



## **General Certificate of Secondary Education**

# **Design and Technology Graphic Products 3543/H**

**Higher Tier**

## **Mark Scheme**

*2008 examination - June series*

Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation meeting attended by all examiners and is the scheme which was used by them in this examination. The standardisation meeting ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for the standardisation meeting each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed at the meeting and legislated for. If, after this meeting, examiners encounter unusual answers which have not been discussed at the meeting they are required to refer these to the Principal Examiner.

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**1 Environment**

- (a) **'sustainable' forest**, *e.g. managed, harvested and replanted, considerate of wild life and inhabitants, not using up natural resources, renewing or recycling the environment.*

Good understanding, e.g. human intervention, replanting (3 marks)

Limited understanding, e.g. basic concept, no detail (2 marks)

An attempt, confused but within topic (1 mark)

Incorrect or not attempted (0 marks)

**3 marks**

- (b) **Logo**

- (i) **Colour** *e.g. sky, health, future, calming, water, purity.*

Full understanding, e.g. clear meaning, examples used to show understanding (2 marks)

Limited understanding, basic concept, no detail (1 mark)

Incorrect or not attempted (0 marks)

**2 marks**

- (ii) **Hand** *e.g. caring, looking after, protective, embracing.*

Full understanding, clear meaning, examples used to show understanding (2 marks)

Limited understanding, e.g. basic concept, no detail (1 mark)

Incorrect or not attempted (0 marks)

**2 marks**

- (iii) **Feature**

Correctly identifies Globe/World/Planet/Earth (1 mark)

Full understanding, clear meaning  
*e.g. universal, world wide, example to show understanding.* (2 marks)

Satisfactory understanding, basic concept, no detail (1 mark)

Incorrect or not attempted (0 marks)

**3 marks**

- (iv) **Feature**

Correctly identifies tree, leaf, twig, plant, branch (1 mark)

Full understanding, clear meaning  
*e.g. nature, related to trees/timber, growth, health, re-growth, renew, example to show understanding.* (2 marks)

Satisfactory understanding, basic concept, no detail (1 mark)

Incorrect or not attempted (0 marks)

**3 marks**

1	(c)			
	(i)	Logo design <i>Do not reward if different features or different logo unconnected with question</i>		
		<u>Development</u>		
		Strong direct evidence of progression of development	(3 marks)	
		Limited evidence of development.	(2 marks)	
		No development, single idea(s)	(1 mark)	
		Incorrect theme, very confused, not attempted.	(0 mark)	
		<u>Quality: Reward even if incorrect logo</u>		
		Good sketches, informative, well communicated	(3 marks)	
		Limited sketches, some general untidiness	(2 marks)	
		Poor sketches, untidy, poorly communicated	(1 mark)	
		Not attempted	(0 marks)	<b>6 marks</b>
	(ii)	<b>Logo Sketch</b> <i>quality of visual impact, reward if wrong theme</i>		
		Good logo, informative, visually pleasing	(3 marks)	
		Limited impact, some imperfections and untidiness	(2 marks)	
		Poor impact, untidy, some confusion of meaning	(1 mark)	
		Not attempted, scribble, unworthy of mark	(0 marks)	<b>3 marks</b>
	(iii)	<b>Evaluation of new logo</b> <i>e.g. clearer, explicit, easier to understand.</i>		
		Full explanation with explicit examples(s) e.g. because.....	(3 marks)	
		Adequate explanation implied improvements	(2 marks)	
		Not explicit, lacks full reasoning, descriptive	(1 mark)	
		Self-congratulatory, incorrect, not attempted	(0 marks)	<b>3 marks</b>
		<b>TOTAL</b>		<b>25 marks</b>

## 2 Representation of Data

### (a) Advantage of Pictograph

Full explanation, with reason *e.g. easy to read and understand, quick intake of data, more interesting than bars* (2 marks)

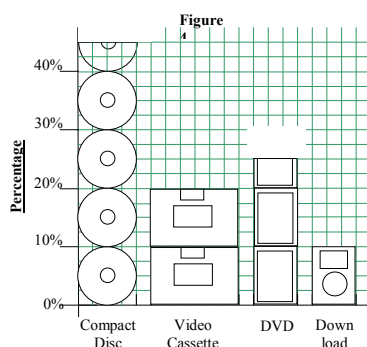
Partial explanation *e.g. attempt at reasoning* (1 mark)

Incorrect, not attempted (0 marks)

**2 marks**

**Pictograph** (be strict – one symbol per 10%)

(b)



**Accuracy: (Be strict)**

each pictograph bar correct – *on line* (pro rata), (4 marks)  
45%, 20%, 25%, 10%

