



National  
Qualifications  
2019

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# **2019 Graphic Communication**

## **National 5**

### **Finalised Marking Instructions**

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## General marking principles for National 5 Graphic Communication

*This information is provided to help you understand the general principles you must apply when marking candidate responses to questions in this Paper. These principles must be read in conjunction with the detailed marking instructions, which identify the key features required in candidate responses.*

- (a) Marks for each candidate response must **always** be assigned in line with these general marking principles and the detailed marking instructions for this assessment.
- (b) Marking should always be positive. This means that, for each candidate response, marks are accumulated for the demonstration of relevant skills, knowledge and understanding: they are not deducted from a maximum on the basis of errors or omissions.
- (c) If a specific candidate response does not seem to be covered by either the principles or detailed marking Instructions, and you are uncertain how to assess it, you must seek guidance from your team leader.

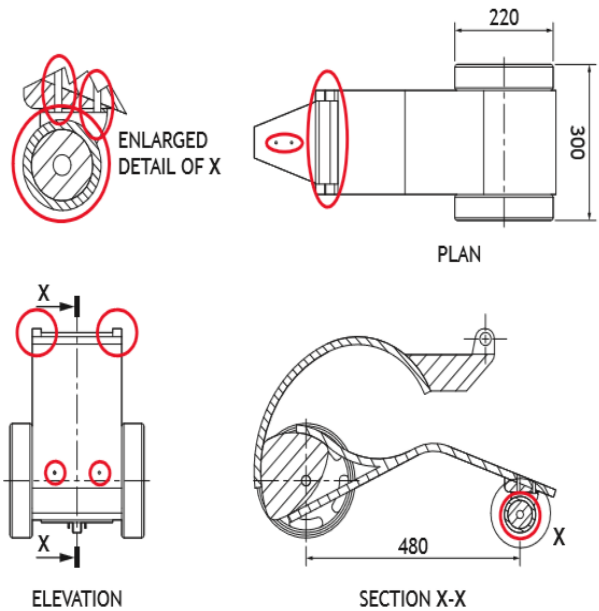
## Marking instructions for each question

Question			Expected response	Max mark	Additional guidance
1.	(a)		Bottom right	1	
	(b)		Bottom left	1	
	(c)		Top left	1	
	(d)		Top right	1	
	(e)		Far left and right	2	
2.	(a)	(i)	Line	1	
		(ii)	Pie	1	
	(b)		<ul style="list-style-type: none"> <li>Shows a trend/change over a period of time.</li> <li>Compares two sets of data.</li> </ul>	2	Do not accept <ul style="list-style-type: none"> <li>Clear to read.</li> <li>Easy to understand.</li> </ul>
	(c)		<ul style="list-style-type: none"> <li>Size of circles.</li> <li>Size of numbers.</li> <li>Size of building 'slice'.</li> <li>Perspective of building.</li> </ul>	2	Do not accept responses that refer solely to colour
	(d)	(i)	Crop tool	1	Accept 'crop' and 'full crop'
		(ii)	<ul style="list-style-type: none"> <li>Improved integration of text and graphics.</li> <li>Allows image to be placed into alternative contexts.</li> <li>Can declutter the image making it more of a focal point.</li> </ul>	1	Accept 'stand out'
	(e)	(i)	Flow text along a path	1	Accept 'text along path'
		(ii)	Reverse	1	
	(f)		<ul style="list-style-type: none"> <li>Reduction in ink.</li> <li>Reduce gauge of paper.</li> <li>Reduction in pollution.</li> <li>Environmentally friendly inks.</li> <li>Recycled paper.</li> <li>Reduction in scale.</li> <li>Change background to white.</li> <li>Reduction in waste.</li> </ul> Any other acceptable response	2	Do not accept <ul style="list-style-type: none"> <li>Responses that relate to producing in a digital format.</li> <li>Print in black and white.</li> <li>Reduction in number of prints produced.</li> </ul>

