

Design and Technology

General Certificate of Secondary Education

Unit **A552**: Product Design

Mark Scheme for June 2011

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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 should be read in conjunction with the published question papers and the Report on the Examination.

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Development of Design Evolution through making	Initial Thoughts	Work is predictable/non creative	1	Work shows potential/some elements of creativity	1	Creative thinking expands ideas which show potential but is not always fully realised	1	Initial thoughts are creative showing unexpected ways of thinking	1	0 1 2 3 4
	Brief	Possible briefs are narrow	1	Final design brief has scope for creativity	1					5
	Use/ clients/ users	Intended user(s) and/or client(s) is considered	1	User requirements are positively reflected within design work	1					6 7 8
	Specification	Specification is vague/generic. Points based upon 'given' information.	1	Specification gives some detailed requirements for product	1	Specification is detailed key features of the product are identified.	1			9 10 11 12
	Ideas	Very limited / predictable idea/s	1	Range of ideas that respond to the brief/specification	1	Ideas show detail	1	Ideas fully explained	1	13 14 15
		Some evidence of creative thinking	1	Creative thinking expands ideas	1	Ideas are innovative (inventive, original, novel)	1	Details of construction or materials given	1	16 17 18
	Response to Design Problem	Limited consideration or response to given design problem	1	Design problem considered/addressed	1	Design problem fully considered/addressed	1			19 20 21 22
Communicating information through sketches, writing and photographs	Quality of Communication Skills	Use of sketches/images is limited	1	Use of sketches/images is satisfactory	1	Use of sketches/images is good	1	Uses a variety of techniques to enhance design communication e.g. rendering, swatch	1	0 1 2 3
		Written communication (clarity of message) is limited	1	Written communication is satisfactory	1	Written communication is good	1	Written communication is clear and succinct. Technical vocabulary is used	1	4 5 6 7 8

Materials, Components, Processes, Techniques, and Industrial practice	Material Selection	Choice of materials and components limited	1	Considered choice of materials and components	1	Appropriate joining methods identified/detailed	1			0
	Use of Material	Use of materials restricted to basic constructions, structures or experiments	1	Some adept use of materials but with inconsistencies.	1	Adept use of materials	1	Creative use of Materials	1	1
	Making Skills	Product modelling attempted - may be incomplete	1	Model mainly complete with reasonable standard of making skills evidenced	1	Model complete with good standard of making skills demonstrating accuracy	1	Model(s) complete with a high standard of making skills	1	
		Model accurately reflects design	1	Reviews manufacturing progress, producing clear plans for next stage of making	1	Making skills demonstrate a range of techniques/complexity	1			
Analysis of ideas, models and prototypes	Analysis and Evaluation	Analysis and evaluation limited	1	Analysis and evaluation satisfactory. Evident within design work and in box 17 and 18	1	Analysis and evaluation good. Some justification given. Clear information given about future product.	1	Detailed analysis and evaluation with justification. Suggested Improvements and/or use of technical terminology	1	
	Peer Evaluation	Limited Plan and recording of feedback for reflect & record activity	1	Clear plan for reflect and record. Records peer feedback and possible modifications	1					
	Development of ideas	Shows some development of ideas from 'initial thoughts'	1	Shows clear development. Initial thoughts have been expanded.	1	Shows discrimination between good and poor ideas	1	Explains rejection of ideas in favour of ones that are worthy of further development	1	
						Clear evidence of development of ideas	1	Fully develops ideas. No outstanding design issues	1	

Reflection	Reflection	Basic comments / observations. May relate to 'model' only	1	Reflection focuses on 'design issues'. Specific strengths and weaknesses identified	1	Quality analysis. Creative design improvements suggested and detailed.	1	0
				Alterations/refinements to the 'design' are specified/suggested	1			1

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