



# Samoa School Certificate

# AGRICULTURAL SCIENCE

## 2019

## 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 space, ask the Supervisor for extra paper. Write your SEN on all extra sheets used and clearly number the questions. Attach the extra sheets at the appropriate places in this booklet.

STRANDS		Page	Time (min)	Weighting
<b>STRAND 1:</b>	AGRICULTURE IN SAMOA	2	14	8
<b>STRAND 2:</b>	SOILS	3	18	10
<b>STRAND 3:</b>	FARM MANAGEMENT, ECONOMICS AND MARKETING	5	36	20
<b>STRAND 4:</b>	CROP PRODUCTION	8	44	24
<b>STRAND 5:</b>	ANIMAL PRODUCTION	11	54	30
<b>STRAND 6:</b>	TOOLS AND FACILITIES	16	14	8
<b>TOTAL</b>			<b>180</b>	<b>100</b>

Check that this booklet contains pages 2-18 in the correct order and that none of the pages are blank.

**YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION**

Study the picture and answer Number 1.



1. Define Ecosystem.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

SL 1

2. Name an agricultural practice in Samoa.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

SL 1

3. Define Monohybrid cross.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

SL 1

4. Explain how genetic can improve crop production.

---

---

---

---

---

SL 2

5. Explain the effects of long term use of an agricultural practice on managed ecosystem.

---

---

---

---

---

---

---

---

SL 3

---

**STRAND 2:** **SOILS** **Weighting 10**

---

6. Define soil structure.

---

---

---

SL 1

7. Describe any TWO methods to improve soil fertility.

---

---

---

---

<b>SL 2</b>

8. Explain at least THREE methods of soil conservation.

---

---

---

---

---

---

---

---

---

---

---

<b>SL 3</b>

9. Discuss the effect of land use on soil properties.

---

---

---

---

---

---

---

---

---

---

---

<b>SL 4</b>

**Define the following terms:**

**10. Variable cost.**

---

---

---

SL 1

**11. Breakeven point.**

---

---

---

SL 1

**12. Marginal cost.**

---

---

---

SL 1

**13. Market channel.**

---

---

---

SL 1

**14. Identify the best point of production.**

---

---

---

SL 1

15. Name a type of record.

---

---

---

SL 1

16. Describe the purpose of records.

---

---

---

---

---

SL 2

17. List any TWO types of Enterprises to operate based on gross margin.

---

---

---

---

---

SL 2

18. Explain the purpose of a market channel and give an example.

---

---

---

---

---

---

SL 3

**19.** Design a local promotion program for a product.

---

---

---

---

---

---

---

---

---

---

SL 3

**20.** Discuss the impact of good farm management on farm production.

---

---

---

---

---

---

---

---

---

---

SL 4

Study the picture and answer Number 21.



21. Define agro-forestry.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

SL 1

Define the following terms, Number 22 – 27.

22. Pruning.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

SL 1

23. Intercropping.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

SL 1



24. Translocation.

---

---

---

SL 1

25. Chloroplast.

---

---

---

SL 1

26. Transpiration.

---

---

---

SL 1

27. Seed viability.

---

---

---

SL 1

28. Give an example of monocotyledon.

---

---

---

SL 1

29. Name a vegetative propagation method.

---

---

---

SL 1

30. Describe any TWO types of mouthpart of pests.

---

---

---

---

SL 2

31. Explain the difference between micro and macro nutrients.

---

---

---

---

---

SL 3

32. Explain a disease causing agent.

---

---

---

---

---

---

---

SL 3

**33.** Explain methods used to improve crop production.

---

---

---

---

---

---

---

---

---

---

SL 3

**34.** Discuss how water movements in plants occur.

---

---

---

---

---

---

---

---

---

---

SL 4

---

<b>STRAND 5:</b>	<b>ANIMAL PRODUCTION</b>	<b>Weighting 30</b>
------------------	--------------------------	---------------------

---

**35.** State the importance of local pigs in different production systems.

---

---

---

SL 1

**Study the picture to answer Number 36.**



**36.** What is the name of this pig breed?

\_\_\_\_\_

SL 1



**37.** Name the cattle breed in the picture above.

\_\_\_\_\_  
\_\_\_\_\_

SL 1

**Define the following terms Number 38 – 40.**

**38.** Parasite.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

SL 1

39. Artificial insemination.

---

---

---

SL 1

40. Breed.

---

---

---

SL 1

41. Name identification method used in calf.

---

---

---

SL 1

42. Name local available feeds for cattle.

---

---

---

SL 1

43. List TWO types of livestock production in Samoa.

---

---

---

---

---

SL 2

44. Describe the use of cattle to produce particular products.

---

---

---

---

SL 2

**Castration and drenching are both management practices in livestock.**



45. Describe the purpose of these practices.

---

---

---

---

SL 2

46. List TWO cattle diseases you have studied.

---

---

---

---

---

SL 2

47. Explain the procedures use to prepare meat for human consumption.

---

---

---

---

---

---

---

---

---

---

SL 3

48. Describe the traditional system of raising livestock in relation to animal care.

---

---

---

---

---

---

---

---

---

---

SL 3

49. Explain the symptoms and the control/treatment of cattle disease you have studied.

---

---

---

---

---

---

---

---

---

---

SL 4

**50** Recommend improvement procedures for meat preparation in Samoa.

---

---

---

---

---

---

---

---

---

---

SL 4

---

**STRAND 6:**

**TOOLS AND FACILITIES**

**Weighting 8**

---

**51.** Define Calibration.

---

---

SL 1

**52.** State the function of the injector.

---

---

---

SL 1

**53.** State the functions of weed eater.

---

---

---

SL 1





STUDENT EDUCATION NUMBER									

## AGRICULTURAL SCIENCE

2019

(For Scorers only)

STRANDS	Weighting	Marks	Check Marker
<b>STRAND 1: AGRICULTURE IN SAMOA</b>	8		
<b>STRAND 2: SOILS</b>	10		
<b>STRAND 3: FARM MANAGEMENT, ECONOMICS AND MARKETING</b>	20		
<b>STRAND 4: CROP PRODUCTION</b>	24		
<b>STRAND 5: ANIMAL PRODUCTION</b>	30		
<b>STRAND 6: TOOLS</b>	8		
<b>TOTAL</b>	<b>100</b>		