

Mark Scheme Summer 2009

GCSE

GCSE Design and Technology: Graphic Products (1972/3972)

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Summer 2009

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1972 2F Mark Scheme

| Question Number | Answer | Mark |
|-----------------|---|------|
| Q01(a) | <p>Name: Safety rule/ruler / Cutting rule/ruler / Maun Rule/ruler <i>(do not award for ruler/rule alone)</i> Use: Guiding a scalpel/knife / measuring / drawing lines / protecting fingers</p> <p>Name: Cutting mat /board / safety mat /board <i>(do not award for mat/matt alone)</i> Use: Cutting on / protecting surfaces/knives / guiding blades</p> <p>Name: Scalpel (only answer) Use: Cutting / scoring</p> <p>Name: Camera Use: Taking pictures / photos / photographs / videos</p> <p>Name: CAMM 1 / plotter cutter / vinyl cutter / Roland cutter / plotter / Stika / Laminator Use: Cutting/scoring appropriate materials / printing / plotting / laminating / covering with plastic</p> <p style="text-align: right;">(10 x 1)</p> | (10) |
| Q01(b) | <p>1. Vacuum forming is a common <u>thermo-forming</u> process used in schools. (1)</p> <p>2. The process uses heat to soften sheets of plastics. The sheets of plastic are often made from <u>PVC</u>. (1)</p> <p>3. After the plastic has been shaped it often needs to be <u>trimmed</u>. (1)</p> <p style="text-align: right;">(3 x 1)</p> | (3) |
| Q01(c) | <p>1. The wood pine can be permanently joined together using <u>PVA</u> (1)</p> <p>2. <u>Tensol</u> is a glue that is produced especially to join acrylic. (1)</p> <p style="text-align: right;">(2 x 1)</p> | (2) |

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| Q01(d) | <p>Any three of the following examples</p> <ul style="list-style-type: none"> • CAD/printing designs (1) • CAM/CNC/ printing products (1) • Scanning/digitising (1) <p><i>(printing unqualified can only gain one mark, or two marks if both are qualified as above)</i></p> <ul style="list-style-type: none"> • stock control (1) • databases (1) • project management (1) • invoices (1) • manufacturing cells (1) • automatic storage/retrieval systems (1) • transport (1) • communication/email/internet. (1) <p style="text-align: right;">(3 x 1)</p> | (3) |
| Q01(e) | <p>Any two of the following examples</p> <ul style="list-style-type: none"> • less materials required (1) • less waste produced (1) • quicker production (1) • fit more nets on (1) <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q01(f)(i) | <p>Registration/register (1)</p> <p style="text-align: right;">(1 x 1)</p> | (1) |
| Q01(f)(ii) | <p>Not aligned. (1)</p> <p style="text-align: right;">(1 x 1)</p> | (1) |
| | Mark Total | 22 |

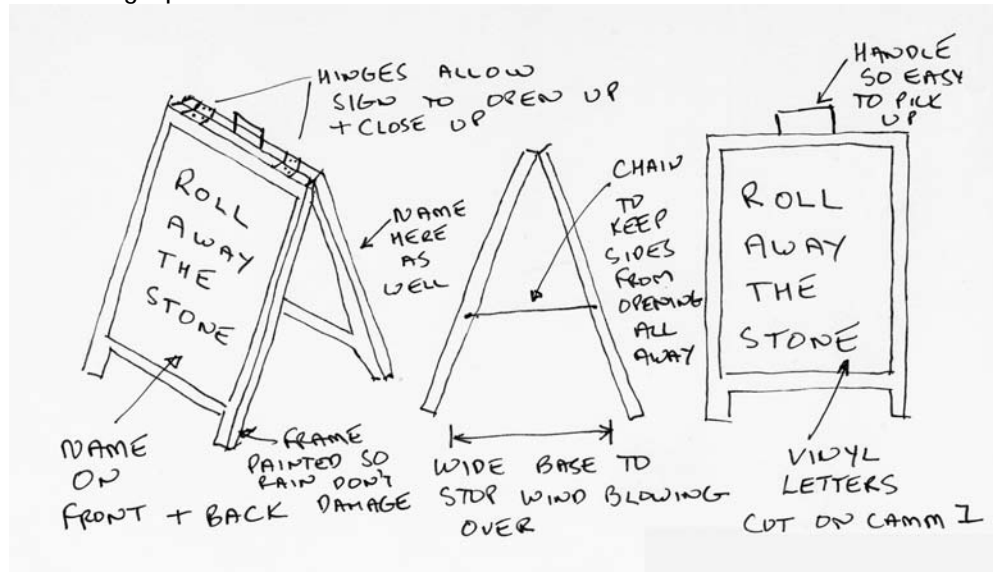
| Question Number | Answer | Mark |
|-----------------|--|------|
| Q02(a)(i) | <p>Any one of the following examples</p> <ul style="list-style-type: none"> • easy to cut / fold (1) • lower cost (1) • more commonly available (1) • better surface finish (1) • lightweight (1) <p style="text-align: right;">(1 x 1)</p> | (1) |
| Q02(a)(ii) | <p>Any one of the following examples</p> <ul style="list-style-type: none"> • more rigid (1) • more durable (1) • would give better movement (1) • stronger (1) <p style="text-align: right;">(1 x 1)</p> | (1) |
| Q02(b) | <p>Any two of the following examples Accept disadvantages of 2b</p> <ul style="list-style-type: none"> • Thinner lines / better quality lines (1) • fainter/ lighter lines (1) • easier/harder to erase (1) • stays sharp longer/needs sharpening less often (1) • more durable (1) <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q02(c)(i) | <ul style="list-style-type: none"> • More of the pencil is in contact with the paper. (1) This makes it quicker / smoother (1) • The colour will be more even/smooth (1). The makes the card look better/ more professional (1) <p style="text-align: right;">(2 x 1)</p> | (2) |

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| Q02(c)(ii) | <p>Any two of the following examples</p> <ul style="list-style-type: none"> • More colours available (1) • brighter/bolder colours/more noticeable (1) • quicker (1) • can be overlaid (1) • wider tip (1) • more permanent (1) • will not smudge (1) • more consistent colour (1) • no need to sharpen (1) • Looks more professional (1) <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q02(d) | <p>Any one of the following examples</p> <ul style="list-style-type: none"> • Compasses / compass (1) • Stencil (1) • template (1) • radius guide (1) • Protractor (1) • Pen / Pencil (1) <p style="text-align: right;">(1 x 1)</p> | (1) |
| Q02(e) | <p>To keep the ink where you want it / prevent ink going where it was not wanted / to define layers/shapes/graded colours (1)</p> <p style="text-align: right;">(1 x 1)</p> | (1) |
| Q02(f)(i) | <p>Any one of the following examples</p> <ul style="list-style-type: none"> • To make drawings accurate (1) • to snap to the grid (1) • to help align lines (1) • to judge sizes (1) • Acts as a guide (1) <p style="text-align: right;">(1 x 1)</p> | (1) |
| Q02(f)(ii) | <p>Any one of the following examples Answers must be related to the consumer</p> <ul style="list-style-type: none"> • More up to date content (1) • Availability (1) • Reduced retail prices (1) • Greater range of products (1) • Personalised / customised products possible (1) • Higher quality products (1) <p><i>Do not accept quicker / cheaper unqualified</i></p> <p style="text-align: right;">(2 x 1)</p> | (2) |

