2005 HSC Notes from the Marking Centre Industrial Technology

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2005 HSC NOTES FROM THE MARKING CENTRE INDUSTRIAL TECHNOLOGY

Introduction

This document has been produced for the teachers and candidates studying the Stage 6 course in Industrial Technology. It provides comments with regard to responses to the 2005 Higher School Certificate examination, indicating the quality of candidate responses and highlighting the relative strengths and weaknesses of the candidature in each section and each question.

This document should be read along with the relevant syllabus, the 2005 Higher School Certificate examination, the marking guidelines and other support documents which have been developed by the Board of Studies to assist in the teaching and learning of Industrial Technology.

General Comments

In 2005, 3462 candidates attempted the Industrial Technology examination. The total candidature for the 2005 examination was divided amongst the syllabus focus areas as follows:

Focus area Candidature

Automotive Industries	106
Building and Construction Industries	3
Electronics Industries	104
Graphics Industries	183
Metals and Engineering Industries	152
Multimedia Industries	274
Plastics Industries	0
Timber and Furniture Products Industries	2640

Teachers and candidates should be aware that examiners may ask questions that address the syllabus outcomes in a manner that requires candidates to respond by integrating the knowledge, understanding and skills developed through studying the course. Knowledge, understanding and skills developed through the study of discrete sections should accumulate to a more comprehensive understanding than may be described in each section separately.

In the written examination many candidates were challenged due to their limited knowledge of syllabus requirements. It appears that many candidates may still be placing too little regard on the written examination. Candidates are developing a greater understanding of the glossary of key words and this is reflected in the quality of their responses.

Section I

General Comments

This section was generally well answered. Many responses were well structured and showed a sound understanding of the terms and issues involved in the questions. Most responses demonstrated a good understanding of the glossary of key words.

Question 1

(a) This part was well answered, with the majority of responses identifying two ways of increasing production.

(b) Most responses identified a marketing strategy and were able to indicate the main features of the strategy. Weaker responses were unable to link this strategy to increased demand for the product.

(c) Most responses linked quality control and improved products. Limited responses were unable to adequately define the term 'quality control'.

(d) The majority of responses identified the link between management and employees in general terms. Better responses included specific examples of how management could maintain stable industrial relations while restructuring its workforce and gave points for and/or against the issues they identified.

(e) Many responses provided a list of positive and negative points related to expanding at the present location. Better responses included a range of issues with points for and/or against the company expanding in its present location.

Question 2

(a) In general, this part was well answered. Most candidates understood the concept of multiskilling and were able to apply it to industry.

(b) Most candidates answered this part quite well and showed that they understood the concept of specialisation. Weaker responses had difficulty in explaining the concept and could not apply specialisation to either production or the workforce. Most candidates took specialisation to be of individuals within the company while others took it to be that the company itself had specialised into one product or service. Some candidates answered this as the opposite of multiskilling, and often expressed the effects in a negative sense.

(c) Candidates who understood the concept of sustainable development were able to give a good explanation and then give two or more suitable recommendations. Weaker responses did not respond to this part at all while others picked out the word sustainable and answered in terms of the company or business being able to secure more work or make the work stretch out over a period of time. This is not sustainable development.

(d) Almost all responses showed an understanding of occupation health and safety legislation, Personal Protective Equipment and other issues of safety. However, this part needed to be answered in terms of the influence of OHS legislation on production, and this was not generally done well.

(e) Most responses demonstrated knowledge of what went into an Environmental Impact Statement and were able to identify issues that might be included in an EIS. Some responses listed these issues with no attempt to discuss or provide points for and/or against. Others provided excellent discussion on a wide range of issues related to the EIS and so were awarded higher marks. Very few responses failed to gain some marks in this part.

Question 3

(a) This part was well answered by the majority of candidates regardless of their focus area. Most responses included more than one feature of a materials list.

(b) Most responses explained the significance of shape and colour as used in safety symbols. The better responses related shape and colour to the example presented by the candidate.

(c) A substantial number of responses correctly identified the diagram. Despite most responses providing a good explanation of a quality control system many did not relate it specifically to the production system as specified in the question.

(d) Many responses included a feature of function and aesthetics. Better marks were achieved by responses that provided features of both function and aesthetics in the design of a product.

(e) Many responses outlined one or more of the processes that would be carried out by a consultant. Some responses simply rewrote the question without describing the process that would be used by the consultant to produce the required report.

Section II

Focus Area – Automotive Industries

General Comments

Candidates showed a degree of knowledge in all parts of the examination but often did not provide sufficient depth in their answer. Most understood the basics of panel-beating, two-and four-stroke engines and hybrid vehicles but few responses displayed a clear understanding of solar-powered vehicles or engine-management systems. Responses often showed a failure to accurately read and fully respond to the question.

Question 4

(a) This part was poorly answered as many candidates incorrectly gave advantages, rather than disadvantages, of electrically powered vehicles or simply stated ‘less power’ with no justification. Better responses related to the limited range of the vehicle and/or the restricted availability of recharging points.

(b) Most responses gave at least one reason for the rise in popularity of hybrid vehicles and many were able to clearly explain their reasons.