**Symbols:**

each present and accurate representation (pro rata) (4 marks)  
(*Poor reproduction, e.g. poor circles, gaps, smaller, (2 max)*)

both half symbols correctly drawn (1 mark)

Other symbols used, not attempted (0 marks)

**Colour:**

Good quality, enhances drawing, visual impact, (3 marks)

Adequate quality, some imperfections *e.g. out of 'box', uneven colour* (good monochrome max.) (2 marks)

An attempt, poorly executed, colours poorly used, incomplete. (1 mark)

No colour – line drawings only, not attempted (0 marks)

**12 marks**

**TOTAL 14 marks**

**3****Letter-styles***Accept any type of music.***(a)**

(i)	Type of music offered, must be given in figure 4	(1 mark)	
	Not attempted	(0 marks)	<b>1 mark</b>
(ii)	Name offered	(1 mark)	
	<i>No penalty if more than two words long – self penalising in Q3, letters OK e.g. ELO</i>		
	No name offered	(0 marks)	<b>1 mark</b>
(b)	Three different 'block' letter-styles, single line =0, e.g. two block, one single line = 2	(3 marks)	<b>3 marks</b>
	<i>Evidence of development (horizontally or vertically)</i>		
	Good evidence of progression of idea	(3 marks)	
	Limit development evident.	(2 marks)	
	No development, discrete ideas	(1 mark)	
	Confused, not attempted.	(0 marks)	<b>3 marks</b>
(c)	Reasoned explanation, logical and complete, (because...).	(3 marks)	
	Limited, mainly descriptive, self -congratulatory	(2 marks)	
	An attempt, superficial e.g. 'it's the best', 'I like it', 'stands out'.	(1 mark)	
	Confused, not attempted	(0 marks)	<b>3 marks</b>
<b>TOTAL</b>			<b>11 marks</b>

<b>4</b>	<b><u>Design Development &amp; Presentation Drawing</u></b> <i>(Accept any sketch as starting point, with or without text)</i>		
(a)	Related to all response panels inc Presentation Strong direct evidence of developmental progression	(3 marks)	
	Development evident, some very similar major features	(2 marks)	
	No development, discrete ideas	(1 mark)	
	No development or not attempted	(0 marks)	<b>3 marks</b>
	Related to type of music Images clearly related to music e.g. notes, instruments, images	(2 mark)	
	Limited reference e.g. turn table, microphone, lighting.	(1 mark)	
	Not 'musical', confused, not attempted.	(0 mark)	<b>2 marks</b>
	Quality of communication Clear, effective sketches	(2 marks)	
	Limited effectiveness of sketches	(1 mark)	
	Confused, unclear, not attempted	(0 mark)	<b>2 marks</b>

**4 (b) Presentation Drawing of Inset Card**Use of information

Name and letter-style (from Question 2)	(1 mark)	<b>1 mark</b>
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Quality of sketching

Good quality, easily recognisable, neat.	(3 marks)	
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Limited quality, confused, imperfections.	(2 marks)	
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An attempt, poor quality.	(1 mark)	
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Inappropriate, not attempted	(0 mark)	<b>3 marks</b>
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Colour rendering

Very good quality, enhances drawing, visual impact e.g. very good tonal control, even cover	(5 marks)	
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Good quality, higher skills attempted	(4 marks)	
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Satisfactory quality, some imperfections e.g. uneven colour. No higher skills ( <i>good monochrome max.</i> ) ( <i>predominantly white background</i> )	(3 marks)	
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An attempt, poorly executed, colour poorly, not finished.	(2 marks)	
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Poor, no attempt at quality, heavy handed, scribble	(1 mark)	
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No colour – line drawings only, not attempted	(0 mark)	<b>5 marks</b>
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Layout of features

Good visual impact, e.g. effective use of space	(3 marks)	
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Satisfactory, some sense of composition	(2 marks)	
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Poor, no sense of composition	(1 mark)	
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Very poor, not organised or not attempted	(0 marks)	<b>3 marks</b>
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**4 (c) CD disc design**Appropriateness of design

Good modification of Insert Design directly related to presentation drawing, (*not include centre insert*) (3 marks)

Adequate adaptation of original design, closely related to presentation drawing (2 marks)

An attempt, some common features evident (1 mark)

Design substantially different to presentation drg (0 marks)

**3 marks**Visual Impact

(*irrespective of design*)

High quality, attractive layout and, colour quality (4 marks)

Good quality, pleasing layout and colour quality (3 marks)

Limit quality some acceptable layout, fits shape, colour used (*Monochrome max.*) (2 marks)