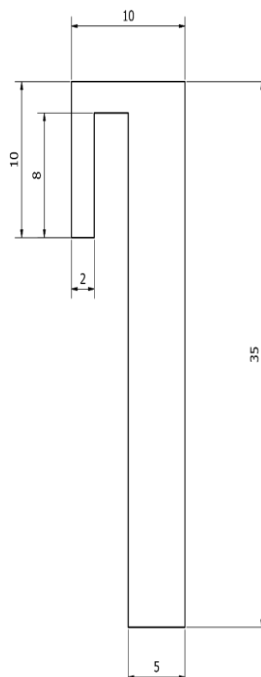
Question			Expected response	Max mark	Additional guidance
3.	(a)		<ul style="list-style-type: none"> <li>• Scanner.</li> <li>• Camera.</li> <li>• Graphics tablet.</li> </ul>	2	<p>Do not accept only 'phone/smartphone', must make reference to the camera feature</p> <p>Accept 'tablet'</p>
	(b)		<ul style="list-style-type: none"> <li>• Reach wider audience.</li> <li>• Reduction in cost (this must be justified.)</li> <li>• Ease of editing.</li> <li>• Ease of sharing/sharing updates.</li> <li>• Easy to access anywhere.</li> <li>• Instant communication with wider audience.</li> <li>• Advantages of Cloud/Online storage to back up.</li> </ul>	3	<p>Do not accept responses that relate to environment</p> <p>Do not accept answers relating to 'reduced storage space'</p>
	(c)		<ul style="list-style-type: none"> <li>• Ease of integration of graphics and images.</li> <li>• Can be easily manipulated to create eye catching designs.</li> <li>• Can create documents that have varied layouts (more than a word processing package).</li> <li>• Layer function can be used to overlap elements.</li> <li>• Ease of editing.</li> <li>• Variety of fonts are available to try.</li> <li>• Grid/guide tools can be used to enable accurate alignment of elements.</li> <li>• Speed of production.</li> <li>• Wide range of colour schemes available.</li> <li>• Access to a wide range of additional media.</li> <li>• Layout would be more accurate.</li> </ul> <p>Or any other relevant advantage that is related to the context</p>	2	

Question			Expected response	Max mark	Additional guidance
	(d)	(i)	<ul style="list-style-type: none"> <li>• Left alignment of coloured bars on left hand column of page.</li> <li>• Left alignment of multiple body text components on right hand side of page.</li> <li>• Icons aligned horizontally along bottom of page.</li> </ul>	2	<p>Candidates should provide two distinct examples</p> <p>Any response must refer to the relationship between separate items.</p>
		(ii)	<ul style="list-style-type: none"> <li>• Repeated use of colour (must make specific reference to colours from the graphic).</li> <li>• Repeated use of shape (must make reference to specific shapes from the graphic).</li> <li>• Repeated use of line (must make reference to horizontal lines from the graphic).</li> <li>• Repeated use of font style.</li> <li>• Use of alignment (must make reference to relationship of two separate items).</li> <li>• Unity created through proximity.</li> </ul>	2	
		(iii)	<ul style="list-style-type: none"> <li>• Line to connect bullets.</li> <li>• Connects headings to whole column of text.</li> <li>• Divides page/parts.</li> <li>• Helps lead the eye.</li> </ul>	2	
	(e)		<ul style="list-style-type: none"> <li>• Simple to view and identify.</li> <li>• Speed of communication.</li> <li>• No language barrier.</li> <li>• Increased visual interest.</li> </ul>	1	
4.	(a)		<p>Any two from</p> <ul style="list-style-type: none"> <li>• This type of graphic is easily understood by non-technical people.</li> <li>• Provides a realistic representation of the product.</li> <li>• Perspective view provides realism.</li> <li>• Shows materials.</li> <li>• Shows colours.</li> <li>• Shows the product fully assembled.</li> </ul>	2	<p>Do not accept</p> <ul style="list-style-type: none"> <li>• Shows what it looks like without mention of material or colour.</li> </ul>

