

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

2009 HSC Industrial Technology Marking Guidelines

Section I

Question 1 (a)

Outcomes assessed: H1.1

MARKING GUIDELINES

Criteria	Marks
• Names TWO strategies	2
• Names ONE strategy	1

Question 1 (b)

Outcomes assessed: H1.1

MARKING GUIDELINES

Criteria	Marks
• Sketches in general terms possible changes that could be made to IND-TECH's management structure to improve efficiency	3
• Sketches in general terms a possible change that could be made to IND-TECH's management structure to improve efficiency	2
• Indicates a change to IND-TECH's management	1

Question 1 (c)*Outcomes assessed: H1.1, H1.2***MARKING GUIDELINES**

Criteria	Marks
• Recognises, names and provides characteristics and features of a relevant method that could be used to determine reasons for the decrease in demand for products and services	4
• Names and sketches in general terms a relevant method that could be used	3
• Sketches in general terms a method that could be used	2
• Names a method	1

Question 1 (d)*Outcomes assessed: H1.1, H7.1***MARKING GUIDELINES**

Criteria	Marks
• Identifies issues and provides points for and/or against the impact of government legislation	4
• Identifies issues and provides a point for and/or against the impact of government legislation	3
• Sketches in general terms how legislation could impact on this proposal	2
• Identifies an issue that relates to government legislation	1

Question 1 (e)*Outcomes assessed: H1.1, H1.2***MARKING GUIDELINES**

Criteria	Marks
• Suggests an emerging technology with reference to efficiency and draws out and relates implications on both employees and the company	7
• Suggests an emerging technology with reference to efficiency and draws out and relates an implication to employees and the company	5–6
• Suggests an emerging technology with reference to efficiency and identifies an implication related to employees or the company	3–4
• Indicates an emerging technology with some reference to the company or its employees	1–2

Question 2 (a)*Outcomes assessed: H1.1, H5.1***MARKING GUIDELINES**

Criteria	Marks
• Lists TWO methods of workplace communication	2
• Lists a method of workplace communication	1

Question 2 (b)*Outcomes assessed: H1.1, H2.1***MARKING GUIDELINES**

Criteria	Marks
• Sketches in general terms personnel issues that could arise due to reduced working hours	3
• Sketches in general terms a personnel issue that could arise due to reduced working hours OR • Lists TWO personnel issues	2
• Lists a personnel issue related to working hours	1

Question 2 (c)*Outcomes assessed: H1.1, H2.1***MARKING GUIDELINES**

Criteria	Marks
• Identifies issues and provides points for and/or against how IND-TECH could ensure a safe working environment	4
• Provides characteristics and features of how IND-TECH could ensure a safe working environment	3
• Sketches in general terms how IND-TECH could ensure a safe working environment	2
• Names a method IND-TECH could use to ensure a safe working environment	1

Question 2 (d)*Outcomes assessed: H1.1, H1.2***MARKING GUIDELINES**

Criteria	Marks
• Provides characteristics and features of TWO methods IND-TECH could use to determine the viability of new products and/or services	4
• Sketches in general terms TWO methods IND-TECH could use to determine the viability of new products and/or services	3
• Recognises and names TWO methods IND-TECH could use to determine the viability of new products and/or services	2
• Names a method IND-TECH could use to determine the viability of new products and/or services	1

Question 2 (e)*Outcomes assessed: H1.1, H5.1***MARKING GUIDELINES**

Criteria	Marks
• Determines the value of the use of computer software in the design and production of new products	7
• Describes how computer software can be used in the design and production of new products	5–6
• Sketches in general terms how computer software is used in the design and production of new products	3–4
• Identifies computer software that could be used in the design or production of new products	1–2

Question 3 (a)*Outcomes assessed: H3.1***MARKING GUIDELINES**

Criteria	Marks
• Lists TWO advantages of using freehand drawings to present initial design ideas	2
• Lists ONE advantage of using freehand drawings to present initial design ideas	1

Question 3 (b)*Outcomes assessed: H3.1***MARKING GUIDELINES**

Criteria	Marks
• Indicates why graphics are often used in OHS signage, supported by an example	3
• Indicates why graphics are often used in OHS signage, no example	2
• Lists or draws an example of a graphic	1

Question 3 (c) (i)*Outcomes assessed: H3.2***MARKING GUIDELINES**

Criteria	Marks
• FIVE correct answers	2
• THREE correct answers	1

Question 3 (c) (ii)*Outcomes assessed: H3.1, H5.1***MARKING GUIDELINES**

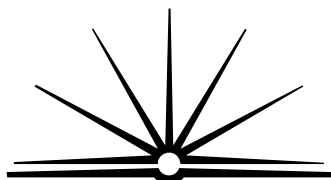
Criteria	Marks
• All employee groups correctly graphed	2
• Provides partially correct graph	1

