

A-level  
**DESIGN AND TECHNOLOGY:  
PRODUCT DESIGN (3D)  
PROD3**

UNIT 3 DESIGN AND MANUFACTURE

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**Mark scheme**

June 2017

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Version: 1.0 Final

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Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts. Alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Assessment Writer.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

Further copies of this mark scheme are available from [aqa.org.uk](http://aqa.org.uk)

## Level of response marking instructions

Level of response mark schemes are broken down into levels, each of which has a descriptor. The descriptor for the level shows the average performance for the level. There are marks in each level.

Before you apply the mark scheme to a student's answer read through the answer and annotate it (as instructed) to show the qualities that are being looked for. You can then apply the mark scheme.

### Step 1 Determine a level

Start at the lowest level of the mark scheme and use it as a ladder to see whether the answer meets the descriptor for that level. The descriptor for the level indicates the different qualities that might be seen in the student's answer for that level. If it meets the lowest level then go to the next one and decide if it meets this level, and so on, until you have a match between the level descriptor and the answer. With practice and familiarity you will find that for better answers you will be able to quickly skip through the lower levels of the mark scheme.

When assigning a level you should look at the overall quality of the answer and not look to pick holes in small and specific parts of the answer where the student has not performed quite as well as the rest. If the answer covers different aspects of different levels of the mark scheme you should use a best fit approach for defining the level and then use the variability of the response to help decide the mark within the level, ie if the response is predominantly level 3 with a small amount of level 4 material it would be placed in level 3 but be awarded a mark near the top of the level because of the level 4 content.

### Step 2 Determine a mark

Once you have assigned a level you need to decide on the mark. The descriptors on how to allocate marks can help with this. The exemplar materials used during standardisation will help. There will be an answer in the standardising materials which will correspond with each level of the mark scheme. This answer will have been awarded a mark by the Lead Examiner. You can compare the student's answer with the example to determine if it is the same standard, better or worse than the example. You can then use this to allocate a mark for the answer based on the Lead Examiner's mark on the example.

You may well need to read back through the answer as you apply the mark scheme to clarify points and assure yourself that the level and the mark are appropriate.

Indicative content in the mark scheme is provided as a guide for examiners. It is not intended to be exhaustive and you must credit other valid points. Students do not have to cover all of the points mentioned in the Indicative content to reach the highest level of the mark scheme.

An answer which contains nothing of relevance to the question must be awarded no marks.

**Question 1**

01 **Figures 1 and 2** show a welded mild steel chair frame.  
Describe how the design would need to be changed to allow the product to be sold in flat pack form. **[12 marks]**

| Level           | Marks | Description   |
|-----------------|-------|---|
| 4<br>(thorough) | 10-12 | The description is detailed and deals with all major changes required to allow the product to be manufactured as a flat pack unit.<br>Diagrams are used effectively with clear annotations. |
| 3<br>(detailed) | 7-9   | The description recognises the need for a range of changes and describes several of these using clear notes and diagrams.   |
| 2<br>(clear)    | 4-6   | The description refers to the elements of the frame and describes suitable modifications for an element of the design using notes/basic diagrams.   |
| 1<br>(basic)    | 1-3   | The description is generalised mentioning the frame as a whole and not considering individual aspects.<br>An overarching change is suggested with very little detail.                       |
|                 | 0     | Nothing worthy of credit.   |

