

Cambridge IGCSE™

DESIGN AND TECHNOLOGY**0445/51**

Paper 5 Graphic Products

May/June 2025**MARK SCHEME**Maximum Mark: 50

Published

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge International will not enter into discussions about these mark schemes.

Cambridge International is publishing the mark schemes for the May/June 2025 series for most Cambridge IGCSE, Cambridge International A and AS Level components, and some Cambridge O Level components.

This document consists of **10** printed pages.

PUBLISHED**Generic Marking Principles**

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptions for a question. Each question paper and mark scheme will also comply with these marking principles.

GENERIC MARKING PRINCIPLE 1:

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:

Marks awarded are always **whole marks** (not half marks, or other fractions).

GENERIC MARKING PRINCIPLE 3:

Marks must be awarded **positively**:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

GENERIC MARKING PRINCIPLE 4:

Rules must be applied consistently, e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

GENERIC MARKING PRINCIPLE 5:

Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

GENERIC MARKING PRINCIPLE 6:

Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

Annotations guidance for centres

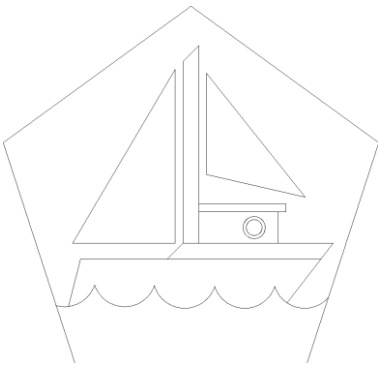
Examiners use a system of annotations as a shorthand for communicating their marking decisions to one another. Examiners are trained during the standardisation process on how and when to use annotations. The purpose of annotations is to inform the standardisation and monitoring processes and guide the supervising examiners when they are checking the work of examiners within their team. The meaning of annotations and how they are used is specific to each component and is understood by all examiners who mark the component.

We publish annotations in our mark schemes to help centres understand the annotations they may see on copies of scripts. Note that there may not be a direct correlation between the number of annotations on a script and the mark awarded. Similarly, the use of an annotation may not be an indication of the quality of the response.

The annotations listed below were available to examiners marking this component in this series.

Annotations

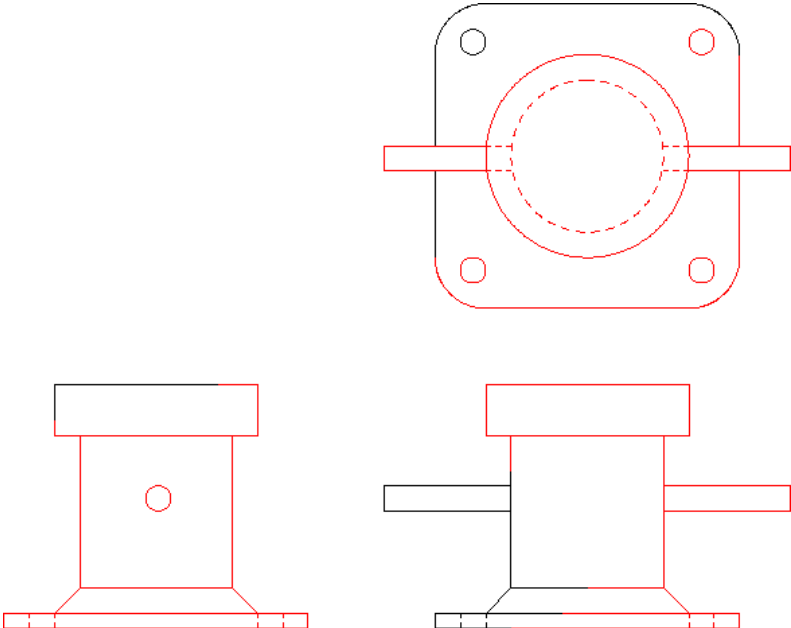
Annotation	Meaning
	Incorrect point
	Indicates that the point has been noted, but no credit has been given
	Correct point
Numbers	Indicating the mark allocated for the response

Question	Answer	Marks	Guidance
A1(a)	Any 5-sided shape [1] Any symmetrical 5-sided shape [1] Any regular pentagon [1] Pentagon correct to overlay [1]	4	
A1(b)	Top horizontal edge of hull correct to overlay [1] Angled edge drawn at 45° and mast correct to overlay [1] Horizontal middle line of hull correct to overlay [1]	3	
A1(c)	Cabin main rectangle drawn to correct size 35 × 20 [1] Cabin roof rectangle drawn to correct size 40 × 5 / candidate solution [1]	2	
A1(d)	Rear sail drawn to correct width [1] Rear sail drawn to correct height [1]	2	
A1(e)	Front sail 84 wide along long edge [1] Long edge correct angle [1] Front sail 27 high [1]	3	
A1(f)	Three waves with correct radius [1] Crests and troughs at correct heights (same as given wave) [1] Distance between crests same as given wave [1]	3	

