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**DESIGN AND TECHNOLOGY****9705/32**

Paper 3

**October/November 2017**

MARK SCHEME

Maximum Mark: 120

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**Published**

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.

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This document consists of **10** printed pages.



Question	Answer	Marks
2(a)	suitable material: <p style="text-align: right;">1 mark</p> trough abs/polypropylene/HDPE appropriate hardwood for laminating / bending, accept pine aluminium alloy, brass. copper mild steel (with finish) stainless steel <p>Reasons :</p> will not react to moisture can be bent to required shape will hold shape when full look attractive in desired environment <p>foot            abs/polypropylene/HDPE            appropriate hardwood            cast iron(with finish)/aluminium alloy/brass           <p>Reasons :</p>           can be cast to shape (metals)            can be moulded to shape (polymers)            can support the trough easily            accepts finish to match trough           <p style="text-align: right;">2 × 1</p> </p>	<b>3</b>
2(b)	quality of description: fully detailed some detail quality of sketches	3–7 0–2 up to 2 <b>9</b>
2(c)	explanation could include: change in process; change in materials; use of jigs, formers, moulds; simplification of design. <p>quality of explanation:            logical, structured            limited detail            quality of sketches</p>	4–6 0–3 up to 2 <b>8</b>

Question	Answer	Marks
3(a)	<p><b>plastic dip coating;</b>            Appropriate product e.g. bathroom rail, kitchen rack            Appropriate materials e.g. Mild steel, LDPE, Nylon            Reason e.g. humid, damp (bathroom/kitchen/outdoor)</p> <p><b>anodising;</b>            Appropriate product e.g. building cladding, screws            Appropriate materials e.g. Aluminium, magnesium, titanium, steel            Reason e.g. outdoor, to identify part, attractiveness</p> <p><b>varnishing;</b>            Appropriate product e.g. building cladding, screws            Appropriate materials e.g. Aluminium, magnesium, titanium, steel            Reason e.g. outdoor, to identify part, attractiveness</p>	<p><b>6</b></p> <p>1 1 1</p> <p>1 1 1</p> <p>1 1 1</p> <p>3 × 2</p>
3(b)	<p>quality of description:                fully detailed, most stages covered                some detail            quality of communication</p>	<p><b>14</b></p> <p>3–5 0–2 up to 2 7 × 2</p>





Question	Answer	Marks
6(a)	applications described e.g. CNC Router, miller, lathe	2 × 2 <b>4</b>
6(b)	explanation could include:	
6(b)(i)	manufacturer speed of production quality control cost implications  clear, fully detailed most features described limited detail	<b>8</b>     6–8 4–5 0–3
6(b)(ii)	customer cost reliability quality  clear, fully detailed most features described limited detail	<b>8</b>     6–8 4–5 0–3

