



| STUDENT EDUCATION NUMBER | | | | | | | | | |
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Samoa Secondary Leaving Certificate

DESIGN TECHNOLOGY

2021

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 paper to write your answers, 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 | 45 | 25 |
| STRAND 2 | TOOLS | 7 | 27 | 15 |
| STRAND 3 | MATERIALS | 10 | 36 | 20 |
| STRAND 4 | PROCESSES | 14 | 54 | 30 |
| STRAND 5 | TECHNOLOGY | 21 | 18 | 10 |
| TOTAL | | | 180 | 100 |

Check that this booklet contains pages 2-23 in the correct order and that none of these pages are blank.

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

For Questions 1 – 5, write the letter of your best answer in the box provided.

1. Why is it important for a designer and the end user to communicate with each other?

- A. To modify design ideas.
- B. To improve product marketing.
- C. To improve customer satisfaction.
- D. To increase profit.

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2. Which type of drawing given below shows how two or more parts of a product are fitted or joined together?

- A. Auxiliary drawing.
- B. Orthographic drawing.
- C. Assembly drawing.
- D. Architectural drawing.

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3. In the cabinet projection type of oblique projection, the retreating lines are inclined at 45° and measures:

- A. half the actual size.
- B. twice the actual size.
- C. quarter the actual size.
- D. the actual size.

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4. Evaluating involves:

- A. identifying the most likely idea.
- B. clarifying the problem.
- C. thinking about the outcome.
- D. building and testing the prototype.

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5. Investigating includes:
- A. identifying the most likely idea.
 - B. clarifying the problem.
 - C. thinking about the outcome.
 - D. building and testing the prototype.

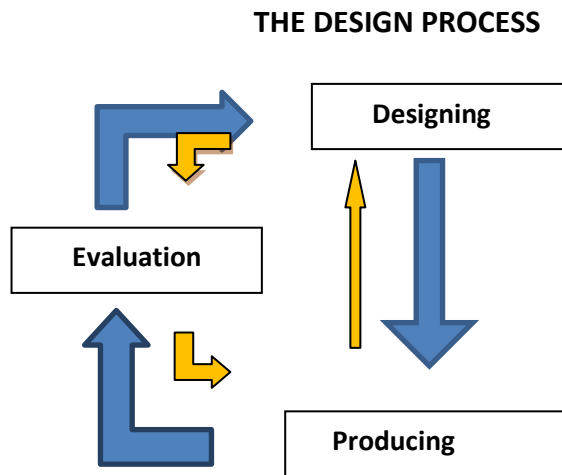
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Write your answer in the spaces provided.

6. As a design technology student, state a design problem that you may have faced at home or in the community that needs to be addressed.

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Study the diagram below and answer Questions 7 and 8.



7. Explain the purpose of the anti-clockwise arrow shown in the Design Process chart above.

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8. Describe the importance of each stage.

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9. Differentiate between Oblique and Isometric sketches.

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10. Name the given symbol, ratio and line.



1 : 2



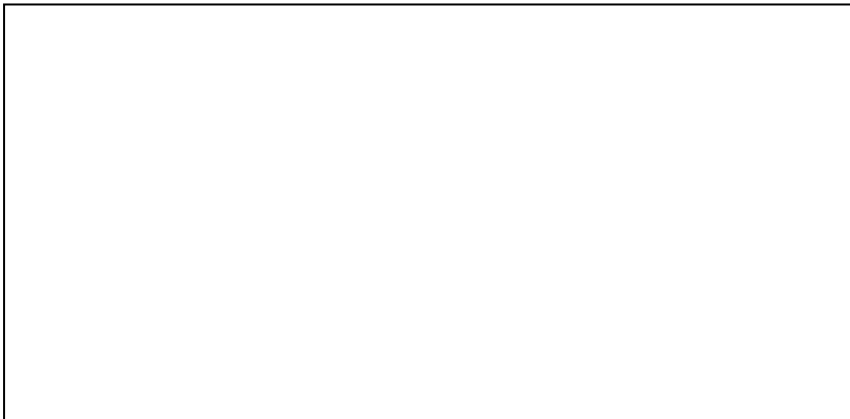
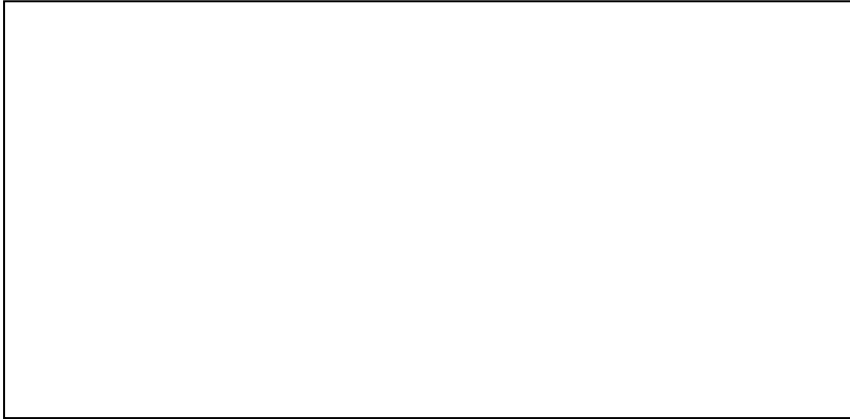
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11. Discuss the term Specification in relation to making a project.

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Your project for Internal Assessment is to build a school.

12. Draw a set of 3 sketches below for building a school including measurements.



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For Questions 13 – 15, write the letter of your best answer in the box provided.

