

MARKER CODE

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STUDENT ENROLMENT NUMBER

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Samoa Secondary Leaving Certificate

AGRICULTURE SCIENCE

2015

QUESTION and ANSWER BOOKLET

Time Allowed: 3 Hours & 10 Minutes

INSTRUCTIONS

1. You have 10 minutes to read **before** you start writing.
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 Number	Time (Minutes)	Weighting
STRAND 1: AGRICULTURE	2	18	10
STRAND 2: SOILS	4	45	25
STRAND 3: FARM MANAGEMENT, ECONOMICS AND MARKETING	8	22	12
STRAND 4: CROP PRODUCTION	10	40	22
STRAND 5: ANIMAL PRODUCTION	14	43	24
STRAND 6: TOOLS, EQUIPMENTS AND FACILITIES	18	12	7
TOTAL		180	100

Check that this booklet contains pages 2-20 in the correct order and that none of these pages is blank.

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

STRAND 1

AGRUCULTURE

WEIGHTING

10

1. Name the most common type of agricultural management in Samoa.

Skill Level 1	
1	
0	
NR	

2. List the characteristics of an ecosystem.

Skill Level 2	
2	
1	
0	
NR	

3. Explain the difference between a managed ecosystem and a natural ecosystem.

Skill Level 3	
3	
2	
1	
0	
NR	

4. Define **Genetically Modified Organisms** (GMO).

Skill Level 1	
1	
0	
NR	

5. Explain the effect of breeding on production.

Skill Level 3	
3	
2	
1	
0	
NR	

6. Define **physical properties** of soil texture.

Skill Level 1	
1	
0	
NR	

7. Define **chemical properties** of soil pH.

Skill Level 1	
1	
0	
NR	

8. Define **biological properties** of soil microorganisms.

Skill Level 1	
1	
0	
NR	

9. Why is there low availability of trace elements (Zn, Fe, Mn, Cu, etc) in coral soil?

Skill Level 1	
1	
0	
NR	

10. Define **crop rotation**.

Skill Level 1	
1	
0	
NR	

11. Define **tillage**.

Skill Level 1	
1	
0	
NR	

12. Describe Two properties of coral soil.

Skill Level 2	
2	
1	
0	
NR	

13. Explain how specified soil properties are affected by inorganic fertilizers.

Skill Level 3	
3	
2	
1	
0	
NR	

14. Explain how specified soil properties are affected by deforestation.

Skill Level 3	
3	
2	
1	
0	
NR	

15. Discuss the effect of organic fertilizer on the quality of soil. Use specific examples.

Skill Level 4	
4	
3	
2	
1	
0	
NR	

16. List Two different techniques of soil conservation.

Skill Level 3	
3	
2	
1	
0	
NR	

17. Evaluate the effects of any Two different techniques of soil conservation. Give examples.

Skill Level 4	
4	
3	
2	
1	
0	
NR	

STRAND 3: FARM MANAGEMENT, ECONOMICS & MARKETING WEIGHTING 12

19. Describe the role of record keeping in the management of an agricultural enterprise.

Skill Level 2	
2	
1	
0	
NR	

20. Name a goal/aspiration of the resource manager.

Skill Level 1	
1	
0	
NR	

21. Name a type of human resource used in a farming enterprise.

Skill Level 1	
1	
0	
NR	

22. Name a type of physical resource used in a farming enterprise.

Skill Level 1	
1	
0	
NR	

23. Describe the influences of economic and environmental sustainability on farm management decisions.

Skill Level 3	
3	
2	
1	
0	
NR	

24. Identify a market opportunity of an agricultural product.

Skill Level 1	
1	
0	
NR	

25. Explain how processing can add value to a local primary product.

Skill Level 3	
3	
2	
1	
0	
NR	

26. Define **gametes**.

