

STUDENT EDUCATION NUMBER

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GOVERNMENT OF SAMOA
MINISTRY OF EDUCATION, SPORTS AND CULTURE

Samoa School Certificate

DESIGN TECHNOLOGY

2017

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 left 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:	DESIGNING AND DRAWING	2	25	14
STRAND 2:	TOOLS AND SAFETY	4	11	6
STRAND 3:	MATERIALS	5	43	24
STRAND 4:	PROCESSES	9	54	30
STRAND 5:	TECHNOLOGY	14	25	14
STRAND 6:	VOCABULARY	16	22	12
TOTAL			180	100

Check that this booklet contains pages 2-18 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

1. Discuss the importance of having specifications before the building of a project.

SL 4

2. State the design problem for your project this year.

SL 1

3. Identify the design solution that will **best solve** the problem stated above.

SL 1

4. Describe the importance of the evaluation step in the design process.

SL 2

5. Define the term *Construction line*.

SL 1

6. Differentiate between a *Close* and *Open Design Brief*.

SL 3

7. Define the term *1st Angle Projection*.

SL 1

8. Define the term *Isometric Projection*.

SL 1

1. Describe how to use a pincer.

SL 2

2. Which tool is most suitable for holding large work while gluing for a period of time? (*Circle the right answer*).

- A. Sash Clamp
- B. Quick Action Clamp
- C. G Clamp
- D. Vice

SL 1

3. State the advantage of using hand tools in finishing a work.

SL 3

1. Define the terms below:

(a) *Moisture Content in timber.*

SL 1

(b) *Tight Knot*

SL 1

(c) *Loose Knot*

SL 1

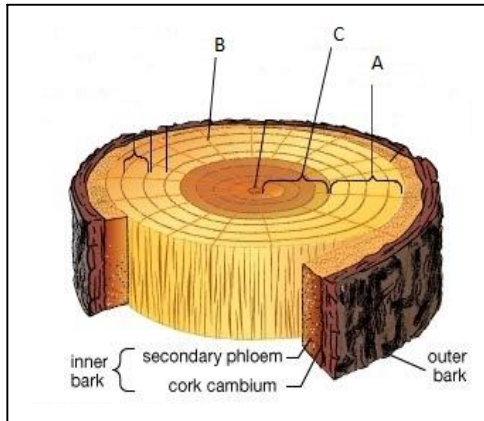
(d) *Annual Ring*

SL 1

(e) *Medullary Rays*

SL 1

2. Label the diagram.



A. _____

SL 1

B. _____

SL 1

C. _____

SL 1

3. Define the following properties of timber.

(a) Flexibility

SL 1

(b) Toughness

SL 1

4. Explain the process of the xylem and phloem in the tree.

SL 3

5. Explain the difference between a local and foreign timber.

SL 3

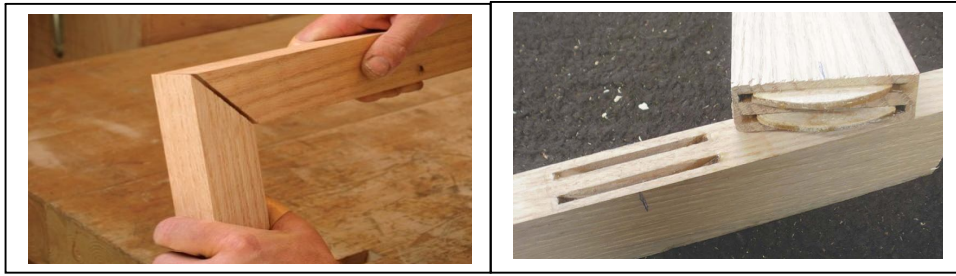
6. Describe the attribute for the following terms:

(a) Wanes

SL 2

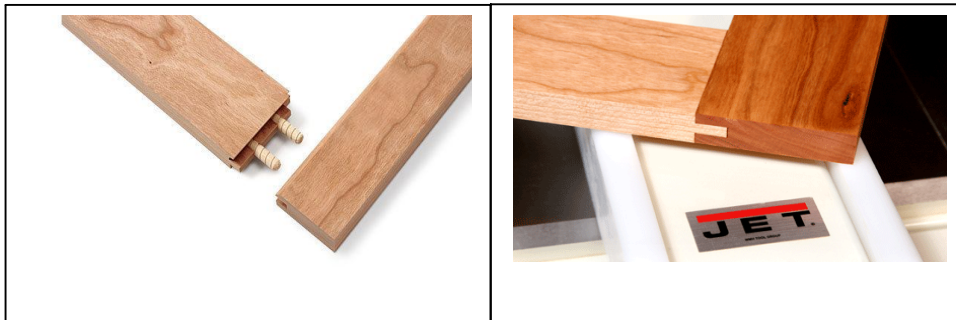
(b) Warps

SL 2



A

C



B

D

1. Identify the types of Joints shown above.

A. _____

SL 1

B. _____

SL 1

C. _____

SL 1

D. _____

SL 1

2. Identify the main use of a sliding bevel.

SL 1

3. Identify the most suitable joint for picture frame.

SL 1

4. Draw an isometric view of a lavalava box. Provide measurements in mm for the drawing.



SL 2

5. Construct a cutting list based on your drawing on Question 4.

	No. of pieces	Thickness	Width	Length	Square Meter	Total Square Meter
Top						
Base						
Front						
Back						
Side						

SL 3

6. The teacher bought 2400 x 1200mm Marine plywood @ \$240.00 each from AST for your project at school.

Calculate a total cost of plywood already being cut for your lavalava box.

How much do you have to pay for the plywood spending on your project?

Note : Show your calculations.

SL 4

7. What is the most suitable joint for your lavalava box? Give a reason for your answer.

SL 2

8. What are the most suitable materials used for hanging doors?

SL 1

9. Explain the process of making a biscuit joint.

SL 3

10. Define the terms below.

(a) *Stain* _____

SL 1

(b) *Varnish* _____

SL 1

11. Describe the best way of checking for squareness.

SL 2

12. Sketch a box using a Two-Point Perspective.

SL 2

13. Describe the best ways of holding a project to its squareness.

SL 3

STRAND 5: TECHNOLOGY Weighting 14

1. Explain the process of timber conversion.

SL 3

2. Define the following terms:

(a) *Craft*

SL 1

(b) *Technology*

SL 1

(c) *Industry*

SL 1

3. Describe the importance of technology to everyday life.

SL 2

4. Discuss the advantages of having the set of specifications ready when evaluating the project.

SL 4

5. Describe the use of a coping saw.

SL 2

STRAND 6:

VOCABULARY

Weighting 12

1. Construct a set of instructions based on the following areas.

(a) Safety

(i) _____

(ii) _____

SL 3

(b) Practical Time

(i) _____

(ii) _____

SL 3

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

SL 4

3. **Filling gaps**

Choose and write the name of the equipment to complete the sentence.

rip saw, cross-cut saw, jig saw

3.1 Sam used the _____ to cut his timber along the grains.

SL 1

3.2 Sione used the _____ to cut his timber in half.

SL 1

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DESIGN TECHNOLOGY

2017

(For Scorers only)

STRANDS	Weighting	Scores
STRAND 1: DESIGNING AND DRAWING	14	
STRAND 2: TOOLS AND SAFETY	6	
STRAND 3: MATERIALS	24	
STRAND 4: PROCESSES	30	
STRAND 5: TECHNOLOGY	14	
STRAND 6: VOCABULARY	12	
TOTAL	100	