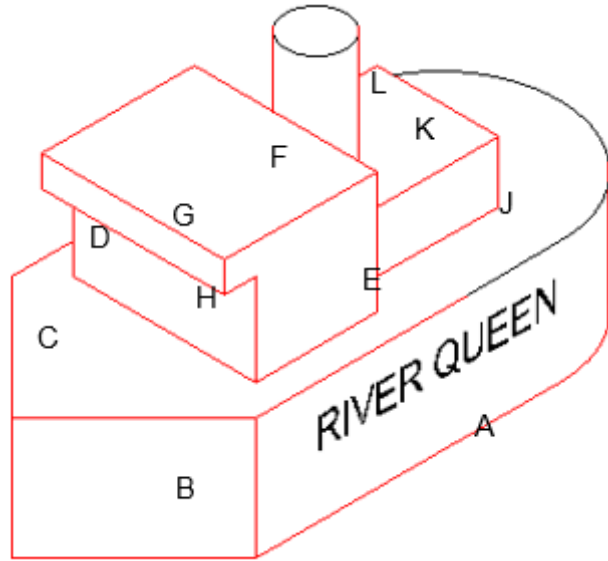
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Question	Answer	Marks	Guidance
A2(a)	Digital printing, Latex printing, laser printing, UV printing, eco-solvent printing, offset lithography, flexography [1]	1	Do not allow Laser etching, screen printing
A2(b)	Some tessellation shown [1] Layout correct to overlay [1]	2	

Question	Answer	Marks	Guidance
A3(a)	PVA glue [1]	1	Do not allow 'wood glue', PVC glue, double sided tape, Accept trade names if suitable eg. Gorilla glue, UHU Accept hot glue gun / cold glue gun Accept any other valid response
A3(b)	Any method shown [1] Method allows flag to spin loosely [1] Method locks flag onto dowel [1] High quality communication [1]	4	

Question	Answer	Marks	Guidance
B4(a)	Front view: Base plate outline correct to overlay [1] Hole shown correct to overlay and dotted [1] Chamfered section 45° correct to overlay / candidate solution [1] Central rectangle correct to overlay / candidate solution [1] Top rectangle correct to overlay / candidate solution [1] Right hand horn correct to overlay [1] Side view: Base plate including holes correct to overlay [1] Chamfered section correct to overlay / projected correctly from front view of candidate solution with 45° angles [1] Main section correct to overlay / projected correctly from front view of candidate solution [1] Top section correct to overlay / projected correctly from front view of candidate solution [1] Plan: Outer circle correct to overlay / candidate solution [1] Inner circle correct to overlay / candidate solution [1] Inner circle shown hidden (dotted) [1] Horns added projected correctly from front view [1] Dotted section of horns correct to overlay / candidate solution [1]	15	
B4(b)	Grey colour added [1] Shading / tone conveys cylindrical shape [1] Shine / reflection added [1] High quality communication [1]	4	

Question	Answer	Marks	Guidance
B4(c)	Bolt head 20 × 10 correct to overlay [1] Washer 30 outer × 3mm thick in correct position [1] Washer 12 internal dia [1] Bolt shaft 40mm long × 10mm wide [1] Ground anchor correct to overlay [1] Hatching added (not scribble or shading) [1]	6	

Question	Answer	Marks	Guidance
B5(a)	Side 'A' correct depth [1] Side 'A' correct to overlay [1] Front side 'B' correct to overlay / candidate solution (depth) [1] Side 'C' correct to overlay / candidate solution [1] Back edge of deck 'D' correct to overlay / candidate solution [1] Side 'E' of cabin correct to overlay [1] Top of cabin 'F' correct to overlay [1] Front 'H' correct to overlay / candidate solution [1] Bridge overhang front face correct to overlay / candidate solution [1] Side 'J' of back cabin correct to overlay [1] Top 'K' of back cabin correct to overlay [1] Chimney 'L' correct to candidate solution [1]	12	
B5(b)	Some wood grain shown in brown / orange [1] End grain shown [1] High quality communication [1]	3	
B5(c)	Any three stages included from: Letters created on computer [1] Uploaded / sent to appropriate CAM device [1] Cut out on thin card / vinyl [1] Stencil laid onto side of boat [1] Spray paint applied to stencil [1] Stencil removed before paint dries [1]	3	

Question	Answer	Marks	Guidance
B5(d)	Base 'A' correct to overlay [1] Front side 'B' 30mm tall correct to overlay / candidate solution [1] Top side 'C' 30mm tall correct to overlay / candidate solution [1] Back side 'D' 30mm tall correct to overlay / candidate solution [1] Two glue tabs on sides of Back side 'D' to correct size [1] End 'E' and two other glue tabs correct to overlay [1] Window added to correct size and position [1]	7	