(c) Most responses demonstrated little knowledge of how solar energy can be used to power a vehicle. Many explanations were restricted to solar energy ‘heating’ the solar cells which then charge the battery and run the car.

(d) Most responses gave one or two advantages of a two-stroke engine but needed to provide more detail to fully answer the question. Many responses explained the two-and-four-stroke cycles. Unfortunately, most responses demonstrated little understanding of the advantage of a two-stroke engine firing on every down stroke and the relevance of crankcase compression.

(e) The answers to this part varied greatly. There were those who incorrectly thought the management system was a type of electric-powered vehicle. Weaker responses simply gave a list of advantages and disadvantages while better responses showed detailed understanding and provided a logical, extensive description of the characteristics and features of an electronic engine management system.

Question 5

(a) This part was poorly answered with most responses limited to general comments about shock absorbers with limited understanding of the role of the gas in the component.

(b) Well answered by most candidates who understood the basic functions of the suspension components illustrated.

(c) Responses generally demonstrated a limited understanding of major body repairs. Very few were able to relate the extent of the damage to twisting and misalignment and how these problems could be assessed by the motor repairer. Some responses assumed a minor accident and discussed possible effects on wheel alignment.

(d) Most candidates answered this part well and could explain the repair procedure for the damaged mudguard. Some had difficulty with the sketches of the stages of repair and in naming the panel beating tools used.

(e) This part was interpreted by many candidates as requiring only a logical list of steps in completing the repair. Better responses included an indication of the main features of the different repair stages and of the equipment used at each stage.

Focus Area – Building and Construction

General Comments

While the candidature was small in this focus area, it was obvious that candidates were able to relate their practical experiences to parts of the questions. There was a general weakness demonstrated in parts relating to those building concepts that may not have been experienced first hand by the candidates. This was obvious in the responses to the parts relating to roofing, anchoring of post and retaining walls.

Question 4

(a) Responses demonstrated a sound understanding of both site and contour plans.
The concept of spacing between contour lines to indicate the slope of a site was well understood and candidates were also able to sketch the required contour plan.

(b) Candidates found difficulty in describing an appropriate method for preparing the partially sloping site for a slab-on-ground.

(c) When discussing pier construction, candidates were able to identify both advantages and disadvantages of this construction technique. Disadvantages appeared less obvious to some candidates.

(d) Candidates were able to access a full range of marks for this question. In this part, better responses provided a reason for using a retaining wall with an explanation and sketches of one method for producing a retaining wall.

Question 5

(a) Candidates demonstrated a sound understanding of the raw materials that are combined to make concrete.

(b) The concepts of strip and pad footings were not well understood by candidates. While candidates were asked to use sketches where appropriate, in this situation sketches would have greatly enhanced some otherwise inadequate descriptions.

(c) This part required candidates to complete a sketch of a typical pier and floor structure. It provoked a range of responses but the concept of engaged piers was not well understood.

(d) Generally, candidates were unable to sketch and describe methods for attaching posts to the subfloor structure for the proposed building. They did not appear to understand the need to securely fix the bottom of the post to the subfloor framing through the use of a hardware component, such as a stirrup, or by fixing the post to the bearers and joists.

(e) This part was poorly answered as responses did not describe the construction method for a hip roof.

Focus Area – Electronics Industries

General Comments

Question 4 was answered reasonably well by candidates but parts of question 5 were not. This was particularly evident on topics such as very large scale integration (VLSI) and electric motors.

Question 4

(a) Most responses indicated some understanding of the function of light dependent resistors (LDR).

(b) Generally responses provided descriptions of speakers but many also confused the characteristics of speakers with physical attributes such as size.

(c) Most responses identified the polarised and non-polarised capacitors. However, weaker responses demonstrated a limited understanding of the function of each capacitor within the circuit.

(d) Most responses were able to identify the correct transistor type and many provided a good description of how they operate in the circuit.

(e) Weaker responses did not recognise that a track layout is a mirror image of the component layout. Better responses recognised the need for a link between one of the capacitors and the transistor to which it is connected.

Question 5

(a) Weaker responses demonstrated a limited understanding of VLSI. However, some responses provided a general description of component integration.

(b) Most responses provided some features of the integrated circuit indicated in the graphic, but some candidates either simply named or provided a detailed outline of the function of a specific IC, such as a 555.

(c) Many responses failed to recognise the inverter logic gate; however, some were still able to provide an explanation of how the circuit operates.

(d) Few responses demonstrated an adequate understanding of the differences between free-running and stepped electric motors.

(e) Most responses provided calculations that demonstrated an understanding of the relationship between power, current and resistance as well as series-parallel circuits.

Focus Area – Graphics Industries

General Comments

The majority of parts in Questions 4 and 5 were answered reasonably well. Some candidates experienced difficulty with those parts of each question that focused on orthogonal and perspective concepts. Many candidates were able to demonstrate their graphics skills and knowledge in those parts of both questions that either required an interpretation of a drawing or a drawing as a response.

Question 4

(a) Most responses indicated some understanding of sectioning, although a number of responses simply repeated the question eg ‘Sectioned drawings show sections’.