Question 3 (d)*Outcomes assessed: H5.2***MARKING GUIDELINES**

Criteria	Marks
<ul style="list-style-type: none">Provides characteristics and features of advantages of using Word Processing software to produce a management folio	4
<ul style="list-style-type: none">Provides characteristics and features of an advantage and an outline of a second advantage of using Word Processing software to produce a management folio	3
<ul style="list-style-type: none">Provides characteristics and features of an advantage OR	2
<ul style="list-style-type: none">Sketches in general terms advantages of using Word Processing software	
<ul style="list-style-type: none">Names an advantage of using Word Processing software	1

Question 3 (e)*Outcomes assessed: H5.1, H5.2***MARKING GUIDELINES**

Criteria	Marks
<ul style="list-style-type: none">Recognises, names and determines the value of types of computer graphics that could be used in the production of the annual report	7
<ul style="list-style-type: none">Recognises and names types of computer graphics. Determines the value of ONE and describes the other	5–6
<ul style="list-style-type: none">Lists and provides characteristics and features of types of computer graphics	3–4
<ul style="list-style-type: none">Provides characteristics and features of a computer graphic OR	1–2
<ul style="list-style-type: none">Lists types of computer graphics	



BOARD OF STUDIES
NEW SOUTH WALES

2009 HSC Industrial Technology Automotive Industries Marking Guidelines

Section II

Question 4 (a)

Outcomes assessed: H2.1, H4.3

MARKING GUIDELINES

Criteria	Marks
• Indicates why an oil change is a routine maintenance procedure, with appropriate detail	2
• Lists a reason why an oil change is a routine maintenance procedure	1

Question 4 (b)

Outcomes assessed: H1.2, H4.3

MARKING GUIDELINES

Criteria	Marks
• Sketches in general terms the principles of the operation of a vehicle powered by both a petrol engine and an electric motor	3
• Indicates the main features of a petrol engine or an electric motor	2
• Lists a feature of a petrol engine or an electric motor	1

Question 4 (c)*Outcomes assessed: H1.2, H7.1***MARKING GUIDELINES**

Criteria	Marks
• Identifies issues and provides points for and against using diesel engines in modern motor vehicles	4
• Provides characteristics and features of the use of diesel engines in modern motor vehicles	3
• Sketches in general terms the use of diesel engines in modern motor vehicles	2
• Indicates a feature of the operation of a diesel engine in motor vehicles	1

Question 4 (d)*Outcomes assessed: H2.1, H4.3, H6.2***MARKING GUIDELINES**

Criteria	Marks
• Provides characteristics and features of the process of securing head to block, referring to the tools used	4
• Provides characteristics and features of securing head to block OR • Provides a feature of securing head to block, referring to the tools used	3
• Sketches in general terms the process of securing head to block	2
• Provides a feature of the process of securing head to block OR • Identifies a tool used	1

Question 4 (e)*Outcomes assessed: H3.1, H4.3***MARKING GUIDELINES**

Criteria	Marks
• Provides how an engine cooling system operates in a motor vehicle and includes key components and a sketch	7
• Provides how an engine cooling system operates with reference to some key components	5–6
• Indicates the main features of engine cooling system with or without sketch	3–4
• Names parts of features of an engine cooling system	1–2

Question 5 (a)*Outcomes assessed: H2.1, H4.3, H6.2***MARKING GUIDELINES**

Criteria	Marks
• Lists TWO maintenance procedures to prolong a tyre's life	2
• Lists ONE maintenance procedure to prolong a tyre's life	1

Question 5 (b)*Outcomes assessed: H3.1, H4.3, H6.1***MARKING GUIDELINES**

Criteria	Marks
• Sketches in general terms the difference in operation of a drum brake and a disc brake and provides a sketch	3
• Sketches in general terms the difference in operation of a drum brake and a disc brake OR • Provides TWO sketches which indicate the differences between a drum brake and a disc brake	2
• Indicates a feature of a drum or disc brake	1

Question 5 (c)*Outcomes assessed: H1.2, H4.3***MARKING GUIDELINES**

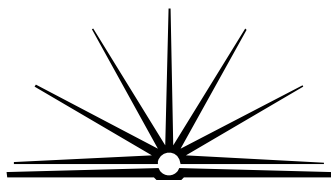
Criteria	Marks
• Identifies issues and provides points for and/or against the use of panel replacement versus panel repair	4
• Provides characteristics and features of the use of panel replacement versus panel repair	3
• Sketches in general terms the use of panel replacement or panel repairs	2
• Indicates a feature of panel repair OR panel replacement	1

Question 5 (d)*Outcomes assessed: H7.1***MARKING GUIDELINES**

Criteria	Marks
• Provides why it is important to comply with regulations when modifying a vehicle. Provides an example	4
• Provides why it is important to comply with regulations when modifying a vehicle, without an example	3
• Sketches in general terms the importance of complying regulations when modifying a vehicle	2
• Provides some understanding of government regulations concerning vehicle modification	1

