

## MARK SCHEME for the October/November 2008 question paper

### **7048 CDT: DESIGN AND COMMUNICATION**

**7048/01**

Paper 1, maximum raw mark 100

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.

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| Page 2 | Mark Scheme                         | Syllabus | Paper |
|--------|-------------------------------------|----------|-------|
|        | GCE O LEVEL – October/November 2008 | 7048     | 01    |

|  |  |   |      |
|--|--|---|------|
| <b>1 (a) (i) Mark to overlay Ignore the position of side view</b>                          |  |   |      |
| Base width (100 mm)  |  | 1 |      |
| Roof width (80 mm)   |  | 1 |      |
| Apex in centre (any height)  |  | 1 |      |
| Height to 'overhang' (70 mm from bottom)   |  | 1 |      |
| Height to roofline (75 mm from bottom)   |  | 1 |      |
| Height to apex (100 mm from bottom)  |  | 1 |      |
| Leg width at base – 7 mm across (1 × 2)  |  | 2 |      |
| Leg width at top – 14 mm across at roofline (1 × 2)  |  | 2 | [10] |
| <b>(ii) Mark to overlay Ignore position of plan</b>  |  |   |      |
| Award marks if correctly projected from incorrect side view                                |  |   |      |
| Square for roof (80 mm square or to candidate side view)                                   |  | 1 |      |
| Cross (to overlay or candidate solution)   |  | 1 |      |
| 'Overhang' parallel to square (to overlay or candidate solution)                           |  | 1 |      |
| Four legs shown (to overlay or candidate solution)   |  | 1 |      |
| Best leg – square base (1) and two tapered sides (1)<br>(to overlay or candidate solution) |  | 2 | [6]  |
| <b>(b)</b>   |  |   |      |
| 80 mm base   |  | 1 |      |
| Isosceles triangle (any size)  |  | 1 |      |
| Triangle correct to overlay (plus or minus 3 mm)   |  | 1 | [3]  |
| <b>(c) No marks for 2D drawings</b>  |  |   |      |
| *could be awarded for other types of pictorial drawing                                     |  |   |      |
| Upper rim of base correct to overlay   |  | 1 |      |
| *Lower rim of base parallel to upper rim   |  | 1 |      |
| *Depth of base correct (5 mm)  |  | 1 |      |
| Base of tube correct size to overlay   |  | 1 |      |
| Top of tube correct size to overlay  |  | 1 |      |
| *Internal diameter of tube shown   |  | 1 |      |
| *Height of upper circle above base (40 mm)   |  | 1 |      |
| *Upper circle offset (15 mm)   |  | 1 |      |
| * Evidence of construction – base (1) and tube (1)   |  | 2 | [10] |
| <b>(d)</b>   |  |   |      |
| Intersections - Top point (within 5 mm)  |  | 1 |      |
| - Bottom point (ignore line)   |  | 1 |      |
| - Curved line from top point to top edge of tube   |  | 1 |      |
| Overall quality of enhancement   |  |   |      |
| Good 2, satisfactory 1 or poor 0   |  | 2 | [5]  |

**[Total: 34]**

| Page 3 | Mark Scheme                         | Syllabus | Paper |
|--------|-------------------------------------|----------|-------|
|        | GCE O LEVEL – October/November 2008 | 7048     | 01    |

|  |  |   |     |
|--|--|---|-----|
| <b>2 (a) (i) Diving board</b>                                      |  |   |     |
| Edge of pool shown   |  | 1 |     |
| Board shown  |  | 1 |     |
| Ladder/frame shown   |  | 1 | [3] |
| <b>(ii) Slide</b>  |  |   |     |
| Slide height half diving board or indicated as 1000 mm             |  | 1 |     |
| Slide shown  |  | 1 |     |
| Ladder/frame shown   |  | 1 | [3] |
| <b>(b) (i)</b>   |  |   |     |
| Any isometric rectangle drawn                                      |  | 1 |     |
| Width of pool correct (60 mm)                                      |  | 1 |     |
| Length of pool correct (100 mm)                                    |  | 1 |     |
| Inner edge of shallow end correct to overlay (5 mm)                |  | 1 |     |
| Sloping side of pool correct to overlay (deep end 15 mm)           |  | 1 | [5] |
| <b>(ii)</b>  |  |   |     |
| Diving board at the deep end                                       |  | 1 |     |
| Diving board matches design shown in (a) (i)                       |  | 1 |     |
| Diving board correct height (8–10 mm)                              |  | 1 |     |
| Diving board drawn in isometric                                    |  | 1 |     |
| Overall quality of drawing of the diving board                     |  |   |     |
| Good 2, satisfactory 1 or poor 0                                   |  | 2 | [6] |
| <b>(iii)</b>   |  |   |     |
| Slide at the shallow end   |  | 1 |     |
| Slide matched design shown in (a) (ii)                             |  | 1 |     |
| Slide correct height (4–6 mm)                                      |  | 1 |     |
| Slide drawn in isometric   |  | 1 |     |
| Overall quality of drawing of the slide                            |  |   |     |
| Good 2, satisfactory 1 or poor 0                                   |  | 2 | [6] |
| <b>(c)</b>   |  |   |     |
| Pictogram drawn  |  | 1 |     |
| Idea/s convey the message (no ball games) without the use of words |  | 1 |     |
| Two appropriate ideas (1)  |  |   |     |
| Three or more appropriate ideas (2)                                |  | 2 | [4] |
| <b>(d)</b>   |  |   |     |
| Outer – any hexagon drawn  |  | 1 |     |
| Outer – regular hexagon correct to overlay                         |  | 1 |     |
| Inner – any hexagon drawn  |  | 1 |     |
| Inner – regular hexagon correct to overlay                         |  | 1 |     |
| Colour evident   |  | 1 |     |
| Diagonal line or cross   |  | 1 |     |
| Image includes ball  |  | 1 | [7] |

