

Design and Technology

General Certificate of Secondary Education

Unit **A534**: Graphics: Technical Aspects of Designing and Making

Mark Scheme for January 2011

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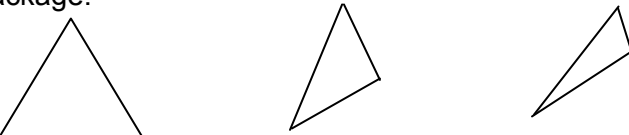

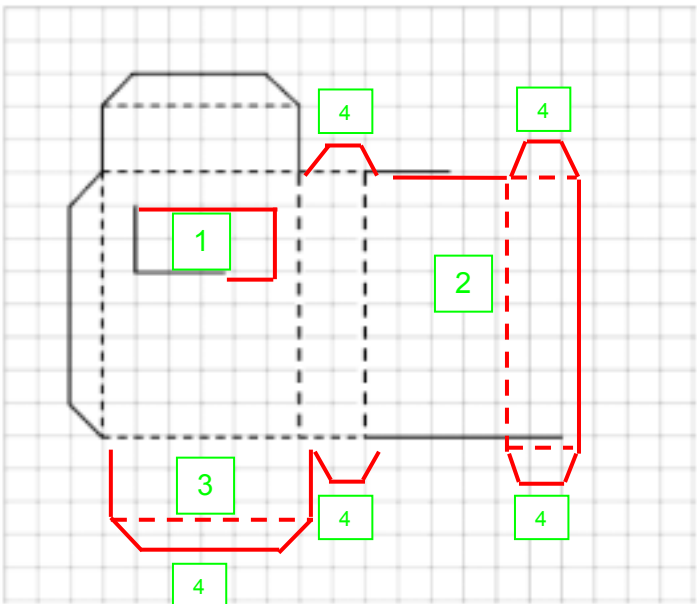
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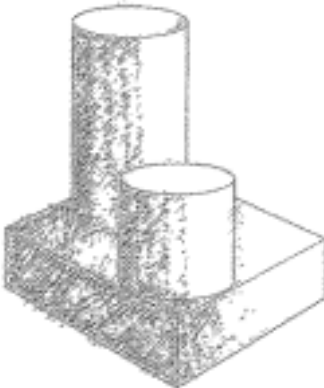
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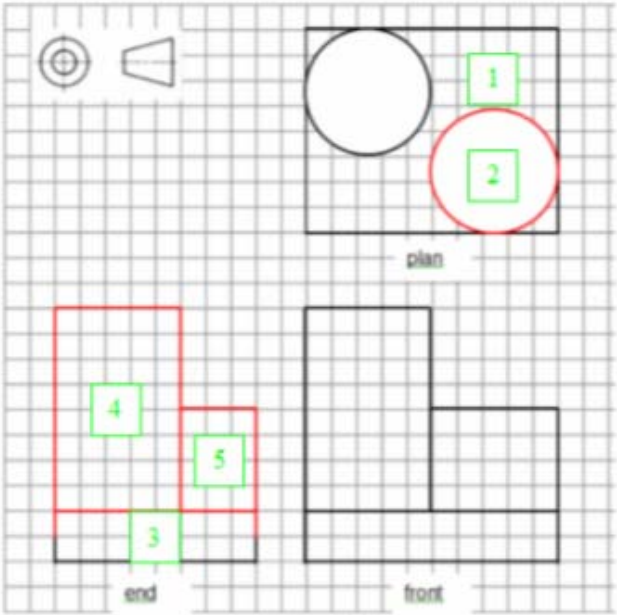
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Question		Expected Answer	Mark	Rationale/Additional Guidance
1	(a)	Card, cardboard, board, boxboard, paper or any named thin plastic sheet such as polypropylene. Award one mark for naming a suitable material.	[1]	Do not accept: Plastic, corriflute, corrugated card or foam board.
	(b)	So the colours of the crayons can be seen or the contents can be seen. Award one mark for a reason linked to viewing the contents.	[1]	Do not accept: More environmentally friendly because it uses less materials, more interesting, more attractive or more eye-catching.
	(c)	Die cutting	[1]	This is the only correct answer.
	(d)	A roll of foil [1] is pressed onto the box by a heated plate [1]. The foil only sticks to the box where pressure has been applied [1]. Tick (✓) to identify the award of each mark.	[3]	The three aspects to this answer are: 1. Application of heat [1] 2. Presses foil against the box [1] 3. Foil only sticks where pressure has been applied [1] Award one mark for each aspect (in any order). Hot foil printing Hot foil printing is often used to produce gold or silver lettering on packaging. The process requires a 'hot foil' machine that is capable of heating up a plate and applying pressure. The plate is usually made of magnesium or copper. The foil comes on a roll which when sandwiched between the item being printed and the plate releases the foil from the roll in the areas that the plate touches.

