STUDENT EDUCATION NUMBER									

GOVERNMENT OF SAMOA
MINISTRY OF EDUCATION, SPORTS AND CULTURE

Samoa School Certificate

AGRICULTURAL SCIENCE

2018

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
STRAND 1:	AGRICULTURE IN SAMOA	2	14	8
STRAND 2:	SOILS	4	18	10
STRAND 3:	FARM MANAGEMENT, ECONOMICS AND MARKETING	6	36	20
STRAND 4:	CROP PRODUCTION	9	44	24
STRAND 5:	ANIMAL PRODUCTION	13	54	30
STRAND 6:	TOOLS	18	14	8
	TOTAL		**180**	**100**

Check that this booklet contains pages 2-20 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

STRAND 1:	AGRICULTURE IN SAMOA	Weighting 8

Study the picture and answer Number 1 to 3.

1. Describe an agricultural practice in Samoa.

SL 2

_____

_____

_____

_____

2. Describe TWO features of unmanaged ecosystem.

SL 2

_____

_____

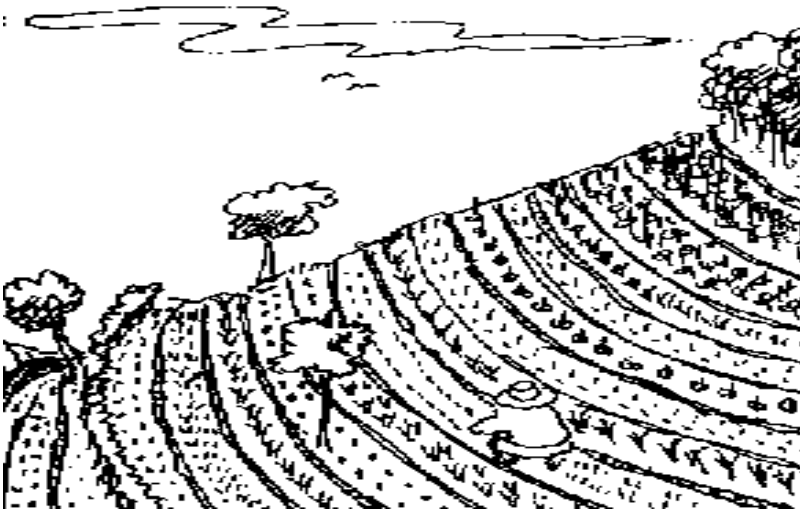
_____

_____

3. Predict the impact of the long term use of an agricultural practice on a managed ecosystem.

SL 4

Study the picture and answer Number 4 to 7.



4. Define *soil conservation*.

_____

_____

_____

SL 1

5. List TWO methods of soil conservation.

_____

_____

_____

_____

SL 2

6. Explain the effects of livestock production on soil properties.

SL 3

7. Apply the principles of soil conservation methods on any farming system that can minimize soil erosion.

SL 4

8. Define the following terms.

(a) *Market channel*

_____

_____

SL 1

(b) *Maximum point*

_____

_____

SL 1

9. List TWO types of farm records.

_____

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_____

_____

_____

SL 2

10. Describe the purpose of a <u>farm record</u>.

_____

_____

_____

_____

_____

SL 2

11. Describe the **bes**t point of production.

SL 2

12. Explain in your own words what partial budget is.

SL 3

13. Explain the meaning of gross margin.

SL 3

14. Differentiate between revenues and costs.

SL 3

15. Suggest areas for improvement of a management practice that you have studied.

SL 3

16. Define the following terms.

(a) *Agro-forestry*

_____

_____

_____

SL 1

(b) *Pest*

_____

_____

_____

SL 1

17. Name a type of species present in a natural forest.

_____

_____

SL 1

18. Describe the functions of the following plant organs.

(a) *Stems*

_____

_____

_____

_____

SL 2

(b) *Roots*

SL 2

(c) *Leaves*

SL 2

19. Explain ONE type of damage that insect pests can cause crops.

SL 3

20. Discuss ONE effect of climate change in manipulating plant growth.

SL 4

21. Discuss the water movement in plants.

SL 4

22. Discuss TWO effects of the movement of nutrients in plants.

SL 4

23. Define the following terms.

(a) *Parasite*

_____

_____

_____

SL 1

(b) *Monogastric digestive system*

_____

_____

_____

SL 1

24. Name ONE pasture feed that is given to cattle.

_____

_____

SL 1

Study the picture to answer Number 25.

25. Name the management practice shown in the picture.

_____

SL 1

26. List TWO types of livestock production in Samoa today.

_____

_____

_____

_____

SL 2

27. Describe the use of pig meat to produce a particular processed by-product.

_____

_____

_____

_____

_____

SL 2

28. Describe how dairy production can be improved in Samoa.

_____

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_____

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_____

SL 2

29. List TWO beef breeds that are currently in Samoa.

_____

_____

_____

_____

SL 2

30. Briefly explain the ruminant digestive system.

SL 3

31. Explain in your own words ONE impact of management practices in cattle.

SL 3

32. Discuss the importance of cattle and pig production in Samoa.

SL 4

33. Briefly explain a recommendation you would give to a first time commercial pig farmer in selecting his breed for reproduction.

SL 4

34. What will be your recommendation on giving the best nutritional combination for different pig growth in a pig farming system such as piglets, sow, gilt and boar?

SL 4

Use the picture to answer Number 35 and 36.

35. Name the agricultural equipment shown above.

_____

_____

SL 1

36. State the function of the agricultural equipment.

_____

_____

_____

SL 1

Use the picture to answer Number 37.

37. List TWO functions of the agricultural tool.

_____

_____

_____

_____

SL 2

38. Briefly discuss the effects of good management on tools and equipment.

SL 4

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(For Scorers only)

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STRAND 2: SOILS	10		
STRAND 3: FARM MANAGEMENT, ECONOMICS AND MARKETING	20		
STRAND 4: CROP PRODUCTION	24		
STRAND 5: ANIMAL PRODUCTION	30		
STRAND 6: TOOLS	8		
TOTAL	**100**		