[Total: 34]

| Page 4 | Mark Scheme                         | Syllabus | Paper |
|--------|-------------------------------------|----------|-------|
|        | GCE O LEVEL – October/November 2008 | 7048     | 01    |

|          |   |  |                    |      |
|----------|---|--|--------------------|------|
| <b>3</b> | <b>(a)</b>  | Circle drawn (any size)  | 1                  |      |
|          |   | Three divisions of circle  | 1                  |      |
|          |   | Correct division of circle (1 part = 1 mark or 2 parts = 2 marks) S – 60, C – 170 & B – 130            | 2                  |      |
|          |   | Colour used  | 1                  |      |
|          |   | Three different colours used   | 1                  |      |
|          |   | Three appropriate colours used (pink, brown and yellow)  | 1                  | [7]  |
|          |   | <b>(b)</b>   |                    |      |
|          |   | Drawing of cone used in pictograph   | 1                  |      |
|          |   | The three days clearly indicated   | 1                  |      |
|          |   | *accept accurate alternatives such as top down or sideways   |                    |      |
|          |   | *Friday marked to overlay (triangle)   | 1                  |      |
|          |   | *Saturday marked to overlay (triangle and semi-circle) *Sunday marked to overlay (triangle and circle) | 2                  |      |
|          |   | Colour used  | 2                  |      |
|          |   | Any two colours used   | 1                  |      |
|          |   | Appropriate colours used (cone and ice cream)  | 1                  | [10] |
|          |   | <b>(c) (i)</b>   |                    |      |
|          |   | 'Orange' shown (colour or shape or words)  | 1                  |      |
|          |   | 'Secret' shown (drawing or words)  | 1                  |      |
|          |   | 'Ice cream' shown (drawing or words)   | 1                  |      |
|          |   | Idea on a card   | 1                  |      |
|          | Two appropriate ideas (1) or three or more appropriate ideas (2)        | 2  | [6]                |      |
|          | <b>(ii)</b>   |  |                    |      |
|          | Acrylic base rendered to look clear (2 good or 1 satisfactory)          | 2  |                    |      |
|          | Missing line added  | 1  |                    |      |
|          | Outline of card completed in isometric (2 sides & top)                  | 1  |                    |      |
|          | Thickness of card evident   | 1  |                    |      |
|          | One candidate idea added to the isometric                               | 1  |                    |      |
|          | Lettering in correct orientation (isometric) (2 good or 1 satisfactory) | 2  |                    |      |
|          | Image(s) in correct orientation (isometric) (2 good or 1 satisfactory)  | 2  | [10]               |      |
|          |   |  | <b>[Total: 33]</b> |      |
| <b>4</b> | <b>(a)</b>  |  |                    |      |
|          |   | Outer circle (any size)  | 1                  |      |
|          |   | Outer circle correct to overlay  | 1                  |      |
|          |   | Hexagon (any size)   | 1                  |      |
|          |   | Regular hexagon with flat horizontal   | 1                  |      |
|          |   | Hexagon correct to overlay   | 1                  |      |
|          |   | Any circle at the corner of a hexagon  | 1                  |      |
|          |   | Six circles at the corners of a hexagon  | 1                  |      |
|          |   | Six circles of the correct size at each corner of a hexagon  | 1                  |      |
|          |   | Square in centre of drawing  | 1                  |      |
|          | Square correct to overlay   | 1  | [10]               |      |

| Page 5 | Mark Scheme                         | Syllabus | Paper |
|--------|-------------------------------------|----------|-------|
|        | GCE O LEVEL – October/November 2008 | 7048     | 01    |