Question 5 (e)*Outcomes assessed: H1.2, H6.2, H7.1***MARKING GUIDELINES**

Criteria	Marks
• Relates cause and effect of advancements in design and the improvements on safety, aerodynamics and the environment, using examples	7
• Provides characteristics and features of how advances in auto design have improved safety, aerodynamics and the environment, using examples	5–6
• Sketches in general terms how advances in automotive design have improved safety or aerodynamics or environment and provides an example	3–4
• Indicates some understanding of advance in automotive design	1–2



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

2009 HSC Industrial Technology Electronics Industries Marking Guidelines

Section II

Question 4 (a)

Outcomes assessed: H4.3

MARKING GUIDELINES

Criteria	Marks
• Provides TWO correct units for measuring electrical potential and electron flow	2
• Provides ONE correct unit for measuring electrical potential or electron flow	1

Question 4 (b)

Outcomes assessed: H3.1, H4.3

MARKING GUIDELINES

Criteria	Marks
• Sketches distinctive features of each signal, correctly labelled	3
• Sketches distinctive features of each signal without correct labelling	2
• Provides ONE sketch of either a digital or analogue signal	1

Question 4 (c) (i)*Outcomes assessed: H4.3***MARKING GUIDELINES**

Criteria	Marks
• Provides a correctly completed truth table	3
• Provides TWO correct lines in the truth table	2
• Provides ONE correct line in the truth table	1

Question 4 (c) (ii)*Outcomes assessed: H4.3***MARKING GUIDELINES**

Criteria	Marks
• Indicates the correct name of the logic gate	1

Question 4 (d) (i)*Outcomes assessed: H1.2, H4.3***MARKING GUIDELINES**

Criteria	Marks
• Provides TWO correct wave forms	2
• Provides ONE correct wave form	1

Question 4 (d) (ii)*Outcomes assessed: H4.3***MARKING GUIDELINES**

Criteria	Marks
• Indicates the correct function of BOTH components	2
• Indicates the correct function of ONE component	1

Question 4 (e)*Outcomes assessed: H1.2, H4.3, H6.1***MARKING GUIDELINES**

Criteria	Marks
• Determines the value of LED technology in terms of power requirements, light output and cost. Examples used to illustrate answer	7
• Provides why and/or how LED technology can affect power requirements, light output and cost. Examples used to illustrate answer	5–6
• Provides characteristics and features of power requirements, light output and cost with ONE example	3–4
• Provides an example of LED technology or some reference to either power, output or cost	1–2

Question 5 (a)*Outcomes assessed: H4.3***MARKING GUIDELINES**

Criteria	Marks
• Provides TWO correct types of variable resistors	2
• Provides ONE correct type of variable resistor	1

Question 5 (b)*Outcomes assessed: H4.3***MARKING GUIDELINES**

Criteria	Marks
• Correctly indicates how the operation of a stepper motor differs from that of a DC motor	3
• Sketches in general terms features of a stepper motor and a DC motor	2
• Lists a feature of a stepper motor or a DC motor	1

Question 5 (c) (i)*Outcomes assessed: H3.1, H4.3***MARKING GUIDELINES**

Criteria	Marks
• Sketches in general terms the function of the thermistor in this circuit	2
• Indicates a feature of a thermistor	1

Question 5 (c) (ii)*Outcomes assessed: H4.3***MARKING GUIDELINES**

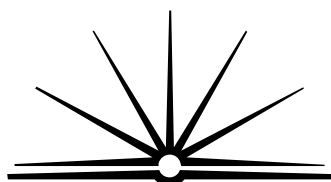
Criteria	Marks
• Correctly identifies the relationship between the operation of a general purpose and power resistor	2
• Indicates how a general purpose or power transistor operates	1

Question 5 (d)*Outcomes assessed: H4.3***MARKING GUIDELINES**

Criteria	Marks
• Provides correct similarities and/or differences between solenoids and relays as a switching device	4
• Provides a similarity and/or difference between solenoids and relays as a switching device	3
• Provides characteristics and features of solenoids and relays	2
• Provides a feature of solenoids or relays	1

Question 5 (e)*Outcomes assessed: H1.2, H6.1***MARKING GUIDELINES**

Criteria	Marks
• Determines the value of technologies used to generate and store energy in remote locations. Examples used to illustrate answer	7
• Provides characteristics and features of technologies used to generate and store energy in remote locations. Examples used to illustrate answer	5–6
• Sketches in general terms technology used to generate or store energy. Example used	3–4
• Lists technologies that can be used to generate or store energy	1–2



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

2009 HSC Industrial Technology Graphics Industries Marking Guidelines

Section II

Question 4 (a)

