



2007 Design and Technology GA 3: Written examination

GENERAL COMMENTS

The 2007 VCE Design and Technology examination was the first examination for the revised study implemented in 2007.

Areas of strength

- The majority of students answered all of the questions.
- The ability to identify a specification (constraint or consideration) and develop evaluation criteria had improved.

Areas of weakness

- Students need to understand the difference between the task words used in questions, such as ‘explain’, ‘justify’ and ‘describe’, when providing their responses.
- Students need to understand the difference between listing points and writing a more extended response.
- The new areas of the revised study, specifically ‘design fundamentals and applications’, ‘Australian Standards’ and ‘risk assessment’ were not well understood by a number of students.
- Students’ understanding of product promotion and style and technical obsolescence needs improvement.
- Students should consider using coloured pencils in the design brief rather than drawing their designs in pen.

SPECIFIC INFORMATION

Note: Student responses reproduced herein have not been corrected for grammar, spelling or factual information.

For each question, an outline answer (or answers) is provided. In some cases the answer given is not the only answer that could have been awarded marks.

Section A

Question 1a.

Marks	0	1	Average
%	24	76	0.8

C. user protection

Question 1b.

Marks	0	1	Average
%	8	92	0.9

B. properties and characteristics of the fabric

Question 1c.

Marks	0	1	Average
%	9	91	0.9

A. cost

Question 1d.

Marks	0	1	Average
%	23	77	0.8

A. energy use

Question 1e.

Marks	0	1	Average
%	11	89	0.9

B. WorkCover Authority guidelines

2007 Assessment Report



Question 2a.

Marks	0	1	2	Average
%	1	7	92	1.9

Students were required to just select one appropriate 'fundamental' and one appropriate 'application'. The following answers were acceptable:

- line
- shape
- form
- texture
- tone
- colour
- opacity.

Question 2b.

Marks	0	1	2	3	Average
%	27	34	24	15	1.3

Students tended to refer to the drawing rather than the actual coffee pot. Successful students described a relationship between the fundamentals and applications (design elements and principles) and how they are represented in the coffee pot. A sample response could be as follows.

When you look at the coffee pot you look at the top first because your eye is drawn there by the shape and the contrast colour. It creates a focal point. The balance of the coffee pot is created by the cylinder body, a dome top, triangle spout and rectangle handle.

Question 3a.

Marks	0	1	2	3	Average
%	13	35	31	21	1.6

Successful students looked at exploration of ideas, including:

- refining possibilities
- the relationship between things and how they work together, such as materials, attachments and accessories
- construction approaches; for example, how the handle can be attached to the body.

Some students tended to focus on solutions, which indicated that they had not correctly interpreted the question.

Question 3b.

Marks	0	1	2	Average
%	6	33	61	1.6

A range of examples was accepted, including:

- testing the appropriateness of materials
- CAD
- Internet research – explore similar existing products
- joining techniques
- mood boards.

Question 4

Question 4 tested students' knowledge of obsolescence within the context of the coffee pot and how that affects the manufacturer and the buyers of 'La Cupola'. Some students confused the advantages and disadvantages for the manufacturer and buyer. Students need to understand how and why a product becomes obsolete and the impact this has. Students who scored well were able to describe the obsolescence of the coffee pot effectively and clearly explain the impact.

Question 4a.

Marks	0	1	2	Average
%	36	34	31	1.0

Acceptable answers included any two of:

- the need for retooling – having to change or purchase new equipment

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- costs – redesign, developing new processes for putting the product together, change of materials, re-educating staff and being left with unsold product (waste)
- image – decline in reputation, decline in sales, perception of ‘datedness’.

Question 4b.

Marks	0	1	2	3	Average
%	38	22	21	19	1.2

Acceptable answers included:

- image – a new style (product appearance) will create a desire to purchase the product, leading to an increase in sales and profit and a good image for the company
- retooling – requires new equipment and new ways of producing the product. This leads to an increase in efficiency, changes to the production process and a reduction in costs over time
- new materials – allows new and emerging materials to be incorporated. This provides an opportunity to evaluate whether materials in current use are effective, environmentally appropriate and/or becoming too hard to access. New materials may require new methods of constructing the product.

Question 4c.

Marks	0	1	2	3	Average
%	42	21	19	17	1.1

Students who scored well listed one problem and explained the problem to the buyer. For example:

- the product cannot be repaired due to components no longer being made
- the product is made so that it cannot be repaired
- the product does not work effectively, such as water leakage resulting in poor coffee being made, thus leading to consumers no longer being able to use or enjoy the coffee maker.

Question 4d.

Marks	0	1	2	Average
%	48	30	22	0.8

Acceptable answers included:

- products are up-to-date
- products incorporate new technologies
- safer products
- buyers are not inconvenienced by having to get the product repaired.

Question 5

Marks	0	1	2	3	4	Average
%	54	8	17	12	10	1.2

Students who chose a specific example and explained the advantage of this process scored well on this question. For example:

- testing the product – allows for defects to be identified
- checking the quality of materials – ensures that poor quality materials will not result in a poor product
- training staff – ensures staff are well trained in making the product so that errors do not occur. Reduces cost and returns.

Some students incorrectly thought that Total Quality Management (TQM) is a specific technique rather than an overall management approach to achieving quality.

Question 6

Marks	0	1	2	3	Average
%	16	33	29	22	1.6

Acceptable answers included:

- the end users’ requirements are different to those of the client – the appearance and useability of the coffee maker will be more important to the end user, whereas manufacturing and sales targets may be more important to the client
- their likes and dislikes could be different – Alessi is keeping up with a certain image as compared to the end user wanting an innovative product.