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| Q02(f)(iii) | <p>Any one of the following examples</p> <ul style="list-style-type: none"> • Loss of jobs (1) • Deskillling / changing of jobs (1) • Shift working to maximise investment in machinery. (1) • Reduction in rates of salaries. (1) • Requires training (1) <p style="text-align: right;">(1 x 1)</p> | (1) |
| Q02(g) | <p>Any one of the following examples</p> <ul style="list-style-type: none"> • The production of PVC produces toxic waste/ hydrochloric acid. This damages flora, fauna and objects. • PVC is made from oil. This consumes a finite resource. • Plastic does not degrade in landfill sites. The waste accumulates. • PVC does not get recycled because of economic/technical constraints <p><i>(Do not accept cannot be recycled)</i></p> <p style="text-align: right;">(1 x 2)</p> | (2) |
| Q02(h) | <p>Any three of the following examples</p> <p>Name of manufacturer</p> <ul style="list-style-type: none"> • They know it is from a manufacturer they are familiar with / has a good reputation / has high perceived status (1) • They know it is from a manufacturer they are unfamiliar with / has a poor reputation / has low perceived status (1) • They know who made the product (1) <p>Address of manufacturer</p> <ul style="list-style-type: none"> • Can contact the manufacturer. (1) • Can make informed choices related to the origin of the product. (1) <p>The age range the product is intended for</p> <ul style="list-style-type: none"> • Safety(1) • Satisfaction /Suitability (1) <p style="text-align: right;">(3 x 1)</p> | (3) |
| Q02(i) | <p>Colour</p> <p style="text-align: right;">(1 x 1)</p> | (1) |
| Q02(j) | <p>Any two of the following examples</p> <ul style="list-style-type: none"> • Consumption of raw materials. (1) • Consumption of energy (1) • Pollution (1) • Production of waste materials (1) <p style="text-align: right;">(2 x 1)</p> | (2) |
| Total Marks | | 22 |

| Question Number | Answer | Mark |
|-----------------|--|---|
| Q03(a) | <p>Each point of the specification has two marking points.</p> <p>1 mark should be awarded for evidence of each point of specification resolved in the design. For each specification point with both elements viably satisfied 2 marks. For each specification point with only one element viably satisfied 1 marks. Where an answer does not viably answer a specification point 0 marks. Candidates may answer any specification point in either graphical form or by annotation. No marks are awarded for quality of communication.</p> | |
| | <p>DESIGN IDEA 1</p> <p>Specification point 1:</p> <ul style="list-style-type: none"> • evidence to indicate one element of the design will make it easy to carry. <i>e.g. There is a handle</i> • evidence to indicate one element of the design will fold up. <i>e.g. There is a hinge</i> <p style="text-align: right;">(2 x 1)</p> <p>Specification point 2:</p> <ul style="list-style-type: none"> • evidence to indicate one element of the design will help prevent the design being blown over by the wind. <i>e.g. The design has a wide base</i> • evidence to indicate one element of the design will not be damaged by rain. <i>e.g. The written parts of the sign are laminated</i> <p style="text-align: right;">(2 x 1)</p> <p>Specification point 3:</p> <ul style="list-style-type: none"> • evidence to indicate that the name can be displayed. <i>e.g. A space for the name is indicated</i> • evidence to indicate that the name can be seen from both sides. <i>e.g. The name is displayed twice, once on each side.</i> <p style="text-align: right;">(2 x 1)</p> <p>Specification point 4:</p> <ul style="list-style-type: none"> • evidence to indicate that one material indicated is suitable for a school workshop. <i>e.g. The drawing is annotated to show one part is made from vinyl.</i> • evidence to indicate that one process indicated is suitable for a school workshop. <i>e.g. The drawing is annotated to show the vinyl is cut using a plotter.</i> <p style="text-align: right;">(2 x 1)</p> | <p style="text-align: right;">(2)</p> <p style="text-align: right;">(2)</p> <p style="text-align: right;">(2)</p> <p style="text-align: right;">(2)</p> |

Possible graphical solution:



DESIGN IDEA 2

To score a mark for Design Idea 2, each specification point must be resolved again in the second design idea but the second design idea must be **technically / conceptually different in design and construction** from the first and not a simple variation on a theme to score the mark.

Use exactly the same criteria as design idea 1 to mark design idea 2.

One different element of the design is indicated that will make it easy to carry

One different element of the design is indicated that will allow it to fold. (2 x 1)

One different element of the design is indicated that will help prevent the design being blown over by the wind.

One different element of the design is indicated that will not be damaged by rain.

(2 x 1)

Evidence to indicate that there is space to display the name.

Evidence to indicate that the name can be seen from both sides.

(2 x 1)

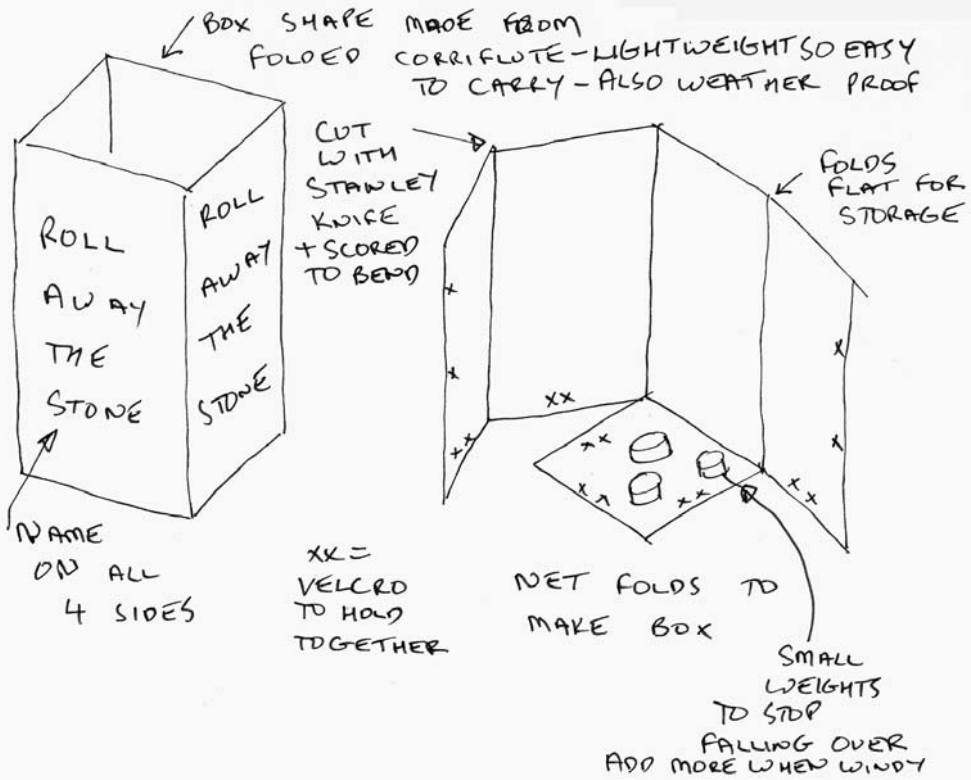
A different material indicated that is suitable for a school workshop.

A different process indicated that is suitable for a school workshop.

