



GOVERNMENT OF SAMOA

STUDENT EDUCATION NUMBER

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Samoa National Junior Secondary Certificate

AGRICULTURAL SCIENCE

2024

QUESTION and ANSWER BOOKLET

Time allowed: 3 Hours & 10 minutes

INSTRUCTIONS

1. You have 10 minutes to read **before** you start the exam.
2. Write your **Student Education Number (SEN)** in the space provided on the top right-hand corner of this page.
3. **Answer ALL QUESTIONS.** Write your answers in the spaces provided in this booklet.
4. If you need more paper to write your answers, ask the Supervisor for extra paper. Write your SEN on all extra sheets used and clearly number the questions. Attach the extra sheets to the appropriate places in this booklet.

STRANDS		Pages	Time (min)	Weighting
STRAND 1	AGRICULTURE	2-3	14	8
STRAND 2	SOIL	4-5	18	10
STRAND 3	FARM MANAGEMENT, ECONOMICS AND MARKETING	6-8	36	20
STRAND 4	CROP PRODUCTION	9-13	43	24
STRAND 5	ANIMAL PRODUCTION	14-19	54	30
STRAND 6	TOOLS, EQUIPMENT AND FACILITIES	20-21	15	8
TOTAL			180	100

Check that this booklet contains pages 2 - 22 in the correct order and that none of these pages are blank.

HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

For Questions 1 and 2, choose and write the LETTER of the correct answer in the box provided.

1. The definition of semi subsistence farming is:

- A. It's reliance on science to guide decisions and set boundaries.
- B. One which produces enough surpluses beyond the family's own needs, to sell for regular income.
- C. An area of land that has been cultivated for a few years and then left abandoned for a new area until its fertility has been naturally restored.
- D. The interaction of agriculture trees, including the agricultural use of trees.

SL 1

2. What is one disadvantage of subsistence farming?

- A. It limits access to inputs and markets.
- B. High yields and less effort.
- C. Depends on whether the animal or plant is a male or female.
- D. Environmentally friendly.

SL 1

3. Describe **TWO** advantages of genetically modified organisms.

SL 2

4. Discuss **FOUR** reasons why agriculture is important in Samoa.

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

SL 4

For Question 5, choose and write the LETTER of the correct answer in the box provided.

5. The **definition** for soil structure is:

- A. the proportion of sand, silt and clay sized particles that make up the mineral fraction of the soil.
- B. a vertical section of soil arrangements under the surface of the earth.
- C. the range in size from microscopic cells that digest decaying organic material to small mammals that live primarily on other soil organisms.
- D. the way individual particles of sand, silt and clay are assembled.

SL 1

Study the picture given below and answer Questions 6 to 8.



Source: Google search

6. List **TWO** functions of nitrogen in plants.

SL 2

7. Explain how decomposers improve soil fertility.

SL 3

8. Discuss **FOUR** effects of macro – nutrients on plant growth.

SL 4

For Questions 9 and 10, choose and write the LETTER of the correct answer in the box provided.

9. Define marketing.

- A. Covers the services involved in moving an agricultural product from the farm to the consumer.
- B. Used to calculate the financial effect of a proposed change to one aspect of your business.
- C. To provide farm management training for members of the farm household.
- D. To plan the use of resources such as land, labour, capital and technology in order to produce an agricultural product that can be sold at the market in order to make a profit.

SL 1

10. Select the best answer that can define a local market in your area.

- A. The area where farmers meet to discuss their farming skills.
- B. A unit cost.
- C. A place where sellers and buyers of goods and services meet.
- D. A place where you can save money.

SL 1

11. List **TWO** types of farm records that you have studied.

SL 2

12. Describe the demand curve in agriculture.

SL 2

13. Describe a post-harvest process of grading pawpaw (papaya) before market.

SL 2

14. Explain what happens to equilibrium price and quality of an agriculture produce when demand increases.

SL 2

15. Explain **THREE** advantages of budgeting.

SL 3

16. Explain what gross margin is.

SL 3

17. Discuss how gross margin helps Ah Liki farm in their decisions making.

SL 4

For Questions 18 to 20, choose and write the LETTER of the correct answer in the box provided.

18. Which of the following factor affect crop production?

- A. The increase of temperature.
- B. Building drainage in the soil.
- C. The borrowing into leaves of plants.
- D. Flooding the area.

SL 1



Source: Google search

19. Identify the farming practices shown on the picture above.

- A. Mixed farming
- B. Crop rotation
- C. Intercropping
- D. Soil building

SL 1

Study the picture given below and answer Question 20.



