

**BOARD OF STUDIES**  
NEW SOUTH WALES

## **2013 HSC Industrial Technology Graphics Technologies Marking Guidelines**

### **Section I**

#### **Multiple-choice Answer Key**

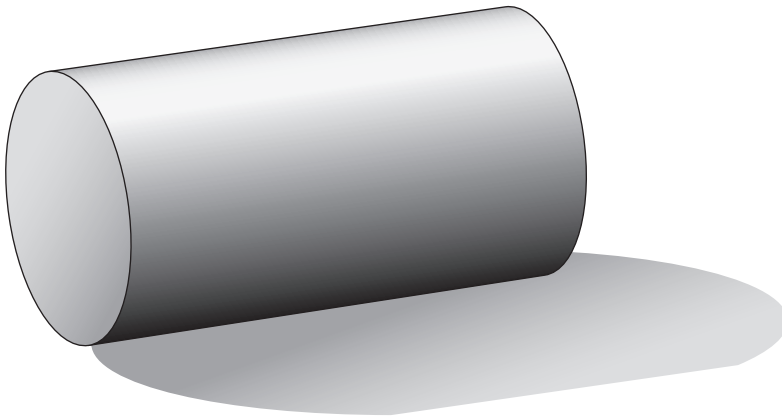
<b>Question</b>	<b>Answer</b>
1	D
2	B
3	D
4	D
5	D
6	A
7	C
8	B
9	A
10	B

## Section II

### Question 11

Criteria	Marks
• Correctly rendered	2
• Partially correctly rendered	1

*Sample answer:*



*Answers could include:*

Rendered with dots or lines or shading

**Question 12**

Criteria	Marks
<ul style="list-style-type: none"> <li>Clearly describes the advantages of a recent product prototyping</li> </ul>	3
<ul style="list-style-type: none"> <li>Outlines main features of a recent product prototyping</li> </ul> OR	2
<ul style="list-style-type: none"> <li>Describes an advantage</li> </ul>	
<ul style="list-style-type: none"> <li>Provides some relevant information</li> </ul>	1

**Sample answer:**

3D printing uses a thermo plastic laid down in layers to form a solid model/prototype of a product. The technology is a cheap and accessible method to produce an accurate model for testing and evaluation.

**Answers could include:**

- Solid Modeling computer software
- 3D printing/plotting
- Laser sintering
- Laser fusion
- Laser cure epoxy
- Ability to test a product
- Product form is easy to understand
- Efficient communication
- Clarify production costs and issues
- Develop marketing procedures
- Establish patents and design registration
- Virtual prototyping

**Question 13**

Criteria	Marks
<ul style="list-style-type: none"> <li>Correctly names Cabinet Oblique</li> <li>Provides a well reasoned argument for the reduction in scale</li> </ul>	3
<ul style="list-style-type: none"> <li>Incorrectly names the method but provides argument for reduction in scale</li> </ul> OR	2
<ul style="list-style-type: none"> <li>Correctly names the method and provides poorly reasoned arguments</li> </ul>	
<ul style="list-style-type: none"> <li>Provides some relevant information</li> </ul>	1

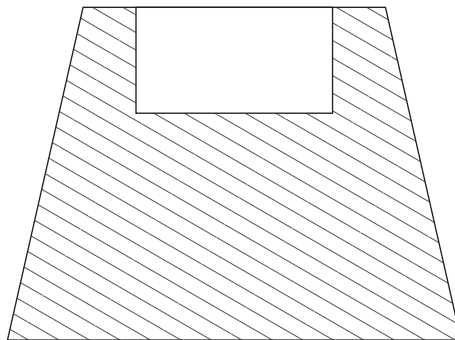
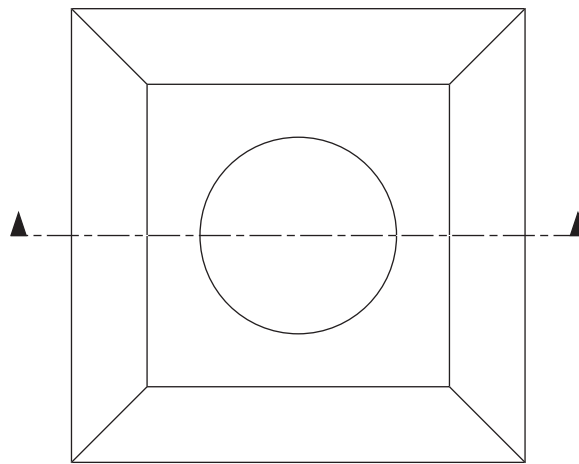
**Sample answer:**

Cabinet Oblique. The scale is reduced on the receding axis to give a more realistic representation of the object.

**Question 14**

Criteria	Marks
<ul style="list-style-type: none"> <li>• Top and Front view in proportion with correct placement</li> <li>• Correctly sectioned</li> </ul>	3
<ul style="list-style-type: none"> <li>• Top and Front view in proportion with correct placement</li> <li>• Incorrectly sectioned</li> </ul> OR <ul style="list-style-type: none"> <li>• Correctly sectioned with errors to proportion/placement</li> </ul>	2
<ul style="list-style-type: none"> <li>• Top or Front view in proportion</li> </ul>	1

*Sample answer:*



**Question 15**

Criteria	Marks
<ul style="list-style-type: none"> <li>Outlines an advantage and disadvantage of Isometric and Perspective drawings</li> </ul>	4
<ul style="list-style-type: none"> <li>Outlines an advantage of Isometric and Perspective drawings AND outlines a disadvantage of Isometric or Perspective drawings</li> </ul> OR <ul style="list-style-type: none"> <li>Outlines a disadvantage of Isometric and Perspective drawings AND outlines an advantage of Isometric or Perspective drawings</li> </ul>	3
<ul style="list-style-type: none"> <li>Outlines an advantage and disadvantage of Isometric or Perspective drawings</li> </ul> OR <ul style="list-style-type: none"> <li>Outlines an advantage or disadvantage of Isometric and Perspective drawings</li> </ul>	2
<ul style="list-style-type: none"> <li>Provides some relevant information regarding the advantage and disadvantage of Isometric and Perspective drawings</li> </ul>	1