(2 x 1)

(8)

Possible graphical solution:



| | | |
|--------------------|---|-----------|
| Q03(b) | <p>Each point clearly evaluated.</p> <p>If a candidate has indicated design idea 1 and then evaluates design idea 2 for all or part of (i), (ii) & (iii) then the idea in greater evidence should be marked</p> <p>The evaluation of the design must contain reference to either positive or negative aspects not just simply a description of the design.</p> <p>Award 1 mark for a correct evaluation / justification relating to each design feature and how it succeeds or fails</p> <p>Repetition of original spec scores 0 marks.</p> | |
| Q03(b)(i) | <p>Evaluation of: Specification point 1</p> <p>Positive or negative reasons relating to:</p> <ul style="list-style-type: none"> • Being easy to carry. • Being capable of being folded. <p><i>E.g. the sign is made from lightweight materials and folds up simply by pushing the two sides together.</i></p> <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q03(b)(ii) | <p>Evaluation of: Specification point 2</p> <p>Positive or negative reasons relating to:</p> <ul style="list-style-type: none"> • Not falling over in the wind. • Not being damaged by rain. <p><i>E.g. The sign has a wide base which will make it stable. The frame is made form aluminium which does not rust.</i></p> <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q03(b)(iii) | <p>Evaluation of: Specification point 3</p> <p>Positive or negative reasons relating to:</p> <ul style="list-style-type: none"> • The clear display of the name. • The sign is visible from both sides. <p><i>E.g. The name is written in large letters and it is on the both sides of the stand.</i></p> <p style="text-align: right;">(2 x 1)</p> | (2) |
| Total Marks | | 22 |

| Question Number | Answer | Mark |
|-----------------|---|------|
| Q04(a)(i) | <p>Any one of the following examples</p> <p>Point: It should be safe (1) Reason: Legal and moral requirements (1)</p> <p>Point: It should look like the real building (1) Reason: To allow accurate opinions to be determined (1)</p> <p>Point: It should be possible to see inside (1) Reason: So users know how it will be laid out (1)</p> <p>Point: It should easy to move /transport/set up/turn lights on(1) Reason: User satisfaction (1)</p> <p>Point: The lights/model should be tamperproof (1) Reason: User satisfaction/ maintain appearance (1)</p> <p>Point: It should be easy to replace batteries (1) Reason: User satisfaction (1)</p> <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q04(a)(ii) | <p>Any one of the following examples</p> <p>Point: Minimum materials used (1) Reason: Resource conservation (1)</p> <p>Point: Made from recycled materials / Possible to be recycled /Made from biodegradable materials (1) Reason: Resource conservation / waste minimisation / Protection of the environment (1)</p> <p>Point: The manufacture / disposal of the model should not cause pollution (1) Reason: Protection of the environment (1)</p> <p>Point: used timber from managed forests (1) Reason: to control deforestation / maintain climate environment (1)</p> <p style="text-align: right;">(2 x 1)</p> | (2) |

| | | |
|-------------|---|-----|
| Q04(a)(iii) | <p>Any one of the following examples</p> <p>Point: The materials the model is made from should look realistic/attractive (1) Reason: Accuracy of representation / appearance (1)</p> <p>Point: The model should comply with relevant legal standards e.g. be tested by BSI/ISO, display a Kitemark (1) Reason: Moral and legal obligation (1)</p> <p>Point: The parts of the model well made e.g. no gaps in joints/no scratches on cover/no excess glue on cover (1) Reason: To ensure they meet specifications / have a good appearance (1)</p> <p>Point: smooth edges (1) Reason: so no injury is caused to the user (1)</p> <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q04(b) | <p>Any two of the following examples</p> <ul style="list-style-type: none"> • Does not warp/is stable (1) • Available in large sheets (1) • Smooth surface texture (1) • Receptive of various finishing techniques (1) • Free from wood grain (1) • It is durable (1) • Available in different/appropriate size/thickness (1) • Available (1) • Strong / rigid (1) • Flat (1) • Easy to cut / shape / join (1) <p><i>(Do not accept sturdy)</i></p> <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q04(c) | <p>Any two of the following examples</p> <ul style="list-style-type: none"> • Low set up costs (1) • Cost effective (1) • Low unit costs (1) • Accurate printing (1) • High speed process (1) • Full colour process (1) • Commonly available (1) • Medium to long print runs possible (1) <p><i>(do not accept quicker, cheaper, easier unqualified.)</i></p> <p style="text-align: right;">(2 x 1)</p> | (2) |

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|--------|--|-----|
| Q04(d) | <p>Any two of the following examples</p> <p>Property: It has a smooth surface finish (1) Reason: This allows colour / paper to be applied to it / looks attractive (1)</p> <p>Property: It is rigid (1) Reason: This allows the structure to the building to be formed (1)</p> <p>Property: It has solid edges (1) Reason: This means less finishing is required / better appearance (1)</p> <p>Property: It is easy to cut (1) Reason: This makes the model quicker to manufacture / better quality/ cheaper to manufacture (1)</p> <p>Property: It is easy to join (1) Reason: This makes the model quicker to manufacture / better quality/ cheaper to manufacture (1)</p> <p>Property: It is lightweight (1) Reason: This makes transport easier /cheaper/ reduces demands on other parts (1)</p> <p>Property: It is cost effective (1) Reason: Commercial viability (1)</p> <p>Property: Stable (1) Reason: Will maintain shape (1)</p> <p><i>(do not accept cheaper alone)</i></p> <p style="text-align: right;">(2 x 1) (2 x 1)</p> | (4) |
| Q04(e) | <p>Any two of the following examples</p> <ul style="list-style-type: none"> • The acrylic does not have scratches (1) • The cover fits the base (1) • The acrylic is not discoloured (1) • The glue has not damaged the surface of the acrylic (1) • The glue is securely holding the sheets together (1) • Size (1) • Finish of edges (1) • Cleanness (1) • Assembled accurately (1) <p style="text-align: right;">(2 x 1)</p> | (2) |

| | | |
|------------|---|-----|
| Q04(f) | <p>Any one of the following examples</p> <ul style="list-style-type: none"> • The roof has sloping sides/ rounded edges / does not have undercuts. This means the moulded product can be removed from the mould. • The roof is hollow. This means a simple/one piece mould can be used/ thermoplastic sheet can be used. • The shape is shallow. This means there will be sufficient material to form it / will not thin at the top. • The shape will tessellate. This allows several to be produced from the same sheet. <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q04(g)(i) | <ul style="list-style-type: none"> • The model includes a scale model of a person. This allows the viewer to compare the size of the building to an object they are familiar with. • The model of the person is roughly 20 %/ (1/5th) of the height of the building. This can be extrapolated to a real height of 10m (5 times 2m) <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q04(g)(ii) | <p>Any one of the following examples</p> <ul style="list-style-type: none"> • The model has a clear acrylic cover. This will prevent viewers damaging the model. • The materials the model is made from are stable / strong / rigid. This will prevent the model collapsing. • The model has battery powered lights which are more durable than mains powered ones. <p style="text-align: right;">(2 x 1)</p> | (2) |
| | Mark Total | 22 |
| | Total For Paper | 88 |