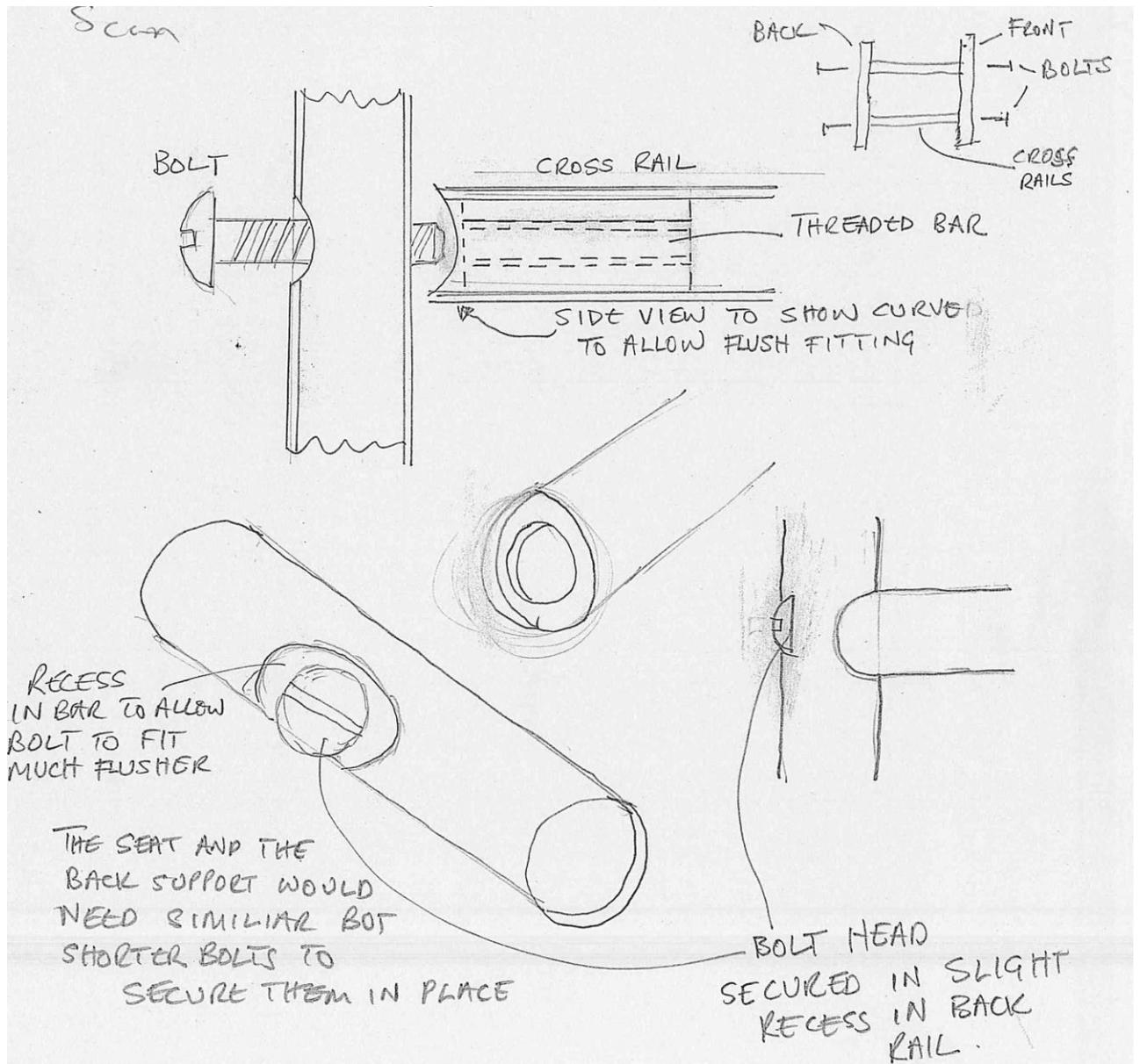
**Marking guidance:**

Award relevant process description(s) / diagram(s).  
Any changes in material or otherwise are acceptable as long as the overall form is retained.

**Indicative content:**

- The replacement of permanent welded joints with temporary bolt fixings.
- The tubular frame could be pre-drilled for bolt fixings.
- Stub ends welded into tubes and tapped for bolts.
- Use of Allen key headed bolts for ease of assembly.
- Inclusion of standardised injection moulded fixings to clip frame together.
- Separation into sub-frames for packaging.
- Use of welded nuts added to tubes to allow single-handed assembly.
- Assembly using simple hand tools e.g. screwdriver or spanner.

High level exemplar sketches:



**Note:** This indicative content is not exhaustive: other creditworthy responses should be awarded marks as appropriate.

