



2010 Graphic Communication

Advanced Higher

Finalised Marking Instructions

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1. Design Elements

Line
Colour
Shape
Size
Value
Mass/Weight
Texture

Design Principles

Balance
Contrast
Proportion
Proximity/Unity
White space
Rhythm
Alignment

2 marks each element and principle for good explanation – must relate to the given page

1 mark for correctly identifying Element or Principle

1 mark for a good related explanation

(8)

- 2.**
- A *Text Runaround/Text Wrap*
 - B *Sub-headline*
 - C *Bleed*
 - D *Footer*
 - E *Caption*
 - F *Headline*

1 mark for correct answer A to F

Total = 6 marks

No ½ marks

(6)

- 3. (a) (i) Spot Colour**
- The printing of given elements – text or graphics – in a solid colour of ink different from that of the main text which would normally be printed in black. **1**
- (ii) CMYK**
- Cyan, Magenta, Yellow and Key (Black) make up the abbreviation CYMK. There is only a need for 3 colours in printing but for definition black is added to achieve this. **1**
- (iii) Camera-ready copy**
- Fully prepared page(s) of text and graphics ready for photographing for reproduction by a conventional printing process, eg offset lithography.
- 1 mark for a good description. 1**
- (b)** Registration marks are crosses placed at the corners of the image. When setting up printing of a document these must be perfectly aligned to make sure that the colours sit correctly on top of each other.
- 1 mark for the crosses mentioned and 1 mark for why they are needed. 2**
- No ½ marks (5)**

4. (a) **Vector**
Made up of individual scalable objects, which are defined by mathematical equations, which allows them to render at the highest quality. Objects may consist of lines, curves and shapes with editable attributes such as colour, fill and outline. An object can be modified by shaping and transforming using nodes and handles.

Bitmap

Also known as raster images. Made up of pixels in a grid. Each pixel contains specific colour information. A pixel is minutely small, a single image may be composed of thousands of individual pixels. These pixels are only clearly and individually visible when the image is magnified

2 Marks - Any 2 points from above + accept appropriate sketches **2**

- (b) Vector images can be scaled, skewed, stretched without losing their quality. A Vector image can also be manipulated without losing its quality. The same can not be said of Bitmap, which, when scaled will lose its original map of bits.

Vector image:

- Scalable.
- Has no background.
- Resolution independent.
- Unsuitable for photo realistic images.

Bitmap image:

- Restricted to rectangle.
- Quality is reduced when resized.
- Made up of pixels in a grid.
- Resolution dependent.
- Minimal support for transparency.

2 Marks - Any 2 points from above **2**
No ½ marks **(4)**

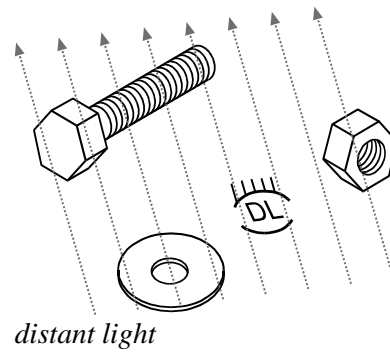
5. *Explaining, in the correct way the 3D modelling terms that are needed to model the bracket.*

<i>Extrude of shape</i>	1 mark
<i>Left slot subtraction/cut extrude</i>	1 mark
<i>Cylinder addition/union/extrude</i>	1 mark
<i>Right slot subtraction/cut extrude</i>	1 mark
<i>Sketches</i>	1 mark
<i>Use of editing commands (fillet/chamfer)</i>	

