STUDENT EDUCATION NUMBER									

GOVERNMENT OF SAMOA
MINISTRY OF EDUCATION, SPORTS AND CULTURE

Samoa School Certificate

DESIGN TECHNOLOGY

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
STRAND 1:	DRAWING AND DESIGN	2	30	14
STRAND 2:	HAND AND POWER TOOLS	4	10	6
STRAND 3:	MATERIALS	5	40	24
STRAND 4:	PROCESSES	8	50	30
STRAND 5:	TECHNOLOGY	13	30	14
STRAND 6:	VOCABULARY	15	20	12
TOTAL			**180**	**100**

Check that this booklet contains pages 2-17 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

Use your Independent Project to answer Number 1 to 4.

1. State the Problem for your Independent project this year.

SL 1

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2. What was the solution?

SL 1

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3. Discuss the term Specification in relation to your project.

SL 4

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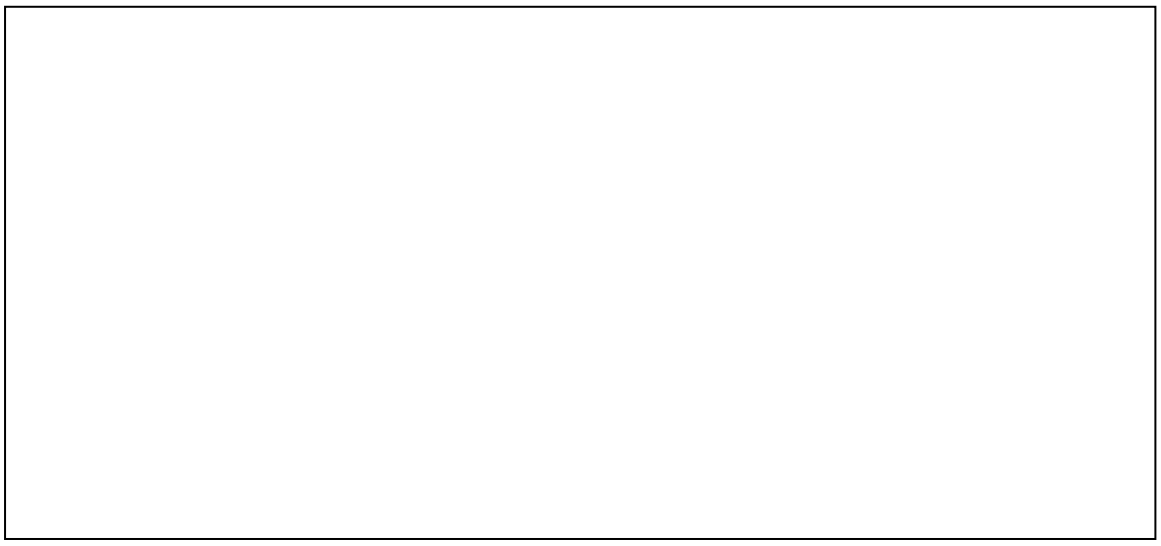
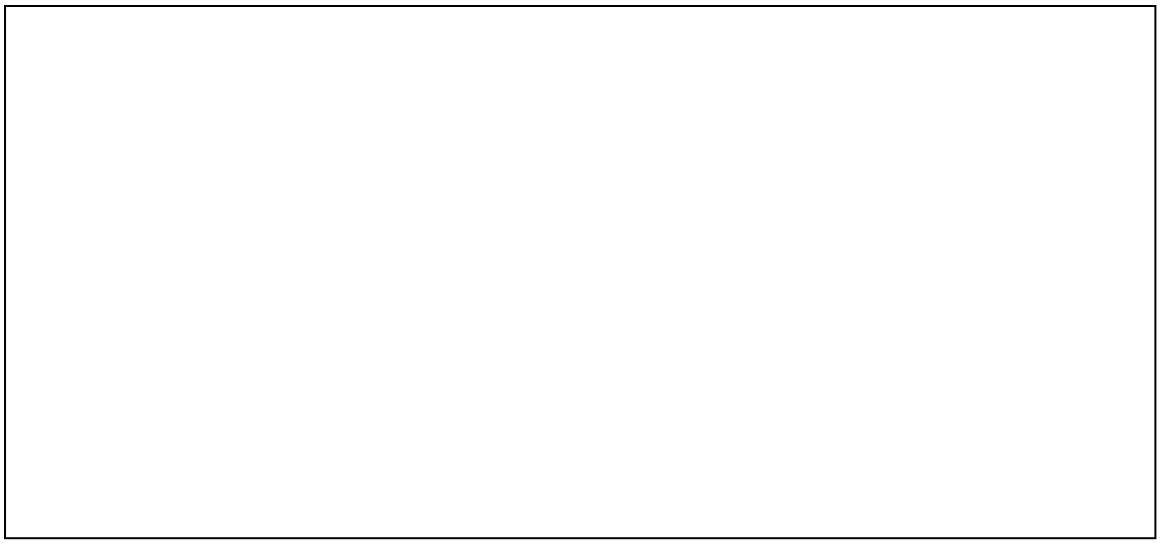
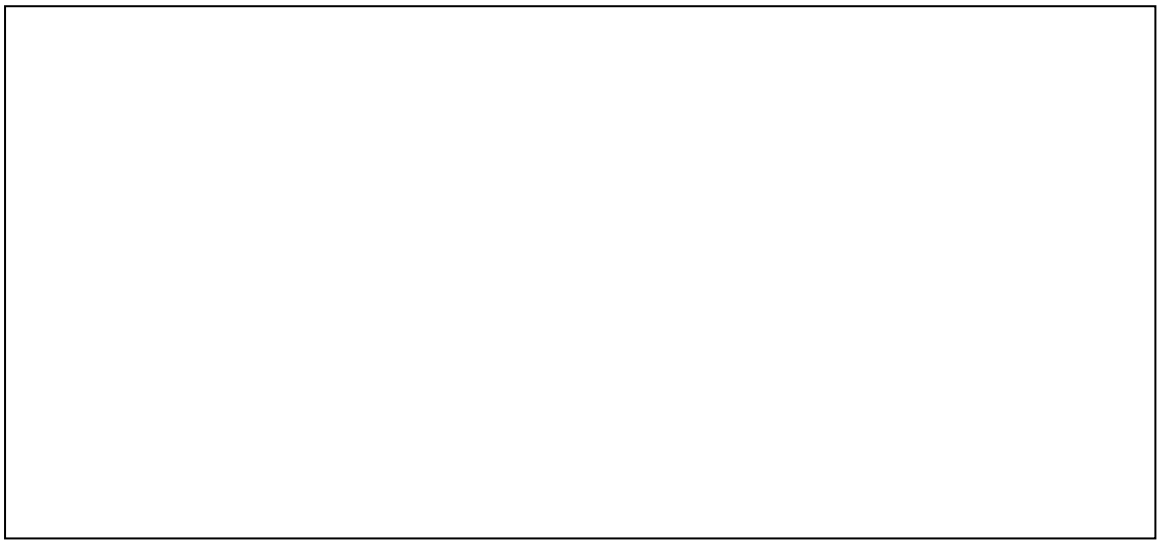
4. Construct three sketches with measurements in millimeters that best solved the problems stated in Number 1.