Skill Level 1	
1	
0	
NR	

27. Define **grafting**.

Skill Level 1	
1	
0	
NR	

28. Define **tissue culture**.

Skill Level 1	
1	
0	
NR	

29. Give examples of asexual reproduction.

Skill Level 2	
2	
1	
0	
NR	

30. Identify the main groups of pests.

Skill Level 1	
1	
0	
NR	

31. Identify the main groups of disease causing agents.

Skill Level 1	
1	
0	
NR	

32. Define **biosecurity**.

Skill Level 1	
1	
0	
NR	

33. Define **fungi**.

Skill Level 1	
1	
0	
NR	

34. Define **bacteria**.

Skill Level 1	
1	
0	
NR	

35. Identify the stages of the insect life cycle.

Skill Level 1	
1	
0	
NR	

36. Describe seed **germination**.

Skill Level 2	
2	
1	
0	
NR	

37. Explain the effects of pests and their mouthparts.

Skill Level 3	
3	
2	
1	
0	
NR	

38. Explain the economic reasons for controlling pests and diseases in relation to product.

Skill Level 3	
3	
2	
1	
0	
NR	

39. Discuss how the growth, development and sexual reproduction of plant is affected by genetically modified organisms (GMO)

Skill Level 3	
3	
2	
1	
0	
NR	

STRAND 5: ANIMAL PRODUCTION

WEIGHTING 24

40. Identify systems used for raising poultry.

Skill Level 1	
1	
0	
NR	

41. Identify systems used for raising pigs.

Skill Level 1	
1	
0	
NR	

42. Identify systems used for raising beef cattle.

Skill Level 1	
1	
0	
NR	

43. Identify the most popular egg- laying strain/breed of chicken in Samoa.

Skill Level 1	
1	
0	
NR	

44. Name Two **pig breeds** that are present in Samoa.

Skill Level 1	
1	
0	
NR	

45. Name Two **cattle breeds** that are present in Samoa.

Skill Level 1	
1	
0	
NR	

46. Define husbandry practices using poultry as an example.

Skill Level 1	
1	
0	
NR	

47. Evaluate the feeding problems encountered in a semi-intensive (moderate input) commercial pig farm.

Skill Level 4	
4	
3	
2	
1	
0	
NR	

48. Describe how breeds (genetic) influence the growth and development of chickens in Samoa.

Skill Level 2	
2	
1	
0	
NR	

49. Describe mastitis disease in cattle (symptoms, causes, control measures).

Skill Level 2	
2	
1	
0	
NR	

50. Formulate a feed ration for moderate low input pigs.

Skill Level 2	
2	
1	
0	
NR	

51. Explain the difference in nutritive value between natural and improved pasture.

Skill Level 3	
3	
2	
1	
0	
NR	

52. Evaluate the local pig feed stock in Samoa in terms of **types, quality, availability and quantity**, giving specific examples.

Skill Level 4	
4	
3	
2	
1	
0	
NR	

STRAND 6: TOOLS, EQUIPMENTS AND FACILITIES

WEIGHTING 7

53. Name a hand tool commonly used farmers in Samoa.

Skill Level 1	
1	
0	
NR	

54. Name the most commonly used chemical in a commercial crop farm.

Skill Level 1	
1	
0	
NR	

55. Describe the correct and safe storage of chemicals.

Skill Level 2	
2	
1	
0	
NR	

56. Explain the weather conditions in which chemicals should not be applied. Give THREE(3) examples.

Skill Level 3	
3	
2	
1	
0	
NR	

Student Education Number									

AGRICULTURE SCIENCE

2015

(For Markers only)

STRANDS	Weighting	Marker	Check Marker	Final Weighting
STRAND 1: AGRICULTURE	10			
STRAND 2: SOILS	25			
STRAND 3: FARM MANAGEMENT, ECONOMICS AND MARKETING	12			
STRAND 4: CROP PRODUCTION	22			
STRAND 5: ANIMAL PRODUCTION	24			
STRAND 6: TOOLS, EQUIPMENTS AND FACILITIES	7			
TOTAL	100			