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Students needed to clearly distinguish the difference and the needs of the end user (buyer) and of the client (Alessi).

Question 7

Marks	0	1	2	3	Average
%	34	22	21	23	1.4

A Life Cycle Analysis includes the effect the product has on the environment, from sourcing the material to disposal of the product. This incorporates transportation, production, distribution, product use and disposal.

Some students confused LCA and Product Cycle.

Section B

Product selected	None	Formal outfit	Screen/room divider	Dressing table	Jewellery	Vase
%	1	31	9	54	1	3

Question 8a.

Marks	0	1	Average
%	14	86	0.9

Students need to identify one specification. For example, 'Product 4 must have a necklace, earrings and bracelet.'

Question 8b.

Marks	0	1	2	Average
%	25	26	49	1.3

Students need to justify the importance of their specification. In order to receive full marks they needed to say more than just that it was a requirement of the brief. The justification could be as simple as 'Jewellery looks more impressive when there is more than one item, particularly if one can see a theme or connection between them.'

Question 8c.

Marks	0	1	Average
%	28	72	0.7

Students needed to convert their specification into a question. For example, 'Was there a necklace, earrings and bracelet made for the client?'

Question 8d.

Marks	0	1	Average
%	33	67	0.7

Students needed to explain how they would check to see if the criterion has been met. For example, 'Ask the client to try on the set of jewellery.'

Question 9

Clarity of drawing

Marks	0	1	2	3	Average
%	2	22	42	34	2.1

Details of construction

Marks	0	1	2	3	Average
%	21	18	23	38	1.8

Annotation of design specification

Marks	0	1	2	3	Average
%	7	16	28	50	2.2

Function/suitability for intended use

Marks	0	1	2	3	Average
%	5	20	40	35	2.1

2007 Assessment Report



Visual, tactile and aesthetic factors

Marks	0	1	2	3	Average
%	7	33	39	21	1.8

Innovation and creativity

Marks	0	1	2	3	Average
%	8	36	37	20	1.7

In order to score highly on the above criteria:

- the drawing needed to be clear, technically well drawn, three dimensional or (for the outfit) show back and front views
- the drawing needed to indicate at least three construction techniques for the product
- there needed to be at least three annotations related to the design specifications
- the design needed to be suitable (compliant) to meet the specific requirements (including its use) of the design brief chosen
- students needed to apply the (visual, tactile and aesthetic) fundamentals to their design
- students needed to look beyond the standard design.

Question 10

Marks	0	1	2	3	4	5	6	Average
%	24	2	16	6	25	4	22	3.1

Some students identified the equipment but not the hazard associated with the equipment. For example, they named a tool or piece of equipment, such as a chisel, sewing machine or welder, but did not specify a hazard, such cutting or burning oneself. Students were generally able to identify one risk control for the hazard.

Question 11

Marks	0	1	2	Average
%	11	38	51	1.4

Acceptable answers included:

- assess whether the end user appreciates the product, or would like some modifications or options
- assess whether the appearance, features and practical requirements of the product are being met for the buyer
- assess whether the product meets the needs of the intended purchasers and whether they are willing to buy the product.

Students needed to focus on the market research rather than production issues.

Question 12

Marks	0	1	2	Average
%	26	36	38	1.1

Students were required to explain the benefits of using Australian Standards, not just list an Australian Standard.

Appropriate examples included:

- for the manufacturer:
 - uniformity of materials and sizes
 - specifications such as fire safety for textiles, water resistance for resistant materials
 - to determine whether the product has to meet certain quality requirements
- for the end user
 - awareness of the limitations of the product
 - awareness of safety requirements that the product meets
 - awareness of the strength and flexibility of the product.

Question 13

Marks	0	1	2	3	Average
%	16	10	34	40	2.0

Appropriate examples included:

- dry clean rather than wash (for the formal outfit)
- dust and wipe with a moist cloth rather than detergents (for the dressing table).

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Students were generally able to provide a care instruction applicable to their product and explain why it was important.

Question 14

Question 14 asked students to consider how the product would be presented if the manufacturing and marketing was done by a company. This would in turn affect where the product would be sold, how it would be marketed and what cost factors would need to be considered. Students needed to move beyond the school and take a broader view.

Question 14a.

Marks	0	1	Average
%	9	91	0.9

Students had to specify an appropriate group, for example:

- over the age of 35
- teenagers between 15 and 18
- students going to a formal.

Question 14b.

Marks	0	1	2	3	4	Average
%	16	10	30	23	21	2.3

Students had to give a specific location or shop for the sale of the product, for example:

- shopping centres
- shopping strip
- specific stores, such as Ikea or Target.

Students had to explain why they would sell successfully in this specific area, for example:

- young people congregate around these areas
- people tend to look for innovative furniture/jewellery in these specific shops
- people tend to visit these places when they wish to buy formal clothing.

Question 14c.

Marks	0	1	2	Average
%	12	21	66	1.6

Students needed to specify two marketable features of their product, not just list the requirements of the client. For example, the fact that a drawer of the dressing table is deep could be a marketing strategy because, for example, more objects could be placed in it.

Question 14d.

Marks	0	1	2	Average
%	14	34	52	1.4

Appropriate factors to consider included the cost of:

- materials
- tools and equipment
- electricity and rent of premises
- labour and training of staff
- advertising
- transport.

Students were quite competent in answering this question.