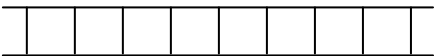
Question	Expected Answer	Mark	Rationale/Additional Guidance
(e)	<p>Ignore the position or orientation of the triangle on the package.</p>  <p>[1] [0] [1] [1] [0] [1]</p>	[2]	<p>The two aspects to this answer are:</p> <ol style="list-style-type: none"> 1. Equilateral triangle (three equal sides and angles) [1] 2. Triangle 'adjusted' to the isometric view [1] <p>Award one mark for each aspect.</p> <p>Accept answers in any orientation → </p>
(f)	<p>The four aspects to this answer are:</p> <ol style="list-style-type: none"> 1. Cut out window completed correctly [1] 2. Back and side completed correctly [1] 3. Bottom completed correctly (in appropriate position) [1] 4. At least three flaps/tabs added in correct positions [1] <p>Award one mark for each aspect.</p> 	[4]	<p>Award marks for freehand or accurate drawings that are within plus/minus 1mm of the grid lines.</p> <p>Ignore the convention for fold lines.</p> <p>Flaps/Tabs Accept triangles and half square angles but not rectangles. Too many flaps(will not work) - no marks.</p> <p>Almost correct answers Window, bottom, back and side added but incorrect sizes – award marks 1 and 2 (not mark 3). Bottom, back and side added but incorrect sizes – award mark 2 (not mark 3).</p>
Question Total		[12]	

Question		Expected Answer	Mark	Rationale/Additional Guidance
2	(a)	<p>The three aspects to this answer are:</p> <p>1. Light and dark tones added to the base [1] 2. Cylinders with graduated shading [1] 3. High quality overall impact - only award where the shading of the block and cylinders match (darkest surface on the same side) [1]</p> <p>Highlights are acceptable as one of the three tones.</p> <p>One mark can be awarded if a candidate has added shadows outside the drawing of the display stand and there is no tonal work on the actual drawing.</p>	[3]	<p>Example :</p> 
	(b) (i)	<p>Easy to cut or shape, rigid, high strength to weight ratio, easy to join, easy to paint or lightweight.</p> <p>Award one mark for any of the above.</p>	[1]	<p>Do not accept: Light, strong, durable, cheap or can be recycled.</p>
	(b) (ii)	<p>PVA, double sided tape, contact adhesive or an alternative trade name such as Copydex.</p> <p>Award one mark for any of the above.</p>	[1]	<p>Do not accept: Solvent based adhesives that will melt the Styrofoam.</p>
	(b) (iii)	<p>Acceptable answers: Check the sizes [1] by measuring [1] Check surface finish [1] by touch/visual [1] Alignment of pieces [1] by visually inspecting [1] Check if glue has oozed out [1] by visually inspecting [1] Check if glue has dried [1] by attempting to move [1]</p>	[2]	<p>The two aspects to this answer are:</p> <p>1. What is being checked [1] 2. How it is checked [1]</p> <p>Do not accept: Anything that refers to checking that the material is soft or not sharp. Do not accept answers that refer to testing the display stand.</p>