## Part C – Graphic Products

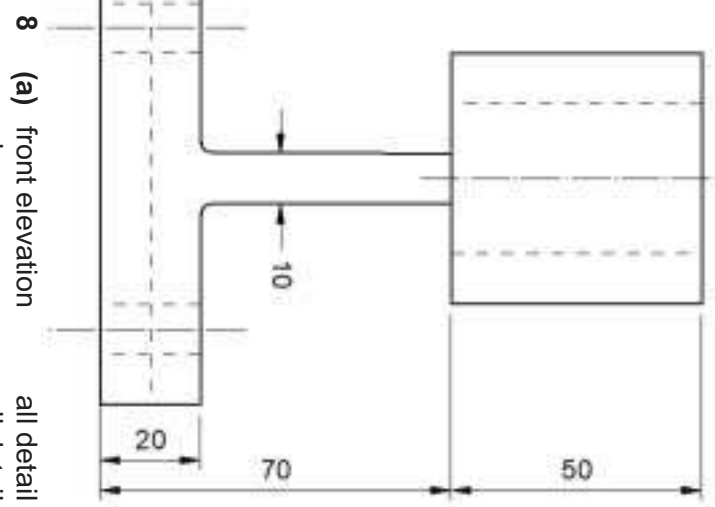
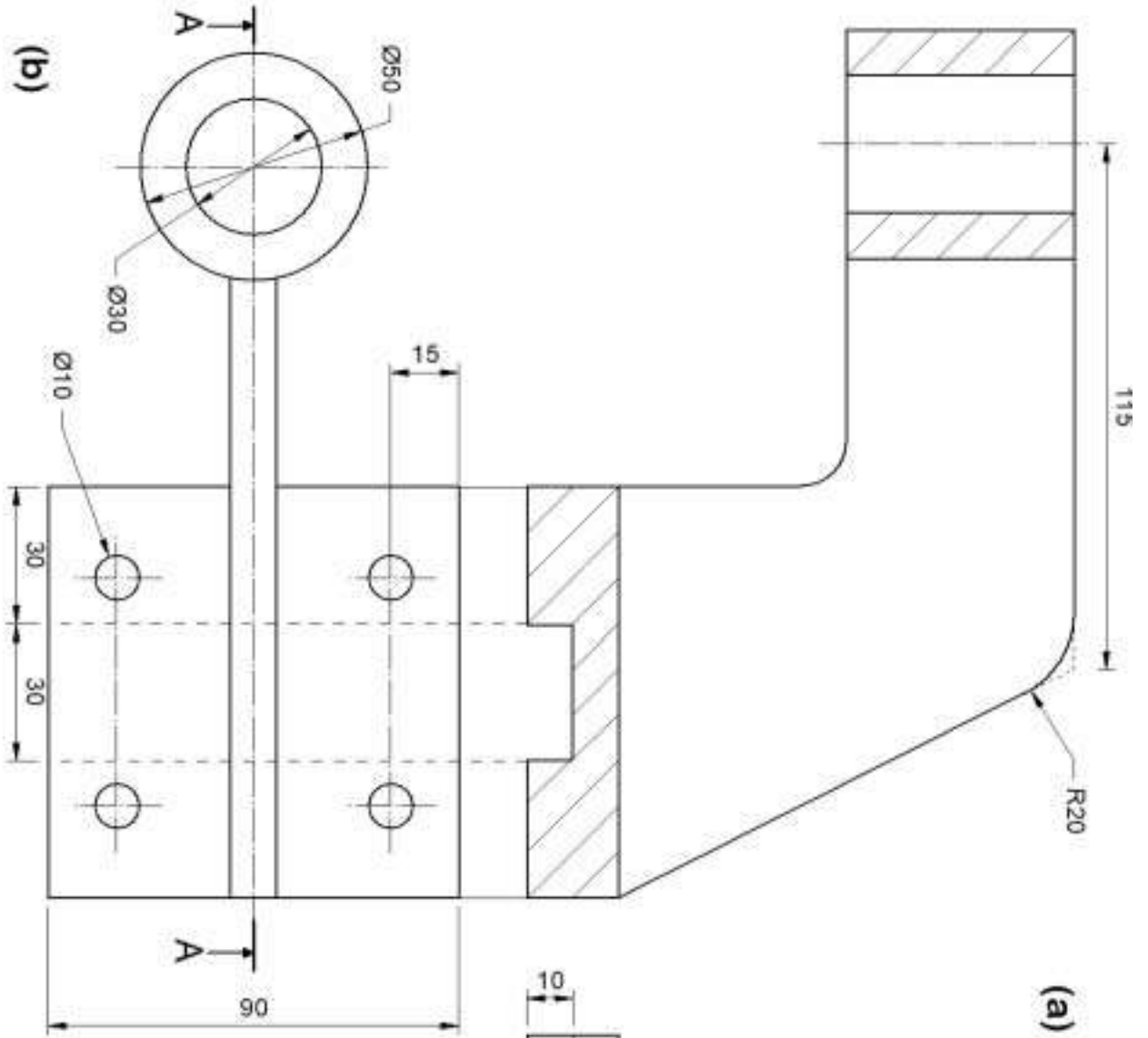
Question	Answer	Marks
7	scale 1 Cabinet 2 Sink unit 3 Window 2 Mirror 2 Shower tray 2 Bath 3 Layout 2 Accuracy 3	20

Question	Answer	Marks
8(a)	front elevation all detail 4 plan all detail 4 sectional elevation all detail 4 scale 1 accuracy 3	16
8(b)	dimensions 2 projection 2	4

Question	Answer	Marks
9	Discussion could include: target market affordability / quality sale introductory offers market accessibility  examples / evidence could be teenage / adult market specific placement promotions – celebrities, BOGOF  examination of issues wide range of relevant issues 4–8 limited range 0–3  quality of explanation logical, structured 4–8 limited detail 0–3  supporting examples / evidence 4	20



Question 8 Insert



- 8 (a) front elevation 4
- plan 4
- sectional elevation 4
- scale 4
- accuracy 1
- (b) dimensions 3
- projection 2



## Section B

Question	Answer	Marks
	<p><b>Analysis</b></p> <p>Analysis of the given situation/problem 0–5</p> <p><b>Specification</b></p> <p>Detailed written specification of the design requirements. At least five specification points other than those given in the question. 0–5</p> <p><b>Exploration</b></p> <p>Bold sketches and brief notes to show exploration of ideas for a design solution, with reasons for selection.</p> <ul style="list-style-type: none"> <li>range of ideas 0–5</li> <li>annotation related to specification 0–5</li> <li>marketability, innovation 0–5</li> <li>evaluation of ideas, selection leading to development 0–5</li> <li>communication 0–5</li> </ul> <p><b>Development</b></p> <p>Bold sketches and notes showing the development, reasoning and composition of ideas into a single design proposal. Details of materials, constructional and other relevant technical details.</p> <ul style="list-style-type: none"> <li>developments 0–5</li> <li>reasoning 0–5</li> <li>materials 0–3</li> <li>constructional detail 0–7</li> <li>communication 0–5</li> </ul> <p><b>Proposed solution</b></p> <p>Produce drawing/s of an appropriate kind to show the complete solution.</p> <ul style="list-style-type: none"> <li>proposed solution 0–10</li> <li>details/dimensions 0–5</li> </ul> <p><b>Evaluation</b></p> <p>Written evaluation of the final design solution 0–5</p>	<b>80</b>