

PAPER 2

ESSAY

[00 marks]

There are six questions in this paper. Answer five questions only.
Write your answers in ink, in this booklet.
All questions carry equal marks.

I. (a) Discuss the International Institute of Tropical Agriculture under the following headings:

(i) location of its headquarters;

(ii) three target crops;

(iii) five roles in agricultural development.

[9 marks]

(b) State three disadvantages each of using the following sources of power on the farm:

(i) sunlight;

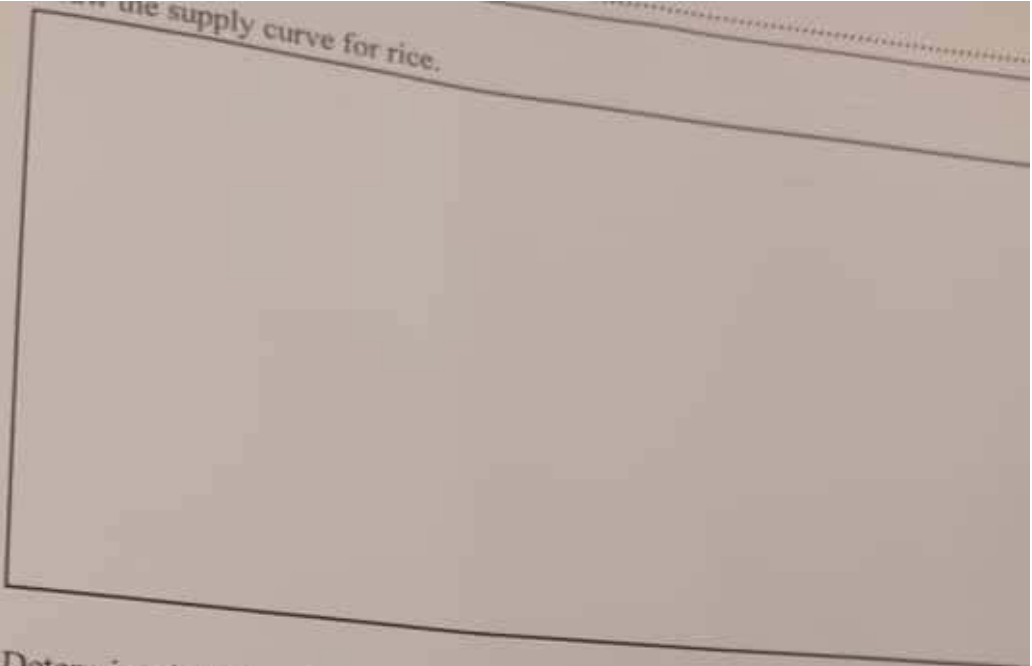
(ii) electricity;

(iii) draught animals.

[9 marks]



the supply curve for rice.



(b) Determine the price elasticity of supply when the price increases from ₦100 to ₦250. [4]

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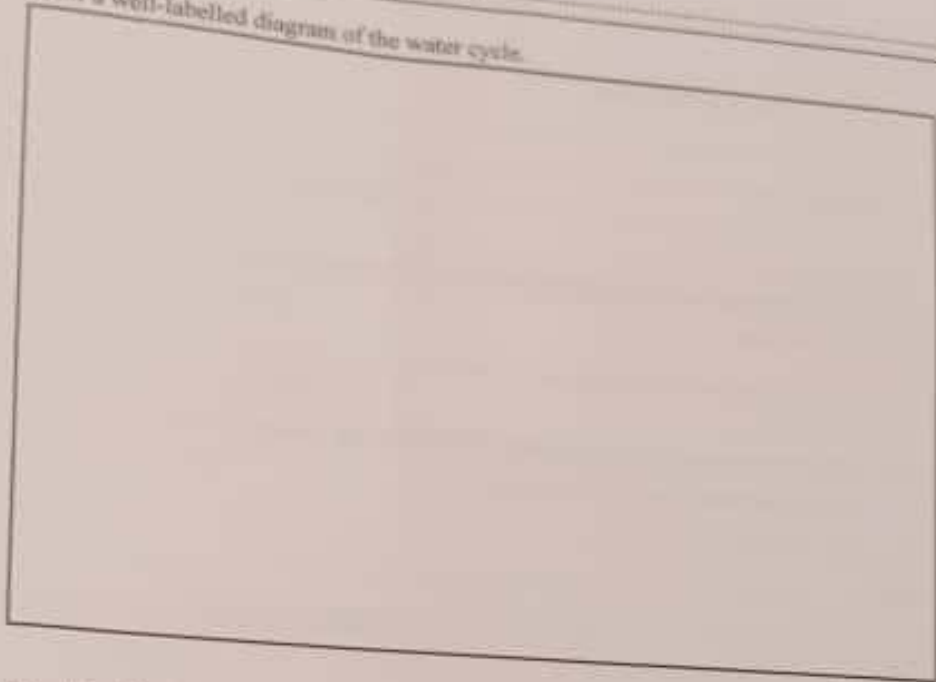
(c) Mention **four** characteristics of a good dairy cow.

