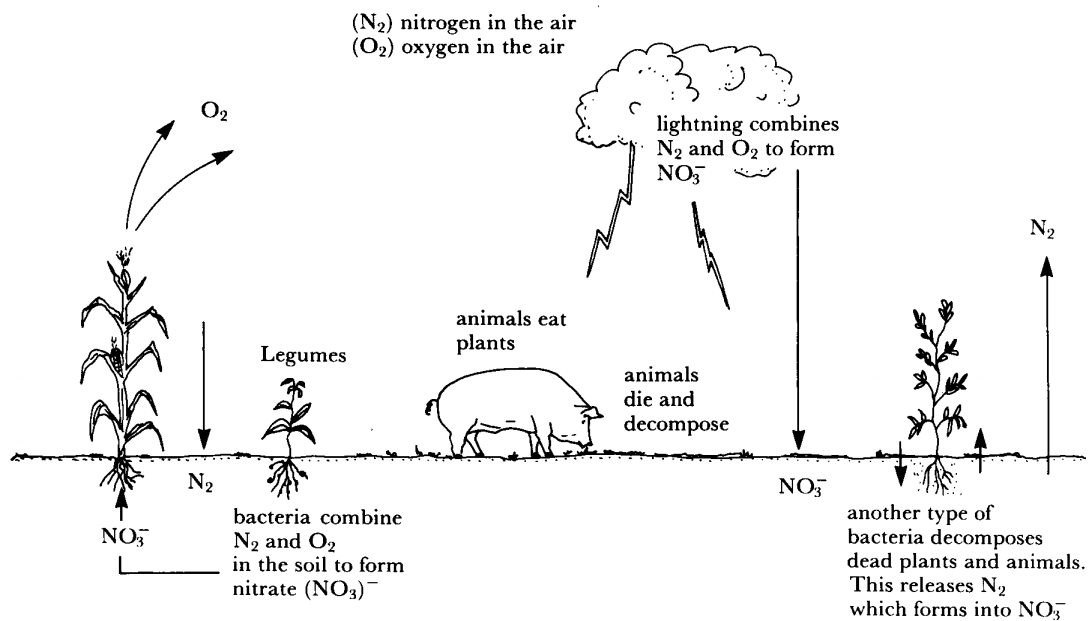
The diagram shows 4 different soils placed in each funnel over a beaker. Same volume of water is added to each funnel and the volume of water collected in each beaker after 10 seconds.



Which soil has the biggest porosity?

**QUESTION 21**

The diagram below shows the nitrogen cycle.



Which of the statements about Nitrogen Cycle from the diagram is correct?

- A. Nitrogen is made available to plants by lightning in the form of  $N_2$ .
- B. Nitrogen is made available to plants as  $N_2$  by bacteria decomposing dead organisms.
- C. Nitrogen is made available to plants as  $NO_3^-$  by bacteria in legume roots.
- D. Corn plant gives off carbon dioxide ( $CO_2$ ) which makes nitrate in the atmosphere.

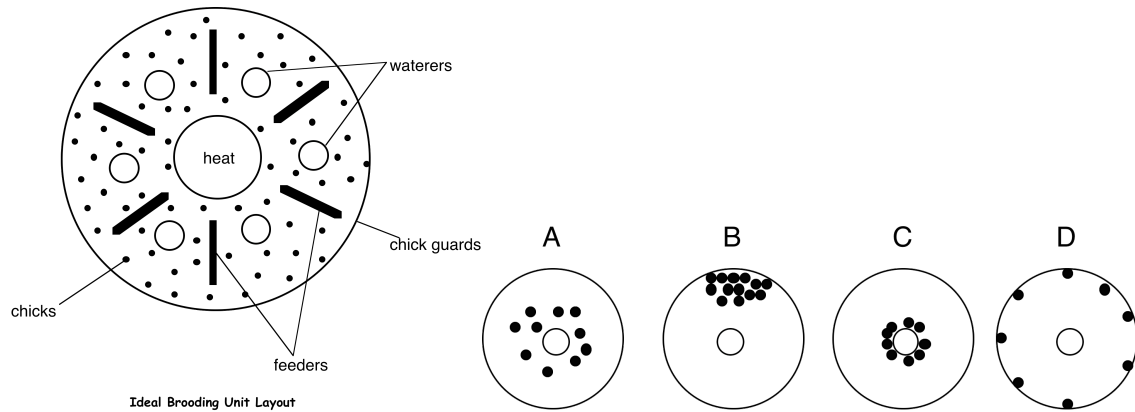
**QUESTION 22**

What part of the plant is the peanut pod attached to?