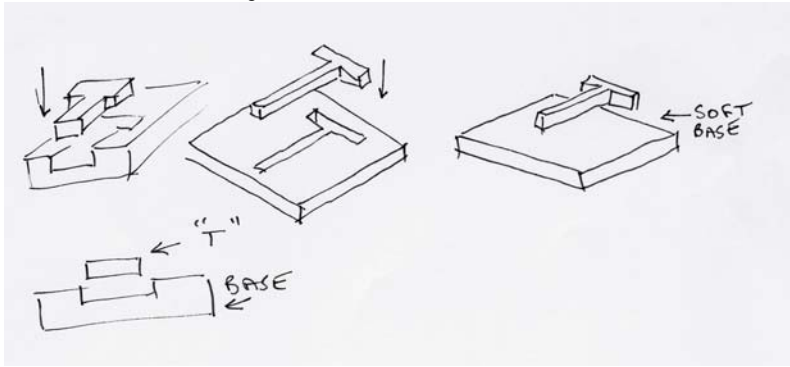
1972 2H Mark Scheme

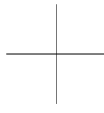
| Question Number | Answer | Mark |
|-----------------|---|------|
| Q01(a)(i) | <p>Any one of the following examples</p> <p>Point: It should be safe (1) Reason: Legal and moral requirements (1)</p> <p>Point: It should look like the real building (1) Reason: To allow accurate opinions to be determined (1)</p> <p>Point: It should be possible to see inside (1) Reason: So users know how it will be laid out (1)</p> <p>Point: It should easy to move /transport/set up/turn lights on(1) Reason: User satisfaction (1)</p> <p>Point: The lights/model should be tamperproof (1) Reason: User satisfaction/ maintain appearance (1)</p> <p>Point: It should be easy to replace batteries (1) Reason: User satisfaction (1)</p> <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q01(a)(ii) | <p>Any one of the following examples</p> <p>Point: Minimum materials used (1) Reason: Resource conservation (1)</p> <p>Point: Made from recycled materials / Possible to be recycled /Made from biodegradable materials (1) Reason: Resource conservation / waste minimisation / Protection of the environment (1)</p> <p>Point: The manufacture / disposal of the model should not cause pollution (1) Reason: Protection of the environment (1)</p> <p>Point: used timber from managed forests (1) Reason: to control deforestation / maintain climate environment (1)</p> <p style="text-align: right;">(2 x 1)</p> | (2) |

| | | |
|-------------|---|-----|
| Q01(a)(iii) | <p>Any one of the following examples</p> <p>Point: The materials the model is made from should look realistic/attractive (1) Reason: Accuracy of representation / appearance (1)</p> <p>Point: The model should comply with relevant legal standards e.g. be tested by BSI/ISO, display a Kitemark (1) Reason: Moral and legal obligation (1)</p> <p>Point: The parts of the model well made e.g. no gaps in joints/no scratches on cover/no excess glue on cover (1) Reason: To ensure they meet specifications / have a good appearance (1)</p> <p>Point: smooth edges (1) Reason: so no injury is caused to the user (1)</p> <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q01(b) | <p>Any two of the following examples</p> <ul style="list-style-type: none"> • Does not warp/is stable (1) • Available in large sheets (1) • Smooth surface texture (1) • Receptive of various finishing techniques (1) • Free from wood grain (1) • It is durable (1) • Available in different/appropriate size/thickness (1) • Available (1) • Strong / rigid (1) • Flat (1) • Easy to cut / shape / join (1) <p><i>(Do not accept sturdy)</i></p> <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q01(c) | <p>Any two of the following examples</p> <ul style="list-style-type: none"> • Low set up costs (1) • Cost effective (1) • Low unit costs (1) • Accurate printing (1) • High speed process (1) • Full colour process (1) • Commonly available (1) • Medium to long print runs possible (1) <p><i>(do not accept quicker, cheaper, easier unqualified.)</i></p> <p style="text-align: right;">(2 x 1)</p> | (2) |

| | | |
|---------------|--|--|
| <p>Q01(d)</p> | <p>Any two of the following examples</p> <p>Property: It has a smooth surface finish (1) Reason: This allows colour / paper to be applied to it / looks attractive (1)</p> <p>Property: It is rigid (1) Reason: This allows the structure to the building to be formed (1)</p> <p>Property: It has solid edges (1) Reason: This means less finishing is required / better appearance (1)</p> <p>Property: It is easy to cut (1) Reason: This makes the model quicker to manufacture / better quality/ cheaper to manufacture (1)</p> <p>Property: It is easy to join (1) Reason: This makes the model quicker to manufacture / better quality/ cheaper to manufacture (1)</p> <p>Property: It is lightweight (1) Reason: This makes transport easier /cheaper/ reduces demands on other parts (1)</p> <p>Property: It is cost effective (1) Reason: Commercial viability (1)</p> <p>Property: Stable (1) Reason: Will maintain shape (1)</p> <p><i>(do not accept cheaper alone)</i></p> <p style="text-align: right;">(2 x 1) (2 x 1)</p> | <p style="text-align: center;">(4)</p> |
| <p>Q01(e)</p> | <p>Any two of the following examples</p> <ul style="list-style-type: none"> • The acrylic does not have scratches (1) • The cover fits the base (1) • The acrylic is not discoloured (1) • The glue has not damaged the surface of the acrylic (1) • The glue is securely holding the sheets together (1) • Size (1) • Finish of edges (1) • Cleanness (1) • Assembled accurately (1) <p style="text-align: right;">(2 x 1)</p> | <p style="text-align: center;">(2)</p> |

| | | |
|-------------------|---|-----------|
| Q01(f) | <p>Any one of the following examples</p> <ul style="list-style-type: none"> • The roof has sloping sides/ rounded edges / does not have undercuts. This means the moulded product can be removed from the mould. • The roof is hollow. This means a simple/one piece mould can be used/ thermoplastic sheet can be used. • The shape is shallow. This means there will be sufficient material to form it / will not thin at the top. • The shape will tessellate. This allows several to be produced from the same sheet. <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q01(g)(i) | <ul style="list-style-type: none"> • The model includes a scale model of a person. This allows the viewer to compare the size of the building to an object they are familiar with. • The model of the person is roughly 20 %/ (1/5th) of the height of the building. This can be extrapolated to a real height of 10m (5 times 2m) <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q01(g)(ii) | <p>Any one of the following examples</p> <ul style="list-style-type: none"> • The model has a clear acrylic cover. This will prevent viewers damaging the model. • The materials the model is made from are stable / strong / rigid. This will prevent the model collapsing. • The model has battery powered lights which are more durable than mains powered ones. <p style="text-align: right;">(2 x 1)</p> | (2) |
| Mark Total | | 22 |