|                    |   |    |      |
|--------------------|---|----|------|
| (b)                | Three lines to VP2  | 3  |      |
|                    | Two lines to VP1 (not roof)   | 2  |      |
|                    | Vertical back corner  | 1  |      |
|                    | End triangle of roof added  | 1  |      |
|                    | Height of roof in proportion  | 1  |      |
|                    | Ridge of roof added with line to VP1  | 1  |      |
|                    | Left hand edge of roof added (parallel to right side)   | 1  | [10] |
| (c) (i)            | Top curve added that blends in (accept freehand)  | 1  |      |
|                    | Bottom curves (accept freehand) – 1 × 2   | 2  |      |
|                    | Bottom curve parallel to top  | 1  |      |
|                    | 'THE' in <b>vertical</b> position (1) and lettering has <b>thickness</b> (1)                              | 2  |      |
|                    | 'WAVE' <b>starts</b> (1) and <b>finishes</b> (1) in the correct positions                                 | 2  | [8]  |
| (ii)               | Overall colour scheme relates to the theme of sea and sun (1 mark for yellow and 1 mark for blue)         | 2  |      |
|                    | Overall quality of application of colour  |    |      |
|                    | Excellent 3, good 2, satisfactory 1 or poor 0   | 3  | [5]  |
| <b>[Total: 33]</b> |   |    |      |
| 5 (a)              | Net will make a lid and base (10 surfaces)  | 1  |      |
|                    | One mark for each surface correct to overlay (move around for each surface if necessary)                  | 10 |      |
|                    | 8 workable glue tabs added 4 marks  |    |      |
|                    | 6/7 workable glue tabs added 3 marks  |    |      |
|                    | 5/4 workable glue tabs added 2 marks  |    |      |
|                    | 2/3 workable glue tabs added 1 marks  | 4  |      |
|                    | Glue tabs of an appropriate width – 6 to 12 mm (best one)   | 1  |      |
|                    | Glue tabs with angle ends (mark best one) – 1 × 2   | 2  |      |
|                    | Some fold lines shown (1) or all fold lines shown using correct convention (2)                            | 2  | [20] |
| (b)                | Overall quality of sketches and notes (1 mark if only sketches)   |    |      |
|                    | Good 2, satisfactory 1 or poor 0  | 2  |      |
|                    | Design proposal does not use pre-manufactured components  | 1  |      |
|                    | Extension 'tongue' on lid or base   | 1  |      |
|                    | Design proposals will hold box together   | 1  |      |
|                    | Design proposal will 'lock'   | 1  | [6]  |
| (c)                | Overall quality of sketches and notes (1 mark if only sketches)   |    |      |
|                    | Excellent 3, good 2, satisfactory 1 or poor 0   | 3  |      |
|                    | Design proposal shows position of drink (1) and hot snack (1) clearly separated in the box                | 2  |      |
|                    | Suitable material named (foam board or corrugated card) Do not accept card as it is given in the question | 1  |      |
|                    | Method of holding divider in position clearly shown   | 1  | [7]  |
| <b>[Total: 33]</b> |   |    |      |

| Page 6 | Mark Scheme                         | Syllabus | Paper |
|--------|-------------------------------------|----------|-------|
|        | GCE O LEVEL – October/November 2008 | 7048     | 01    |

|                |  |   |                    |
|----------------|--|---|--------------------|
| <b>6 (a)</b>   | Given centre lines used  | 1 |                    |
|                | Some evidence of ellipse construction (1) or accurate method of ellipse construction (2) | 2 |                    |
|                | Ellipse the correct size (vertical and horizontal) – 1 × 2                               | 2 |                    |
|                | Profile of ellipse accurate to overlay   | 1 |                    |
|                | Vertical height of centre crown correct (25mm) above ellipse                             | 1 |                    |
|                | Centre triangle correct to overlay   | 1 |                    |
|                | Height of apex projected either way (regardless of height)                               | 2 |                    |
|                | Two outer peaks correct to overlay – 1 × 2   | 2 |                    |
|                | Base correct width either side of centre line – 1 × 2                                    | 2 |                    |
|                | Base correct distance (10 mm) from ellipse   | 1 | [15]               |
| <b>(b)</b>     | Appropriate colour used for wooden base (brown or yellow)                                | 1 |                    |
|                | Light, medium and dark surfaces shown  | 1 |                    |
|                | Grain shown  | 1 |                    |
|                | End grain shown  | 1 |                    |
|                | Appropriate colour used for a stainless steel (grey or blue)                             | 1 |                    |
|                | Shiny surface shown  | 1 |                    |
|                | Overall quality of illustration  |   |                    |
|                | Good 2, satisfactory 1 or poor 0   | 2 | [8]                |
| <b>(c) (i)</b> | Speedboat shown (image or words)   | 1 |                    |
|                | Areas to colour  | 1 |                    |
|                | One idea (1 mark) or two or more ideas (2 marks)   | 2 | [4]                |
| <b>(ii)</b>    | Design shown in the given box  | 1 |                    |
|                | Design makes good use of space in the box  | 1 |                    |
|                | One of candidate ideas shown   | 1 |                    |
|                | Appropriate areas left blank for colouring   | 1 |                    |
|                | Overall presentation of design proposal  |   |                    |
|                | Good 2, satisfactory 1 or poor 0   | 2 | [6]                |
|                |  |   | <b>[Total: 33]</b> |