(d) List **three** methods of determining soil texture.

Do not write in this margin.

Candidate's Name:

2. (a) Draw a well-labelled diagram of the water cycle.



- (b) (i) Explain the term *deforestation*. [6 marks]

[2 marks]

- (ii) Give five reasons why forest trees are important in the environment.

[5 marks]

- (c) Mention five roles of living organisms in the soil.

[5 marks]



5. (a) Complete the table below.

Farm animal	Young one	Act of parturition	Number of teats in udder	Oestrus cycle (days)	Gestation period (days)
Goat					
Cattle					

[16 marks]

(b) Mention **four** factors that determine the degree of an animal's resistance to a disease.

[4 marks]

(c) Give **four** reasons why bush burning should be discouraged in West Africa.

[4 marks]

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The table below illustrates the supply schedule for rice. Use it to answer questions 6(a) and 6(b).

Price per kg (₦)	Quantity supplied (tonnes)
50	20
100	40
150	50
200	60
250	100

Do not write in this margin.

Candidate's Name:

4. (a) Discuss the cultivation of rubber under the following headings:

(i) botanical name;

(ii) **two** methods of propagation;

(iii) soil requirement;

(iv) fertilizer application;

(v) harvesting.

[6

(b) Name **two** insect pests of **each** of the following crops:

(i) sorghum;

(ii) cassava;

(iii) tomato.

(c) State **six** effects of high temperature in a brooder house.

Answer **all** the questions.

Each question is followed by **four** options lettered A to D. Find the correct option for and shade in pencil on your answer sheet, the answer space which bears the same letter you have chosen. Give only **one** answer to each question. An example is given below.

To which of the following crops does the term *ginning* apply?

- A. Kenaf
- B. Cocoa
- C. Groundnut
- D. Cotton

The correct answer is cotton which is lettered D and therefore answer space D is

[A]

[B]

[C]

[D]

Think carefully before you shade the answer spaces; erase completely any **and** change.

Do **all** rough work on this question paper.

1. A source of fuel **commonly** available in rural areas of West Africa is
 - A. biogas.
 - B. kerosene.
 - C. firewood.
 - D. petrol.
2. The **most** important factor that determines the rate of agricultural development in a country is the
 - A. abundance of farm machinery available.
 - B. number of people involved in agriculture.
 - C. adoption of viable research findings.
 - D. quantity of agrochemicals used.
3. Non-governmental organizations contribute to agricultural development in West Africa through the
 - A. provision of subsidized milk for farmers.
 - B. establishment of universities of agriculture.
 - C. provision of organic manure for farmers.
 - D. development of improved seeds and cultivars.
4. A **major** limitation to agricultural mechanization in West Africa is
 - A. small farm holdings.
 - B. poor storage facilities.
 - C. poor marketing systems.
 - D. inadequate rainfall.
5. The farm power that could utilize livestock waste is
 - A. hydro.
 - B. solar.
 - C. mechanical.
 - D. biogas.

32. The illustrated pest is a **major** pest of

- A. cassava.
- B. pepper.
- C. millet.
- D. groundnut.