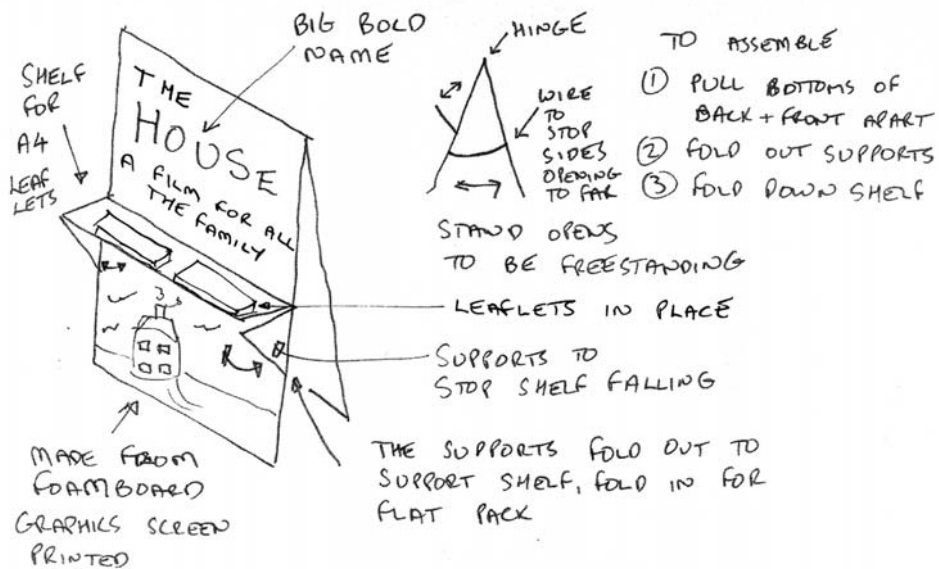
| Question Number | Answer | Mark |
|-----------------|--|------|
| Q02(a)(i) | Embossing (1) (1 x 1) | (1) |
| Q02(a)(ii) | <p>Award 1 mark for the male raised section and 1 mark for a female recessed / soft space.</p> <p>Examples of four different style of answers</p>  <p>(2 x 1)</p> | (2) |
| Q02(b) | <p>Any two of the following examples</p> <ul style="list-style-type: none"> • Higher quality (1) • more dense/bright/intense colours (1) • higher resolutions (1) • longer lasting plate / longer print runs (1) <p>(2 x 1)</p> | (2) |
| Q02(c)(i) | Die cutting (1) (1 x 1) | (1) |
| Q02(c)(ii) | Varnishing / laminating (1) (1 x 1) | (1) |
| Q02(d) | <p>Any two of the following examples</p> <ul style="list-style-type: none"> • Less expensive (1) because no film used / because of the need not to buy images (1) • Quicker (1) because no film processing (1) • Editing (1) is possible because of digital format /on a computer(1) • Electronic distribution(1) is possible because of digital format (1) • Quality assurance (1) is possible because of preview. (1) • Digital storage (1) will reduce physical space/allows searches/backup(1) • Unique images are possible (1) because they can be infinite subject matter/ ease of acquisition (1) • Store / process / edit pictures on the camera (1)which reduces demand for other equipment. (1) • More pictures can be taken (1) so that a bigger choice is available (1) • It may be cheaper (1)as you don't have to purchase the image (1). <p>(2 x 1) (2 x 1)</p> | (4) |

| | | | |
|------------|--|---------|-----|
| Q02(e)(i) | Densitometer (1) | (1 x 1) | (1) |
| Q02(e)(ii) | An indication of some mark (essentially a cross) that could be used to align the colour separations. e.g.  | (1 x 1) | (1) |
| Q02(f) | Barcode (1) | (1 x 1) | (1) |
| Q02(g)(i) | Any two of the following examples <ul style="list-style-type: none"> • Quick (1) • Receiver does not need to be present (1) • No postage cost (1) (<i>do not accept cheaper unqualified</i>) • Attachments are possible (1) • Multiple mailings possible (1) • De-personalises communication (1) • Does not rely on postage / face to face visits (1) • Reduces risk of physical damage (1) • Does not need/use paper (1) | (2 x 1) | (2) |
| Q02(g)(ii) | Any two of the following examples <ul style="list-style-type: none"> • Security compromised (1) • Virus attacks (1) • Infrastructure costs (1) • Connection cost (1) • information overload (1) • inappropriate information (1) • false information (1) • over use of some information (1) • perceived lack of status of internet information (1) • Encourages plagiarism (1) | (2 x 1) | (2) |
| Q02(h) | Any two of the following examples <ul style="list-style-type: none"> • waste is minimised (1) • amount of materials required are reduced (1) • cost reduction / cost effective (1) • production time is reduced (1) | (2 x 1) | (2) |

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|--------|---|-----|
| Q02(i) | <p>Any one of the following examples</p> <ul style="list-style-type: none"> • products can be produced quickly because the system is efficient • high quality products are made because of CAD/CAM and automatic measurements • costs are reduced because there is less labour/less waste • production lines can be adapted quickly for flexible manufacturing system/FMS • just-in-time/JIT production is possible therefore reducing costs/storage space • 24/7 production therefore faster turnaround <p style="text-align: right;">(2 x 1)</p> | (2) |
| | Mark Total | 22 |

| Question Number | Answer | Mark |
|-----------------|---|---|
| Q03(a) | <p>Each point of the specification has two marking points.</p> <p>1 mark should be awarded for evidence of each point of specification resolved in the design. For each specification point with both elements viably satisfied 2 marks. For each specification point with only one element viably satisfied 1 marks. Where an answer does not viably answer a specification point 0 marks. Candidates may answer any specification point in either graphical form or by annotation. No marks are awarded for quality of communication.</p> | |
| | <p>DESIGN IDEA 1</p> <p>Specification point 1:</p> <ul style="list-style-type: none"> • evidence to indicate the design is capable of standing unaided <i>e.g. it is supported on two sides</i> • evidence to indicate the is a space to hold A4 advertisements <i>e.g. There is a shelf</i> <p style="text-align: right;">(2 x 1)</p> <p>Specification point 2:</p> <ul style="list-style-type: none"> • evidence to indicate that an element of the display will flat pack <i>e.g. The display unfolds to be used.</i> • evidence to indicate how the stand is assembled without the use of tools. <i>e.g. Instructions are given how to form the stand</i> <p style="text-align: right;">(2 x 1)</p> <p>Specification point 3:</p> <ul style="list-style-type: none"> • evidence to indicate that the name "The House" can be displayed. <i>e.g. A space for the name is indicated</i> • evidence to indicate that slogan "a film for all the family" can be displayed. <i>e.g. The slogan is written on the display.</i> <p style="text-align: right;">(2 x 1)</p> <p>Specification point 4:</p> <ul style="list-style-type: none"> • evidence to indicate that one material indicated is suitable for a batch production. <i>e.g. The drawing is annotated to show one part is made from foamboard.</i> • evidence to indicate that one process indicated is suitable for a batch production <i>e.g. The drawing is annotated to show the name is screen printed.</i> <p style="text-align: right;">(2 x 1)</p> | <p style="text-align: right;">(2)</p> <p style="text-align: right;">(2)</p> <p style="text-align: right;">(2)</p> <p style="text-align: right;">(2)</p> |

Possible graphical solution:



DESIGN IDEA 2

To score a mark for Design Idea 2, each specification point must be resolved again in the second design idea but the second design idea must be **technically / conceptually different in design and construction** from the first and not a simple variation on a theme to score the mark.

Use exactly the same criteria as design idea 1 to mark design idea 2.

The display has a different form to idea 1.

The advertisements are held by a different method.

(2 x 1)

The display is flat packed by a different method.

The display is assembled by a different method.

(2 x 1)

Evidence to indicate that the name "The House" can be displayed.

Evidence to indicate that slogan "a film for all the family" can be displayed.

(2 x 1)

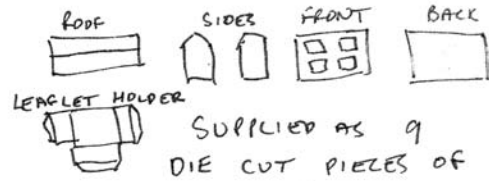
A different material indicated that is suitable for batch production.

A different process indicated that is suitable for batch production.