**Total 12 marks**

02

**Figure 3** shows a mass-produced jigsaw puzzle.

Explain how a manufacturer could ensure quality in a batch of 100 000 identical jigsaw puzzles.

**[10 marks]**

| Level           | Marks | Description   |
|-----------------|-------|---|
| 4<br>(thorough) | 8-10  | The response details a suitable manufacturing process for large scale production.<br><br>If diagrams are used they are clear and well labelled showing all the main elements of the process.<br><br>The response refers to relevant quality assurance procedures to maintain quality throughout the whole manufacturing process (board and image production). |
| 3<br>(detailed) | 5-7   | The response refers to a suitable manufacturing process for large scale production.<br><br>If diagrams are used they are labelled showing the main elements of the process.<br><br>The response refers to relevant procedures to maintain quality in the final product.   |
| 2<br>(clear)    | 2-4   | The response refers to a suitable manufacturing process.<br><br>If diagrams are used they are simple and show some of the main elements of the process.<br><br>The response may refer to maintaining quality in the final product.  |
| 1<br>(basic)    | 1     | A suitable mass production technique may be stated or referred to.  |
|                 | 0     | Nothing worthy of credit.   |

**Marking guidance:**

1 mark for an appropriate process selection such as die cutting  
1 mark for appropriate printing process such as offset lithography  
Maximum of 3 marks for diagram of the processes.

**Indicative content:**

**Quality assurance:**

- use of random sampling of final products
- use of die cutting jig to ensure repeatability
- registration marks on printing to ensure accurate colour location
- replacement of cutting blades at regular intervals to ensure cut depth
- checking of material thickness before cutting (within tolerance).

**Note:** This indicative content is not exhaustive: other creditworthy responses should be awarded marks as appropriate.

**Total 10 marks**

03

Describe in detail a suitable manufacturing method for a one-off bespoke jigsaw design.

**[6 marks]**

| Level           | Marks | Description  |
|-----------------|-------|--|
| 3<br>(detailed) | 5-6   | The description details both the production of the graphics and of the jigsaw pieces with suitable manufacturing processes.<br><br>Diagrams are used effectively |
| 2<br>(clear)    | 3-4   | The description details the main processes clearly.  |
| 1<br>(basic)    | 1-2   | The description is generalised with relevant processes mentioned but not explained.  |
|                 | 0     | Nothing worthy of credit.  |

**Marking guidance:**

1 mark for a suitable specific material e.g. plywood, greyboard, MDF, acrylic or other appropriate thermoplastic/compliant sheet etc. (there should be reference to a suitable thickness).

2 marks available for clear diagrams of a suitable method of manufacturing/applying an image. Also reward reference to online file submission for bespoke images on standard jigsaw format

**Indicative Content:**

- use of laser cutter to create pieces with no waste due to narrow beam and flexible production process that can be reprogrammed for different designs.
- use of scroll saw/fretsaw to create wooden pieces by hand due to narrow blade.
- the surface image can be laser etched onto the material to ensure accurate alignment when cutting pieces.
- the surface can be screen printed to give a high quality graphic image
- spray contact adhesive attachment can be used to attach the screen-printed graphics to the backing board prior to cutting.

**Note:** This indicative content is not exhaustive: other creditworthy responses should be awarded mark as appropriate.

**Total 6 marks**

**Question 2**

04

Discuss how designers have combined function and aesthetics to achieve successful products. Refer to specific products in your answer.

**[14 marks]**

| Level           | Marks | Description  |
|-----------------|-------|--|
| 5<br>(thorough) | 11-14 | The response shows a clear understanding of the importance of both aesthetics and function, using specific products to explain the answer.<br><br>Good quality diagram(s) are used to support the answer |
| 4<br>(detailed) | 8-10  | The response uses product examples to discuss the topic and makes clear links between the product(s) and the importance of function/aesthetics.<br><br>Diagrams may be used to support the answer.       |
| 3<br>(clear)    | 5-7   | The response discusses the idea of function and aesthetics using a single product example.<br><br>Simple diagrams of the product may be used to support the answer.                                      |
| 2<br>(basic)    | 1-4   | The response discusses the idea of function and aesthetics in general with limited reference to specific products.   |
|                 | 0     | Nothing worthy of credit.  |

**Marking guidance:**

Products should be named specific commercial products.