Question	Expected Answer	Mark	Rationale/Additional Guidance
(c)	<p>The five aspects to this answer are:</p> <ol style="list-style-type: none"> 1. Circle added to plan [1] 2. Circle of the correct size and position [1] 3. Base correctly completed on the end view [1] 4. Cylinder (left) correctly added to end view [1] 5. Cylinder (right) correctly added to end view [1] <p>Award one mark for each aspect.</p>	[5]	<p>Award marks for freehand or accurate drawings that are within plus/minus 1mm of the grid lines.</p> <p>Hidden detail was not asked for (ignore if it has been shown).</p> <p>For marks 3, 4 and 5 'correctly completed' means height, width and position as indicated in red on the drawing on the right.</p> <p>Do not double penalise. For example, an incorrect size circle could score mark 5 if correctly projected to the end view. In this case the score could be 1, 0, 0, 0, 1.</p> 
Question Total		[12]	

Question		Expected Answer	Mark	Rationale/Additional Guidance
3	(a)	Font/letter type or font/letter size or font/letter style or alignment Award one mark for each appropriate decision (1 x 2).	[2]	The decisions must relate to font: 1. Type (Arial, Times New Roman...) 2. Size (point size...) 3. Style/Shape (italic, underlined) 4. Alignment (left, right...), Spacing. The mark is for the decision, not the answer. In the given example 'blue' as a colour for the font would not score the mark.
	(b)	Email address or website address or fax number or Skype or Mobile Number Award one mark for each appropriate contact detail (1 x 2).	[2]	Answer must relate to contact details of a business (no social networks)
	(c)	Copyright protects images [1] and it is illegal to use a protected image [1] Legal action can follow [1] if you use a copyright protected image without permission [1]	[2]	Any two of the following aspects: 1. What copyright means 2. Seeking permission 2. Consequences of not gaining permission Award one mark for each aspect.

Question	Expected Answer	Mark	Rationale/Additional Guidance
(d)	<p>Look for an understanding of the Life Cycle of the business card:</p> <p>Life Cycle – designed, printed, given away, used, recycled or disposed of</p> <p>Valid points to support this understanding include:</p> <ul style="list-style-type: none"> • Business card has a limited life because details change • Material selection reflects the limited Life Cycle • Card the most appropriate material – easily recycled or relatively cheap. • Recycled card could be used but must look ‘classy’ • Thin plastic sheet could be used (and will last longer) but more difficult to recycle • Laminating and glossy finishes make recycling more difficult • More environmentally friendly if printed with vegetable inks • Recycling symbol could be included on the business card • Production run of 100-500 appropriate as the card can easily be reprinted • Unlikely to be recycled, because small and disposable • Must create a good impression – made of quality materials with a quality finish • The cost will have to be balanced against future increased business • Use of recycled materials may create a good impression 	[6]	<p>Level 1 [0-2 marks] Basic explanation, showing some understanding of the Life Cycle of a Business Card. There will be little or no use of specialist terms. Answers may be ambiguous or disorganised or ‘list like’. Errors of grammar, punctuation and spelling may be intrusive.</p> <p>Level 2 [3-4 marks] Adequate explanation, showing an understanding of the Life Cycle of a Business Card. Can provide a description of some examples of appropriate material selection and manufacturing methods. There will be some use of specialist terms, although these may not always be used appropriately. The information will be presented for the most part in a structured format. There may be occasional errors in spelling, grammar and punctuation</p> <p>Level 3 [5-6 marks] Thorough explanation, showing clear understanding of the Life Cycle of a Business Card. Can provide clear examples of appropriate material selection and manufacturing methods. Specialist terms will be used appropriately and correctly. The information will be presented in a structured format. The candidate will demonstrate the accurate use of spelling, punctuation and grammar</p>
	Question Total	[12]	

