



PLACE LABEL HERE

Tasmanian Certificate of Education

COMPUTER GRAPHICS AND DESIGN

Senior Secondary

Subject Code: CGD315108

External Assessment

2008

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 syllabus statement:

Criterion 2 Solve problems.

Criterion 7 Demonstrate a knowledge and understanding of contemporary computer graphics systems.

Questions: 24
Pages: 24

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CANDIDATE INSTRUCTIONS

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

You must attempt:

Section A: **FOUR** questions

Section B: **FOUR** questions

Section C: **ONE** question

Section D: **ONE** question

Sections C and D have a double weighting compared to **Sections A and B**.

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 are encouraged but **NOT** to the exclusion of all text.

It is recommended that you spend approximately:

20 minutes on Section A

20 minutes on Section B

40 minutes on Section C

40 minutes on Section D

All written responses must be in English.

SECTION A

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This section assesses **Criterion 2**.

Answer **FOUR** questions from this section.

All questions are of equal value.

Question 1

Discuss the design elements and principles required to produce packaging for a new toy that is both appealing to the target market and uses safe and appropriate materials in its manufacture.

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Question 2

Texture is an important element for 3D graphics in creating virtual reality. Describe three ways of making visual textures on a 3D model and discuss the advantages and disadvantages of each.

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Question 3

Describe how a designer using a 2D drawing, photo editing, or animation package would effectively use layers.

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Question 4

As a designer, what process would you follow when designing something for a client?
Outline the steps you would undertake and discuss them in detail.

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Question 5

What are the differences between RGB and CMYK colour models? Give an example of where each of these would be used.

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Question 6

Evaluating a design is an important step in the design process. Describe how you would go about testing and evaluating a product prior to it entering the market.

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Question 7

Architects often play an integral part in the building process, project managing the building they have designed. Why is it important that the designer's job does not end when the drawings and design data are handed over to the builder and clients?

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Question 8

As a designer, how would you go about protecting your original designs from being copied or used without your permission?

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SECTION B

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This section assesses **Criterion 7**

Answer **FOUR** questions from this section.

All questions are of equal value.

Question 9

Digital Asset Management is important for contemporary designers because Computer Graphics files are often large. Describe four different storage devices suitable for storing these files. Also describe a procedure for backing up and archiving these files.

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Question 10

Discuss why the following 3 elements are critical in 3D modelling software:

- Rotation
- Scaling
- Translation

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Question 11

Tweening and Key framing are animation techniques used by traditional animators as well as in computer generated animations. Describe the differences between the traditional method and the way they are used in computer graphics.

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Question 12

Describe what *Boolean* functions are in 3D modeling. How can they assist the designer in the construction of shapes?

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Question 13

Discuss the advantages of wireless technology. Are there any security problems to solve?

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Question 14

Rendering animations with a high polygon count in 3D programs requires a certain hardware capacity. What specific part of the system is used in this process to optimise the computer's performance?

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Question 15

Computer generated effects, like explosions, smoke and rain are used in contemporary animations. Describe the process used to place one of these effects into an animation.

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Question 16

Solid Modelling is used in CAD, engineering, analysis, computer graphics, animation, product visualisation and rapid prototyping. Describe how Solid Modelling is used in one of the above applications.

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SECTION C

This section assesses **Criterion 2**.

Answer **ONE** question from this section.

Your answer should consist of a series of **annotated sketches** followed by **written notes** explaining important features of the design.

Clearly indicate which question you are answering.

Question 17

Storyboarding is an essential step in the Design Process when producing moving images.

- (a) Draw a story board for a 90 second TV advertisement for a new soft drink aimed at the 15-to-25 age bracket.
- (b) Describe the elements that are needed for a successful story board, and why storyboarding is an essential step in the design process.

Question 18

You have been asked by a new surf and skate company to produce a brand identity. The target market for the products is the 10-to-20-year-old age bracket.

- (a) Sketch three alternative logos.
- (b) Discuss the design elements and principles used in each of your three designs, and explain their importance.
- (c) Describe in detail the design considerations and market research a designer would need to consider in the development of suitable branding for such a logo.

Question 19

Many young people move house regularly and need furniture that is easily transportable but still looks great.

You are approached to design a contemporary shelving system for books and DVDs. The customer has requested that you take into account the following:

- Storage needs to be portable and easily dismantled and transported
 - Storage needs to be structurally sound and stable when displaying books/DVDs
 - The system should look contemporary
- (a) Design a system to meet these needs.
- (b) Discuss the elements and principles you have used in your design as well as the materials you have chosen to use.
- (c) Write a set of instructions for packing, storage and assembling the product.

Question 20

You and your design team have been asked to design a contemporary learning space for the University. This includes areas for quiet contemplation, computer access and group discussion.

- (a) Provide notes showing the sorts of decisions that you would need to make before designing the learning area, including furniture and computer requirements.
- (b) Sketch two preliminary designs with notation showing what is required for the new learning area.

Sketch Sheet for Question No:

Sketch Sheet for Question No:

SECTION D

This section assesses **Criterion 7**.

Answer **ONE** question from this section.

Your answer should consist of a written response in an **essay** format.

Clearly indicate which question you are answering.

Question 21

Contemporary designers play an important part in the development of new ideas, materials and products. Choose one designer whose work you admire. Discuss their ideas, themes, influences and products. In your discussion talk about how they use the elements and principles of Computer Aided Design.

Question 22

Risk analysis is an important part of setting up any business. You have been asked to map the risks or threats to a large computer graphics business. Describe the processes you would use to protect your business.

Question 23

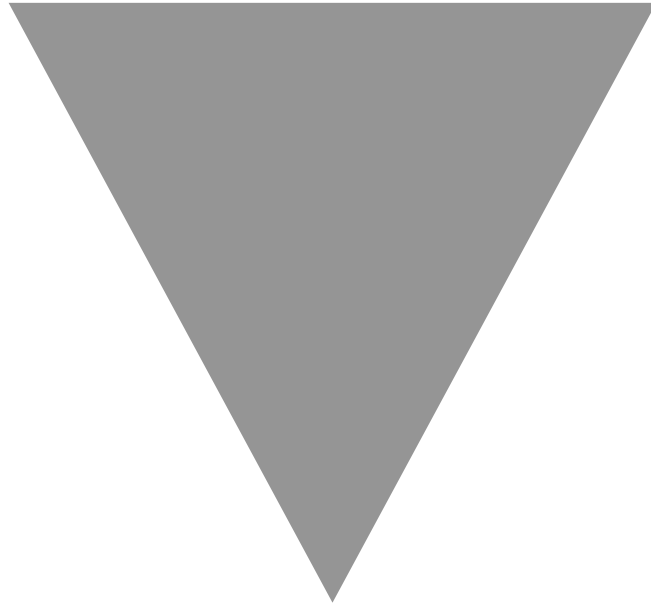
As technology evolves, intellectual property, security and privacy become greater problems for designers. Discuss this statement.

Question 24

Nominate a film or video having a significant computer graphic content.

- (a) Explain the importance of this film in the development and evolution of computer graphics, and
- (b) Discuss the advantages of special effects.
- (c) Predict some advances in special effects we may see in the future.

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