1 mark for each specific relevant product discussed up to a maximum of 3.

Max. of 2 marks for a clear sketch of the product (maximum of 3 different products)

Max. of 7 marks for single product example.

**Indicative Content:**

**Possible Bauhaus products:**

- responses may refer to specific product with explanations regarding the use of the machine aesthetic to embrace the qualities shown by the manufacturing processes.
- reference to 'form follows function' and the creation of timeless designs due to the removal of ornamentation from the minimalist style.
- responses may refer to simple materials, such as chrome-plated mild steel and leather to simplify the product reducing components used (specifically in chair design).

**Possible Post-modern products:**

- recognition of Post-modernist use of forms that challenge perceptions, such as Juici Salif.
- use of references to previous design movements, often with a quirky element to rebel against the functional modernism themes of Bauhaus etc.
- use of anthropomorphism to add a comic/recognisable element to consumer product, such as the Anna G corkscrew by Alessi.

**Note:** This indicative content is not exhaustive: other creditworthy responses should be awarded marks as appropriate.

**Total 14 marks**

|    |  |
|----|--|
| 05 | <p>Explain how designers and manufacturers can protect their designs from being copied.</p> <p>Use specific examples in your answer.</p> <p style="text-align: right;"><b>[8 marks]</b></p> <p><b>Indicative content:</b></p> <p>Marks should be awarded for reference to the following:</p> <ul style="list-style-type: none"> <li>• patents</li> <li>• registered designs</li> <li>• unregistered design rights</li> <li>• copyright</li> <li>• trademarks</li> <li>• understanding of time limitations of the protection</li> <li>• understanding of the benefits regarding monopoly/building a brand identity</li> <li>• understanding of limitations regarding patent licenses in UK, EU or global and financial implications of these.</li> <li>• appropriate example of different types of IPR e.g. patent as technological development, trademark for logos</li> <li>• appropriate example of legal case e.g. Apple vs Samsung <b>(max one example)</b></li> <li>• appropriate example of lapse of IPR. <b>(max one example)</b></li> </ul> <p>1 mark for further explanation of a point, specific examples may be seen as an explanation</p> <p>Any example must add clarity to answer (do not reward repetition or lists) e.g. two legal cases.</p> <p><b>Note:</b> This indicative content is not exhaustive: other creditworthy responses should be awarded mark as appropriate.</p> <p><b>Total 8 marks</b></p> |
|----|--|

|    |   |
|----|---|
| 06 | <p>Describe how legislation is used to protect consumers from purchasing potentially dangerous or faulty goods.</p> <p>Use specific examples in your answer.</p> <p style="text-align: right;"><b>[6 marks]</b></p> <p><b>Indicative content:</b></p> <p>1 mark for reference to each of the following:</p> <ul style="list-style-type: none"> <li>• No additional marks for drawing logos.</li> <li>• Reference to the British Standards institute may be made with specific BSI codes</li> <li>• General Product Safety Regulations 2005 "No producer shall [supply or] place a [consumer] product on the market unless the product is a safe product"</li> <li>• Specific reference to products such as Toys etc.</li> <li>• For toys: in the UK all must bear the CE mark</li> <li>• Identification of the toy and manufacturer must be on the toy or packaging</li> <li>• Trading Standards Institute and product recalls</li> <li>• Expect reference to current issues such as:             <ul style="list-style-type: none"> <li>○ Volkswagen emissions scandal</li> <li>○ Hotpoint tumble dryer recall.</li> </ul> </li> </ul> <p><b>Note:</b> This indicative content is not exhaustive: other creditworthy responses should be awarded marks as appropriate.</p> <p><b>Total 6 marks</b></p> |
|----|---|

**Question 3**

07

**Figures 4 and 5** show two different forms of detergent packaging.  
Compare the materials used for both products and justify their selection.

