Tasmanian Certificate of Education

HOUSING AND DESIGN

Senior Secondary

Subject Code: HDS315108

External Assessment

2012

Time: Two Hours

On the basis of your performance in this examination, the examiners will provide results on each of the following criteria taken from the course statement:

**Criterion 3**  Apply features and principles which will contribute to environmental sustainability within design decisions.

**Criterion 4**  Understand and use architectural design principles relating to functional use of space.
CANDIDATE INSTRUCTIONS

You MUST ensure that you have addressed the externally assessed criteria on this examination paper.

There are TWO sections to this paper.

Answer ONE question from each section, on the A3 answer sheet for that question.
Answer **ONE** question from this section.

Use the **answer sheet** provided for your answer to this section.

This section assesses **Criterion 3**.

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**Question 1**

Refer to the drawing opposite.

Pete and Peta have purchased a house in the midlands of Tasmania. The property has a shed in the backyard that they want to convert into a studio for use day or night. For now they just want an empty room 6 metres by 3 metres.

The site is exposed to cold south-west winds in winter. The best thing about the shed is its solid timber frame construction. The walls and roof are currently clad with corrugated steel.

**Aim**

Pete and Peta want to renovate the shed so that it is thermally comfortable and as environmentally sustainable as possible. They want to be connected to the Tasmanian electricity grid, but would also like to generate their own power. In addition they would like to add a verandah with a plan size of 9 square metres. The budget will allow for changing the claddings and roof structure.

**Response**

Draw a plan and a section at scale 1:50 which has annotated graphic detail that explains, and gives reasons for, your design decisions.
Section A (continued)

Question 2

Bruce is a tourist operator who owns a small level site on the eastern side of a tropical island off the far north Queensland coast. Bruce is about to purchase two transportable buildings to accommodate his tourist guides.

The sketch opposite is from the manufacturer and depicts the standard 6 x 3 metre transportable buildings that Bruce wants to purchase.

The building is constructed of insulated panels clad on both sides with steel sheets. The insulation is minimal.

The manufacturer can change the insulation, and the door and window sizes and their locations, at extra cost.

Aim

Your client requires advice on the siting of the two buildings on his land, and what changes to the standard plan need to be requested, to take advantage of environmentally sustainable design principles.

Response

Sketch a site plan at scale 1:100 within the boundaries provided on the answer sheet. Include both buildings and landscaping.

Sketch a plan and section of the building, recommending modifications to the standard building that should be ordered.

Add annotated graphic detail that explains, and give reasons for, your design suggestions.
SECTION B

Answer ONE question from this section.

Use the answer sheet provided for your answer to this section.

This section assesses Criterion 4.

Question 3

Refer to the drawing opposite.

Josh is an 18-year-old paraplegic. He is thinking of purchasing a unit, which will need substantial modifications to enable him to live independently.

Aim

Josh has asked you to make suggestions about how to arrange the inside space to accommodate his particular needs.

Response

In this design question you are required to design and annotate requirements for the bathroom and kitchen, and for the placement of furniture for comfortable living.

Use the scale drawings on the answer sheet provided only as a guide for the accuracy of your layout.

Question 3 continues opposite.
Ground Floor Plan

0 1 3 5 metres

Section B continues over the page.
Section B (continued)

Question 4

Refer to the drawing opposite.

Katherine is a young urban worker who is moving into her new ground floor unit. She wants the unit to have modern uncluttered spaces with simple lines, whilst allowing for privacy and space for socialising.

Aim

You are asked to do an interior design layout that recommends the location of fixtures, furnishings and equipment. Take into account function and access to natural light. You will need to indicate the position of the front and back doors.

The walls adjoining the apartment building are in common and provide a fire barrier between apartments. You are not allowed to create any further windows or skylights in this design problem.

Response

In this design question you are required to design and annotate requirements for the bathroom and kitchen, and for the placement of furniture for comfortable living.

Use the scale drawing on the answer sheet provided only as a guide for the accuracy of your layout.

Question 4 continues opposite.
Ground Floor Plan

0 1 3 5 metres
DRAWINGS AT SCALE 1:50

OUTLINE OF THE STUDIO PLAN

COLD WINTER WINDS

NORTH

Pete & Petas' Studio Renovation Question 1
HOUSING AND DESIGN

ANSWER SHEET FOR QUESTION 3
Ground Floor Plan
Josh's Apartment
Question 3
HOUSING AND DESIGN

ANSWER SHEET FOR QUESTION 4