Poor attempt, confused, lacks quality (1 mark)

Not attempted (0 marks)

**4 marks****4 (d) Evaluation of CD or insert.**

Critical, relevant, related to design, reasoned (3 marks)

Descriptive, some relevance implied e.g. stands out (2 marks)

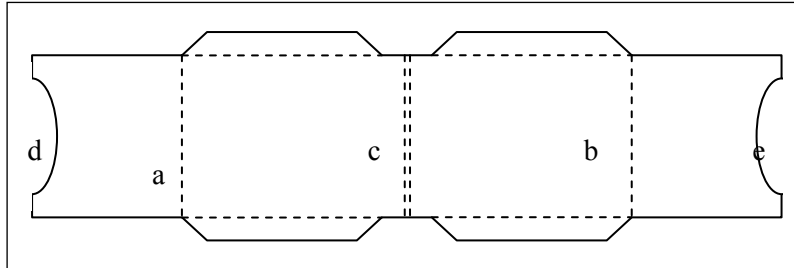
An attempt, superficial, labels (1 mark)

Not attempted (0 mark) **3 marks**

**TOTAL 29 marks**

## 5 Surface Development (Nets) and British Standards

### (a) Surface Development (Net)



Length ( <i>guide - three squares in</i> )	(1 mark)	
Width ( <i>inc. glue tabs, guide – three squares in</i> )	(1 mark)	
Horizontal fold, (broken) lines in correct place	(1 mark)	
Vertical folds, correct broken lines & positions fold lines - two full (a, b) and centre (c)	(3 marks)	<b>(3 marks)</b>
any two e.g. centre plus one	(2 marks)	
only one e.g. centre only	(1 mark)	
not attempted	(0 marks)	
Cut outs – good, semi elliptical, on correct edges (d, e)	(2 marks)	<b>(3 marks)</b>
Recognisable ellipses attempted	(1 mark)	
Not attempted, semi circles, one only	(0 marks)	<b>(2 marks)</b>
Glue tabs - remaining three on correct edges, length, mitre.	(1 mark)	
Not attempted	(0 marks)	<b>(1 mark)</b>
Line quality - consistently dark, sharp, neat corners.	(2 marks)	
Some untidiness, double lines, over shoots	(1 mark)	
Untidy, freehand, blunt pencil	(0 marks)	
		<b>(2 marks)</b>
<b>TOTAL</b>		<b>11 marks</b>

**6 Creating an image**

*Mark either A or B. If both attempted mark both and record the higher mark. Read response and assess completeness of process. If one cancelled by candidate mark the other.*

**PART A: BY HAND**

- (a) Process will ensure a perfect outcome (e.g. tool, positioning, adhesive) (4 marks)

Process is sufficient for a successful outcome, minor errors. (3 marks)

Process is likely to result in a recognisable outcome, some errors (2 marks)

An attempt basic process, many errors, important stages omitted (1 mark)

Confused, unsuccessful outcome, not attempted (0 marks)

**4 marks**

- (b) **Tools, equipment** (beware generic names e.g. knife, glue)  
*Match to process even if incorrect process above.*

Appropriate for stage & correctly named e.g. PVA (4 marks)

Mostly appropriate for stage & correctly named e.g. Pritt Stik (3 marks)

Some tools/equipment named but could be at wrong stage (2 marks)

An attempt many incorrect items OR generic names through out e.g. glue, knife (1 mark)

Confused, incorrect or not attempted (0 marks)

**4 marks**

e.g.

No	Description	Tools, equipment etc
1	Cut out guitar from fig 5.	e.g. Scissors, Stanley, craft knife.
2	Apply glue to cut out.	e.g. PVA, Pritt-stik, spray-glue
3	Position cut out on background.	e.g. ruler

- (c) **Sketch** of tool / equipment  
Name of tool matches representation in sketch (1 mark)

A good representation of the named tool / equipment (2 marks)

Adequate attempt, some imperfections e.g. proportion (1 mark)

An attempted, not recognisable (0 marks)

**3 marks**

**PART B: BY CAD****6 (a) Computer Aided Design Program**

Process will ensure a perfect outcome (4 marks)

Process is sufficient for success, minor errors (3 marks)

Process result in a recognisable outcome, some errors (2 marks)

An attempt basic process, many errors (1 mark)

Confused, unsuccessful out come, not attempted (0 marks)

**4 marks****(b) Toolbar icons**

All commands appropriate for stage & correctly named (4 marks)

Most commands appropriate for stage & named (3 marks)

Some commands named but could be at wrong stage (2 marks)

An attempt incorrect stages OR generic names through out (1 mark)

Confused, incorrect or not attempted (0 marks)

**4 marks**

e.g.