**[10 marks]**

**Marking guidance:**

1 mark for a correct material stated

1 mark for features applied during forming processes e.g thread, embossing etc.

Max 5 marks for each product.

Max 4 marks per product if material is incorrect.

**Indicative content:**

**Figure 4**

- Accept: HDPE, LDPE, PP, PET. (If an incorrect material is given in a list do not award)
- Chemically **resistant to washing detergents.**
- Available in granular form making it suitable for blow moulding.
- Commonly recycled due to SPI code 2 (mobius loop symbol).
- High level of rigidity preventing distortion of screw thread on bottle neck.
- High level of impact resistance.

**Figure 5**

- Accept: Lactel or other water soluble polymers e.g. Poly Vinyl Alcohol
- Water soluble allowing the detergent to be release in the wash cycle.
- Chemically resistant **so as not to degrade when holding washing liquid.**  
(if chemical resistance is referred to for both materials then credit twice only if the response shows awareness of why it is needed for each (highlighted in bold))
- Available in sheet form suitable for calendaring.
- Suitable for thermal welding when joining edges.
- Available in transparent allowing colour of detergent to show through, this is essential for flexibility in manufacture as no pigment is needed.

**Note:** This indicative content is not exhaustive: other creditworthy responses should be awarded marks as appropriate.

**Total 10 marks**

08

Discuss how electrical consumer goods have been designed in order to make them more energy efficient.

[12 marks]

| Level           | Marks | Description   |
|-----------------|-------|---|
| 4<br>(thorough) | 10-12 | The response clearly deals with how specific products have been designed to improve their use of energy.<br><br>All points are justified explaining each with regards to the environmental impact of the product. |
| 3<br>(detailed) | 7-9   | The response refers to how relevant products have been designed to improve their use of energy.<br><br>Most points are explained and related to the environmental impact.   |
| 2<br>(clear)    | 4-6   | The response refers to design modifications, but may focus on aspects other than reduction of energy use such as disposal/recycling.  |
| 1<br>(basic)    | 1-3   | A weak response which refers to one or two generic points with no depth of explanation.   |
|                 | 0     | Nothing worthy credit.  |

**Marking guidance:**

1 mark for making a relevant point, a further mark for explaining how it impacts on energy usage. Marks should be awarded for reference to electronic devices also e.g. iPhone battery length etc.

**Indicative content:**

Responses may refer to: use of smart materials, stand-by settings, introduction of LED lighting, thermal sensors to cut out power etc.

**Example (washing machines)**

- Increased cycle lengths to reduce energy use (better EU energy rating).
- Cold water supply only to use internal heater only reducing amount of water heated
- Use of lower temperature cycles.
- Microprocessor weighs washing prior to cycle to calculate cycle time accordingly
- Reduction in volume of water used during a cycle.
- Markings used to indicate maximum amount of detergent necessary so as to reduce impurities in waste water.
- Other predicted products: kettles, televisions, microwaves, dishwashers etc.

**Note:** This indicative content is not exhaustive: other creditworthy responses should be awarded marks as appropriate.

**Total 12 marks**

|    |   |
|----|---|
| 09 | <p>Discuss the environmental issues associated with the use of polymers in product manufacture. <b>[6 marks]</b></p> <p><b>Marking guidance:</b></p> <p>1 mark per point, with a second mark awarded for a relevant explanation/context</p> <p><b>Indicative content:</b></p> <ul style="list-style-type: none"><li>• reference to crude oil as a finite/ non-renewable resource</li><li>• environmental impact on non-degradable polymers used in packaging and landfill</li><li>• fumes generated during incineration</li><li>• littering and visual environmental impact.</li><li>• Inclusion of bio-batch assisting degradation</li><li>• other positive aspects of polymer use should also be accepted</li></ul> <p><b>Note:</b> This indicative content is not exhaustive: other creditworthy responses should be awarded marks as appropriate.</p> <p><b>Total 6 marks</b></p> |
|----|---|

**Question 4**

10

An electric hedge trimmer is shown in **Figures 6 to 8**.  
 Explain how the designer has tried to reduce the risk to a person using the hedge trimmer.