SL 3







5. List SIX different types of lines used in Technical Drawing.

SL 2

(a) _____

(b) _____

(c) _____

(d) _____

(e) _____

(f) _____

6. Compare the difference between Oblique and Isometric Drawing.

SL 3

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STRAND 2: TOOLS AND SAFETY Weighting 6

Write your answers in the spaces provided.

7. Name a hand tool used for clearing timber joints.

SL 1

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8. State the use of a Sliding Bevel.

SL 2

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9. Differentiate between a jig saw and coping saw.

SL 3

STRAND 3: MATERIALS Weighting 24

Answer Number 10 to 19. You can use diagram/s to explain your answer.

10. Define Equilibrium Moisture Content.

SL 1

Describe the following terms in your own words.

11. Live Knot

SL 1

12. Loose Knot

SL 1

13. Define a local timber in your own words.

SL 1

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State the definitions for the following terms.

14. Annual Ring

SL 1

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15. Medullary Rays

SL 1

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16. Describe the features of a Wane Defect.

SL 2

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17. Describe the appearance of a Warp Defect.

SL 2

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18. Explain the main function of the Xylem and Phloem in the tree.

SL 3

19. Discuss the difference between a hardwood and softwood.

SL 4

20. Differentiate between a log and a trunk.

SL 3

21. Discuss the difference between natural and artificial seasoning.

SL 4

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STRAND 4: PROCESSES Weighting 30

Draw the following Timber Joints.

22. Dowel Joint

SL 1

23. Corner Halving Joint

SL 1

24. Mortise and Tenon Joint

SL 1

25. Dovetail Halving Joint

SL 1

26. Define <u>good</u> <u>trade</u> practice.

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SL 1

27. What is the best method of removing a hammer mark on timber?

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SL 1

28. Name the most common finishing paint for furniture build in schools.

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SL 1

29. Describe the best way of checking for squareness.

SL 2

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30. Describe a well finishing Project.