33. A cultural method of controlling the illustrated pest is by

- A. late harvesting.
- B. spraying with insecticides.
- C. introduction of wasps.
- D. timely planting.

34. Which of the following ornamental plants is **commonly** cultivated as a pot plant?

- A. Hibiscus
- B. Croton
- C. Ice plant
- D. Aloe vera

The diagram below illustrates the digestive system of cattle. Use it to answer questions 35 to 37.



35. The part that receives feed after swallowing is labelled

- A. I.
- B. II.
- C. III.
- D. IV.

36. Digestive juices are secreted in the part labelled

- A. I.
- B. II.
- C. III.
- D. IV.

37. The part referred to as honeycomb is labelled

- A. IV.
- B. III.
- C. II.
- D. I.

38. The **true** stomach in poultry is

- A. crop.
- B. proventriculus.
- C. gizzard.
- D. small intestine.

39. Multiple births are **common** in the following animals **except**

- A. pigs.
- B. goats.
- C. rabbits.
- D. cattle.

40. Which of the following practices will **not** aid milk let-down in a lactating cow?

- A. Injection of progesterone
- B. Provision of adequate feed
- C. Injection of oxytocin
- D. Presence of a calf

41. Fusion of male and female gametes takes place in the

- A. vulva.
- B. ovary.
- C. oviduct.
- D. cervix.

23. Which of the following crops would require the illustrated farm operation?
- Okra
 - Tomato
 - Yam
 - Maize
24. The **most** important farm tool that could be used to carry out the illustrated farm operation is
- rake.
 - hoe.
 - shovel.
 - trowel.
25. An advantage of planting crops using the illustrated farm operation is that it
- encourages leaching.
 - conserves space.
 - reduces soil erosion.
 - reduces soil temperature.
26. Which of the following factors is **not** an objective of plant breeding?
- Tolerance to harsh climatic conditions
 - Resistance to pests
 - High pollination rate
 - Uniform maturity of plants
27. Which of the following factors could be responsible for poor yield of yam that is planted on a fertile soil in a high rainfall area?
- Leaching of soil nutrients
 - Inadequate soil microorganisms
 - High alkalinity of soil
 - Poor soil structure
28. A farmer projects the cultivation of 120,000 stands of maize at a spacing of 30 cm by 60 cm. Determine the total area of farmland required in hectares.
- 2.16 ha
 - 10.80 ha
 - 13.33 ha
 - 66.67 ha
29. Which of the following crops **correctly** matches its material for propagation?
- Banana → slip
 - Cocoyam → corm
 - Sugarcane → rhizome
 - Spinach → bulb
30. If 450 out of 600 cowpea seeds planted germinate, the percentage germination is
- 25.0%
 - 33.3%
 - 66.7%
 - 75.0%

The diagram below illustrates an insect pest of crops. Use it to answer questions 31 to 33.



31. The mouthpart possessed by the illustrated pest is
- boring.
 - biting and chewing.
 - piercing and sucking.
 - chewing.

42. An advantage of using sawdust as litter in the deep litter system is that it
- does not last long.
 - cakes up easily.
 - absorbs water easily.
 - harbours pathogens.
43. If a floor space of three adult chickens per square metre is recommended in a deep litter house, calculate the number of adult chickens that could be stocked on a floor space of 300 m^2 .
- 50 chickens
 - 100 chickens
 - 450 chickens
 - 900 chickens
44. Examples of zoonotic diseases are
- aspergillosis, rinderpest and tuberculosis.
 - rinderpest, aspergillosis and coccidiosis.
 - anthrax, brucellosis and tuberculosis.
 - coccidiosis, anthrax and rinderpest.
45. Which of the following equipment protects the bee keeper's head and face from bee stings?
- Smoker
 - Brush
 - Veil
 - Boots
46. The supply curve slopes
- vertically to the right.
 - downward to the left.
 - upward to the left.
 - downward to the right.
47. *Salvage value* refers to the
- interest on borrowed money.
 - value of agricultural input owned by a farmer.
 - initial cost of farm machinery.
 - value of an asset after its economic lifespan.
48. The marketing agent that would be of **utmost** benefit to the farmer is
- wholesaler.
 - commodity board.
 - retailer.
 - cooperative society.
49. The activities of middlemen may cause the following marketing problems **except**
- reduced profit for farmers.
 - artificial scarcity of produce.
 - inadequate storage facilities.
 - inflation of prices of produce.
50. Farmers could minimize risks associated with farming business **mainly** by
- practising monocropping.
 - early planting.
 - diversification of farm enterprise.
 - selling farm produce immediately after harvesting.