**[16 marks]**

| Level           | Marks | Description   |
|-----------------|-------|---|
| 4<br>(thorough) | 13-16 | A thorough coverage of all major safety features. All features identified are explained relating to risk reduction.                 |
| 3<br>(detailed) | 9-12  | A wide range of safety features are identified. Most features are explained well, referring to their impact on the risk to the user |
| 2<br>(clear)    | 5-8   | Relevant safety features with some explanation of how these may reduce risk to the user.  |
| 1<br>(basic)    | 1-4   | The response refers to some features with very little explanation.  |
|                 | 0     | Nothing worthy of credit.   |

**Indicative Content:**

1 mark for justified safety feature, or specific terminology

Award second mark for further justification

Do not award mark for simple identification of feature from image (e.g. there is a guard or the cable is red/orange)

Maximum 2 marks for reference to safety symbols/pictograms

- blade guard to protect front hand
- applied texture on finish to increase grip during use
- curved handle shaped for ergonomics so as to prevent strain during prolonged use
- cable exits body of trimmer at rear in direction away from blades to prevent entanglement
- dead man's handle requiring both triggers to be pressed when in use
- inclusion of a cartridge fuse to prevent power surge
- ABS thermoplastic casing to insulate electrical components
- high toughness of ABS to prevent casing from cracking if subject to an impact when dropped
- cable grip at rear of handle to prevent stretching of wiring
- casing fixed with recessed star screws to make disassembly difficult
- bright orange/red wire to stand out when trailing through hedge
- visible warning stickers indicating suitable PPE and the need to read instructions.

**Note:** This indicative content is not exhaustive: all other creditworthy responses should be awarded marks as appropriate.

**Total 16 marks**

11

Explain how manufacturers use modern manufacturing systems to adapt to changes in customer demand.

Use specific examples in your answer.

[12 marks]

| Level           | Marks | Description   |
|-----------------|-------|---|
| 4<br>(thorough) | 10-12 | The response covers a wide range of aspects with clear explanations. Links are made between manufacture and customer service. |
| 3<br>(detailed) | 7-9   | The response covers a range of aspects and explains these in detail. Links are made between manufacture and customer service. |
| 2<br>(clear)    | 4-6   | The response refers to either modern techniques or equipment  |
| 1<br>(basic)    | 1-3   | The response shows a basic understanding of the need to adapt to customer demand.   |
|                 | 0     | Nothing worthy of credit.   |

**Indicative content:**

- flexible manufacturing Systems
- use of CNC machinery to produce small production runs
- use of 3D printing for bespoke jewellery designs
- use of 3D scanners to capture data for machining
- use of modular designs where components can be interchanged to give vast numbers of variable designs
- use of Just In time/ lean production methods to prevent stock piling
- use of EPOS systems to track consumer habits and produce products to deal with this demand
- use of online augmentation apps to allow customers to 'build'/personalise their own product before purchase
- use of company database to track nationwide stock and deliver suitable products to specific stores
- use of standardised components ('form factor' in PC design) to allow for upgrades at a later date
- use of QR codes/RFID tags/NFC tags to track products on a moving assembly line and specify individual requirements for that product to the labour force
- mass customisation techniques, such as post production personalisation of products (laser engraving etc.).

**Note:** This indicative content is not exhaustive: other creditworthy responses should be awarded marks as appropriate.