**Sample answer:**

	<i>Isometric</i>	<i>Perspective</i>
Advantage	Fast to produce and easy to create. Keeps all features of object clear and reasonably sized in 3D.	More realistic in representing 'real-world' appearances, as it uses vanishing points.
Disadvantage	Does not represent 'real world' appearance as it forces angles to be consistent. Distorted view.	More difficult to draw accurately eg circles and curves. Amount of space required to draw it.

## Section III

### Question 16 (a)

Criteria	Marks
• Provides a detailed explanation of why it is important for a company to comply with safety standards	6
• Provides a sound explanation of why it is important for a company to comply with safety standards	4–5
• Provides a limited explanation of why it is important for a company to comply with safety standards	2–3
• Provides some relevant information	1

#### *Sample answer:*

It is important for a company to comply with safety standards for a number of reasons. Firstly, they are legally responsible for the safety of their employees and can be both financially and even criminally liable should the company be at fault for the injury or death of an employee. Another reason to comply with safety standards is to ensure that production is not disrupted. An industrial accident can cause a stop in production which in turn will result in financial losses on top of the financial losses to paying worker's compensation for an injured worker. Injured employees may also have to be replaced and this will also add to the cost of workplace injuries as it will be an extra wage to pay out. Morale and productivity could suffer as employees do not feel safe in the workplace and can even reach a point of production being stopped by employees until their right to a safe work environment is met.

#### *Answers could include:*

- Duty of care
- Government legislation
- Financial security
- Marketability of a product
- Good will of company
- Ethical issue

**Question 16 (b)**

Criteria	Marks
• Provides a detailed assessment of strategies a company could implement to establish and maintain a safe work culture	9
• Provides an assessment of strategies a company could implement to establish and maintain a safe work culture	7–8
• Relates strategies a company could implement to establish and maintain a safe work culture	4–6
• Attempts to provide strategies a company could implement to establish and maintain a safe work culture	2–3
• Provides some relevant information	1

**Sample answer:**

A range of methods could implement to establish and maintain a safe work culture are; establish a WHS committee, erect clear signage, and train employees.

Establishing a WHS committee ensures that all members of the work place are represented and participate in risk assessments, site maintenance and site inspections. This method is very effective in ensuring communication of WHS requirements is clearly spread between all levels of the work force. It provides the opportunity for different perspectives on work place safety to be considered. A WHS committee also spreads responsibility for workplace safety across the entire company, which ensures everyone applies a consistent approach to safe work practices and management practices and fosters a positive and safe work place culture.

Erecting clear signage that utilises graphical information, over complex written policies, allows for both a reminder of safe work practices in hazardous areas and clear communication of safe work practices to workers with limited literacy. Signage is an excellent method to maintain a safe workplace culture as they are quick to recognise and serve as constant reminders of safe work practices and hazards to people who may not have any training eg visitors to the workplace. Signage is particularly useful in the event of new safety requirement or hazard. It is far quicker to erect a slippery floor sign over a spill than send a memo out to all staff.

Training is another excellent method to ensure and maintain a safe workplace culture. It directly communicates safe work practices to employees and can ensure each employee is assessed as to how well they understand safety requirements or the correct procedure to work with hazardous materials, machinery or environments. It gives the employees a chance to clarify their understanding of the safe work practices as well as possibly develop their own skills in the use of machinery. When it is registered what an employee is trained to do, it is easier for management to ensure the employees are placed appropriately in a production line to ensure the employees own safety and the safety of others.

***Answers may include:***

Assess a range of methods that could implement effectively to establish and maintain a safe work culture.

- Establish a WHS committee (Risk assessments / Site maintenance + inspection)
- Improve signage so that people who can't read can understand what is required
- Train employees re: WHS procedures eg evacuation
- Practice evacuation procedures once every 6 months
- Improve communication — meetings, posters, emails, message boards
- Train employees — in service and keep a register of trained personnel to identify training required
- Keep and maintain a register of incidents
- Monitoring
- Maintenance
- Supply PPE
- Site meeting
- Risk assessments



# Industrial Technology Graphics Technologies

## 2013 HSC Examination Mapping Grid

### Section I

Question	Marks	Content	Syllabus outcomes
1	1	Equipment page 34	H1.2
2	1	Principles and processes page 35	H1.2
3	1	Equipment page 35	H1.2
4	1	Principles page 35	H1.2
5	1	Processes: Pictorial page 34	H1.2
6	1	Processes: Architectural page 34	H1.2
7	1	Principles p35	H1.2
8	1	Process p34	H3.2
9	1	Principles p35	H3.1
10	1	Processes Architectural	H3.2

### Section II

Question	Marks	Content	Syllabus outcomes
11	2	Processes: Presentation techniques page 34	H3.1, H5.1
12	3	Processes: Presentation techniques page 34	H1.2
13	3	Processes: Pictorial drawings page 34	H4.3
14	3	Processes: Engineering drawing page 34 Principles/Standards page 35	H3.1, H3.2, H4.3
15	4	Processes: Pictorial page 34	H1.2, H3.1, H3.2, H6.1

### Section III

Question	Marks	Content	Syllabus outcomes
16 (a)	6	OHS (WHS)	H2.1, H6.1, H7.1, H7.2
16 (b)	9	OHS (WHS)	H2.1, H7.1, H7.2