No ½ marks **(5)**

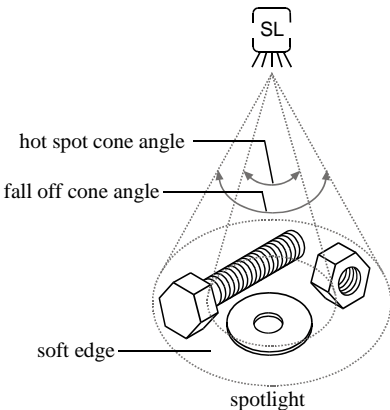
6. (a) (i) **Distant**

A distant light emits uniform parallel light rays in one direction only. Light rays extend infinitely on either side of the point you specify as the light source. The intensity of distant light does not diminish over distance; it is as bright at each face it strikes as it is at the source. The direction of a distant light in a drawing is more critical than its location. All the objects are lighted, including any “behind” the light. A distant light acts as if it is outside the drawing. Distant lights are useful for lighting objects or a backdrop uniformly and for simulating sunlight. A single distant light simulates the sun.



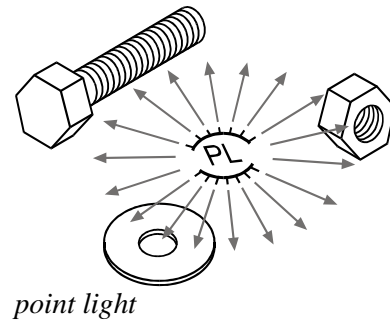
(ii) **Spot**

A spotlight emits a directional cone of light. The direction of the light and the size of the cone can be specified. Like that of point lights, the intensity of spotlights diminishes over distance. Spotlights have hotspot and falloff angles that together specify how light diminishes along the edge of the cone. When light from a spotlight falls on a surface, the area of maximum illumination is surrounded by an area of lesser intensity.



(iii) **Point**

A point light radiates light in all directions from its location. The intensity of a point light diminishes over distance according to its rate of attenuation. A point light is useful for simulating light from a light bulb. Used for general lighting effects. Point lights are an alternative to ambient light for providing fill in a localised area.



1 mark for explanation

3

(b) (i) **Ambient**

Light that provides a constant illumination to every surface in a model is ambient light; it comes from no particular source and has no direction.

(ii) **Intensity**

Using the Intensity Slider, set a light intensity appropriate to the type of light and the conditions you're trying to simulate. (A value of zero turns a light off).

High intensity – bright light

Low intensity – dim light

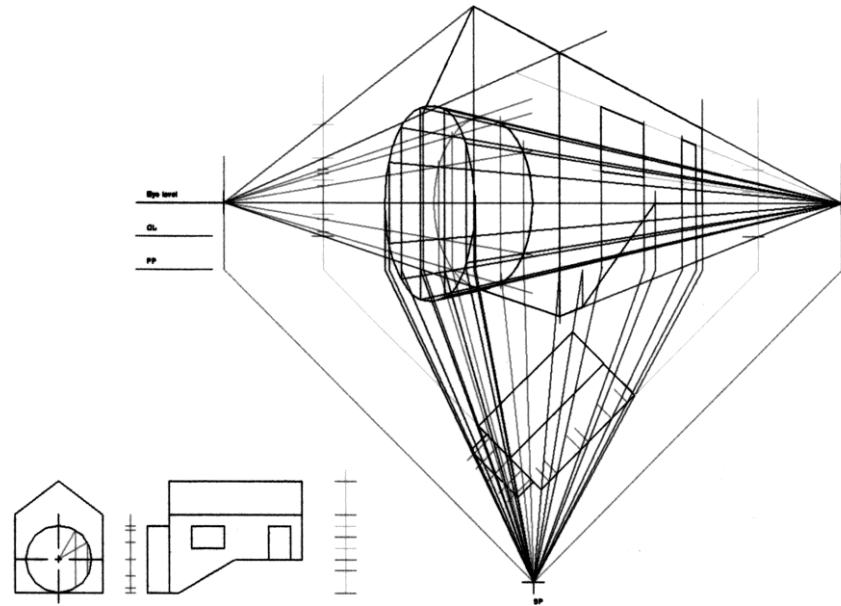
1 mark for each explanation

2
(5)

