UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

GCE Ordinary Level

MARK SCHEME for the October/November 2010 question paper for the guidance of teachers

7048 CDT: DESIGN AND COMMUNICATION

7048/01 Paper 1, maximum raw mark 80

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UNIVERSITY of CAMBRIDGE
International Examinations

1	(a)	(i)	**No marks for 2D**		
			Base length (irrespective of orientation) to overlay	1	
			Base depth (irrespective of orientation) to overlay	1	
			Orientation (base length to left)	1	[3]
			Six square corner posts	1	
			Height of best post (to overlay)	1	[2]
			Wall set in from corner post	1	
			Overall height of wall (to overlay)	1	
			Entrance gap	1	
			Wall thickness to overlay	1	[4]
			Running track attempted	1	
			Elliptical corner evident (or hole in roof 1 mark only)	1	[2]
					[11]
		(ii)	Any evidence of thick outline on any correct position	1	
			Thick line applied to most outer edges	1	
			Thick lines applied to one corner post correctly	1	[3]
					[3]
	(b)	(i)	Ellipse centre in correct position	1	
			Major axis 80 mm	1	
			Minor axis 50 mm	1	
			Ellipse – some evidence of construction	1	
			Correct construction	1	
			Profile of ellipse correct to candidate solution	1	[6]
		(ii)	The word 'WELCOME' added	1	
			The word 'WELCOME' consistent in height or central to space	1	[2]
					[8]
	(c)		Min two geometrical shapes evident (one shape = 0)	1	
			'P' evident	1	
			Contains three shapes and 'P' combined	1	[3]
					[3]
	(d)	(i)	Design added	1	
			Horizontal lines angled – verticals remain upright	1	
			Curves distorted	1	[3]
		(ii)	Shading makes the pole look cylindrical	1	
			Shading makes the top look spherical	1	[2]
					[5]
					[30]

2	(a) (i)		Width of end view-seating area (to overlay)	1	
	End		Height to roof angle (to overlay)	1	
			Roof angle 60º	1	
			Three equal 'steps' (to overlay)	1	
			Roof support	1	
			Advertising board triangle (width and height)	1	[6]
	(ii)		Height of stand projected from End view	1	
	Front		Width of stand (to overlay)	1	
			Edge of steps projected	1	
			Advertising board projected (to overlay or candidate solution in **(i)**)	1	
			Roof projected to candidate solution in **(i)**	1	[5]
	(iii)		Width of stand projected to candidate solution	1	
	Plan		Depth of stand projected to candidate solution	1	
			Roof projected to candidate solution	1	
			Advertising board projected to candidate solution	1	[4]
					[15]
	(b)		Front and base completed (size to overlay)	1	
			Fold line extended (long chain)	1	
			Second triangular end in position (45º or not)	1	
			Second glue tab in appropriate positions	1	
			Second locating tab in position to candidate solution	1	[5]
					[5]
	(c)		Two fruit shapes evident	1	
			'ZING' evident	1	
			Shapes and 'ZING' combined	1	[3]
					[3]
	(d)	**(i)**	Advertising board aligned to VP1 and VP2	1	
			Triangular shaped end completed	1	
			Base shown beyond triangle and aligned to VP2	1	[3]
		(ii)	Design added	1	
			Design added in perspective	1	[2]
		(iii)	Any colour added	1	
			Colour added in a way that enhances the illustration	1	[2]
					[7]
					[30]

3	(a)	Length of rectangle (148 mm to 152 mm)	1	
		Height of rectangle (103 mm to 107 mm)	1	
		Three equal divisions (49 mm plus or minus 2 mm)	1	[3]
		Three equal size squares	1	
		Three squares to overlay	1	
		Any three equal size circles	1	
		Three circles correct size	1	
		Three circles in correct position	1	[5]
		Any 'Stripe' at 45 degrees	1	
		Stripe 30 mm wide (to overlay)	1	[2]
		Semi-circle in correct position	1	
		Semi-circle correct to overlay or candidate solution	1	[2]
				[12]
	(b)	**Stage 1**		
		Strip of acrylic shown (could be 2D)	1	
		Folds shown by a dashed line	1	
		Cuts for base shown by a solid line	1	[3]
		Stage 2		
		Strip of acrylic shown in 3D	1	
		90 degree fold shown	1	
		Cuts for base clearly visible	1	[3]
				[6]
	(c)	3D sketch of square base	1	
		Thickness of square base evident	1	
		3D sketch of triangle	1	
		in appropriate position above base	1	
		3D sketch of two pegs	1	
		in appropriate position between base and triangle	1	
		Two holes shown in triangle **or** base	1	[7]
				[7]
				[25]

