

**UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS**  
International General Certificate of Secondary Education

**MARK SCHEME for the May/June 2007 question paper**

## **0445 DESIGN AND TECHNOLOGY**

**0445/01**

Paper 1 (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.

All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes must be read in conjunction with the question papers and the report on the examination.

- CIE will not enter into discussions or correspondence in connection with these mark schemes.

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Page 2	Mark Scheme	Syllabus	Paper
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- 1 (a) Accept any **four** suitable points – stable in use, lightweight, easy to move, quick to position, hygienic, etc. (no repeats of question). (1x4) [4]
- (b) Accept drawings of any **two** suitable constructions – halving joints, M&T joints, welding, bolts, rivets, etc. (2x2) [4]
- (c) Any suitable ideas. At least 3 **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, detailed construction 5-6 [12]
- (d) Evaluation of each of the ideas. At least 3 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 – 2 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. 2
- Appropriate reasons for choice. 2 [4]
- (g) Suitable method stated. 1
- Good detailed description of process, including processes (3) and tools (2) 5 [6] [50]

Page 3	Mark Scheme	Syllabus	Paper
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- 2 (a) Accept any **four** suitable points – stable when opened, lightweight, hygienic, easy to carry, etc. (no repeats of question) (1x4) [4]
- (b) Accept drawings of any **two** suitable handles – string/cord, cutout, twisted card, reinforced card, etc. (2x2) [4]
- (c) Any suitable ideas. At least 3 **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, detailed construction 5-6 [12]
- (d) Evaluation of each of the ideas. At least 3 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 – 2 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. 2  
Appropriate reasons for choice. 2 [4]
- (g) Appropriate logo representing fast food 3  
Good communication skills – colour/shading 2  
Appropriate attachment method 1 [6] [50]

Page 4	Mark Scheme	Syllabus	Paper
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- 3 (a) Accept any **four** suitable points – colourful, lightweight, safe, easy to clean, no small parts, etc. (no repeats of question) (1x4) [4]
- (b) Accept any **four** suitable methods – cams, cranks, gears, electronic, make/break switch, clicking on gear, etc. (2x2) [4]
- (c) Any suitable ideas. At least 3 **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, detailed construction 5-6 [12]
- (d) Evaluation of each of the ideas. At least 3 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 – 2 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. 2  
Appropriate reasons for choice. 2 [4]
- (g) Suitable method stated. 1  
Good detailed description of process, including processes (3) and tools (2) 5 [6] [50]