



OFFICE OF TASMANIAN
ASSESSMENT, STANDARDS
& CERTIFICATION

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COMPUTER GRAPHICS AND DESIGN

(CGD315118)

Time recommended for this paper: 2 hours

Pages: 24

Questions: 26

Candidate Instructions

1. You **MUST** make sure that your responses to the questions in this examination paper will show your achievement in the criteria being assessed.
2. There are **FOUR** sections to this paper.
3. You must answer:
THREE questions from **Section A**
THREE questions from **Section B**
ONE question from **Section C**
ONE question from **Section D**
4. All answers must be written in the spaces provided on the examination paper.
5. The recommended time to be spent on a section is given in the instructions in that section.
6. 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 written text.
7. All written responses must be in English.

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

Criterion 6 - Analyse the impact of design in society.

Criterion 7 - Describe and apply key features, applications and influences on contemporary computer graphics systems.

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SECTION A

Answer **THREE** questions from this section.

All questions in this section are of equal value.

It is recommended that you spend approximately **20 minutes** on this section.

This section assesses **Criterion 7**.

Question 1

An architect has developed the plans for a kitchen in a large home. He presents his final design in a detailed 2D plan and also a walk through animation. What are the advantages of including both?

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Question 2

An animation is being assembled in non-linear editing software. Describe effects that can be added at this stage to enhance the animation.

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Section A continues.

Section A (continued).

Question 3

The sketch of the solid block shown in **Figure 1** is to be manufactured from highly polished metal. You need to prepare a high-quality 3D image. Describe the software processes in modelling and rendering this object.

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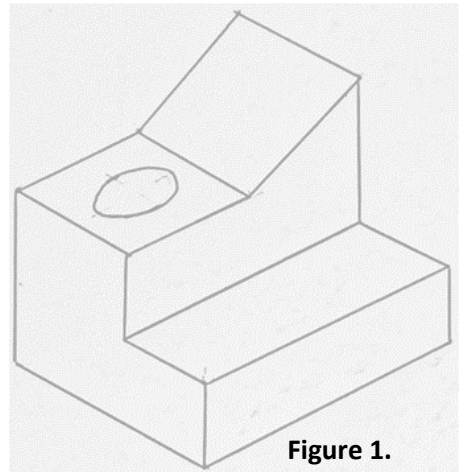
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Question 4

“Bitmap based software has no place in 3D modelling.” Discuss this statement.

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Section A continues.

Section A (continued).

Question 5

A website has been developed where designers and makers can sell their products. It is recommended that images be around 600 x 600 pixels in size.

(a) Why have the developers specified this size?

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(b) What are the likely outcomes if images are supplied significantly smaller or significantly larger than the recommended sizes?

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Question 6

Discuss the possible use of particle systems in the development of an animation that is to be used in firefighting training.

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Section A continues.

Section A (continued).

Question 7

How has tweening shortened production times for animations?

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Question 8

In the space below produce sketches of any simple 3D block to illustrate the following types of drawing: perspective, isometric and orthographic drawing. Each sketch must be of the same block. Make sure your sketches are clearly labelled.

SECTION B

Answer **THREE** questions from this section.

All questions in this section are of equal value.

It is recommended that you spend approximately **20 minutes** on this section.

This section assesses **Criterion 6**.

Question 9

An ergonomic designer has been asked to develop a design for a chair to be used around a large table in a company's boardroom. Describe the processes the designer will go through.

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Question 10

Over the years the communication of an architect's designs to clients and sometimes to the wider public has dramatically changed. Describe **TWO** different contemporary computer-based methods of communicating designs for a new apartment block.

Method 1 -

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Method 2 -

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Section B continues.

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Section B (continued).

Question 11

“Social Licence” can be defined as a project, development or industry having ongoing community approval and acceptance. How might social licence be taken into consideration in the design of a new multi-story apartment block?

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Question 12

“Form” and “Function” are critical in design. What are form and function? Give an example of a designer taking these into consideration.

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Section B continues.

Section B (continued).

Question 13

A local tourism council asks a web designer to design a website to sit alongside a social media campaign to advertise tourist attractions along the North West Coast of Tasmania.

(a) What information will the web designer need?

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(b) What is a likely process that the web designer will go through in developing the website?

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Question 14

What are the key components for a successful new game for portable devices?

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Section B continues.

Section B (continued).

Question 15

How might two designers working in different countries be able to collaborate and work on the same project?

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Question 16

The brief is a critical part of the design process. What is a brief? Describe the important components of a brief for **EITHER** an architect designing a new house **OR** a product designer designing new office furniture.