Source: Google search

20. The group of plants the above tree belongs to are:

- A. flowering plants.
- B. cone bearing plants.
- C. tree crops.
- D. ferns.

☐

SL 1

21. Describe the process of hand pollinating of passion fruit plant.

SL 2

22. Describe the function of the process pollination.

SL 2

Study the picture given below and answer Question 23.



Source: Google search

23. Describe the process of fertilization on water melon plant.

SL 2

24. Explain how light affect crop production.

SL 3

Study the picture given below and answer Question 25.



Source: Google search

25. In organic farming system, explain the usage of resistant varieties of crops to combat climate change.

SL 3

26. Explain how to prepare fruit seeds before storage and plant later in the year.

SL 3

27. Explain how you use cultural control method in controlling pest and diseases.

SL 3

28. Briefly explain why you use integrated pest management to control pests.

SL 3

For Questions 29 to 31, choose and write the LETTER of the correct answer in the box provided.

Study the picture given below and answer Question 29.



Source: Google search

29. Name the pig breed shown in the diagram above.

- A. Duroc
- B. Hampshire
- C. Landrace
- D. Large white

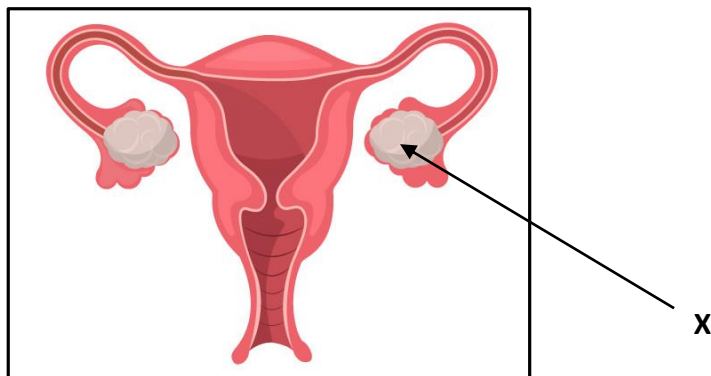
SL 1

30. Choose one disadvantage of raising pigs under the free range system.

- A. The pigs will grow faster as they have more time to rest.
- B. They tend to have lower levels of both reproductive and growing efficiency.
- C. Money will be saved as pigs will not eat very much.
- D. Pigs will grow faster as they will not be able to move around so much.

SL 1

Study the picture given below and answer Question 31.



Source: Google search

31. Name the organ shown above.

- A. Uterus.
- B. Ovary.
- C. Testicle.
- D. Fallopian tube.

☐

SL 1

32. Briefly describe how important colostrum milk is to new born piglets.

SL 2

33. Describe the safety procedures used for restraining pigs to minimize injuring them or the handler.

SL 2

Study the diagram below and answer Question 34 that follows.



Source: Google search

34. Describe **TWO** characteristics of the pig shown above.

SL 2

35. Explain **THREE** importance of pigs during a cultural ceremony in a village.

SL 3

36. Explain **THREE** advantages of rearing pigs in a semi intensive system.

[illegible]

SL 3

37. Explain **THREE** disadvantages of raising pigs in a free range or traditional farming system.

[illegible]

SL 3

Study the picture given below and answer Question 38.



Source: Google search

38. Discuss how climate change affects the raising of local pigs in a free range farming system.

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SL 4

39. Using proper safety and Hygiene method, discuss the safest and proper ways for slaughtering and dressing pigs that are fit for human consumption.

40. Describe how Bovine Brucellosis affects pigs in Samoa, and explain the prevention methods to prevent the spreading of the disease in Samoa.

For Question 41, choose and write the LETTER of the correct answer in the box provided.

41. Why is oil used for cleaning tool?

- A. To keep the tools new.
- B. To keep the tools shiny.
- C. To keep the tools sharp.
- D. To stop the tools from rusting.

SL 1

Study the picture given below and answer Question 42.



Source: Google search

42. List **TWO** ways of how to correctly use the tool shown.

SL 2

Study the picture given below and answer Questions 43 and 44.



Source: Google search

43. List **TWO** safety precautions of handling the insecticide chemical shown above.

SL 2

44. Briefly explain the effects of insecticide sprays on the crops and the environment.

[illegible]

SL 3

STUDENT EDUCATION NUMBER									

SNJSC AGRICULTURAL SCIENCE

2024

(For Scorers only)

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STRAND 6	TOOLS, EQUIPMENT AND FACILITIES	8			
TOTAL		100			