

Design and Technology

General Certificate of Secondary Education **1959/01**

Industrial Technology: Paper 1

Mark Scheme for June 2010

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

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Question	Expected Answer	Mark	Rational
1 (a)	<div>Twist drill</div> <div>Electrical wire</div> <div>Aeroplane</div> <div>Letter box</div> <div>Fishing rod</div> <div>Washing up bowl</div> <div>Plastic gear wheel</div> <div>Spoon</div> <div>Stainless</div> <div>Food can</div> <div>High speed steel</div> <div>Copper</div> <div>Aluminium alloy</div> <div>Brass</div> <div>Kevlar</div> <div>Polypropylene</div> <div>Nylon</div> <div>Steel</div> <div>Tin plate</div>	[9]	
(b)	Contains no iron,	[1]	
			Total [10]
2 (a)	<div>Acrylic</div> <div>Number off = 2</div> <div>Length = 210</div> <div>Length 75</div>	[4]	
(b)	Repetition - all designs marked out to the same standard/Accuracy Speed of Production	[1]	
(c)	Brass in keeping with the rest of the product. Acrylic is brittle	[1]	
(d)	<div>Sketches and notes must show evidence that the work can be held safely/can be held in an engineers vice!be adjustable to allow different lengths to be cut.</div> <div>3x</div> <div>notes that indicate appropriate knowledge of suitable materials components and processes for making the jig.</div>	[4]	
			Total [10]

Question	Expected Answer	Mark	Rational
3 (a)	Possible answers Leaflets slip off the side Provide sides to net (1) One hole to hang on the wall will not be stable. Requires two holes for double support Long base protruding from wall likely to be knocked into Reduce length of base Other answers might relate to leaflets fall down and lie flat or lack of bracing	[6]	
(b) (i)	Draw filing	[1]	
(ii)	Hair tied back/use of goggles/use lower quarter of wheel/one person one machine/ensure spindles have safety guard/loose clothing /not gloves 2x	[2]	
(c)	They would be all the same/repeated accuracy, angle of bend/ speed of production.	[1]	
			Total [10]
4 (a) (i)	Injection moulding	[1]	
(ii)	Press formed/Die punched	[1]	
(b) (i)	High density Polythene/Polypropylene/HIPS/Acrylic-perspex	[1]	
(ii)	Stainless steel/aluminium alloy	[1]	
(c) (i)	part of the moulding	[1]	
(ii)	Stamped/Embossed	[1]	
(d)	two halves of the IJ moulding die come together	[1]	
(e)	wider base to increase stability/closed handle to increase stiffness/web designed into handle/improved spout for pouring 3x	[3]	
			Total [10]
5 (a)	support requires four slots at right angles to each other Feet require slots Appropriate sketch detail 2 x 1 and notes x 1	[3]	
(b) (i)	Borax/sif bronze	[1]	
(ii)	Exclude the air to stop oxidation encourage the brass to flow 2x	[2]	
(c)	The design must hold the feet upright keep them equally spaced be quick to set up/ensure the jig does not become brazed to the product. Easy to set up.	[4]	
			Total [10]

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