Outcomes assessed: H3.1, H5.1

MARKING GUIDELINES

Criteria	Marks
• Names the TWO architectural symbols	2
• Names ONE architectural symbol	1

Question 4 (b)

Outcomes assessed: H3.1, H5.1

MARKING GUIDELINES

Criteria	Marks
• Sketches in general terms the advantages of using 3D drawings	3
• Sketches in general terms an advantage of using 3D drawings	2
• Lists an advantage of using 3D drawings	1

Question 4 (c)*Outcomes assessed: H3.1, H5.1***MARKING GUIDELINES**

Criteria	Marks
<ul style="list-style-type: none">• Completes top and front view sketches correctly, indicating ALL details, $\text{Ø}50$ mm lens, components located on top and drawn in correct proportion	4
<ul style="list-style-type: none">• Completes top and front view sketches, indicating TWO of the three details, $\text{Ø}50$ mm lens, components located on top and drawn in correct proportion	3
<ul style="list-style-type: none">• Provides an incomplete sketches of top or front view, indicating ONE of the details, $\text{Ø}50$ mm lens, components located on top section and drawn in correct proportion <p>OR</p> <ul style="list-style-type: none">• Correct sketch of the top or front views	2
<ul style="list-style-type: none">• Provides an incomplete sketch of the top view OR front view	1

Question 4 (d)*Outcomes assessed: H3.1, H5.1, H6.2***MARKING GUIDELINES**

Criteria	Marks
<ul style="list-style-type: none">• Completes a mechanical perspective drawing, indicating all details, overall shape, position, top view, left view and right view	4
<ul style="list-style-type: none">• Completes a mechanical perspective drawing, indicating THREE of five overall shape, position, top view, left view and right view	3
<ul style="list-style-type: none">• Provides an incomplete mechanical perspective drawing with only TWO of the five, overall shape, position, top view, left view and right view	2
<ul style="list-style-type: none">• Provides an incomplete mechanical perspective drawing with only ONE of the five, overall shape, position, top view, left view and right view	1

Question 4 (e)*Outcomes assessed: H1.2, H4.3, H5.1, H7.1***MARKING GUIDELINES**

Criteria	Marks
• Determines the value of using computer software packages and mechanical drafting equipment in producing drawings	7
• Provides characteristics and features of using computer software packages and mechanical drafting equipment in producing drawings	5–6
• Indicates the main features of using computer software packages and mechanical drafting equipment in producing drawings	3–4
• Provides a feature of computer software packages or mechanical drafting equipment	1–2

Question 5 (a)*Outcomes assessed: H1.2, H5.1***MARKING GUIDELINES**

Criteria	Marks
• Indicates why engineers use sectioned drawings, with appropriate detail	2
• Lists a reason why engineers use sectioned drawings	1

Question 5 (b)*Outcomes assessed: H1.2, H3.1, H4.3***MARKING GUIDELINES**

Criteria	Marks
• Provides how or why 1 st angle and 3 rd angle projection are different	3
• Sketches in general terms the difference between 1 st angle and 3 rd angle projection	2
• Lists a feature of 1 st and/or 3 rd angle projection	1

Question 5 (c)*Outcomes assessed: H1.2, H3.1, H5.1***MARKING GUIDELINES**

Criteria	Marks
• Identifies issues and provides points for and/or against designers and manufacturers using drawing standards	4
• Provides characteristics and features of why drawing standards are important for designers and manufacturers	3
• Sketches in general terms the importance of drawing standards for designers or manufacturer	2
• Indicates some understanding of drawing standards	1

Question 5 (d)

Outcomes assessed: H3.1, H5.1, H6.2

MARKING GUIDELINES

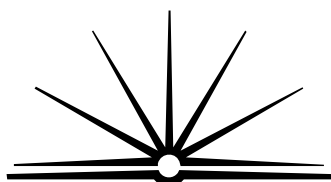
Criteria	Marks
<ul style="list-style-type: none"> Completes the isometric projection sketch of the bearing, indicating overall shape, details including front splay, curved back face, circular hole and drawn in correct proportion and correct view 	4
<ul style="list-style-type: none"> Completes the isometric projection sketch of the bearing, indicating THREE of the four: front splay, curved back face, circular hole and drawn in correct proportion and correct view 	3
<ul style="list-style-type: none"> Provides an incomplete isometric projection sketch of the bearing with only TWO of the four: front splay, curved back face, circular hole and drawn in correct proportion and correct view 	2
<ul style="list-style-type: none"> Provides an incomplete isometric projection sketch of the bearing with only ONE of the four: front splay, curved back face, circular hole and drawn in correct proportion and correct view OR	1
<ul style="list-style-type: none"> Provides a partial correct detailed isometric projection 	

Question 5 (e)