Question		Expected Answer	Mark	Rationale/Additional Guidance
4	(a)		[1]	Do not accept: Drawings of corrugated card.
	(b)	<p>Polypropylene is flexible [1] so it will bend without breaking when the case is opened [1] Polypropylene is impact resistant [1] so it will not scratch easily [1] Transparent [1] see artwork/graphics/sleeve [1] Lightweight [1] easily carried [1] Rigid [1] stop CD bending[1] Polypropylene can be moulded [1] hold CD in place [1] Hardness/Toughness [1] protects CD from damage, dust, scratches [1]</p>	[2]	<p>The two aspects to this question are:</p> <ol style="list-style-type: none"> 1. The property 2. Why the property makes it suitable for the CD case <p>Do not award marks for: It is strong, cheap, waterproof.</p>
	(c)	<p>Method of printing Offset Lithography, Offset litho, Litho, Lithography or digital printing.</p> <p>Material for the sticker label Self adhesive paper, vinyl labels or self adhesive printable vinyl.</p> <p>Smart material on the sticker label Thermochromic ink.</p> <p>Award one mark for each correct answer (1 x 3).</p>	[3]	<p>Do not award marks for correct answers in the wrong box.</p> <p>KEY WORDS – Paper, Vinyl DO NOT ACCEPT CARD or two material answers (ie paper/card)</p>

Question	Expected Answer	Mark	Rationale/Additional Guidance
(d)	<p>Look for an understanding of the term aesthetics.</p> <p>Points that could be considered:</p> <ul style="list-style-type: none"> • Colour selection has a big impact on a design • Understanding of the colour wheel (primary, secondary and tertiary colours) • Contrasting colours – opposite sides of the colour wheel • Harmonising colours – close together on the colour wheel • Colour associations – red for danger, green for go • Examples of effective use of colour on a label – • Red for alert, warning, danger or to draw attention • Green is considered restful or environmentally friendly • Silver or gold may appear expensive or high class • Yellow is considered aggressive, sun, dawn or new life • Blue is seen to represent water, sea or sky • Red and yellow together: McDonalds, Shell logo • Limited pallet can be more recognisable or memorable 	[6]	<p>Level 1 [0-2 marks] Basic explanation, showing some understanding of the use of colour. There will be little or no use of specialist terms. Answers may be ambiguous or disorganised or ‘list like’. Errors of grammar, punctuation and spelling may be intrusive.</p> <p>Level 2 [3-4 marks] Adequate explanation, showing an understanding of the use of colour with reference to colour wheel and colour associations. Can provide a description of some examples of appropriate colour use. There will be some use of specialist terms, although these may not always be used appropriately. The information will be presented for the most part in a structured format. There may be occasional errors in spelling, grammar and punctuation.</p> <p>Level 3 [5-6 marks] Thorough explanation, showing clear understanding of the use of colour with respect to the colour wheel and colour associations. Can provide clear examples of appropriate use of colour. Specialist terms will be used appropriately and correctly. The information will be presented in a structured format. The candidate will demonstrate the accurate use of spelling, punctuation and grammar.</p>
	Question Total	[12]	

Question		Expected Answer	Mark	Rationale/Additional Guidance
5	(a)	V-fold or vee fold [1] Multiple layers or parallelogram [1] Award one mark for each correct answer.	[2]	The answers on the left are in the specification and text book (do not accept other variations). Do not award marks for correct answers in the wrong box.
	(b)	Fixed pivot (centre point on upright) Moving pivots (top and bottom points on the upright) Output (arrow shows direction from right to left) Award one mark for each correct answer.	[3]	Do not award marks unless the points are clearly labelled. Both points must be identified for the mark for the moving pivot.
	(c)	To restrict vertical movement [1]	[1]	This is the only acceptable answer.
	(d)	Sketches and notes show a design for a weather display that: Weather symbol/days changeable [2 x 1 marks] Appropriate to material [1] Appropriate to users [1] Mechanical method [1] Full details of mechanical method(fittings, materials) [1]	[6]	
Question Total			[12]	
Total			[60]	

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