13. Which hand tool is used for cutting sheet metal?

- A. Pliers.
- B. Cross cut saw.
- C. Hacksaw.
- D. Circular saw.

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14. Which of the following is a power tool?

- A. Claw hammer.
- B. Chisel.
- C. Block plane.
- D. Circular saw.

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15. When storing tools, how can you protect them from rusting?

- A. Coat with oil.
- B. Cover tools.
- C. Hang them on the wall.
- D. Water tools daily.

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16. Describe the correct use of a rip saw.

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17. Differentiate between power portable tools and cordless tools.

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18. Explain why every school should have a Tools or Asset inventory check-list.

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Study the diagram below and answer Question 19.

A table drill with various safety features is shown.



19. Briefly explain how the named parts below act as a safety feature.

(i) ON/OFF switch

(ii) Guide grooves

(iii) Glass shield

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For Questions 20 – 23, write the letter of your BEST answer in the box provided.

20. Wood or timbers are cut from which part of the tree?

- A. Branches
- B. Main stem
- C. Roots
- D. Outer bark

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21. Which of the following is a local timber?

- A. Plywood
- B. Kava
- C. Pine
- D. Red Cedar

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22. Wooden posts of a “*Fale Samoa*” can be replaced with:

- A. bamboo (*ofe*).
- B. plywood.
- C. 1 x 6.
- D. 4 x 4.

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23. The best finish for wooden furniture is:

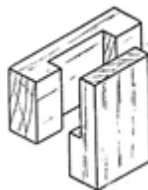
- A. paint.
- B. sand paper.
- C. vanish.
- D. glass.

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For Questions 29 – 36, write the letter of your BEST answer in the box provided.

29. What type of joint is shown in the figure below?

- A. Angle Butt.
- B. Lapped Dovetail.
- C. Angle Halving.
- D. T Halving.



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30. Which of the following is a simple and effective method of securing hardboards?

- A. Glue
- B. Dowel
- C. Nails
- D. Screws

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31. Squareness can be checked by a:

- A. ruler.
- B. try square.
- C. chisel.
- D. plane.

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32. Timber surface can be checked for damage by:

- A. smoking timber.
- B. stain timber.
- C. adding water on the surface of timber.
- D. observation and inspection.

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33. Bracing is done to:

- A. hold and square projects.
- B. balance timber.
- C. keep timber smooth.
- D. keep timber dry.

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34. Materials for jointing must be of the same:

- A. size and fit.
- B. size and colour.
- C. length and smoothness.
- D. width and length.

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35. Timber for projects should be of good:

- A. workability.
- B. durability.
- C. quality.
- D. strength.

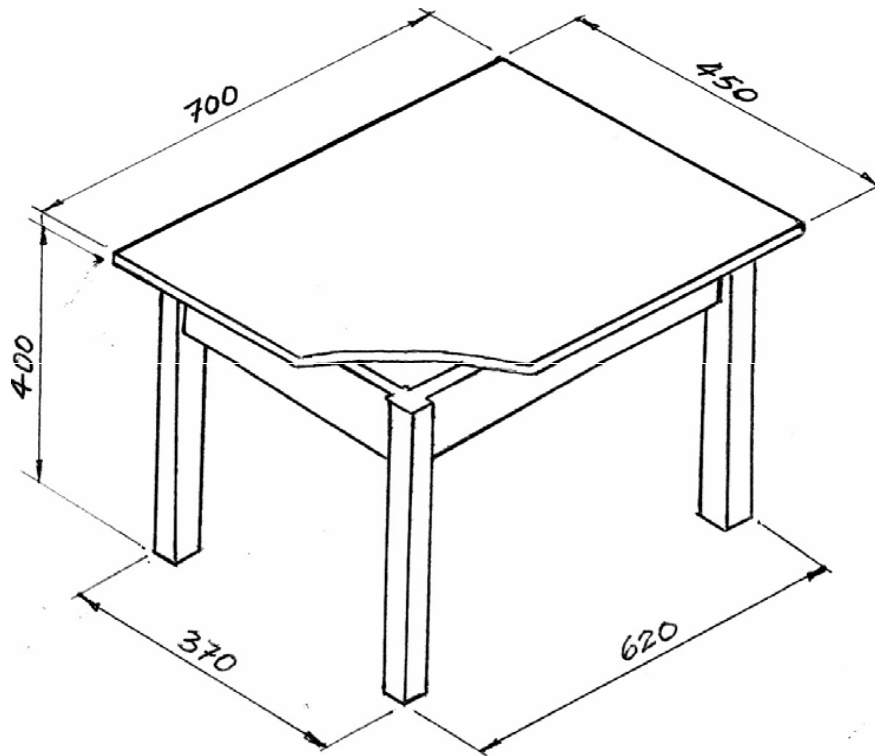
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36. Quality projects follow:

- A. specifications and customer modification.
- B. design brief and builders design.
- C. specifications and builders design.
- D. design brief and evaluation report.

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Examine the drawing of the table and answer Questions 40 – 42.



40. Name the most suitable joints to join the:

(i). top and rails _____

(ii). rails and legs _____

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For Question 44, write the letter of your BEST answer in the box provided

44. A disadvantage of using timber in building is:

- A. product quality over time.
- B. improve product marketing.
- C. improve customer satisfaction.
- D. increase profit.

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45. List TWO environmental impacts of using timber in building.

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46. Explain the process of seasoning of timber in a progressive kiln.

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DESIGN TECHNOLOGY

2021

(For Scorers only)

| STRANDS | | Weighting | Scores | Check Scorer | AED Check |
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