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SECTION C

Answer **ONE** question from this section.

All questions in this section are of equal value.

Your answer **MUST** consist of **written notes accompanied by sketches with annotations** explaining important features of the design. Use the space provided on pages 13-15.

It is recommended that you spend approximately **40 minutes** on this section. Section C carries double the weight of Section B.

This section assesses **Criterion 6**.

Question 17

A cafe with a seating area for 50 patrons has been closed for renovations and is looking at launching an advertising campaign on social media for re-opening. The cafe specialises in a wide range of burgers with sides but also has a comprehensive menu to choose from, with a takeaway option. It also wants to be known for the craft beers it will be serving. You have been asked to prepare a strategy for the advertising campaign for the owner.

- (a) List the design considerations for this brief.
- (b) What information and experiences will be communicated? What types of media will be recommended?
- (c) Prepare a design sketch that will provide guidance for a photographer taking still pictures to be used in the advertising campaign.
- (d) Sketch a storyboard for a short movie that will be produced.

OR

Section C continues.

Section C (continued).

Question 18

A new educational game experience for portable devices is to be created for an island that no longer has people living on it but has an interesting and mixed past. The island has been used for mining limestone and producing cement (several ruins from this time remain), has cleared areas that were used for farming alongside an existing historic farmhouse and a section can be identified that was used for grape growing. A huge old rusted pot is evidence of a whaling industry and there are a number of Aboriginal shell middens.

- (a) What are the key aspects to take into consideration in the development of this task?
- (b) Make schematic sketches of how the game is to be structured.
- (c) Make a sketch of the opening scene for the game.
- (d) Discuss the design principles and elements of your designs.

OR

Question 19

You are on the shortlist for employment in your dream job in film and television. As part of the selection process the prospective employer has asked you to develop an idea for a short 5 minute film exploring a city of interest to you.

- (a) What are the design considerations?
- (b) Write a concise brief for the film.
- (c) Develop storyboards sufficient to explain the story and ideas in the film. Include text and any effects to enhance the film.

OR

Question 20

A separate area is to be built as an extension to a Year 5 classroom. It will be used as a quiet reading area. It will be accessed via a large opening at one side of the classroom.

- (a) What are the key design considerations?
- (b) Make detailed sketches for **TWO** different solutions to this brief.
- (c) Discuss the design principles and elements of your designs.

Section C continues.

Section C (continued).

Complete sketches for Questions 17, 18, 19 OR 20 on this page.

Question No:

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Section C continues.

Section C (continued).

Notes for Question

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SECTION D

Answer **ONE** question from this section.

All questions in this section are of equal value.

Your answer should consist of an extended response. Use the space provided on pages 18-20 to clearly indicate which question you are answering.

It is recommended that you spend approximately **40 minutes** on this section. Section D carries double the weight of Section A.

This section assesses **Criterion 7**.

Question 21 – (3D Modelling)

There are numerous ways in software applications for developing 3D models. What methods of digital modelling are available to a furniture designer to prepare a new product range of bar stools? Describe in detail these methods that you have mentioned. A photorealistic timber texture needs to be applied to the bar stools for advertising purposes. Describe how this texture could be prepared and applied.

OR

Question 22 – (Solid Modelling and 3D fabrication)

Much Australian manufacturing has moved to overseas countries in recent years. In order for manufacturing to exist in Australia, companies have to work smarter and use emerging technologies in both design and manufacture. CNC is one such technology that is used in a multitude of ways.

- (a) Describe, using examples, CNC technologies that can make Australian industry more competitive gaining an advantage over overseas companies.
- (b) Discuss any other emerging technologies that can also be used in this pursuit.

OR

Question 23 – (Video and Motion Graphics)

“Motion capture has produced outstanding advances in the evolution of animated movies.”

- (a) Discuss this statement and include information about some of the advances.
- (b) Describe a method of motion capture.

OR

Section D continues.

Section D (continued).

Question 24 – (Animation)

Modern day animations can be produced in 2D software, 3D software or a combination of both. What are the differences, the advantages and disadvantages of producing animations in 2D over 3D software?

OR

Question 25 – (Interactive Design)

Augmented Reality (AR) and Virtual Reality (VR) have become influential technologies. Explain the similarities and differences between AR and VR and give examples of how each of these technologies are being used.

OR

Question 26 – (Asset Development, Game Design and Production)

Some games are so successful that they become addictive.

- (a) Using examples, describe the components and design of successful games.
- (b) What options do games designers have in developing and using assets for their games?
- (c) Describe how an asset is best developed to ensure effective functionality.

Section D continues.

Section D (continued).

Question:

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