(b) This part was well answered, with most responses providing information about rendering.

(c) Many responses provided a description of assembled and exploded drawings rather than comparing the function or purpose of each drawing type.

(d) Some responses provide a detailed pictorial sketch of the tool tray but most responses lacked the detail that had been provided in the initial orthogonal drawing.

(e) Candidates responded well in regard to both freehand sketches and pictorial drawings. Weaker responses failed to demonstrate a broader appreciation of the use of freehand sketches by limiting their application to that of presentation drawings. The function of orthogonal drawing concepts was not widely understood.

Question 5

(a) Generally responses demonstrated a good understanding of the function of architectural models.

(b) Only a few responses provided a correct and detailed perspective sketch, although the majority of responses used at least one vanishing point. Weaker responses failed to recognise or use either vanishing point, showing a limited understanding of perspective sketching.

(c) Most responses identified essential information provided on the drawing but weaker responses failed to link this information directly to the needs of the builder in his/her use of the plan.

(d) Many responses did not discuss the importance of concept drawings to an architect in presenting initial design ideas to a client.

(e) Responses which addressed all parts of the question achieved high marks. However, many responses equated classroom practice with industrial processes.

Focus Area – Metals and Engineering Industries

General Comments

Overall the questions provided opportunities for candidates to display their skills and knowledge of a range of syllabus outcomes. Responses indicated a poor understanding of industrial applications in machining, thread forming and casting of metals. Most responses only related to school workshop experiences.

Question 4

(a) Few responses stated two reasons why the base was made from cast iron with most only identifying one correct reason, often related to the density of this material.

(b) This part was generally poorly answered. Weaker responses were unable to identify a manufacturing method and few responses gave supporting reasons for this method. Better responses suggested die-casting or sand-casting and machining.

(c) This part was poorly answered. Weaker responses were made in terms of hand thread forming processes. Some mentioned machining with the CNC lathe as a possibility. Rolling, a suitable mass-production process, was not a common answer.

(d) Better responses who demonstrated a good understanding of the sand casting process achieved good marks in this part. Many candidates were unfamiliar with the detail of mould preparation and metal casting. Weaker responses confused sand-casting with shell-moulding.

(e) Responses to this part were varied. Many responses either mentioned an advantage or disadvantage of the finishing processes but seldom more than one. Better responses provided a full description of a suitable process such as electroplating with nickel or chrome or polishing and then lacquering the handle.

Question 5

(a) This part was reasonably well answered as most responses outlined two reasons for using rolled hollow section for the trailer. Weaker responses used a simple one-word reason, such as 'strong', which needed further qualification to provide a full answer.

(b) Most responses outlined the process in making the plate and U-bolts though many failed to realise the correct sequence of the different steps eg the thread forming must precede the bending of the U-bolts.

(c) This was not well answered, with very few responses fully describing an industrial process for forming the mudguard. Many responses omitted the preparation of the work piece from the sheet material supplied. The use of galvanised sheet steel or the galvanising of 'black' steel sheet after the forming processes was included in some of the better responses.

(d) While this part was reasonably well answered, few responses addressed the question fully by stating the reason for not welding the components as well as providing reasons why bolts were preferred. They did not realise the difficulties and undesirability in welding cast iron to mild steel. Better responses acknowledged the problems associated with the welding of cast iron and the resultant fracture-prone line along the edge of the weld in cast iron as distinct from welds in mild steel.

(e) This part was generally well interpreted. While many responses fully described the processes involved in manufacturing the components, few addressed the need for finishing. While some did name galvanising or painting, very few fully described either process. As for the roller axle, most responses mentioned the need to drill the hole in one end but few realised the need to treat the other end in some manner to hold it in position.

Focus Area – Multimedia Industries

General Comments

Most candidates were able to respond to all parts of the questions. A number of candidates exhibited difficulties in answering questions due to their unfamiliarity with the glossary of key words that are used to develop examination questions. Of particular note is the term *analyse*.

Question 4

(a) The majority of responses provided a complete answer to this part of the question. Responses demonstrated a good understanding of the term 'external storage device'.

(b) Weaker responses were unable to relate the compression process to more than one effect on audio files. Many responses simply defined 'compression' as making the file smaller.

(c) Many responses identified a wide variety of resources found on the World Wide Web. However, the descriptions of the resources that were suitable were often inadequate.

(d) Responses often identified brand names rather than types of printers. Weaker responses were unable to explain more than one advantage for each type of printer.

(e) A significant number of the responses simply identified problems associated with the downloading of video clips from the World Wide Web and failed to address suitable solutions. Some responses provided only one implication of a hardware and/or software solution.

Question 5

(a) This part of the question was generally well answered. Most responses identified two relevant differences between high-resolution and low-resolution graphics.

(b) Although many responses outlined two characteristics of paper suitable for printing high-resolution digital images, a significant number of responses provided only a single characteristic.

(c) Weaker responses had difficulty in identifying a video file format for the presentation of a multimedia product. As a consequence weaker responses were of limited quality in this part of the question.