Outcomes assessed: H1.2, H3.1, H4.3, H5.1

MARKING GUIDELINES

Criteria	Marks
<ul style="list-style-type: none"> Recognises and names TWO presentation techniques that could be used Provides issues and points for and/or against each of these presentation techniques 	7
<ul style="list-style-type: none"> Recognises and names TWO presentation techniques that could be used Provides an issue or some points for and/or against these presentation techniques 	5–6
<ul style="list-style-type: none"> Recognises and names a presentation technique that could be used Describes this presentation technique 	3–4
<ul style="list-style-type: none"> Names presentation techniques OR	1–2
<ul style="list-style-type: none"> Outlines a presentation technique 	



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

2009 HSC Industrial Technology Metals and Engineering Industries Marking Guidelines

Section II

Question 4 (a)

Outcomes assessed: H4.3

MARKING GUIDELINES

Criteria	Marks
• Lists TWO metals that can be used for the construction of the trailer tray	2
• Lists ONE metal that can be used for the construction of the trailer tray	1

Question 4 (b)

Outcomes assessed: H4.3

MARKING GUIDELINES

Criteria	Marks
• Sketches in general terms methods of applying a corrosion resistant finish	3
• Sketches in general terms a method of applying a corrosion resistant finish	2
• Names a method of applying a corrosive resistant finish	1

Question 4 (c)*Outcomes assessed: H3.1, H3.3***MARKING GUIDELINES**

Criteria	Marks
• Shows with the aid of a sketch how the tray is fabricated with reference to marking out, cutting, folding and joining	4
• Shows with the aid of a sketch how the tray is fabricated with reference to some of the processes	3
• Provides a clear sketch OR provides some of the fabrication processes	2
• Provides a limited sketch OR a process of the fabrication	1

Question 4 (d)*Outcomes assessed: H4.1, H4.3***MARKING GUIDELINES**

Criteria	Marks
• Provides characteristics and features of a suitable process for attaching the wheels to the chassis	4
• Sketches in general terms a suitable process for attaching the wheels to the chassis	3
• Names features of a suitable process for attaching the wheels to the chassis	2
• Names a process for attaching wheels to the chassis	1

Question 4 (e)*Outcomes assessed: H1.2, H3.3, H4.3***MARKING GUIDELINES**

Criteria	Marks
• Determines the value of both permanent and removable fastening methods and provides examples of both	7
• Determines the value of both permanent and removable fastening methods provides example of one	5–6
• Sketches in general terms both methods • Provides an example	3–4
• Sketches in general terms a method OR • Provides example	1–2

Question 5 (a)*Outcomes assessed: H4.3***MARKING GUIDELINES**

Criteria	Marks
• Names TWO industrial methods suitable for cutting vice jaws from metal stock	2
• Names ONE industrial method suitable for cutting vice jaws from metal stock	1

Question 5 (b)*Outcomes assessed: H3.2, H3.3, H4.3***MARKING GUIDELINES**

Criteria	Marks
• Indicates the main features of TWO methods used to attach the handle caps to the handle	3
• Indicates a feature of TWO methods used to attach the handle caps to the handle OR • Indicates features of ONE method used to attach the handle caps to the handle	2
• Indicates a feature of ONE method used to attach the handle caps to the handle	1

Question 5 (c)*Outcomes assessed: H3.3, H4.3***MARKING GUIDELINES**

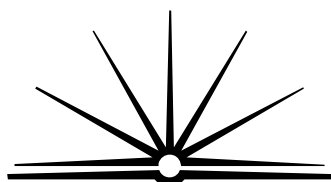
Criteria	Marks
• Provides characteristics and features of how the screw and the screw cap can be manufactured	4
• Provides characteristics and features of how the screw or the screw cap can be manufactured	3
• Sketches in general terms the manufacture of the screw and the screw cap	2
• Lists a step in the manufacture of the screw or the screw cap	1

Question 5 (d)*Outcomes assessed: H4.3, H5.1***MARKING GUIDELINES**

Criteria	Marks
<ul style="list-style-type: none">Indicates the main features of preparing the vice jaws and the main features of preparing the vice	4
<ul style="list-style-type: none">Indicates the main features of preparing the vice jaws and a feature of preparing the vice <p>OR</p> <ul style="list-style-type: none">Indicates the main features of preparing the vice and a feature of the vice jaws	3
<ul style="list-style-type: none">Indicates the main features of preparing the vice jaws or the vice <p>OR</p> <ul style="list-style-type: none">Indicates a feature for preparing the vice jaws and the vice	2
<ul style="list-style-type: none">Indicates a feature for preparing the vice jaws or vice	1