**Total 12 marks**

**Question 5**

12 Explain in detail why concrete is suitable for use in the car park stairway shown in **Figure 9**.  
**[12 marks]**

| Level           | Marks | Description   |
|-----------------|-------|---|
| 4<br>(thorough) | 10-12 | A range of relevant points with detailed explanations specific to <b>both</b> reference points. |
| 3<br>(detailed) | 7-9   | Relevant points are made and explained with reference to at least one reference point.          |
| 2<br>(clear)    | 4-6   | The response shows an understanding of relevant material properties or manufacturing methods.   |
| 1<br>(basic)    | 1-3   | The response shows limited knowledge of concrete as a composite material.                       |
|                 | 0     | Nothing worthy of credit.   |

**Indicative content:**

- concrete is a very stable material that will not react with changes in environmental conditions
- concrete can be easily formed on site using shuttering meaning the stairs can be formed and not lifted into position
- concrete can be reinforced with high tensile steel ‘rebars’ to prevent cracking during use
- concrete can be polished to give a simple ‘utilitarian’ appearance suitable for a car park stairwell
- the chemical resistance of concrete means it is suitable for cleaning in case subjected to spillages of any kind.

**Note:** This indicative content is not exhaustive: other creditworthy responses should be awarded marks as appropriate.

**Total 12 marks**

13

Explain how a designer would make use of each of the following during the design process:

- focus groups
- flowcharts
- specification
- rapid prototyping.

**[4 x 4 marks]**

**Marking guidance:**

1 mark for recognition of the appropriate time within the design process for each stage.  
 1 mark for each explanation or description of why/how the bullet points are used.  
 Maximum 4 marks per bullet point.

**Indicative Content:**

**Focus Group**

- Used throughout the design process to gain opinions from the target market.
- Members may be shown existing products to analyse, concept drawings to feedback on, physical models of concepts to evaluate or the final product to evaluate.
- The designer may use feedback from focus groups to develop prototypes or even plan their marketing campaign.

**Flowcharts**

- Used to outline procedures during the manufacture process.
- Used as a decision making process to be followed by a range of individuals.
- Using standardised symbols for ease of recognition.
- Possibly used to monitor manufacture and application of QC checking procedures.
- Reward explanatory diagrams (examples of specific flowchart symbols)
- Reference to feedback loops etc.

**Specification**

- Used to outline the desirable and essential characteristics of a product as set by the client.
- Referred to throughout the design process to monitor concepts.
- Used during final evaluation to compare the final product against.
- Must be easily tested using quantitative data.

**Rapid Prototyping**

- Used to check physical sizes of final design before investing in mould equipment.
- Used to produce concepts for client to check compatibility with standardised components already used.

Give credit to technical details such as specific rapid prototyping techniques.

**Note:** This indicative content is not exhaustive: other creditworthy responses should be awarded marks as appropriate.

**Total 16 marks**

**Question 6**

- 14 The graph shows the main stages of a product life cycle.  
Explain each of the phases shown on the graph.

**[10 marks]**

Award 2 marks per stage, one mark may be awarded for correctly naming each the stage and a second for an explanation of the stage.

If candidates do not name the stage they can be awarded 2 marks for a detailed explanation of the stage.

**Indicative Content:****A (Stage 1):  
Introduction**

The product is introduced into the market place. The marketing strategy is key and product placement/target market identification is key to the success of the product. It is essential that any relevant patent is in place at this point while the reputation of the product is established.

**B (Stage 2):  
Growth**

The reputation of the product is increasing with IPR protection. Word of mouth assists with the marketing campaign to establish a rapid growth in sales.

**C (Stage 3):  
Maturity**

With its reputation secured the product enjoys high sales figures, however the design team need to remain vigilant as saturation, patent renewal dates or new product launches etc. could cause the product to lose its market position.

**D (Stage 4):  
Decline / removal**

Due to new products on the market etc. sales decrease and the product may be removed from the market/ reduced in price to maximise sales before removal.

**E (Stage 5):  
Product Extension / Product Churning**

If the design team is able to they will extend the product's life by introducing 'special editions' of the product, such as new colour schemes, software updates, product hardware add-ons to deal with technological updates from other companies.

