



B O A R D O F S T U D I E S
NEW SOUTH WALES

2012 HSC Industrial Technology Graphics Technologies 'Sample Answers'

When examination committees develop questions for the examination, they may write 'sample answers' or, in the case of some questions, 'answers could include'. The committees do this to ensure that the questions will effectively assess students' knowledge and skills.

This material is also provided to the Supervisor of Marking, to give some guidance about the nature and scope of the responses the committee expected students would produce. How sample answers are used at marking centres varies. Sample answers may be used extensively and even modified at the marking centre OR they may be considered only briefly at the beginning of marking. In a few cases, the sample answers may not be used at all at marking.

The Board publishes this information to assist in understanding how the marking guidelines were implemented.

The 'sample answers' or similar advice contained in this document are not intended to be exemplary or even complete answers or responses. As they are part of the examination committee's 'working document', they may contain typographical errors, omissions, or only some of the possible correct answers.

Section II

Question 11

Answers could include:

- Accuracy
- Editing
- Storage: takes less space, can backup files, file size, reduce file size
- Communication: email drawings, presentation, animation
- Ability to generate 3D models and convert/generate 2D detail drawings
- Printing

One of the main advantages of using CAD drawings is accuracy. Drawings are scaled accurately. All line work and line weights are drawn with precision, etc.

CAD drawings are an electronic file which takes up less space than a hard copy. You can also secure a CAD drawing by backing up the files, readily saving (automatic save) and compressing large files.

You can design/draw faster using CAD software applications. You can modify and edit CAD drawings more easily.

An advantage of using CAD drawings is communication. For example, you can email drawings used for presentations (walk through).

Question 12

Sample answer:

Specifications describe an explicit set of requirements to be satisfied by a material, product or service.

Specifications refer to government regulations, such as Australian Standards, Building Code of Australia, Local Council Development Guidelines, environmental protection legislation, Worker Health and Safety legislation.

Answers could include:

- Specifications usually include all necessary drawings, dimensions, terms, definitions, standards, materials, workmanship etc
- Specifications outline the criteria for workmanship
- Materials: type, strength, colour, finish
- Specifications help choose and identify products, services, references, materials, processes, practices, testing and certification requirements
- Specifications outline safety considerations and requirements, quality control, people, offices or agencies responsible for enforcement of specifications
- Specifications outline professional (discipline) requirements: mechanical, electrical, architectural, chemical, civil
- Environmental considerations and requirements
- Specifications outline the design brief/customer's requirement specifications (CRS)
- A design specification provides explicit information about the requirements for a product and how the product is made and assembled, such as: design brief, CRS, materials, Australian Standards, finishing, certification requirements, etc

Question 13

Answers could include:

- Models/prototypes: (possible materials – balsa, plastic, paper, clay, cardboard, metal or a combination of materials) are a great medium to communicate ideas to clients
- PowerPoint presentations in multimedia is a sound method to communicate ideas to clients (pictures, photos, animation, 3D models)
- Freehand sketching and/or manual drafting techniques are used as a communication method, where a designer can produce pictorial drawings such as isometric, one-point/two-point perspectives to illustrate their ideas to clients
- A designer can use CAD applications to generate 3D models, using animation and walk-throughs (virtual animation) to demonstrate their design ideas to clients
- Pictorial presentation (rendered) drawings are an excellent method used to provide a 3D real-live image of design ideas and concepts

Question 14***Answers could include:***

Features:

- Line weight according to AS1100: thick outlines, thin construction line work, centre lines, hidden lines are shown
- Dimensioning according to AS1100: dimension line, projected lines extend 2 mm and 2 mm gap between outline and extension line, appropriate arrows implemented
- All leader as indicated
- Hatching applied to sectional view
- Label: ie heading – SECTION A–A is included
- Correct text height is applied: 5 mm for main labels/titles and 3 mm for dimension texts and notes

Question 15***Answers could include:***

Features:

- Line weight according to AS1100: thick outlines, thin construction line work
- Visual rays projected from top view back to picture plane (PP), centerline of vision (CV)/eye (E) and vanishing points (VP)
- True length (height) is inline with centre line (CL) of vision: the centre line of 32/50 mm diameter circles could be used as CL
- Bracket is proportionally drawn to represent a real-life 3D image
- All constructions are drawn

Section III

Question 16 (a)

Answers could include:

- YouTube lead in ads
- ECommerce technology
- Advert links to online store
- PayPal
- Cloud, iCloud
- Twitter
- Banners and Pop ups
- Social media marketing
- Email
- Online Store
- Facebook
- Apps
- Ebay
- Website/Shopping cart

Question 16 (b)

Answers could include:

Organisation

- In-house versus external support for setup and ongoing maintenance
- Location
 - Warehouse/factory versus shop front
 - Cheaper location
- Management with expertise in technology
- Support services, eg, transport, courier, postal services
- The addition of a web-based marketing, sales and delivery team

Work Practices

- Staff retrained
- Hours of operation to cater for different time zones
- Change in administrative practices to accommodate ordering to dispatch processes
- Extend range of duties/multiskilling
- Staff changes to ensure accuracy of online information
- Awareness of regulations/web-related legislation/security issues