Question 5 (e)*Outcomes assessed: H4.3, H6.1***MARKING GUIDELINES**

Criteria	Marks
<ul style="list-style-type: none">Identifies issues and provides points for and/or against the manufacture of the body in cast iron and in mild steel	7
<ul style="list-style-type: none">Provides characteristics and features of the manufacture of the body in cast iron and in mild steel	5–6
<ul style="list-style-type: none">Sketches in general terms the manufacture of the body in cast iron and in mild steel	3–4
<ul style="list-style-type: none">Sketches in general terms the manufacture of the body in cast iron or in mild steel	1–2



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

2009 HSC Industrial Technology Multimedia Industries Marking Guidelines

Section II

Question 4 (a)

Outcomes assessed: H4.3

MARKING GUIDELINES

Criteria	Marks
• Names TWO devices suitable for capturing images	2
• Names ONE device suitable for capturing images	1

Question 4 (b)

Outcomes assessed: H1.2, H5.1

MARKING GUIDELINES

Criteria	Marks
• Names a suitable storyboard and indicates the main features of the storyboard OR • Indicates the features of a storyboard	3
• Names a suitable storyboard and gives a feature of the storyboard	2
• Names a suitable storyboard OR • Names a feature of a storyboard	1

Question 4 (c)*Outcomes assessed: H3.3, H4.3***MARKING GUIDELINES**

Criteria	Marks
• Identifies and provides points for and/or against issues that need to be considered when formatting text for webpages	4
• Provides characteristics and features of issues that need to be considered when formatting text for webpages	3
• Sketches in general terms an issue that needs to be considered when formatting text for webpages	2
• Recognises and names a text format OR an issue to be considered	1

Question 4 (d)*Outcomes assessed: H7.1***MARKING GUIDELINES**

Criteria	Marks
• Sketches in general terms ethical implications of the proposal for both video store management and its customers	4
• Sketches in general terms an ethical implication of the proposal to both video store and customers	3
• Names ethical issues of the proposal for the video store or the customer	2
• Names an ethical issue of the proposal	1

Question 4 (e)*Outcomes assessed: H1.2, H4.3***MARKING GUIDELINES**

Criteria	Marks
• Provides characteristics and features of solutions to problems that may be encountered by both web developers and users of the website	7
• Provides characteristics and features of solutions to problems that may be encountered by web developers or users of the website	5–6
• Sketches in general terms solutions to problems that may be encountered by both web developers OR users of the websites	3–4
• Names a solution to and/or a problem for the website developer/or users of the website	1–2

Question 5 (a)*Outcomes assessed: H4.3***MARKING GUIDELINES**

Criteria	Marks
• Names TWO video file types	2
• Names ONE video file type	1

Question 5 (b)*Outcomes assessed: H1.2, H4.3***MARKING GUIDELINES**

Criteria	Marks
• Sketches in general terms ways of reducing the file size of a high resolution graphic	3
• Sketches in general terms a way of reducing the file size of a high resolution graphic OR • Lists compression techniques	2
• Lists a compression technique or a way to reduce file size of the high resolution graphic	1

Question 5 (c)*Outcomes assessed: H1.2, H4.3***MARKING GUIDELINES**

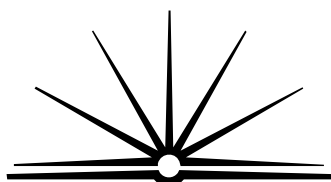
Criteria	Marks
• Names an animation technique and provides characteristics and features of that technique	4
• Names and sketches in general terms an animation technique	3
• Sketches in general terms an animation technique	2
• Names an animation technique	1

Question 5 (d)*Outcomes assessed: H1.2, H4.3***MARKING GUIDELINES**

Criteria	Marks
• Suggests and supports an argument for the use of appropriate tools that can be used to author and publish a hard copy	4
• Suggests and provides characteristics and features of appropriate tools that can be used to author and publish a hard copy	3
• Suggests and sketches in general terms an appropriate tool that can be used to author or publish a hard copy	2
• Suggests appropriate tools that can be used to author or publish a hard copy	1

Question 5 (e)*Outcomes assessed: H1.2, H4.3***MARKING GUIDELINES**

Criteria	Marks
• Makes the relationship evident between factors that can affect sound quality when creating and playing music sound files	7
• Makes the relationship evident between factors that can affect sound quality when creating or playing music sound files	5–6
• Provides characteristics and features of factors that can affect sound quality when creating or playing music sound files	3–4
• Sketches in general terms factors that affect sound quality	1–2



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

2009 HSC Industrial Technology Timber Products and Furniture Industries Marking Guidelines

Section II

Question 4 (a)

Outcomes assessed: H1.2

MARKING GUIDELINES

Criteria	Marks
• Lists TWO tools used to check whether the gate frame is square	2
• Lists ONE tool used to check whether the gate frame is square	1

Question 4 (b)

Outcomes assessed: H1.2, H3.1

MARKING GUIDELINES

Criteria	Marks
• Provides characteristics and features of a suitable method WITH a correct sketch	3
• Sketches in general terms a suitable method WITH a correct sketch OR • Provides a detailed sketch	2
• Identifies a suitable method OR • Provides a relevant sketch	1