7. Measured Perspective – Watermill (16 marks)

- (a) Location of V1 & V2 (both for 1) 1
- (b) VP1 + VP2 (both for 1) 1
- (c) Height line (H1) 1
- (d) Construction on elevation and end elevation 1
- (e) Water wheel (full circle) 3
12 = 3, 9-11 = 2, 6-8 = 1
- (f) Part water wheel (part circle) 2
2 = 6-7, 1 = 4-5
- (g) Smooth curve 1
Good = 1
- (h) House walls and roof 2
2 = 7-9, 1 = 4-6
- (i) Window and door 2
2 = 7-9, 1 = 4-6
- (j) Canopy 2
2 = 7-8, 1 = 4-6

Total 16



8. Interpenetrating pipes (16 marks)

End Elevation

- (a) Construction on elevation 1
- (b) Construction on end elevation 1
- (c) Cylinder top (12 points) 2
11-12 = 2, 8-10 = 1

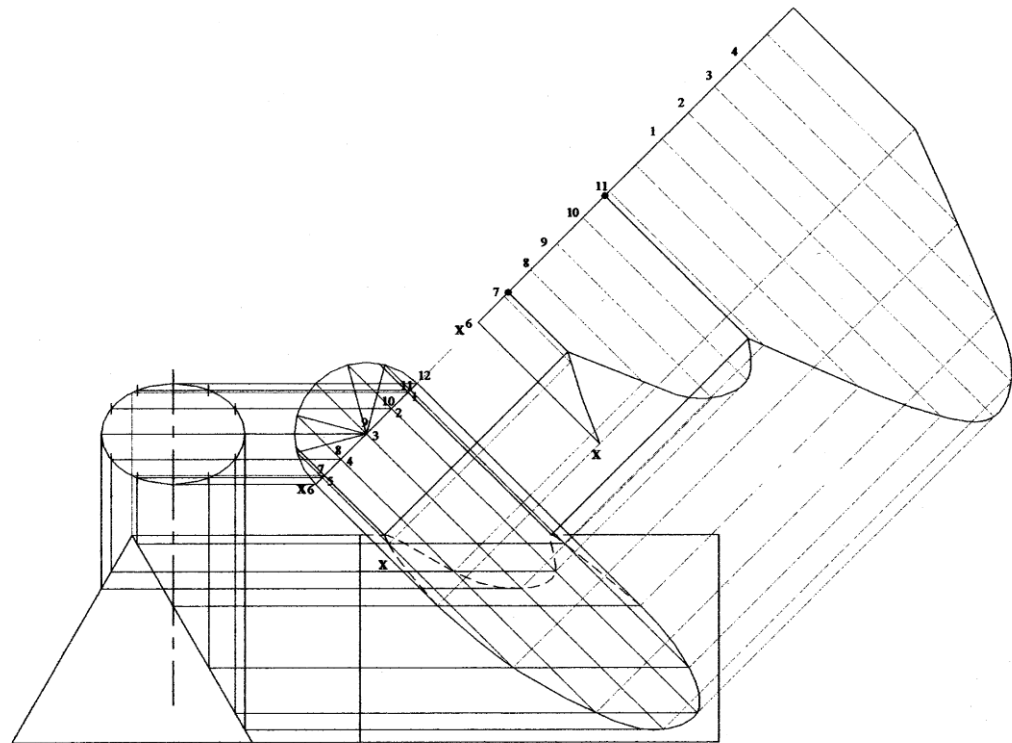
Elevation

- (d) Front detail – 7 points 2
6-7 = 2, 4-5 = 1
- (e) Back curve (hidden) – 7 points 2
6-7 = 2, 4-5 = 1
- (f) 2 horizontal (hidden), hidden curve and 2 solid angular lines 1
3-5 = 1

Development

- (g) Panel length 12 segments 1
- (h) True lengths projected from elevation 1
- (i) 13 points 3
11-13 = 3, 8-10 = 2, 5-7 = 1
- (j) Two extra points (both needed) 1
- (k) Perimeter (3 lines) + Curve 1
3-4 = 1