(d) The majority of responses demonstrated a sound understanding of the role of storyboarding in the development of a website.

(e) Although many responses defined the term *copyright*, few were able to adequately provide an in-depth explanation of how copyright issues could affect the development of a commercial multimedia presentation.

Focus Area – Timber Products and Furniture Industries

General Comments

Most candidates were able to 'name' and 'identify' requested features but had less success when required to 'explain' or 'describe'. Many candidates were able to communicate graphically but had difficulty in producing quality sketches.

Question 4

(a) Most responses demonstrated sufficient knowledge of veneered medium density fibreboard to gain full marks in this part.

(b) Weaker responses failed to respond to the plural nature of this question. Most responses listed one health hazard and several methods to overcome these hazards.

(c) Most responses identified a suitable method for manufacturing the tabletops, but weaker responses failed to adequately describe the process.

(d) Most responses demonstrated the ability to sketch and name suitable traditional timber joints, but weaker responses were unable to name and/or sketch a joining process that used a suitable form of cabinet hardware.

(e) Most responses included some suitable checking methods, however most failed to justify these checking methods. Attempted justifications often lacked depth and understanding. Weaker responses failed to respond to the plural nature of 'checking methods' and only proposed a single method.

Question 5

(a) Most responses successfully identified two appropriate properties of hardwood; weaker responses simply named the hardwood rather than naming properties.

(b) Weaker responses did not understand the acronym DAR (dressed all round) but they were able to describe features of dressed timber. The majority of responses identified one advantage of purchasing dressed timber but a small number had difficulty identifying two.

(c) Almost all responses identified and sketched two widening joints as well as explaining an advantage for each joint. Sketches were generally of a poor quality.

(d) Many responses were of limited quality in this part. Most were unable to identify the need to allow for movement in the tabletop. Weaker responses misunderstood the concept of 'rails'.

(e) Few responses described suitable industrial manufacturing processes to complete the construction of the drawer. Rather, they gave descriptions of some of the processes used in the construction of the drawer, often in the home workshop. Most candidates were unable to suitably describe a check for 'flatness' of the finished drawer.

Major Project

Major Project

There was again an improvement in the quality of Major Projects presented in most focus areas. Folios were of a pleasing standard and candidates showed a broader range of information and communication technology ICT skills in their folio preparation and presentation.

Design and Management

Candidates should be aware of the marking criteria, which are readily available from the Board of Studies website. In better responses, candidates organised their folios to match the headings in the marking criteria.

The Statement of Intent, in many instances, still needs to be more specific and detailed. Many candidates rely on a simple statement of what they want, intend, or need to make. By relating the 'what' to 'why' and 'how' and also giving details of 'where', better candidates presented the examiners with a response that related more fully to the Major Project. Candidates should be reminded that this statement gives the foundation for their research and planning, indicates what is contained in the folio and should give details of where they are heading with the project.

Candidates need to be aware that research and information gathering should be relevant to the project as detailed in the Statement of Intent. Simply including brochures, catalogues, company information and downloads from web pages does not constitute research unless it relates to the project being constructed and the candidate has interacted with the information in some way. Better responses showed clearly what had been gained from the information and how the information would be used. These candidates also included a brief, to the point, evaluation of the research for each item, process or material, as part of on-going evaluation.

Timelines and Finance Plans were usually well represented and involved a variety of different presentation techniques. Candidates need to be sure to add detail in these plans and not restrict them to a few general headings. Research, for example needs to include details of the type of research, how it will be undertaken and/or where it will be done. It is also important to note that these Timelines and Finance Plans must include both proposed plans, that are developed as part of the initial planning, and actual plans that reflect the production of the project.

Most candidates were able to comment in some detail regarding the Personal Protective Equipment aspects of Occupational Health and Safety; however, this was often restricted to PPE for machine use and the safe handling of tools. Candidates must outline the risks attached to the materials and processes used as well as the safe handling of materials.

Communication

In most instances candidates successfully used a variety of communication techniques to complete the design, management and communication (DMC) folio. Some candidates used sophisticated CAD drawings, digital images and a variety of output devices to produce a quality of folio approaching professional desktop publishing. Very few candidates completed the folio without displaying some ICT skills and even the weakest folios contained evidence of word-processing and spreadsheets.

As in previous years, with the exception of a few candidates, sketching of ideas and their development was not particularly strong. Most candidates included some rough, and, in some cases, almost unidentifiable sketches without any annotation. Candidates must remember that this section of the folio communicates to the examiner how they arrived at their final design, or how an original design was modified. Sketches of all stages of development should be included and they all must be annotated.

Production

The quality of the major projects continues to improve with far fewer candidates either not presenting projects or presenting incomplete projects. Most candidates were able to satisfactorily manage their time and resources to produce a finished project, albeit of varying quality.

A few candidates, though less than in previous years, produced a standard of work more suited to the lower and middle years of secondary education. It should be remembered that these projects show little development in skills beyond those attainable in Stages 4 and 5. Projects of this calibre, even when competently completed, rarely score the better marks as they involve insufficient skills, knowledge or rigour to allow candidates to fulfil the requirements of the syllabus.

