



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

2012 HSC Industrial Technology Electronics 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

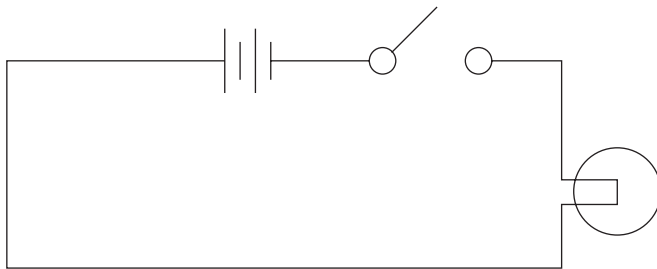
Question 11

Sample answer:

Computers can be used in PCB design to organise the layout of tracks/components so that the board is used efficiently and is neat and tidy and easy to follow.

Question 12

Sample answer:



Question 13

Sample answer:

An example of a movement switch could be a mercury switch. When a mercury switch is moved the mercury covers the two wires in the switch which closes the circuit and allows current to flow. An example of this is an emergency light switch or window alarm.

Question 14

Sample answer:

An oscilloscope allows observation of constantly varying signal voltages in an electronic circuit, usually as a two-dimensional graph. Oscilloscopes are commonly used to observe the exact wave shape of an electrical signal.

Question 15

Sample answer:

Electronic circuit simulation software uses mathematical models to replicate the behaviour of electronic circuits. Simulation software allows for modelling of circuit operation and therefore is an important analysis tool. It allows testing (simulating) prior to production therefore it is time, cost, set-up and waste efficient.

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