14. The soil sample in diagram III is
- sand.
 - silt.
 - clay.
 - loam.
15. If 40 ml of water was added to the soil sample in diagram I and 24 ml of water was collected at the end of the experiment, calculate the percentage of water retained in the soil sample.
- 33.3%
 - 40.0%
 - 60.0%
 - 66.7%
16. Which of the following statements is **not** correct about micronutrients? They
- act as catalysts and co-enzymes in growing plants.
 - are required in small quantities.
 - are toxic when present in large quantities.
 - are the most abundant elements in plant leaves.
17. Which of the following properties of soil are easily noticed in a soil profile?
- Texture
 - Colour
 - Structure
- I and II only
 - I and III only
 - II and III only
 - I, II and III
18. A **major** disadvantage of continuous cropping is that it
- requires huge capital investment.
 - requires large hectares of farmland.
 - encourages displacement of farm workers.
 - encourages build-up of pests.
19. If urea fertilizer contains 46% nitrogen, calculate the quantity of nitrogen in 200 kg of urea.
- 23 kg
 - 46 kg
 - 77 kg
 - 92 kg
20. Which of the following parts of yam is attacked by yam beetle?
- Leaves
 - Roots
 - Tubers
 - Vines
21. Oil palm fruits are separated from the bunch mechanically by the use of
- centrifugal machine.
 - screw press.
 - macerator.
 - rotating threshing drum.
22. Carrot is propagated by
- sucker.
 - corm.
 - seed.
 - bulb.

The diagram below illustrates a farm operation.
Use it to answer questions 23 to 25.



The diagram below illustrates a farm machinery.
Use it to answer questions 6 to 8.

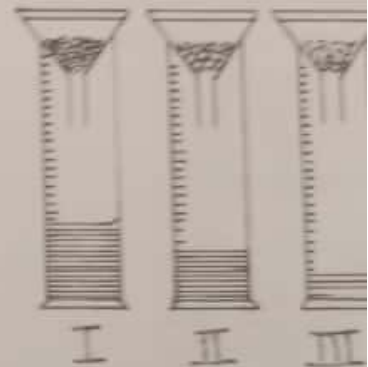


6. The illustrated farm machinery is used for
- ploughing.
 - ridging.
 - stumping.
 - planting.
7. A farm tool that could perform a similar function as the illustrated machinery is
- dibber.
 - mattock.
 - hoe.
 - rake.
8. A soil maintenance practice carried out on the illustrated farm machinery is
- replacing worn out tyres.
 - changing the engine oil.
 - smearing movable parts with grease.
 - checking oil and water levels.
9. The oldest method of irrigation in West Africa is
- drip.
 - sprinkler.
 - shaduf.
 - basin.

10. An abiotic factor affecting crop production distribution in West Africa is

- pest.
 - wind.
 - daylength.
 - topography.
11. Humus is produced
- from the weathering of parent rock.
 - during the process of nitrification.
 - from dead plant and animal matter.
 - when organic matter is acted on by pressure.
12. Wind could be beneficial to crops because it
- aids dispersal of weed seeds.
 - aids pollination of crops.
 - causes lodging of crops.
 - causes upturning of wet soil.

The diagrams below illustrate an experiment setup on three different soil samples to answer questions 13 to 15.



13. The aim of the illustrated experiment is to determine the
- percentage of water in the soil.
 - water holding capacity of soil.
 - capillarity of soil.
 - sedimentation of soil.

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