In the main, multimedia focus area candidates did not fully show how their projects evolved. They need to present the development of the project and not just the final product. Sometimes candidates simply download material from sources found on the internet and include this, without acknowledgement in the folio. This is very obvious when the standard of the downloaded material is different to the candidate's own work and when the development of this work is not clearly outlined in the folio through the use of storyboarding, sketching or planning. Some better candidates used screen dumps, dated and initialled by their teachers at regular intervals, to give a clear indication of project development. These candidates also used a range of processes that included video, digital imaging and web design.

Candidates should present as much supporting material as possible with their projects. Jigs, models, prototypes, preliminary sketches, working rods and all other material used during construction identify a broader range of skills and techniques that may have otherwise been overlooked.

All candidates, but in particular those studying in the automotive, electronics and multimedia focus areas, must be aware that it is their responsibility to ensure that the project is fully operational at the time of marking. If a multimedia project requires a specific software package, it must be installed on the computer that is available to the markers. It is not the marker's responsibility, nor do they have the time, to rectify projects that do not work or do not operate properly. Unfortunately, but understandably, a project that doesn't work will not gain the marks it may deserve had it otherwise achieved expectation outlined in the statement of intent.

Most candidates used some degree of outside help and/or resources, as is allowed in the subject examination specification. Care must be taken to fully acknowledge any aspect of the major project undertaken by other persons or agencies in the folio.

Industrial Technology

2005 HSC Examination Mapping Grid

Question	Marks	Content	Syllabus outcomes
Section I			
1 (a)	2	Structural factors	H1.1, H7.1
1 (b)	3	Structural factors	H1.1, H6.2
1 (c)	4	Structural factors	H6.2
1 (d)	4	Personal issues	H1.1, H7.1
1 (e)	7	Environmental Sociological	H1.1, H7.1
2 (a)	2	Personal issues	H1.2
2 (b)	3	Technical factors	H1.2
2 (c)	4	Environmental Sociological	H1.2, H7.1
2 (d)	4	Occupational Health and Safety	H1.2, H7.1
2 (e)	7	Environmental Sociological	H1.1, H1.2, H7.1
3 (a)	2	Literacy	H1.2
3 (b)	3	Graphics	H1.2, H5.1
3 (c)	4	Graphics	H1.1, H1.2, H5.1
3 (d)	4	Designing	H3.3
3 (e)	7	Literacy	H1.1, H1.2, H5.1

Question	Marks	Content	Syllabus outcomes
Automotive Industries Section II			
4 (a)	2	Power source	H1.2, H2.1, H4.3, H6.1, H7.1
4 (b)	3	Electrical	H1.2, H2.1, H4.3, H6.1, H7.1
4 (c)	4	Electrical	H1.2, H2.1, H4.3, H6.1, H7.1
4 (d)	4	Electrical	H1.2, H2.1, H4.3, H6.1, H7.1
4 (e)	7	Power source/Equipment	H1.2, H2.1, H4.3, H6.1, H7.1
5 (a)	2	Chassis	H1.2, H2.1, H4.3, H6.1
5 (b)	3	Chassis	H1.2, H2.1, H4.3, H6.1
5 (c)	4	Body	H1.2, H2.1, H4.3, H6.1
5 (d)	4	Chassis/Tools	H1.2, H2.1, H4.3, H6.1
5 (e)	7	Chassis/Body	H1.2, H2.1, H4.3, H6.1
Building and Construction Industries Section II			
4 (a) (i)	2	Materials/Resources	H1.2
4 (a) (ii)	3	Materials/Resources	H1.2
4 (b)	4	Materials/Resources	H1.2, H2.1, H4.3, H7.1
4 (c)	4	Materials/Resources	H1.2, H2.1, H4.3, H6.1, H7.1
4 (d)	7	Processes Materials	H1.2, H2.1, H4.3, H6.1, H7.1
5 (a)	2	Processes	H1.2
5 (b)	3	Processes	H1.2, H4.3, H6.1
5 (c)	4	Processes	H1.2, H2.1, H4.3, H6.1
5 (d)	4	Processes	H1.2, H2.1, H4.3, H6.1
5 (e)	7	Types/Processes	H1.2, H2.1, H4.3, H6.1

Question	Marks	Content	Syllabus outcomes
Electronics Industries Section II			
4 (a)	2	Electrical principles	H4.3
4 (b)	3	Electrical principles	H4.3
4 (c)	4	Processes	H1.2, H4.3
4 (d)	4	Electrical principles	H1.2, H4.3
4 (e)	7	Processes/Graphics	H1.2, H4.3, H6.1, H7.1
5 (a)	2	Processes	H4.3
5 (b)	3	Electrical principles	H4.3
5 (c)	4	Electrical principles	H4.3
5 (d)	4	Electrical principles	H1.2, H4.3
5 (e)	7	Electrical principles	H4.3, H6.1
Graphics Industries Section II			
4 (a)	2	Processes	H1.2, H4.3
4 (b)	3	Processes	H1.2, H4.3
4 (c)	4	Processes	H1.2, H4.3
4 (d)	4	Processes	H1.2, H4.3, H6.1
4 (e)	7	Processes	H1.2, H2.1, H6.1, H7.1
5 (a)	2	Processes	H1.2, H4.3, H6.1
5 (b)	3	Processes	H1.2, H4.3, H6.1
5 (c)	4	Processes	H1.2, H2.1, H4.3, H6.1
5 (d)	4	Processes	H1.2, H4.3, H6.1
5 (e)	7	Processes/Principles	H1.2, H4.3, H6.1