(2 x 1)

(8)

Possible graphical solution:



SUPPLIED AS 9
DIE CUT PIECES OF
THICK CARD
EACH BIT JOINS WITH
VELCRO TO ADJOINING
SECTION

← CUBOID HOUSE SHARE ∴
STABLE

4 WINDOWS TO
HOLD 4 SET OF
A4

EACH WINDOW IS 300mm TALL
250mm WIDE
50mm DEEP
A SMALL LIP WILL STOP
THEM FALLING OUT

| | | |
|--------------------|---|-----------|
| Q03(b) | <p>Each point clearly evaluated.</p> <p>If a candidate has indicated design idea 1 and then evaluates design idea 2 for all or part of (i), (ii) & (iii) then the idea in greater evidence should be marked</p> <p>The evaluation of the design must contain reference to either positive or negative aspects not just simply a description of the design.</p> <p>Award 1 mark for a correct evaluation / justification relating to each design feature and how it succeeds or fails</p> <p>Repetition of original spec scores 0 marks.</p> | |
| Q03(b)(i) | <p>Evaluation of: Specification point 1</p> <p>Positive or negative reasons relating to:</p> <ul style="list-style-type: none"> • Being freestanding. • Being capable of holding A4 leaflets. <p><i>E.g. The stand has a wide base so it won't fall over. The shelf allows lots of A4 leaflets to be displayed</i></p> <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q03(b)(ii) | <p>Evaluation of: Specification point 2</p> <p>Positive or negative reasons relating to:</p> <ul style="list-style-type: none"> • Being supplied as a flat pack. • being able to be assembled without tools. <p><i>E.g. The stand folds flat so it will not take up much space, to assemble it you only have to unfold it.</i></p> <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q03(b)(iii) | <p>Evaluation of: Specification point 3</p> <p>Positive or negative reasons relating to:</p> <ul style="list-style-type: none"> • The display of the name. • The display of the slogan. <p><i>E.g. The name is written in large letters. The slogan uses an easy to read font.</i></p> <p style="text-align: right;">(2 x 1)</p> | (2) |
| Total Marks | | 22 |

| Question Number | Answer | Mark |
|-----------------|--|------|
| Q04(a) | <p>Any one of the following examples <i>(Must relate to surface finish)</i></p> <ul style="list-style-type: none"> • It will be easy to wipe clean therefore keeping it hygienic / nice looking • The stand may get dirty therefore the smooth finish makes it easy to clean. • The stand will feel nice therefore more pleasing to use/ safer <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q04(b)(i) | <p>Any three of the following examples</p> <ul style="list-style-type: none"> • Transparent (1) • Inert / does not corrode (1) • Non- toxic (1) • Non- taint (1) • Can be sterilised by heat (1) • Aesthetically pleasing feel / appearance (1) • Smooth surface finish (1) • Barrier to ingress/egress (1) • Rigid (1) • Strong (1) • Can be printed on (1) <p style="text-align: right;">(3 x 1)</p> | (3) |
| Q04(b)(ii) | <p>Any three of the following examples <i>(these must be different from that given in {part i})</i></p> <ul style="list-style-type: none"> • Inert (1) • Non- toxic (1) • Non- taint (1) • Lightweight (1) • Malleable / can be drawn/pressed / Flexible (1) • Does not rust (1) • Barrier to ingress/egress (1) • Tough / durable (1) • Can be printed on (1) • Aesthetically pleasing feel / appearance / shiny(1) • Rigid (1) • Opaque (1) <p style="text-align: right;">(3 x 1)</p> | (3) |

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| Q04(c) | <p>Any three of the following examples</p> <ul style="list-style-type: none"> • Better appearance (1) • Possibly safer to work (1) • Easier to shape (1) • Less finishing required (1) • Natural product (1) <p style="text-align: right;">(3 x 1)</p> | (3) |
| Q04(d) | <p>Any two of the following examples</p> <ul style="list-style-type: none"> • Less waste produced / less landfill (1) • Fewer raw materials consumed (1) • Less pollution caused by manufacturing (1) • Less energy consumed (1) • No need to recycle (1) <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q04(e)(i) | <p>Any one of the following examples</p> <ul style="list-style-type: none"> • Allergic reactions can be avoided (1) • dietary planning (1) • personal choice (1) <p style="text-align: right;">(1 x 1)</p> | (1) |
| Q04(e)(ii) | <p>Any one of the following examples</p> <ul style="list-style-type: none"> • Political choice (1) • selection of products that travel least distance (1) • perceived status of origin (1) • personal choice (1) • choice of lowest CO2 footprint (1) <p style="text-align: right;">(1 x 1)</p> | (1) |
| Q04(e)(iii) | <p>Any one of the following examples</p> <ul style="list-style-type: none"> • dietary planning (1) • economic planning (1) • product comparisons. (1) • logistics / transport (1) <p style="text-align: right;">(1 x 1)</p> | (1) |
| Q04(f) | <p>The colour will change/storage conditions shown with temperature therefore indicating to the consumer risks / benefits associated with a change of temperature. e.g. the label will go red if it got too hot therefore gone off.</p> <p style="text-align: right;">(2 x 1)</p> | (2) |

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| Q04(g)(i) | <p>Any one of the following examples</p> <ul style="list-style-type: none"> • This reduces the cost of manufacturing the product therefore the cost to the consumer can reduce. • Products can be produced/ designed / amended quicker therefore increasing the range of products available / making products more up to date. • Employees of the company will be more highly paid because they will become more skilful. • Accuracy will be more consistent/improved therefore improving quality of products/reducing waste. • Less materials wasted therefore reducing pollution/landfill <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q04(g)(ii) | <p>Any one of the following examples</p> <ul style="list-style-type: none"> • The number of staff employed can be reduced because of higher staff productivity. • Unemployment will increase because fewer workers will be required. • Job satisfaction will decrease because CAD/CAM can deskill the workforce. <p style="text-align: right;">(2 x 1)</p> | (2) |
| | Total Marks | 22 |
| | Total for paper | 88 |

3972 2F Mark Scheme

| Question Number | Answer | Mark |
|-----------------|---|------|
| Q01(a) | <p>Name: Safety rule/ruler / Cutting rule/ruler / Maun Rule/ruler (do not award for ruler/rule alone) Use: Guiding a scalpel/knife / measuring / drawing lines / protecting fingers</p> <p>Name: Cutting mat /board / safety mat /board (do not award for mat/matt alone) Use: Cutting on / protecting surfaces/knives / guiding blades</p> <p>Name: Scalpel (only answer) Use: Cutting / scoring</p> <p style="text-align: right;">(6 x 1)</p> | (6) |
| Q01(b) | <p>Vacuum forming is a common <u>thermo-forming</u> process used in schools. (1)</p> <p>The process uses heat to soften sheets of plastics. The sheets of plastic are often made from <u>PVC</u>. (1) After the plastic has been shaped it often needs to be <u>trimmed</u>. (1)</p> <p style="text-align: right;">(3 x 1)</p> | (3) |
| Q01(c) | <p>The wood pine can be permanently joined together using <u>PVA</u> (1) <u>Tensol</u> is a glue that is produced especially to join acrylic. (1)</p> <p style="text-align: right;">(2 x 1)</p> | (2) |
| Mark Total | | 11 |

| Question Number | Answer | Mark |
|-----------------|---|------|
| Q02(a)(i) | <p>Any one of the following examples</p> <ul style="list-style-type: none"> • easy to cut / fold (1) • lower cost (1) • more commonly available (1) • better surface finish (1) <p style="text-align: right;">(1 x 1)</p> | (1) |
| Q02(a)(ii) | <p>Any one of the following examples</p> <ul style="list-style-type: none"> • more rigid (1) • more durable (1) • would give better movement (1) <p style="text-align: right;">(1 x 1)</p> | (1) |
| Q02(b) | <p>Any two of the following examples</p> <ul style="list-style-type: none"> • Thinner lines / better quality lines (1) • fainter lines (1) • easier to erase (1) • stays sharp longer/needs sharpening less often (1) <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q02(c)(i) | <p>More of the pencil is in contact with the paper. (1) This makes it quicker / smoother (1)</p> <p style="text-align: right;">(2 x 1)</p> | (2) |

