

PLACE LABEL HERE

Tasmanian Secondary Assessment Board

Tasmanian Certificate of Education

External Assessment

2000

MD876 COMPUTER GRAPHICS AND DESIGN

Time: Three Hours

On the basis of your performance in this examination, the examiners will provide a rating of A, B, C or D on each of the following criteria taken from the syllabus statement:

- Criterion 2** Demonstrate advanced skills and proficiency for diverse computer graphic software applications.
- Criterion 5** Exhibit a diverse range of computer graphic applications to communicate information.
- Criterion 9** Demonstrate a knowledge of how computer graphics has changed throughout recent history and its impact upon society.

Questions: 28
Pages: 21

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CANDIDATE INSTRUCTIONS

Candidates must attempt:

SIX questions from **Section A**
FIVE questions from **Section B**
TWO questions from **Section C**
TWO questions from **Section D**

All sections are of equal value.

All answers must be written in the spaces provided on the examination paper.

Care should be taken with the presentation of answers. The answers should be comprehensive and to the point. Diagrams may be used if appropriate but **NOT** to the exclusion of all text, **except** in Section C where labelled sketches are required.

It is recommended that you spend approximately:

40 minutes on Section A
25 minutes on Section B
25 minutes on Section C
90 minutes (1.5 hours) on Section D

Question 3

Give a brief explanation for each of the following:

(a) bezier curves;

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(b) phong shading;

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(c) anti-aliasing.

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Question 4

Give a brief description of **three** of the latest permanent and portable storage devices.

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Question 13

The ability to sketch is very difficult on a computer. State what the difficulties are and suggest a way these could be changed.

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Question 14

Transfer of information from one LAN to another is achieved through many devices including; dial up modems, ISDN lines and in the future, ADSL. Describe each of these services and state why we are moving towards better connectivity, especially for graphics applications.

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SECTION C

Answer **TWO** questions from this section on the blank pages provided.

Clearly indicate which question you are answering.

All questions are of equal value.

This section assesses **Criterion 5**.

Question 19

Design a freestanding gazebo not exceeding 3 x 3 metres. Its shape, materials, provision of seats and all other choices are entirely up to you.

Create a sketch of the gazebo which consists of **at least three** views: plan, elevation and site plan. All graphics entities should be on one layer.

Question 20

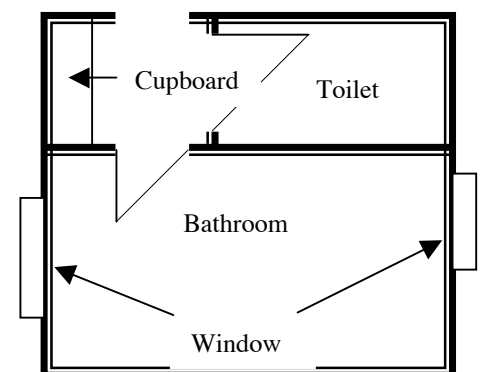
You have just started with an optical firm and they have requested that sketches be supplied for new innovative spectacles. Sketch **at least two** designs and with notation, briefly explain how each new design purpose is going to enhance the spectacles over traditional designs.

Question 21

Do the preparation for a web page. A computer graphics and electronics business are able to provide the following services: art and design; scanning; printing; video capture; digital photography and 3D modeling; and visualisation. Design the layout and the interface for web pages to advertise the business as well as links to the front page which provides the overall introduction to the services.

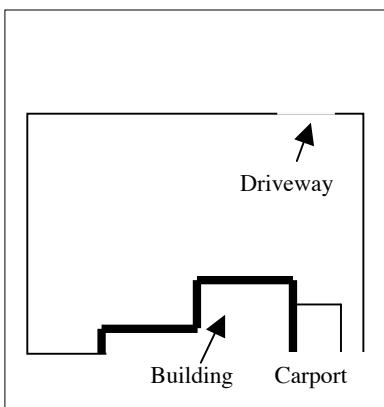
Question 22

An existing bathroom/toilet is shown in **Sketch 1 opposite**. This area needs to be renovated – the doors are restrictive and need to be removed. The client doesn't require a separate room for the toilet, however storage is still required. Redesign and sketch **two** possible layouts for the bathroom which will include toilet, full bath, shower and hand basin. The overall inside of the bathroom/toilet = 2400 mm square.



Sketch 1

Question 23



Sketch a proposal for landscaping a small garden. The general layout of paths, drive (which must allow the car to leave the property in a forward direction) and features such as seating and a fountain are important, so a separate detail is required of these. Knowledge of types of plants is not required. An outside layout of the block is provided in **Sketch 2 opposite**.

Sketch 2

Sketch Sheet for First Answer

Question No:

Sketch Sheet for Second Answer

Question No:

SECTION D

Answer **TWO** questions from this section.

Clearly state which question you are answering.

All questions are of equal value.

This section assesses **Criterion 9**.

Question 24

List and describe **three** applications where artificial intelligence is used within the graphics industry.

Question 25

You are asked to design a computer graphics system to help a builder sell new houses. The builder has a large number of house designs with many variations within each design (different colours, cladding material, different windows, and so on). She wants to be able to show customers exactly how they their house will look when built (inside and outside).

- (a) What graphics hardware would you use?
- (b) What sort of user interface would your system have?
- (c) What graphical software system would you use to display a house?

Question 26

Computer graphics firms offer their clients art design (production and presentation), 3D rendering and computer generated illustration services. Output can be to 35 mm slides, overheads, hardcopy and two different computer based presentations (HTML and PowerPoint). Produce a hardware list of computer equipment, input and output devices and peripherals required, with a brief explanation of each item.

Question 27

The term 'computer graphics' includes almost everything that is not text or sound. We think of computer graphics as drawing pictures on computers. The pictures can be photographs or drawings including CAD, movies or simulations (pictures of things which do not exist and maybe could never exist), or they may be pictures from places we cannot see directly such as medical images from inside your body. We want images on computers not only to look more realistic but to be more realistic. What are the key techniques that may be used to achieve this effect?

Question 28

'Communication Arts' is a new title that encompasses graphics design. Discuss the history of graphic design and produce an argument as to why this new title would or would not be a good change of direction for computer graphics.