Question	Marks	Content	Syllabus outcomes
Metals and Engineering Industries Section II			
4 (a)	2	Materials	H1.2, H4.3
4 (b)	3	Processes, tools, machinery	H1.2, H2.1
4 (c)	4	Processes, tools, machinery	H1.2, H2.1, H4.3
4 (d)	4	Processes, tools, machinery	H1.2, H4.3
4 (e)	7	Processes, tools, machinery	H1.2, H4.3, H6.1, H7.1
5 (a)	2	Materials	H1.2, H4.3
5 (b)	3	Processes, tools, machinery	H1.2, H2.1, H4.3
5 (c)	4	Processes, tools, machinery	H1.2, H2.1, H4.3
5 (d)	4	Processes, tools, machinery	H1.2, H4.3, H6.1
5 (e)	7	Processes, tools, machinery	H1.2, H2.1, H4.3, H6.1
Multimedia Industries Section II			
4 (a)	2	Processes, tools, machinery	H4.3
4 (b)	3	Processes, tools, machinery	H1.2
4 (c)	4	Materials and resources	H6.1
4 (d)	4	Processes, tools, machinery	H4.3
4 (e)	7	Processes, tools, machinery	H1.2, H4.3, H6.1
5 (a)	2	Materials and resources	H4.3
5 (b)	3	Materials and resources	H1.2
5 (c)	4	Materials and resources	H6.1
5 (d)	4	Processes, tools, machinery	H6.1
5 (e)	7	Materials and resources	H1.2, H4.3, H6.1

Question	Marks	Content	Syllabus outcomes
Timber Products and Furniture Industries Section II			
4 (a)	2	Materials	H1.2
4 (b)	3	Processes and environmental	H1.2, H2.1, H4.3, H6.1, H7.1
4 (c)	4	Processes, tools, machinery	H1.2, H4.3
4 (d)	4	Processes, tools, machinery	H1.2, H4.3, H6.1
4 (e)	7	Processes, tools, machinery	H1.2, H4.3, H6.1
5 (a)	2	Materials	H1.2, H4.3
5 (b)	3	Materials	H1.2, H4.3
5 (c)	4	Processes, tools, machinery	H1.2, H4.3, H6.1
5 (d)	4	Processes, tools, machinery	H1.2, H4.3, H6.1
5 (e)	7	Processes, tools, machinery	H1.2, H4.3, H6.1

BOARD OF STUDIES
NEW SOUTH WALES

2005 HSC Industrial Technology
Marking Guidelines

Section I

Question 1 (a)

Outcomes assessed: H1.1, H7.1

MARKING GUIDELINES

Criteria	Marks
• Recognises and names TWO appropriate ways in which production can be increased	2
• Names ONE appropriate way	1

Question 1 (b)

Outcomes assessed: H1.1, H6.2

MARKING GUIDELINES

Criteria	Marks
• Recognises, names and indicates the main features of a marketing strategy that would increase the demand for IND-TECH'S product	3
• Recognises, names and indicates a feature of a marketing strategy that would increase the demand for IND-TECH'S product	2
• Names a marketing strategy	1

Question 1 (c)

Outcomes assessed: H6.2

MARKING GUIDELINES

Criteria	Marks
• Provides a well structured meaning of quality control and its essential qualities AND • Provides an explanation of how/why quality control is used to improve products	4
• Provides a meaning of quality control AND • Provides an explanation of why quality control improves products	3
• Shows a basic understanding of quality control AND • Gives a basic explanation of why quality control improves products	2
• Shows some understanding of quality control OR • Shows some understanding of how quality control improves products	1

Question 1 (d)

Outcomes assessed: H1.1, H7.1

MARKING GUIDELINES

Criteria	Marks
• Identifies more than one issue relating restructuring to industrial relations and management providing points for and/or against the issue	4
• Identifies an issue relating restructuring to industrial relations and management providing some points for and/or against the issue	3
• Recognises and names an issue relating restructuring to industrial relations	2
• Shows an understanding of restructuring and industrial relations	1

Question 1 (e)

Outcomes assessed: H1.1, H7.1

MARKING GUIDELINES

Criteria	Marks
• Identifies a range of issues and provides points for and/or against IND-TECH expanding in its present location	7
• Identifies more than one issue and provides some points for and/or against IND-TECH expanding in its present location	5–6
• Identifies an issue and provides relative points for and/or against expanding IND-TECH in its present location	3–4
• Names an issue with some supporting points	1–2

Question 2 (a)

Outcomes assessed: H1.2

MARKING GUIDELINES

Criteria	Marks
• Lists TWO advantages of multiskilling	2
• Lists ONE advantage of multiskilling	1