Total 16



9. Cone (15 marks)

End Elevation

- (a) Curve – base (11 points/curve + straight) 2
10-12 = 2, 7-9 = 1
- (b) Curve – Face X (12 points) 2
11-12 = 2, 8-10 = 1
- (c) Curve – Face Y (5 points) 1
3-5 = 1
- (d) Ellipse outlines (curves × 3) 1
2-3 = 1

Development

- (e) Development 6 segments 1
7 points = 1
- (f) Bottom curves – base (7 points + 1 extra) 2
7-8 = 2, 5-6 = 1
- (g) Top Curve (7 points) 1
5-7 = 1
- (h) Outline three curves and + edge (AA) 1
3-4 = 1

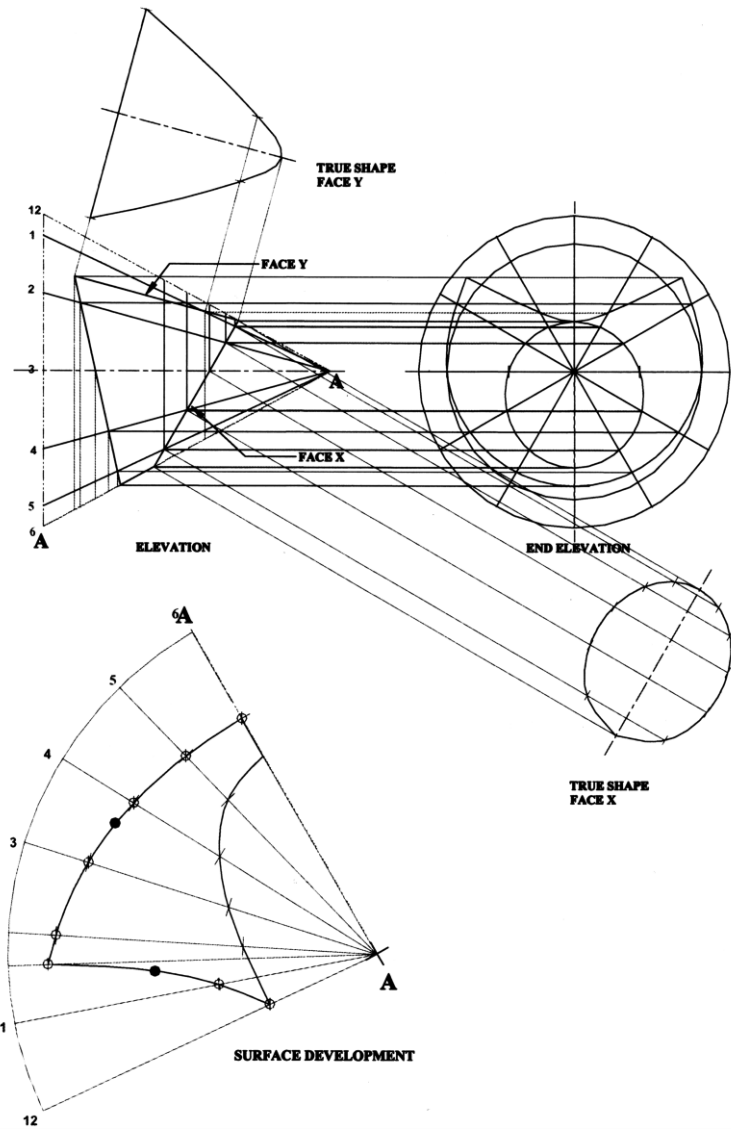
True shape Face X

- (i) Curve (12 points) 2
10-12 = 2, 7-9 = 1

True shape Face Y

- (j) Curve (5 points) + outline 2
6 = 2, 4-5 = 1

Total 15



[END OF MARKING INSTRUCTIONS]