- A. leaf
- B. stem
- C. tap root
- D. lateral root

**QUESTIONS 23**

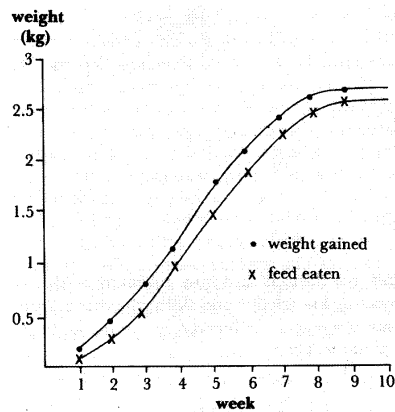
The diagrams below show the behaviour of chicks in relation to the amount of heat produce by the heat source or lamp.



Which lamp shows how the day old chicks would behave when the heat source dies out on a cold night?

**For Questions 24 and 25, refer to the following information.**

The graph shows the cumulative weight broiler chicken and weight of feed eaten by weeks.



**QUESTION 24**

What was the average weight of the broilers at week 6?

- A. 0.9 kg
- B. 1.2 kg
- C. 1.9 kg
- D. 2.2 kg

**QUESTION 25**

What is the most correct conclusion that could be drawn from this graph about broiler weight?

- A. increased at a steady rate throughout the 10 weeks.
- B. gain is likely to continue for the next 10 weeks.
- C. depends on feed eaten.
- D. will fall back to its initial weight if feed is stopped.

**PART B - SHORT ANSWERS**

For each question in PART B (Question 26 to 45), work out the answer and write the answer in the space provided on the ANSWER SHEET.

**QUESTION 26**

Long time ago people in Papua New Guinea migrated from place to place and have settled in different places. Although there is less migration today, people still move to new places to plant their gardens.

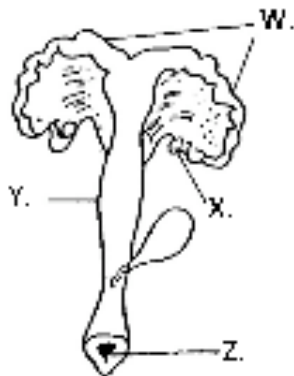
The practice of making gardens at new sites every planting season is called \_\_\_\_\_.

**QUESTION 27**

Some people live on steep mountainsides. In order to prevent soil erosion, they cut into the mountainsides to make the land flat. It resembles a step like feature. This practice is called \_\_\_\_\_.

For Questions 28 and 29, refer to the diagram.

The diagram shows the reproductive organ of a farm animal.

**QUESTION 28**

Name the organ labeled X.

**QUESTION 29**

Write down the letter that shows the organ in which a fertilized ovum rests and develops to a foetus.

**QUESTION 30**

What type of crop are peanuts, soybeans, winged beans and cowpeas known as?

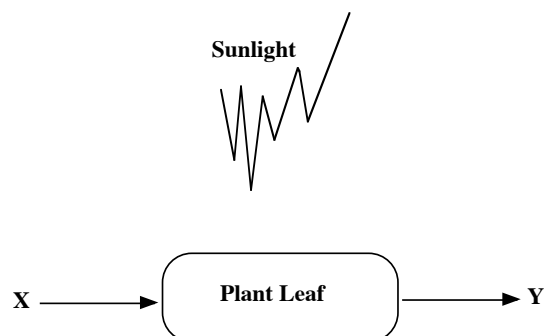


**QUESTION 31**

What is the pest control technique that uses no artificial chemicals and poses no danger to the natural environment?

**For Questions 32 to 33, refer to the following diagram.**

An important chemical reaction takes place in the leaves of the food crop shown during the day enabling it to produce its own food.

**QUESTION 32**

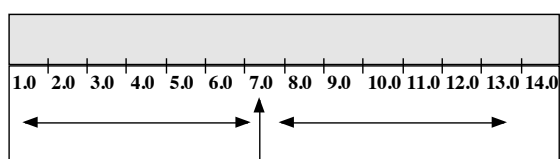
What is the name of the process illustrated in the diagram above?

**QUESTION 33**

What is the name of the gas Y?

**For Questions 34 to 35, refer to the illustration.**

The illustration below shows the pH range from pH 1 to pH 14.0.

**QUESTION 34**

A soil that has a pH value of 5.0 is said to be \_\_\_\_\_.

**QUESTION 35**

A soil that has a pH value of 10 is said to be \_\_\_\_\_.

**For Questions 36 and 37, refer to the following information.**

A rural farmer in Lumi grows corn and peanut and raises chicken and fish. He feeds the chicken with some of the corn and uses the manure from the chicken to feed the fish.