1	Trace (high-light) around guitar	e.g. 'cut out tool
2	Save cut out / export.	e.g. disc, save icon
3	Open fig 6, paste guitar cut out.	e.g. open command
4	Position cut out on background & save.	e.g. disc, save icon

**(c) Sketch computer icon**

Named icon from (b) (1 mark)

Adequate attempt, some imperfections e.g. proportion (2 marks)

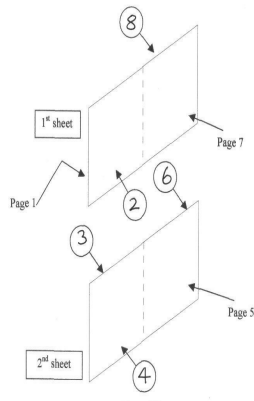
A recognisable representation of icon (1 mark)

Confused, unrecognisable, incorrect not attempted (0 marks)

**3 marks****TOTAL 11 marks**

## 7 Materials and Printing

(a)



### Page Numbers

All correct numbers

(5 marks)

Any 6 or 5 numbers correct

(4 marks)

Any 3 correct

(3 marks)

Any 2 correct

(2 marks)

Any 1 correct

(1 mark)

Totally incorrect/not attempted

(0 marks)

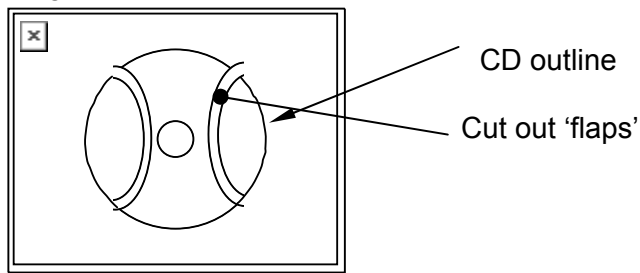
**5 marks**

7	(b)			
	(i)	<b>'Mock up':</b> definition, <i>a model to aid in the final stages of the design process to identify faults and possible improvements, testing.</i>		
		Full understanding, most features covered	(3 marks)	
		Some understanding, minor misunderstanding	(2 marks)	
		Incomplete understanding, an attempt	(1 mark)	
		Incorrect or not attempted	(0 marks)	
				<b>3 marks</b>
	(ii)	200 gsm e.g. 200 grams per square metre Correct interpretation, all factors explained	(3 marks)	
		Two factors correctly explained	(2 marks)	
		One factor identified	(1 mark)	
		Incorrect, not attempted	(0 marks)	
				<b>3 marks</b>
	(iii)	<u>Properties of recycled material</u> e.g. <i>colour/quality/density impaired. Accept environmental considerations.</i>		
		Full reasoning e.g. colour printing not as clear	(2 marks)	
		Some understanding but no reasons given e.g. poor quality	(1 mark)	
		Not attempted, or incorrect	(0 marks)	
				<b>2 marks</b>
	(iv)	<u>'Bleeding'</u> e.g. <i>ink spreads as liquid is drawn by capillary action of fibres.</i>		
		Full reasoned understanding e.g. effect and cause	(2 marks)	
		Some understanding but no reasons given e.g. ink spreads	(1 mark)	
		Not attempted, or incorrect	(0 marks)	
				<b>2 marks</b>
	(v)	<u>Safety:</u> e.g. <i>ventilation, face mask, spray booth</i>		
		Full reasoned understanding e.g. effect and cause	(2 marks)	
		Some understanding but no reasons given	(1 mark)	
		Not attempted, or incorrect	(0 marks)	
				<b>2 marks</b>
			<b>TOTAL</b>	<b>17 marks</b>

8

**Production Techniques**

(a) e.g.

**Sketches***If extra materials/components used, do not reward.**Will it work and hold the CD secure?*

Very effective, secure, in place

(3 mark)

Limited effectiveness, likely to slip out

(2 marks)

Poor design unlikely to hold CD

(1 mark)

Not attempted, extra material use

(0 marks)

**3 marks****Communication Skills** *(Even if extra materials used)*

Informative, relevant notes and sketches

(2 marks)

Limited, no reasoning, e.g. labels, confused

(1 mark)

Not attempted

(0 marks)

**2 marks**(b) Creasing e.g. *deforms fibres, does not weaken by cutting fibres, more durable*

Full explanation, with reason

(2 marks)

Partial explanation

(1 mark)

Incorrect, not attempted

(0 marks)

**2 marks****TOTAL 7 marks**