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| Q02(c)(ii) | <p>Any two of the following examples</p> <ul style="list-style-type: none"> • More colours available (1) • brighter/bolder colours (1) • quicker (1) • can be overlaid (1) • wider tip (1) • more permanent (1) • will not smudge (1) • more consistent colour (1) • No need to sharpen (1) | (2 x 1) | (2) |
| Q02(d) | <p>Any one of the following examples</p> <ul style="list-style-type: none"> • Compasses / compass (1) • Stencil (1) • template (1) • radius guide (1) | (1 x 1) | (1) |
| Q02(e) | <p>It would prevent ink going where it was not wanted (1)</p> | (1 x 1) | (1) |
| Q02(f) | <p>Any one of the following examples</p> <ul style="list-style-type: none"> • To make drawings accurate (1) • to snap to the grid (1) • to help align lines (1) • to judge sizes (1) | (1 x 1) | (1) |
| Total Marks | | | 11 |

| Question Number | Answer | Mark |
|-----------------|---|------|
| Q03(a)(i) | <p>Any one of the following examples</p> <p>Point: It should be safe (1) Reason: Legal and moral requirements (1)</p> <p>Point: It should look like the real building (1) Reason: To allow accurate opinions to be determined (1)</p> <p>Point: It should be possible to see inside (1) Reason: So users know how it will be laid out (1)</p> <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q03(a)(ii) | <p>Any one of the following examples</p> <p>Point: Minimum materials used (1) Reason: Resource conservation (1)</p> <p>Point: Made from recycled materials / Possible to be recycled /Made from biodegradable materials (1) Reason: Resource conservation / waste minimisation (1)</p> <p>Point: The manufacture / disposal of the model should not cause pollution (1) Reason: Protection of the environment (1)</p> <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q03(a)(iii) | <p>Any one of the following examples</p> <p>Point: The materials the model is made from should look realistic (1) Reason: Accuracy of representation / appearance (1)</p> <p>Point: The model should comply with relevant legal standards e.g. be tested by BSI/ISO, display a Kitemark (1) Reason: Moral and legal obligation (1)</p> <p>Point: The parts of the model should be tested. e.g. no gaps in joints/no scratches on cover/no excess glue on cover (1) Reason: To ensure they meet specifications (1)</p> <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q03(b) | <p>Any two of the following examples</p> <ul style="list-style-type: none"> • Does not warp/is stable (1) • Available in large sheets (1) • Smooth surface texture (1) • Receptive of various finishing techniques (1) • Free from wood grain (1) <p style="text-align: right;">(2 x 1)</p> | (2) |

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|--------|---|-----|
| Q03(c) | <p>Any two of the following examples</p> <ul style="list-style-type: none"> • Low set up costs (1) • Low unit costs (1) • Accurate printing (1) • High speed process (1) • Full colour process (1) • Commonly available (1) • Long print runs possible (1) <p><i>(do not accept quicker, cheaper, easier unqualified.)</i></p> <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q03(d) | <p>Any two of the following examples</p> <p>Property: It has a smooth surface finish (1) Reason: This allows colour / paper to be applied to it / looks attractive (1)</p> <p>Property: It is rigid (1) Reason: This allows the structure to the building to be formed (1)</p> <p>Property: It has solid edges (1) Reason: This means less finishing is required / better appearance (1)</p> <p>Property: It is easy to cut/join (1) Reason: This makes the model quicker to manufacture / better quality/ cheaper to manufacture (1) <i>(do not accept cheaper alone)</i></p> <p style="text-align: right;">(2 x 1) (2 x 1)</p> | (4) |
| Q03(e) | <p>Any two of the following examples</p> <ul style="list-style-type: none"> • The acrylic does not have scratches (1) • The cover fits the base (1) • The acrylic is not discoloured (1) • The glue has not damaged the surface of the acrylic (1) • The glue is securely holding the sheets together (1) <p style="text-align: right;">(2 x 1)</p> | (2) |

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| Q03(f) | <p>Any one of the following examples</p> <ul style="list-style-type: none"> • The roof has sloping sides/ does not have undercuts. This means the moulded product can be removed from the mould. • The roof is hollow. This means a simple / one piece mould can be used/ thermoplastic sheet can be used. • The shape is shallow. This means there will be sufficient material to form it / will not thin at the top. <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q03(g)(i) | <ul style="list-style-type: none"> • The model includes a scale model of a person. This allows the viewer to compare the size of the building to an object they are familiar with. • The model of the person is roughly 20 %/ (1/5th) of the height of the building. This can be extrapolated to a real height of 10m (5 times 2m) <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q03(g)(ii) | <p>Any one of the following examples</p> <ul style="list-style-type: none"> • The model has a clear acrylic cover. This will prevent viewers damaging the model. • The materials the model is made from are stable. This will prevent the model collapsing. <p style="text-align: right;">(2 x 1)</p> | (2) |
| | Total Marks | 22 |
| | Total for paper | 44 |

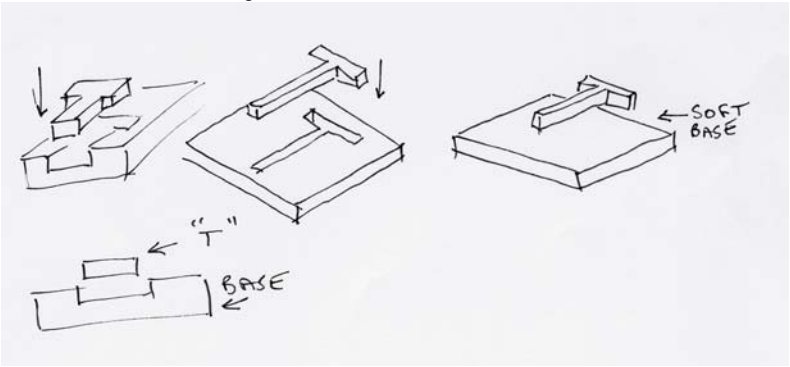
3972 2H Mark Scheme

| Question Number | Answer | Mark |
|-----------------|---|------|
| Q01(a)(i) | <p>Any one of the following examples</p> <p>Point: It should be safe (1) Reason: Legal and moral requirements (1)</p> <p>Point: It should look like the real building (1) Reason: To allow accurate opinions to be determined (1)</p> <p>Point: It should be possible to see inside (1) Reason: So users know how it will be laid out (1)</p> <p>Point: It should easy to move /transport/set up/turn lights on(1) Reason: User satisfaction (1)</p> <p>Point: The lights/model should be tamperproof (1) Reason: User satisfaction/ maintain appearance (1)</p> <p>Point: It should be easy to replace batteries (1) Reason: User satisfaction (1)</p> <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q01(a)(ii) | <p>Any one of the following examples</p> <p>Point: Minimum materials used (1) Reason: Resource conservation (1)</p> <p>Point: Made from recycled materials / Possible to be recycled /Made from biodegradable materials (1) Reason: Resource conservation / waste minimisation / Protection of the environment (1)</p> <p>Point: The manufacture / disposal of the model should not cause pollution (1) Reason: Protection of the environment (1)</p> <p>Point: used timber from managed forests (1) Reason: to control deforestation / maintain climate environment (1)</p> <p style="text-align: right;">(2 x 1)</p> | (2) |