Question		Expected response	Max mark	Additional guidance
	(b)	<ul style="list-style-type: none"> <li>• Please note that there is no requirement to compare the two graphics. Candidates are being asked to comment on the graphics on their own merit.</li> <li>• Do not accept instances where candidates have used the same advantage <u>OR</u> disadvantage more than once. If a candidate has responded an opposite for each graphic, please accept.</li> <li>• <u>Underline</u> indicates typical responses that candidates may try to duplicate for each graphic type.</li> </ul> <p><b>Exploded Isometric</b></p> <ul style="list-style-type: none"> <li>+ Clear to see outlines of parts.</li> <li>+ Uncluttered by materials and colours.</li> <li>+ No requirement to print in colour.</li> <li>+ Dashed trails indicate assembly method.</li> <li>+ Elevation view further clarifies.</li> <li>+ <u>Shows how parts fit together.</u></li> <li>+ <u>Labels indicating parts to aid clarity.</u></li> </ul> <ul style="list-style-type: none"> <li>- A technical style of graphic that some audiences may struggle to interpret.</li> <li>- Tangent edges are shown and may confuse audience.</li> <li>- <u>Only a partial exploded view.</u></li> <li>- <u>Overlapping components.</u></li> </ul> <p><b>3D CAD illustration</b></p> <ul style="list-style-type: none"> <li>+ Realistic.</li> <li>+ Clear view.</li> <li>+ Easily understood by a wide audience.</li> <li>+ Can see materials/colours of product.</li> <li>+ Perspective view adds to realism.</li> <li>+ <u>Shows how parts fit together.</u></li> <li>+ <u>Labels indicating parts adding clarity.</u></li> </ul> <ul style="list-style-type: none"> <li>- High print cost due to requirement to colour print.</li> <li>- Shadows can obscure some visibility.</li> <li>- <u>Only a partial exploded view.</u></li> <li>- <u>Overlapping components.</u></li> </ul>	4	

Question			Expected response	Max mark	Additional guidance
	(c)		<ul style="list-style-type: none"> <li>• Incorrect direction of text on dimension 300.</li> <li>• Missing Diameter symbol on 220.</li> <li>• Plan <u>or</u> Section X-X wrong orientation.</li> <li>• View incorrectly labelled.</li> <li>• Cutting plane arrows on wrong side.</li> <li>• Centre lines missing at detail X.</li> <li>• No projection symbol.</li> <li>• Several centre lines missing (1 mark for each, must be clearly identified).</li> <li>• Hatching missing from handle feature on section X-X.</li> </ul>	6	<p>Below graphic indicates position of missing centre lines</p> 
	(d)	(i)	<ul style="list-style-type: none"> <li>• To show the way the views are projected/laid out.</li> <li>• To show projection type used.</li> <li>• Orientation/layout of views.</li> </ul>	1	
		(ii)	<ul style="list-style-type: none"> <li>• Scale.</li> <li>• Date.</li> <li>• Product name.</li> <li>• Drawing/Page number.</li> <li>• Drawn by.</li> <li>• Tolerances.</li> <li>• Unit of measurement.</li> <li>• Materials.</li> <li>• Company brand.</li> <li>• Drawing type.</li> </ul>	3	

Question			Expected response	Max mark	Additional guidance
5.	(a)		<p>One mark for each</p> <ul style="list-style-type: none"> <li>• Sketch front profile to dimension 50mm.</li> <li>• Extrude profile 30mm.</li> <li>• Sketch Ø20mm circle on bottom surface.</li> <li>• Subtract circle 10mm.</li> <li>• Sketch Ø16mm circle on top surface and extrude 8mm.</li> <li>• Shell 1mm removing top circular surface.</li> </ul>	6	
	(b)		<p><b>Revolve Approach</b></p> <p>One mark for each</p> <ul style="list-style-type: none"> <li>• Sketch half profile of top section (fully dimensioned, see opposite).</li> <li>• Revolve.</li> <li>• Identify central axis.</li> <li>• Sketch rectangle 6x2mm on bottom surface of component and extrude rectangle 10mm.</li> </ul>	4	<p><b>Extrude approach with shell;</b></p> <p>One mark for each</p> <ul style="list-style-type: none"> <li>• Profile Ø 20mm and extrude 10mm.</li> <li>• Shell 2mm and remove face.</li> <li>• Sketch profile Ø10mm extrude 33mm.</li> <li>• Sketch rectangle 6x2mm on bottom surface of component and extrude rectangle 10mm.</li> </ul> <p><b>Extrude approach</b></p> <p>One mark for each</p> <ul style="list-style-type: none"> <li>• Profile Ø20mm and extrude 10mm.</li> <li>• Sketch Ø16mm subtract 8mm.</li> <li>• Sketch profile Ø10mm extrude 33mm.</li> <li>• Sketch rectangle 6x2mm on bottom surface of component and extrude rectangle 10mm.</li> </ul>