4	**(a)**	Arm shown moving from up to down position (arc)		1	
		Movement of arm shown in at least 4 positions		1	
		Collar shown at end position on the pole		1	
		At least 4 positions of collar and strut shown		1	
		At least 4 points plotted for P		1	
		Plotted points joined with a smooth curve to candidate solution		1	[6]
					[6]
	(b)	**(i)** Pictorial pole shown		1	
		Pictorial collar shown on pole		1	
		Pictorial pin shown that locates in hole on the pole		1	[3]
					[3]
		(ii) Section of pole shown		1	
		Section of collar shown		1	
		Pin shown		1	
		Pin shown in position		1	
		Appropriate hatching (ignore pin)		1	[5]
					[5]
	(c)	Suitable colour selected for pole (brown/yellow)		1	
		Shading makes pole look round in shape		1	
		Wood grain shown on pole		1	
		Suitable colour selected for end cap (yellow)		1	
		Shading makes end cap look round in shape		1	
		Shading makes end cap look shiny		1	[6]
					[6]
	(d)	Bottom circle drawn Ø40		1	
		Top circle drawn Ø30		1	
		Inner hole indicated (any size)		1	
		Sloping sides		1	
		Vertical height 25 (between centre lines)		1	[5]
					[5]
					[25]

5	(a)	The remaining five/six stages shown in a flow chart		1	
		All added stages in the correct order (as given)		1	
		Lettering legible and clear		1	
		The three different flow chart symbols used anywhere		1	
		The three different flow chart symbols used correctly		1	
		Decision box has Yes and No		1	
		Feedback loop incorporated correctly		1	
		Connecting lines (between boxes)		1	
		Arrows used on all lines		1	[9]
					[9]
	(b)	(i) Plastic cup drawn on flat surface		1	
		Bottom and top circles of different sizes		1	
		Sides to cup shown		1	[3]
		(ii) Appropriate size hole shown in tray		1	
		Depth of tray shown		1	[2]
		(iii) Top circle drawn		1	
		Cup passes through the tray (circular top lower than plastic cup top)		1	
		Curve shown where cup touches the tray		1	[3]
					[8]
	(c)	(i) Any Logo with images **not** words		1	
		Idea shows cup/s must be placed in bin		1	
		Idea shows the two different cups		1	
		Idea shows the two cups must be placed in different bins		1	[4]
					[4]
		(ii) Logo added to given space		1	
		Appropriate size		1	
		Quality of presentation – good 1, excellent 2		2	[4]
					[4]
					[25]

6	(a)	Border correctly added to the two remaining signs (2 × 1 mark)	1 1	
		The words Eagles and Sharks added in appropriate positions to each of the signs	1	
		Words Eagles or Sharks consistent with 'Lions'	1	
		Eagle image added to sign	1	
		Good quality image of eagle added to sign	1	
		Shark image added to sign	1	
		Good quality image of shark added to sign	1	[8]
				[8]
	(b)	Circle divided into any three sectors	1	
		Lions 120º correct size –	1	
		160 and 80 degrees (slightly less than 90º BOD)	1	
		Sectors coloured (any colour)	1	
		Different colour used to identify each of the sectors	1	
		Colour applied with quality	1	
		One image evident on the pie chart	1	
		Two/three images used on the pie chart to enhance the illustration	1	[8]
				[8]
	(c)	Lions data used (Lions team 6, 10, 2)	1	
		3D bar chart	1	
		Suitable scale selected (10 equal spaces)	1	
		Scale labelled (number of places)	1	
		1^{st}, 2^{nd} and 3^{rd} places as bars correctly plotted 3 × 1	3	
		Bars identified as 1^{st} , 2^{nd}, and 3^{rd}	1	
		Bar chart uses a lion image/word in some way	1	[9]
				[9]
				[25]