**QUESTION 36**

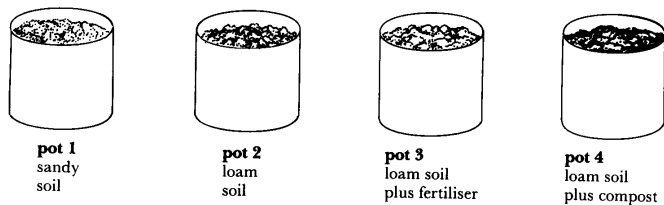
State another way in which he could make use of the chicken manure.

**QUESTION 37**

What type of farming system is this?

**QUESTION 38**

The same number of corn seed was planted in each of four pots. However, each pot had different soil and plant food.



Which pot would give the lowest crop yield?

**QUESTION 39**

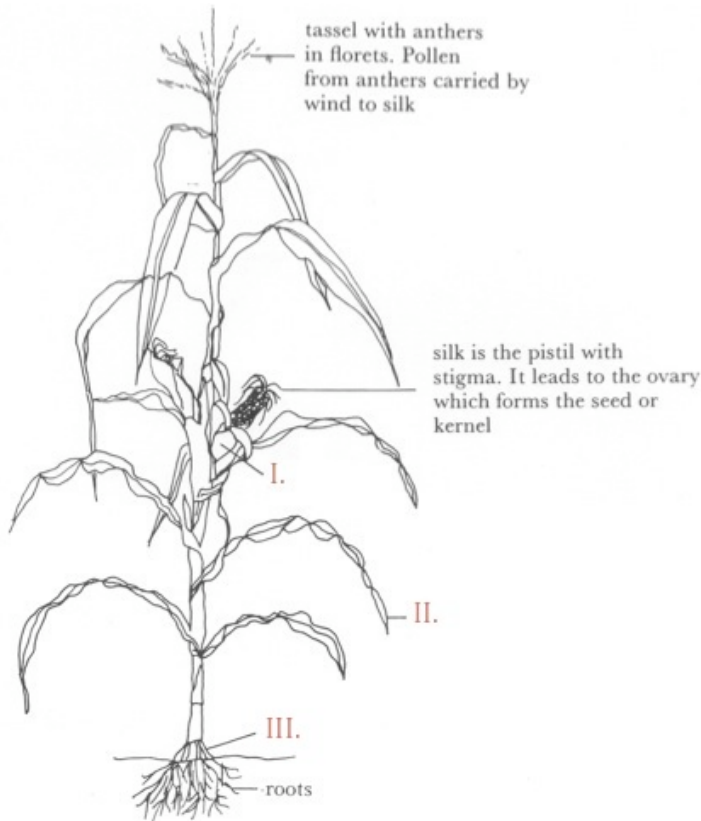
A garden soil that is over used and then left for some years to regain its fertility is called \_\_\_\_\_.

**For Questions 40 to 43, refer to the following table.**

Answer the questions by writing correct common name or the scientific name of the common crops listed below.

Common name of crop	Scientific name of crop
(40)	<i>Cocos nucifera</i>
(41)	<i>Ipomoea batatas</i>
corn	(42)
(43)	<i>Arachis hypogaea</i>

For Questions 44 and 45, refer to the following diagram of an agriculture food crop.



**QUESTION 44**

What type of root system does this crop have?

**QUESTION 45**

Name the male part of the plant.

**PART C – EXTENDED RESPONSE QUESTIONS**

**QUESTION 46**

Name the correct farming practice required to improve the condition in each situation.

	Situation on hand	Correct farming practice required (one word only is required)
I	Wilting leaves of cabbages in dry season	
II	Waterlogged soil	
III	Bushy coffee trees	
IV	Sprouting vanilla flowers	
V	A sow on heat	

**END OF EXAMINATION**

**AGRICULTURE - ANSWER SHEET**



**MARKER 1**

YEAR		PROV.		SCHOOL			CAND No.		
1	1								
NAME									
SCHOOL									

**PART A: (Questions 1 to 25)**

Write the letter of your answer next to each question below.

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**PART B (Questions 26 to 45)**

Write your answer next to each question below.

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**PART C (Questions 46 to 50)**

Write your answer next to each question below.

41		<b>46</b>	(i)		<b>MARKER 2</b>
42			(ii)		
43			(iii)		
44			(iv)		
45			(v)		

**DO NOT WRITE ON THIS PAGE**

**YOU MAY DO YOUR ROUGH WORK ON THIS PAGE**

**CAREFULLY TEAR ALONG THIS PERFORATION**

**YOU MAY DO YOUR ROUGH WORK ON THIS PAGE**