Question 4 (c)*Outcomes assessed: H4.3***MARKING GUIDELINES**

Criteria	Marks
<ul style="list-style-type: none">Names TWO suitable materials, with a supportive argument for their selection	4
<ul style="list-style-type: none">Names TWO suitable materials, with a supportive argument for ONE material	3
<ul style="list-style-type: none">Names a suitable material, with reasons briefly outlined for its selection OR	2
<ul style="list-style-type: none">Lists/identifies more than one suitable material	
<ul style="list-style-type: none">List/identifies a suitable material	1

Question 4 (d)*Outcomes assessed: H1.2, H4.3***MARKING GUIDELINES**

Criteria	Marks
<ul style="list-style-type: none">Provides characteristics and features of suitable mass production processes for manufacturing AND attaching the slats	4
<ul style="list-style-type: none">Provides characteristics and features of a suitable mass production process for either manufacturing OR attaching the slats AND	3
<ul style="list-style-type: none">Sketches in general terms the other process	
<ul style="list-style-type: none">Sketches in general terms a suitable process for manufacturing and attaching slats	2
<ul style="list-style-type: none">List/identifies a suitable mass production method	1

Question 4 (e)

Outcomes assessed: H1.2, H2.1, H4.3

MARKING GUIDELINES

Criteria	Marks
• Identifies suitable tools and machines AND puts forward a maintenance schedule for them	7
• Identifies suitable tools and machines AND puts forward a maintenance schedule for some of the tools and machines	5–6
• Identifies suitable tools and/or machines and indicates some features of a maintenance schedule	3–4
• List/identifies a relevant tool and/or machine	1–2

Question 5 (a)

Outcomes assessed: H4.3

MARKING GUIDELINES

Criteria	Marks
• Names TWO suitable manufactured boards that can be used	2
• Names ONE suitable manufactured board that can be used	1

Question 5 (b)

Outcomes assessed: H1.2, H4.3, H6.1

MARKING GUIDELINES

Criteria	Marks
• Provides reasons for accuracy when setting out and machining components	3
• Provides reasons for accuracy when setting out or machining components	2
• Identifies a reason for accuracy when setting out or machining components	1

Question 5 (c)

Outcomes assessed: H1.2, H3.1

MARKING GUIDELINES

Criteria	Marks
<ul style="list-style-type: none"> Provides characteristics and features of a suitable method WITH a correct sketch 	4
<ul style="list-style-type: none"> Sketches in general terms a suitable method WITH a correct sketch OR <ul style="list-style-type: none"> Provides a detailed sketch 	3
<ul style="list-style-type: none"> Identifies a suitable method WITH a limited sketch 	2
<ul style="list-style-type: none"> Names a suitable method OR <ul style="list-style-type: none"> Provides a limited sketch 	1

Question 5 (d)

Outcomes assessed: H1.2, H2.1, H6.1

MARKING GUIDELINES

Criteria	Marks
<ul style="list-style-type: none"> Suggests and supports an argument for the selection of an appropriate joining method 	4
<ul style="list-style-type: none"> Suggests and provides characteristics and features of an appropriate joining method 	3
<ul style="list-style-type: none"> Sketches in general terms a suitable joining method 	2
<ul style="list-style-type: none"> Names a joint OR assembly method 	1

Question 5 (e)

Outcomes assessed: H1.2, H2.1, H4.3

MARKING GUIDELINES

Criteria	Marks
<ul style="list-style-type: none"> Determines the value of the use of manufactured board and solid timber in mass produced timber products 	7
<ul style="list-style-type: none"> Provides characteristics and features of the use of manufactured board and solid timber in mass produced timber products 	5–6
<ul style="list-style-type: none"> Sketches in general terms the use of manufactured board and solid timber in mass produced timber products 	3–4
<ul style="list-style-type: none"> Sketches in general terms the use of manufactured board or solid timber OR <ul style="list-style-type: none"> Indicates a feature of a manufactured board and/or solid timber 	1–2