Question 2 (b)

Outcomes assessed: H1.2

MARKING GUIDELINES

Criteria	Marks
• Relates the cause and effect of specialisation on production AND on the workforce	3
• Relates the cause and effect of specialisation on production OR • Relates the cause and effect of specialisation on the workforce	2
• Relates some relationship between specialisation and production OR • Relates some relationship between specialisation and the workforce	1

Question 2 (c)

Outcomes assessed: H1.2, H7.1

MARKING GUIDELINES

Criteria	Marks
• Relates cause and effect of sustainable development AND • Recommends ways of making IND-TECH's operations sustainable	4
• Relates cause and effect of sustainable development AND • Recommends a way of making IND-TECH's operation more sustainable	3
• Relates cause and effect of sustainable development OR • Recommends a way of making IND-TECH's operation more sustainable	2
• Shows some understanding of the term sustainable development	1

Question 2 (d)

Outcomes assessed: H1.2, H7.1

MARKING GUIDELINES

Criteria	Marks
• Identifies OHS legislation issues that influence production and provide points for/or against	4
• Identifies an OHS legislation issue that influences production and provides points for/or against OR • Identifies OHS legislation issues that influence production and a point for/or against	3
• Identifies an OHS legislation issues that influence production and a point for/or against OR • Identifies OHS legislation issues that influence production and no points for/or against	2
• Shows some understanding of OHS legislation OR • Identifies an OHS legislation issue that influences production OR • Provides a point for/or against	1

Question 2 (e)

Outcomes assessed: H1.1, H1.2, H7.1

MARKING GUIDELINES

Criteria	Marks
• Recognises and names more than one EIS issue and identifies the advantages and/or disadvantages of each	7
• Recognises and names more than one EIS issue and identifies ONE advantage and/or disadvantage of each	5–6
• Recognises and names ONE EIS issue with ONE advantage and/or disadvantage	3–4
• Identifies some relevant EIS issues	1–2

Question 3 (a)

Outcomes assessed: H1.2

MARKING GUIDELINES

Criteria	Marks
• Indicates the main features of the purpose of a materials list	2
• Indicates a feature of the purpose of a materials list	1

Question 3 (b)

Outcomes assessed: H1.2, H5.1

MARKING GUIDELINES

Criteria	Marks
• Makes relationships between the use of shapes and colours in safety symbols, supported by an appropriate example	3
• Makes relationships between the use of shapes and colours in safety symbols OR • Gives an example of a safety symbol and relates the use of shape or colour	2
• Gives an example of a safety symbol OR • Gives an illustration of the use of shape or colour	1

Question 3 (c)

Outcomes assessed: H1.1, H1.2, H5.1

MARKING GUIDELINES

Criteria	Marks
• Recognises and names the type of diagram AND • Makes relationships between the diagram and the steps outlined in the production system	4
• Recognises and names the type of diagram AND • Makes a relationship between the steps outlined in the production system and the diagram	3
• Names the diagram and shows a basic understanding of its suitability AND • Makes a relationship between the steps outlined in the production system and the diagrams	2
• Names the diagram OR • Shows a basic understanding of its suitability	1

Question 3 (d)

Outcomes assessed: H3.3

MARKING GUIDELINES

Criteria	Marks
• Indicates the main features of function and aesthetics when designing a product	4
• Indicates some features of function and a feature of aesthetics when designing a product OR • Indicates a feature of function and some features of aesthetics when designing a product	3
• Indicates a feature of function and aesthetics when designing a product OR • Indicates the main features of function OR indicates the main features of aesthetics	2
• Names a feature of function OR aesthetics	1

Question 3 (e)

Outcomes assessed: H1.1, H1.2, H5.1

MARKING GUIDELINES

Criteria	Marks
• Indicates the main features of all the processes that would be followed when: – Collecting and analysing data – Identifying problems – Recommending possible outcomes – Preparing draft report – Presenting findings to management	7
• Indicates some features of all of the processes that would need to be followed	5–6
• Indicates some features of some of the processes that would need to be followed	3–4
• Names some part of process that would need to be followed	1–2

BOARD OF STUDIES
NEW SOUTH WALES

2005 HSC Industrial Technology
Automotive Industries
Marking Guidelines

Section II

Question 4 (a)

Outcomes assessed: H1.2, H2.1, H4.3, H6.1, H7.1

MARKING GUIDELINES

Criteria	Marks
• Lists TWO appropriate disadvantages	2
• Lists ONE appropriate disadvantage	1

Question 4 (b)

Outcomes assessed: H1.2, H2.1, H4.3, H6.1, H7.1

MARKING GUIDELINES

Criteria	Marks
• Provides more than one reason and shows the relationship between increase in popularity and the use of hybrid vehicles	3
• Provides more than one reason why hybrid vehicles are increasing in popularity	2
• Provides a reason why hybrid vehicles are increasing in popularity	1

Question 4 (c)