**Note:** This indicative content is not exhaustive: other creditworthy responses should be awarded marks as appropriate.

|  |                       |
|--|-----------------------|
|  | <b>Total 10 marks</b> |
|--|-----------------------|

| 15              | <p>With reference to a specific product, explain how designers have developed the product to ensure continued retail success.</p> <p style="text-align: right;"><b>[18 marks]</b></p> <table border="1" style="width: 100%;"> <thead> <tr> <th style="width: 15%;">Level</th> <th style="width: 15%;">Marks</th> <th style="width: 70%;">Description</th> </tr> </thead> <tbody> <tr> <td>4<br/>(thorough)</td> <td>14-18</td> <td>Both aspects are covered thoroughly with detailed explanations related to a thoughtfully selected product.</td> </tr> <tr> <td>3<br/>(detailed)</td> <td>9-13</td> <td>Both aspects are covered with explanations related to a well selected product.</td> </tr> <tr> <td>2<br/>(clear)</td> <td>4-8</td> <td>At least one aspect is covered with several points explained referring to a specific product.</td> </tr> <tr> <td>1<br/>(basic)</td> <td>1-3</td> <td>The product selection is unspecific and the points made lack detail and explanation.</td> </tr> <tr> <td></td> <td>0</td> <td>Nothing worthy of credit.</td> </tr> </tbody> </table> <p><b>Indicative Content:</b></p> <ul style="list-style-type: none"> <li>• No mark for naming a product</li> </ul> <p><b>Developments in technology</b></p> <ul style="list-style-type: none"> <li>• Software updates.</li> <li>• Introduction of personalisation (laser etching).</li> <li>• Introduction of colour variants.</li> <li>• Upgrading of standardised internal components while maintaining external appearance.</li> <li>• Selling products with free gifts.</li> <li>• 3<sup>rd</sup> party accessories should be rewarded where appropriate to a positive development.</li> </ul> <p><b>Planned obsolescence</b></p> <ul style="list-style-type: none"> <li>• Concerns over increased life expectancy of electronic products means components such as batteries may be limited to encourage further purchases.</li> <li>• The inbuilt nature of modern phone batteries encourages new product purchases due to hassle with replacements.</li> <li>• Customers are tied into brands due to software e.g. iTunes. This encourages further purchases of the same brand rather than migrating to another brand.</li> <li>• Software updates are only available for a limited number of older product models to encourage further sales.</li> </ul> <p><b>Note:</b> This indicative content is not exhaustive: other creditworthy responses should be awarded marks as appropriate.</p> <p><b>Total 18 marks</b></p> | Level  | Marks | Description | 4<br>(thorough) | 14-18 | Both aspects are covered thoroughly with detailed explanations related to a thoughtfully selected product. | 3<br>(detailed) | 9-13 | Both aspects are covered with explanations related to a well selected product. | 2<br>(clear) | 4-8 | At least one aspect is covered with several points explained referring to a specific product. | 1<br>(basic) | 1-3 | The product selection is unspecific and the points made lack detail and explanation. |  | 0 | Nothing worthy of credit. |
|-----------------|--|--|-------|-------------|-----------------|-------|--|-----------------|------|--|--------------|-----|---|--------------|-----|--|--|---|---------------------------|
| Level           | Marks  | Description  |       |             |                 |       |  |                 |      |  |              |     |   |              |     |  |  |   |                           |
| 4<br>(thorough) | 14-18  | Both aspects are covered thoroughly with detailed explanations related to a thoughtfully selected product. |       |             |                 |       |  |                 |      |  |              |     |   |              |     |  |  |   |                           |
| 3<br>(detailed) | 9-13   | Both aspects are covered with explanations related to a well selected product.                             |       |             |                 |       |  |                 |      |  |              |     |   |              |     |  |  |   |                           |
| 2<br>(clear)    | 4-8  | At least one aspect is covered with several points explained referring to a specific product.              |       |             |                 |       |  |                 |      |  |              |     |   |              |     |  |  |   |                           |
| 1<br>(basic)    | 1-3  | The product selection is unspecific and the points made lack detail and explanation.                       |       |             |                 |       |  |                 |      |  |              |     |   |              |     |  |  |   |                           |
|                 | 0  | Nothing worthy of credit.  |       |             |                 |       |  |                 |      |  |              |     |   |              |     |  |  |   |                           |