Question			Expected response				Max mark	Additional guidance																							
	(c)		<table><tr><th>Colour</th><th>Primary or secondary</th><th>Advancing or receding</th><th>Mood</th></tr><tr><td>red</td><td>primary</td><td>ADVANCING</td><td>dangerous</td></tr><tr><td>green</td><td>secondary</td><td>receding</td><td>COOL, RESTFUL, NATURAL, CALM, FRESH, SAFE</td></tr><tr><td>blue</td><td>PRIMARY</td><td>receding</td><td>formal</td></tr><tr><td>orange</td><td>secondary</td><td>ADVANCING</td><td>appetising</td></tr><tr><td>yellow</td><td>PRIMARY</td><td>advancing</td><td>WARM, ENERGETIC, HAPPY, SUNNY, LIVELY, EXCITED</td></tr></table>	Colour	Primary or secondary	Advancing or receding	Mood	red	primary	ADVANCING	dangerous	green	secondary	receding	COOL, RESTFUL, NATURAL, CALM, FRESH, SAFE	blue	PRIMARY	receding	formal	orange	secondary	ADVANCING	appetising	yellow	PRIMARY	advancing	WARM, ENERGETIC, HAPPY, SUNNY, LIVELY, EXCITED	6	Please award marks for any appropriate response for mood.		
Colour	Primary or secondary	Advancing or receding	Mood																												
red	primary	ADVANCING	dangerous																												
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yellow	PRIMARY	advancing	WARM, ENERGETIC, HAPPY, SUNNY, LIVELY, EXCITED																												
	(d)		Tint - Add white Shade - Add black or grey	1																											
	(e)		Mixing a primary and secondary colour together	1																											
	(f)	(i)	Centre axis	1																											
		(ii)	Align	1																											
		(iii)	Mate	1																											

Question			Expected response	Max mark	Additional guidance
6.	(a)			6	Please accept green or similar for section 1 Please accept red or similar for section 4
			Quantity		
			Section 1		
			Section 2		
			Section 3		
			Section 4		
	(b)		6	3	<p><b>Extrude approach</b> One mark for each of</p> <ul style="list-style-type: none"> <li>Sketch plan view, correctly dimensioned and extrude 100mm.</li> <li>Fillet R50 on all edges.</li> <li>Shell 5mm removing both ends of tube.</li> </ul> <p><b>Extrude along a path</b> One mark for each of</p> <ul style="list-style-type: none"> <li>Sketch profile Ø100 &amp; Ø90 (may also need shell).</li> <li>Sketch curved path R100 for 90° (or other appropriate).</li> <li>Extrude along a path command.</li> </ul>
			3		
			2		
			4		
			RED		
	(c)		<p><b>Revolve approach 1</b> One mark for each of</p> <ul style="list-style-type: none"> <li>Sketch circle Ø100 with smaller circle Ø90 inside.</li> <li>Sketch vertical line offset 100mm from centre of hole.</li> <li>90 degree/quarter revolve profile.</li> </ul> <p><b>Revolve approach 2</b> One mark for each of</p> <ul style="list-style-type: none"> <li>Sketch circle Ø100 with vertical line/axis offset 100mm from centre of circle.</li> <li>90 degree/quarter revolve profile.</li> <li>Shell 5mm removing both flat faces.</li> </ul>	2	
			Top right		
			Bottom left		

[END OF MARKING INSTRUCTIONS]