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|-------------|---|-----|
| Q01(a)(iii) | <p>Any one of the following examples</p> <p>Point: The materials the model is made from should look realistic/attractive (1) Reason: Accuracy of representation / appearance (1)</p> <p>Point: The model should comply with relevant legal standards e.g. be tested by BSI/ISO, display a Kitemark (1) Reason: Moral and legal obligation (1)</p> <p>Point: The parts of the model well made e.g. no gaps in joints/no scratches on cover/no excess glue on cover (1) Reason: To ensure they meet specifications / have a good appearance (1)</p> <p>Point: smooth edges (1) Reason: so no injury is caused to the user (1)</p> <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q01(b) | <p>Any two of the following examples</p> <ul style="list-style-type: none"> • Does not warp/is stable (1) • Available in large sheets (1) • Smooth surface texture (1) • Receptive of various finishing techniques (1) • Free from wood grain (1) • It is durable (1) • Available in different/appropriate size/thickness (1) • Available (1) • Strong / rigid (1) • Flat (1) • Easy to cut / shape / join (1) <p><i>(Do not accept sturdy)</i></p> <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q01(c) | <p>Any two of the following examples</p> <ul style="list-style-type: none"> • Low set up costs (1) • Cost effective (1) • Low unit costs (1) • Accurate printing (1) • High speed process (1) • Full colour process (1) • Commonly available (1) • Medium to long print runs possible (1) <p><i>(do not accept quicker, cheaper, easier unqualified.)</i></p> <p style="text-align: right;">(2 x 1)</p> | (2) |

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| <p>Q01(d)</p> | <p>Any two of the following examples</p> <p>Property: It has a smooth surface finish (1) Reason: This allows colour / paper to be applied to it / looks attractive (1)</p> <p>Property: It is rigid (1) Reason: This allows the structure to the building to be formed (1)</p> <p>Property: It has solid edges (1) Reason: This means less finishing is required / better appearance (1)</p> <p>Property: It is easy to cut (1) Reason: This makes the model quicker to manufacture / better quality/ cheaper to manufacture (1)</p> <p>Property: It is easy to join (1) Reason: This makes the model quicker to manufacture / better quality/ cheaper to manufacture (1)</p> <p>Property: It is lightweight (1) Reason: This makes transport easier /cheaper/ reduces demands on other parts (1)</p> <p>Property: It is cost effective (1) Reason: Commercial viability (1)</p> <p>Property: Stable (1) Reason: Will maintain shape (1)</p> <p><i>(do not accept cheaper alone)</i></p> <p style="text-align: right;">(2 x 1) (2 x 1)</p> | <p style="text-align: right;">(4)</p> |
| <p>Q01(e)</p> | <p>Any two of the following examples</p> <ul style="list-style-type: none"> • The acrylic does not have scratches (1) • The cover fits the base (1) • The acrylic is not discoloured (1) • The glue has not damaged the surface of the acrylic (1) • The glue is securely holding the sheets together (1) • Size (1) • Finish of edges (1) • Cleanness (1) • Assembled accurately (1) <p style="text-align: right;">(2 x 1)</p> | <p style="text-align: right;">(2)</p> |

| | | |
|-------------------|--|-----------|
| Q01(f) | <p>Any one of the following examples</p> <ul style="list-style-type: none"> • The roof has sloping sides/ rounded edges / does not have undercuts. This means the moulded product can be removed from the mould. • The roof is hollow. The means a simple/one piece mould can be used/ thermoplastic sheet can be used. • The shape is shallow. This means there will be sufficient material to form it / will not thin at the top. • The shape will tessellate. This allows several to be produced from the same sheet. <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q01(g)(i) | <ul style="list-style-type: none"> • The model includes a scale model of a person. This allows the viewer to compare the size of the building to an object they are familiar with. • The model of the person is roughly 20 %/ (1/5th) of the height of the building. This can be extrapolated to a real height of 10m (5 times 2m) <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q01(g)(ii) | <p>Any one of the following examples</p> <ul style="list-style-type: none"> • The model has a clear acrylic cover. This will prevent viewers damaging the model. • The materials the model is made from are stable / strong / rigid. This will prevent the model collapsing. • The model has battery powered lights which are more durable than mains powered ones. <p style="text-align: right;">(2 x 1)</p> | (2) |
| Mark Total | | 22 |

| Question Number | Answer | Mark |
|-----------------|---|------|
| Q02(a)(i) | Embossing (1) (1 x 1) | (1) |
| Q02(a)(ii) | <p>Award 1 mark for the male raised section and 1 mark for a female recessed / soft space.</p> <p>Examples of four different style of answers</p>  <p>(2 x 1)</p> | (2) |
| Q02(b) | <p>Any two of the following examples</p> <ul style="list-style-type: none"> • Higher quality (1) • more dense/bright/intense colours (1) • higher resolutions (1) • longer lasting plate / longer print runs (1) <p>(2 x 1)</p> | (2) |
| Q02(c)(i) | Die cutting (1) (1 x 1) | (1) |
| Q02(c)(ii) | Varnishing / laminating (1) (1 x 1) | (1) |

| | | |
|--------|---|-----|
| Q02(d) | <p>Any two of the following examples</p> <ul style="list-style-type: none"> • Less expensive (1) because no film used / because of the need not to buy images (1) • Quicker (1) because no film processing (1) • Editing (1) is possible because of digital format /on a computer(1) • Electronic distribution(1) is possible because of digital format (1) • Quality assurance (1) is possible because of preview. (1) • Digital storage (1) will reduce physical space/allows searches/backup(1) • Unique images are possible (1) because they can be infinite subject matter/ ease of acquisition (1) • Store / process / edit pictures on the camera (1)which reduces demand for other equipment. (1) • More pictures can be taken (1) so that a bigger choice is available (1) • It may be cheaper (1)as you don't have to purchase the image (1). <p style="text-align: right;">(2 x 1) (2 x 1)</p> | (4) |
| | Mark Total | 11 |

| Question Number | Answer | Mark |
|-----------------|--|------|
| Q03(a) | <p>Any one of the following examples <i>(Must relate to surface finish)</i></p> <ul style="list-style-type: none"> • It will be easy to wipe clean therefore keeping it hygienic / nice looking • The stand may get dirty therefore the smooth finish makes it easy to clean. • The stand will feel nice therefore more pleasing to use/ safer <p style="text-align: right;">(2 x 1)</p> | (2) |
| Q03(b)(i) | <p>Any three of the following examples</p> <ul style="list-style-type: none"> • Transparent (1) • Inert / does not corrode (1) • Non- toxic (1) • Non- taint (1) • Can be sterilised by heat (1) • Aesthetically pleasing feel / appearance (1) • Smooth surface finish (1) • Barrier to ingress/egress (1) • Rigid (1) • Strong (1) • Can be printed on (1) <p style="text-align: right;">(3 x 1)</p> | (3) |
| Q03(b)(ii) | <p>Any three of the following examples <i>(these must be different from that given in {part i})</i></p> <ul style="list-style-type: none"> • Inert (1) • Non- toxic (1) • Non- taint (1) • Lightweight (1) • Malleable / can be drawn/pressed / Flexible (1) • Does not rust (1) • Barrier to ingress/egress (1) • Tough / durable (1) • Can be printed on (1) • Aesthetically pleasing feel / appearance / shiny(1) • Rigid (1) • Opaque (1) <p style="text-align: right;">(3 x 1)</p> | (3) |

| | | |
|--------|---|-----------|
| Q03(c) | <p>Any three of the following examples</p> <ul style="list-style-type: none"> • Better appearance (1) • Possibly safer to work (1) • Easier to shape (1) • Less finishing required (1) • Natural product (1) <p style="text-align: right;">(3 x 1)</p> | (3) |
| | Total Marks | 11 |
| | Total for paper | 44 |

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