
CDT: DESIGN AND COMMUNICATION

7048/01

Paper 1

October/November 2018

MARK SCHEME

Maximum Mark: 80

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.

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This document consists of **6** printed pages.

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 descriptors 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.

Question	Answer	Marks
Section A Answer question A1.		
A1(a)(i)	<p>Front view</p> <p>Ellipse major axis 120 mm [1]</p> <p>Ellipse minor axis 80 mm [1]</p> <p>Any construction shown [1]</p> <p>Clear method of construction [1]</p> <p>Six or more points plotted [1]</p> <p>Ellipse profile correct to overlay [1]</p> <p>Outer ends of square tube present (any size/position) [1]</p> <p>Ends of square tube correctly projected from End [1]</p> <p>Evidence of vertical tubes (hidden detail) [1]</p> <p>Vertical tube below ellipse correctly projected from End [1]</p>	10
A1(a)(ii)	<p>End view</p> <p>Height of plywood evident (to candidate's ellipse) on RHS [1]</p> <p>Thickness of plywood correct [1]</p> <p>Hidden detail of tube thickness [1]</p>	3
A1(a)(iii)	<p>Plan</p> <p>Two tube ends evident (inner and outer square) [1]</p> <p>Two tube feet evident correctly drawn, front and back [1]</p> <p>Plywood projected down from Front view (below vert tubes) [1]</p>	3
A1(b)	<p>Concentric circles drawn [1]</p> <p>Concentric circles of correct size [1]</p> <p>Concentric circles drawn on the right [1]</p>	3
A1(c)(i)	<p>Top and bottom surface of corrugated plastic [1]</p> <p>Corrugated plastic internal construction drawn 'square' [1]</p>	2
A1(c)(ii)	<p>Shape of lettering [1]</p> <p>Style / (Design of lettering) [1]</p>	2
A1(c)(iii)	<p>The word COFFEE added to the inside of Ellipse [1]</p> <p>COFFEE in same style font [1]</p> <p>COFFEE in italic [1]</p>	3
A1(c)(iv)	<p>Any workable solution that doesn't require holes [1]</p> <p>A recognisable system (Velcro, clips, etc.) [1]</p> <p>Use of notes and sketches of correct solution [1]</p> <p>A clear solution [1]</p>	4

Question	Answer	Marks
Section B Answer any two questions from this section.		
B2(a)(i)	Two circles drawn Two circles drawn correct dia on centre lines	[1] [1] 2
B2(a)(ii)	Any inverted triangle drawn Accurate equilateral triangle drawn 58/62 Text contained within triangle	[1] [1] [1] 3
B2(a)(iii)	Any octagon drawn Octagon drawn using given sides Octagon conforms to overlay	[1] [1] [1] 3
B2(b)	Isometric axes used Length of scales Width of scales Height of scales Some attempt to construct semi-circle Top of semi-circle conforms to overlay Bottom of semi-circle conforms to overlay Upper edge of recess in correct position Inner detail shown	[1] [1] [1] [1] [1] [1] [1] [1] [1] 9
B2(c)(i)	Sides of cup extended to find apex Radius from apex for top of net Radius from apex for bottom of net Half of circumference of sleeve divided into 6 1/12th of circumference set off 12 times around net. Development/net accurate to overlay <i>For candidates who have made some attempt:</i> Any attempt at a net Any curving net	[1] [1] [1] [1] [1] [1] [1] [1] 6
B2(c)(ii)	To protect from heat/burning/scalding / remains rigid 'Corrugated card is a good heat insulator' / can be bent	[1] [1] 2

Question	Answer	Marks
B3(a)(i)	Base lines used Appropriate vertical scale used (1:5 ?) Accurate plots to scale (regular units) 3D effect complying with given axes Labelling complete to seasons Use of colour/shading	[1] [1] [1] [1] [1] [1] 6
B3(a)(ii)	Any drawing that suggests rain Well drawn symbol	[1] [1] 2

Question	Answer	Marks
B3(b)(i)	Horizontal scale [1] Appropriate vertical scale [1] Accurate plots to scale [1] Four points joined with straight lines [1] Labelling [1]	5
B3(b)(ii)	Any sketch that suggests sun [1] Rays evident [1]	2
B3(c)	Any circle drawn [1] Circle divided into 4 correct parts (3, 2, 1 mark) 1 + 1 + 1 [3] Circle correctly labelled / or key [1] Circle correctly coloured / shaded [1]	6
B3(d)(i)	A4 shown – vertical and horizontal lines [1] A4 accurately shown [1]	2
B3(d)(ii)	Any two from three words, gram / square / metre added [1] All three words correct [1]	2

Question	Answer	Marks
B4(a)	3 · activity (rectangular) boxes for: Check-in [1] Go through Security [1] Wait in Departure area [1] 1 · decision box for: Is departure gate open [1] Yes on lower corner and NO on R/H corner [1] Feedback loop evident from 'No' to Wait in departure [1] Arrow on feedback loop [1] 1 · activity box for: Go to departure gate [1] 1 · end box with Board aeroplane [1]	9
B4(b)	Any symbol drawn (analogue/digital) [1] Two symbols well drawn [1] Correct local time displayed [1] Correct London time displayed [1] A.M. and P.M. correct [1]	5
B4(c)(i)	Any diagonal line or cross [1]	1
B4(c)(ii)	Any arrow drawn [1] Arrow drawn to the right with thickness [1]	2
B4(c)(iii)	Any sketch of an aircraft [1] Aircraft descending or arrow pointing down [1] A good ideogram [1] Good quality sketch/drawing [1]	4

Question	Answer	Marks
B4(c)(iv)	Any sketch of stairs/escalator [1] Any sketch of stairs/escalator drawn diagonally / up arrow [1] Stairs/escalator in 2D side view [1] Good quality sketch/drawing [1]	4