Industrial Technology

2009 HSC Examination Mapping Grid

Question	Marks	Content	Syllabus outcomes
Section I			
1 (a)	2	Structural factors	H1.1
1 (b)	3	Structural factors	H1.1
1 (c)	4	Structural factors	H1.1, H1.2
1 (d)	4	OH&S	H1.1, H7.1
1 (e)	7	Technical factors	H1.1, H1.2
2 (a)	2	Literacy, graphics	H1.1, H5.1
2 (b)	3	Personnel issues	H1.1, H2.1
2 (c)	4	Personnel issues	H1.1, H2.1
2 (d)	4	Designing	H1.1, H1.2
2 (e)	7	Computer applications	H1.1, H5.1
3 (a)	2	Graphics	H3.1
3 (b)	3	Graphics	H3.1
3 (c) (i)	2	Calculations	H3.2
3 (c) (ii)	2	Graphics	H3.1, H5.1
3 (d)	4	Literacy	H5.2
3 (e)	7	Literacy, graphics	H5.1, H5.2
Automotive Industries			
Section II			
4 (a)	2	Engine and related systems	H2.1, H4.3
4 (b)	3	Power sources	H1.2, H4.3
4 (c)	4	Power sources	H1.2, H7.1
4 (d)	4	Engine and related systems	H2.1, H4.3, H6.2
4 (e)	7	Engine and related systems	H3.1, H4.3
5 (a)	2	Chassis and related components	H2.1, H4.3, H6.2
5 (b)	3	Chassis and related components	H3.1, H4.3, H6.1
5 (c)	4	Body and related components	H1.2, H4.3
5 (d)	4	Government and statutory regulations	H7.1
5 (e)		Automotive design	H1.2, H6.2, H7.1
Electronics Industries			
Section II			
4 (a)	2	Electrical principles	H4.3
4 (b)	3	Electrical principles	H3.1, H4.3
4 (c) (i)	3	Electrical principles	H4.3
4 (c) (ii)	1	Electrical principles	H4.3
4 (d) (i)	2	Instruments and test equipment	H1.2, H4.3
4 (d) (ii)	2	Electrical principles	H4.3
4 (e)	7	Electrical principles	H1.2, H4.3, H6.1

Question	Marks	Content	Syllabus outcomes
5 (a)	2	Electrical principles	H4.3
5 (b)	3	Electrical principles	H4.3
5 (c) (i)	2	Processes	H3.1, H4.3
5 (c) (ii)	2	Processes	H4.3
5 (d)	4	Electrical principles	H4.3
5 (e)	7	Electrical principles	H1.2, H6.1
Graphics Industries			
Section II			
4 (a)	2	Principles/standards	H3.1, H5.1
4 (b)	3	Processes	H3.1, H5.1
4 (c)	4	Principles/standards	H3.1, H5.1
4 (d)	4	Processes	H3.1, H5.1, H6.2
4 (e)	7	Equipment	H1.2, H4.3, H5.1, H7.1
5 (a)	2	Principles/standards	H1.2, H5.1,
5 (b)	3	Principles/standards	H1.2, H3.1, H4.3
5 (c)	4	Principles/standards	H1.2, H3.1, H5.1
5 (d)	4	Processes	H3.1, H5.1, H6.2
5 (e)	7	Processes	H1.2, H3.1, H4.3, H5.1
Metals and Engineering Industries			
Section II			
4 (a)	2	Materials	H4.3
4 (b)	3	Processes, tools and machinery	H4.3
4 (c)	4	Processes, tools and machinery	H3.1, H3.3
4 (d)	4	Materials	H4.1, H4.3
4 (e)	7	Materials	H1.2, H3.3, H4.3
5 (a)	2	Processes, tools and machinery	H4.3,
5 (b)	3	Processes, tools and machinery	H3.2, H3.3, H4.3
5 (c)	4	Processes, tools and machinery	H3.3, H4.3
5 (d)	4	Processes, tools and machinery	H4.3, H5.1
5 (e)	7	Processes, tools and machinery	H4.3, H6.1
Multimedia Industries			
Section II			
4 (a)	2	Processes, tools and machinery	H4.3
4 (b)	3	Processes, tools and machinery	H1.2, H5.1
4 (c)	4	Materials and resources	H3.3, H4.3
4 (d)	4	Processes, tools and machinery	H7.1
4 (e)	7	Processes, tools and machinery	H1.2, H4.3
5 (a)	2	Materials and resources	H4.3
5 (b)	3	Materials and resources	H1.2, H4.3
5 (c)	4	Processes, tools and machinery	H1.2, H4.3
5 (d)	4	Processes, tools and machinery	H1.2, H4.3
5 (e)	7	Materials and resources	H1.2, H4.3

Question	Marks	Content	Syllabus outcomes
Timber Products and Furniture Industries			
Section II			
4 (a)	2	Processes, tools and machinery	H1.2
4 (b)	3	Processes, tools and machinery	H1.2, H3.1
4 (c)	4	Materials	H4.3
4 (d)	4	Processes, tools and machinery	H1.2, H4.3
4 (e)	7	Processes, tools and machinery	H1.2, H2.1, H4.3
5 (a)	2	Materials	H4.3
5 (b)	3	Processes, tools and machinery	H1.2, H4.3, H6.1
5 (c)	4	Processes, tools and machinery	H1.2, H3.1
5 (d)	4	Processes, tools and machinery	H1.2, H2.1, H6.1
5 (e)	7	Materials	H1.2, H2.1, H4.3