CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge International General Certificate of Secondary Education

MARK SCHEME for the October/November 2015 series

0445 DESIGN AND TECHNOLOGY

0445/13 Paper 1 (Product Design), maximum raw mark 50

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 will not enter into discussions about these mark schemes.

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International Examinations

1 (a) Accept any **four** additional suitable points – lightweight, easy to transport/carry, easy access to bats/balls, balls cannot get squashed; surface of bats protected, comfortable to carry, etc. 1×4 [4]

(b) Accept drawings of any **two** ways of locating balls – in recess, holes, clips, slot, tube, etc. 2×2 [4]

2 (a) Accept any **four** additional suitable points – attractive colour/shape/layout, simple wording, popular sport, low energy consumption, weather proof if outside, etc. 1×4 [4]

(b) Accept drawings of any **two** movement methods – sliders, hinged portion, any form of rotation, cams, cranks, etc. 2×2 [4]

3 (a) Accept any **four** additional suitable points – does not hurt golfer when returned, weather resistant, minimal power use, quiet in use, does not damage ball, can be adjusted for distance, etc. 1×4 [4]

(b) Accept drawings of any **two** return methods – fired by spring/elastic/arm, tube, chute, belt/chain, etc. 2×2 [4]

Questions 1, 2 and 3

(c) Any suitable ideas. At least **three different** ideas for maximum marks. Pro rata if fewer.

Communication

Simple drawings displaying a low standard or limited range of techniques	0–2
Clear drawings displaying a good standard and a range of techniques – shading/colour/annotation etc.	3–4
High quality drawings using a wide range of techniques with clear annotation and detail	5–6

Suitability

Simplistic designs showing outlines only	0–2
Rather more detail, sensible solutions that could work	3–4
Accurate solutions, good fitness for purpose, construction detail	5–6 [12]

(d) Evaluation of each of the ideas. At least **three** evaluations up to 2 marks each 0–6
Selection and justification (1+1) 2 [8]

(e) Quality of drawing

Poor line quality, proportions, little detail	1	
Good line work, use of colour, proportions, some detail	2–3	
High standard throughout with a range of techniques that show clearly all detail	4	

Dimensions

2 or 3 overall dimensions only – 1 Additional detail dimensions – 1	2	

Construction details

A simplistic approach showing little or no detail of construction to be used	0–2	
Most constructional detail may be obvious from overall views or with some annotation	3–4	
All constructional detail will be clear with good annotation and additional detail drawings as necessary	5–6	[12]

(f)

Suitable **specific** materials stated (1 + 1)	2	
Appropriate reasons for choice (1 + 1)	2	[4]

(g)

Suitable method described	1	
Good detailed description of: processes	0–3	
tools	0–2	[6]

[50]