SL 2

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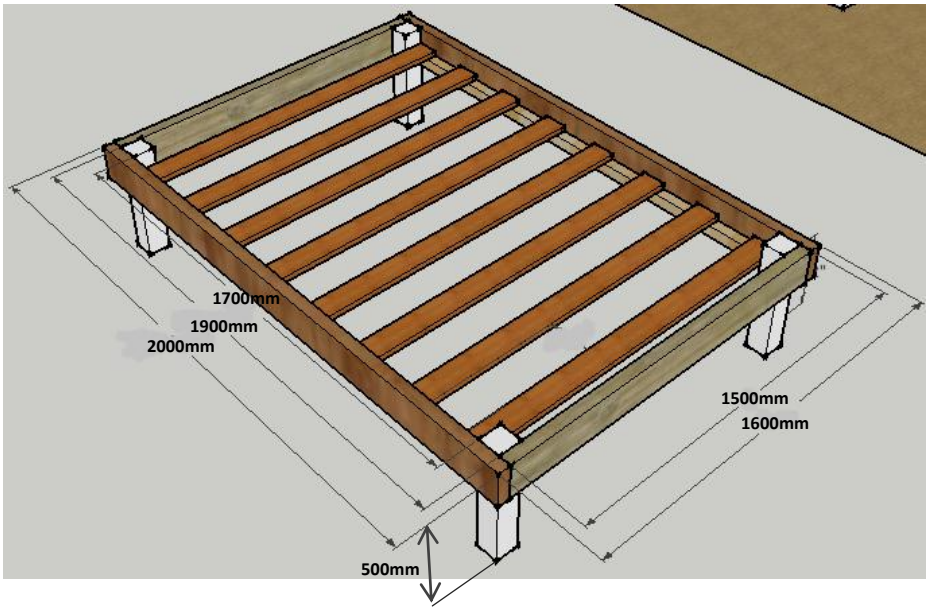
31. Draw a book shelf using a Two-Point Perspective.

SL 2

Use the Drawing below to answer Number 32 to 34.



Aspect	Sizes
Length	200mm
Width	1600mm
Height	500mm
Legs	100x100
Side Rails	50x200
Bed Slats	50x150
Slats Support	50x100
Joint Used	Butt Joint

32. Complete the cutting list below based on the drawing (page 10) and information above.

SL 3

	No. of Pieces	Length	Width	Thickness	Total
Legs					
Side Rails					
Bed Slats					
Slats Support					

33. Calculate the total length of materials needed for the Bed when placing an order at SMI based on the information provided in Number 32.

SL 3

The cost for 100 x 100 at bluebird is $15.00 per meter, $9.00 for a 50 x 200 per meter, $7.50 for a 50 x 150 per meter and $5.00 for a 50 x 100 per meter.

34. Calculate the cost for the timber materials needed for the bed above.

SL 3

35. Discuss the difference between materials and tools in construction.

SL 4

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36. Express your ideas on how to fix a surface with lots of hand saw marks.

SL 4

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STRAND 5: TECHNOLOGY Weighting 14

Write your answers in the spaces provided.

37. State a technology produced to lighten workloads when mixing concrete by hand.

SL 1

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38. Define the term Carving.

SL 1

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39. Describe the importance of new technology to our working life.

SL 2

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40 Discuss the impact of factories in the world to the Environment.

SL 4

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41. Explain the progressive kiln process of seasoning timber.

SL 3

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42. Compare the use of old tools and new technology to our everyday work at home or at school.

SL 3

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Define the following terms.

43. Safety Signs

SL 1

44. Safety Procedures

SL 1

45. Personal Protective Equipment.

SL 1

46. Discuss the differences between a verbal and non-verbal instruction.

SL 4

47. Form up TWO sentences (noun and verb) using the word HAMMER.

SL 3

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48. Describe the term workshop.

SL 2

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STUDENT EDUCATION NUMBER									

DESIGN TECHNOLOGY

2019

(For Scorers only)

STRANDS	Weighting	Scores
STRAND 1: DESIGNING AND DRAWING	14	
STRAND 2: HAND AND POWER TOOLS	6	
STRAND 3: MATERIALS	24	
STRAND 4: PROCESSES	30	
STRAND 5: TECHNOLOGY	14	
TOTAL	**100**	