Outcomes assessed: H1.2, H2.1, H4.3, H7.1, H6.1

MARKING GUIDELINES

Criteria	Marks
• Provides a well structured and detailed response, showing the relationship between solar energy and how it is used to power a solar vehicle	4
• Provides some relationship between solar energy and the powering of solar vehicles but lacks detail	3
• Lists some features of solar power systems, without inter-relating them	2
• Indicates, in a brief statement, that 'solar energy is converted to electricity'	1

Question 4 (d)

Outcomes assessed: H1.2, H2.1, H4.3, H6.1, H7.1

MARKING GUIDELINES

Criteria	Marks
• Indicates (in detail) the main features of the advantages of a two-stroke over a four-stroke engine	4
• Indicates some features of the advantages of two-stroke over four-stroke engines	3
• Indicates TWO advantages of a two-stroke engine	2
• Lists an advantage of a two-stroke engine	1

Question 4 (e)

Outcomes assessed: H1.2, H2.1, H4.3, H6.1, H7.1

MARKING GUIDELINES

Criteria	Marks
• Provides the characteristics and features of the advantages and disadvantages of electronic engine management systems	7
• Provides the characteristics and features of an advantage and a disadvantage	5–6
• Lists some appropriate advantages and some appropriate disadvantages OR • Indicates the main features of ONE advantage and ONE disadvantage	3–4
• Lists ONE appropriate advantage and/or ONE appropriate disadvantage	1–2

Question 5 (a)

Outcomes assessed: H1.2, H2.1, H4.3, H6.1

MARKING GUIDELINES

Criteria	Marks
• Correctly explains why gas-filled shock absorbers are used	2
• Gives an incomplete OR inadequate explanation of why gas shock absorbers are used	1

Question 5 (b)

Outcomes assessed: H1.2, H2.1, H4.3, H6.1

MARKING GUIDELINES

Criteria	Marks
• Names and provides characteristics and features of the functions of both A and B	3
• Names and provides characteristics of the function of A OR B OR • Lists one function for each of A and B	2
• Names ONE item	1

Question 5 (c)

Outcomes assessed: H1,2, H2.1, H4.3, H6.1

MARKING GUIDELINES

Criteria	Marks
• Makes the relationship between the procedure used by the repairman and indicates how the damage would be assessed	4
• Makes the relationship between the procedure and the assessment but does not indicate how the damage would be assessed	3
• Indicates a process that would be used showing reasons for its use	2
• Lists a piece of equipment that could be used OR • Indicates a chassis alignment would be necessary	1

Question 5 (d)

Outcomes assessed: H1.2, H2.1, H4.3, H6.1

MARKING GUIDELINES

Criteria	Marks
• A well structured response making relationship between the process from preparation to file finish, together with tools used and labelled sketches	4
• A brief response making some relationship between the process and some tools used with sketches	3
• A brief indication of the process to be used OR • A list of the tools to be used with no sketches or poor sketches	2
• An indication that the panel beating process would be used	1

Question 5 (e)

Outcomes assessed: H1.2, H2.1, H4.3, H6.1

MARKING GUIDELINES

Criteria	Marks
• Indicates the main features of the procedure used for the preparation and painting of the mud guard logically sequenced	7
• Indicates the features of some of the procedures used logically sequenced	5–6
• Lists the steps in the finishing process logically sequenced	3–4
• Lists some steps in the finishing process	1–2

BOARD OF STUDIES
NEW SOUTH WALES

2005 HSC Industrial Technology
Building and Construction Industries
Marking Guidelines

Section II

Question 4 (a) (i)

Outcomes assessed: H1.2

MARKING GUIDELINES

Criteria	Marks
• Recognises and names ONE piece of information that is gained from a site AND contour plan	2
• Recognises and names ONE piece of information that can be gained from either a site OR contour plan	1

Question 4 (a) (ii)

Outcomes assessed: H1.2

MARKING GUIDELINES

Criteria	Marks
• Indicates the main features of contour lines showing a steep change in the slope of the land, using a sketch	3
• Indicates some features of contour lines showing a change in the slope of the land • Shows a sketch of contour lines	2
• Indicates a feature of a contour line OR • Shows contour lines on a plan	1

Question 4 (b)

Outcomes assessed: H1.2, H2.1, H4.3, H7.1

MARKING GUIDELINES

Criteria	Marks
• Provides the characteristics and features of a suitable method of site preparation for slab-on-ground construction for the given site	4
• Provides an incomplete set of characteristics and features for site construction	3
• Provides some understanding of site preparation for slab-on-ground construction	2
• Shows a basic understanding of site preparation not suited to slab-on-ground construction	1

Question 4 (c)

Outcomes assessed: H1.2, H2.1, H4.3, H6.1, H7.1

MARKING GUIDELINES

Criteria	Marks
• Recognises and names some advantages and some disadvantages of pier construction	4
• Recognise and names TWO advantages and ONE disadvantage OR • ONE advantage and TWO disadvantages	3
• Recognises and names ONE advantage and ONE disadvantage OR • Recognises and names TWO advantages OR • Recognises and names TWO disadvantages	2
• Recognises and names ONE advantage OR ONE disadvantage	1

Question 4 (d)

Outcomes assessed: H1.2, H2.1, H4.3, H6.1, H7.1

MARKING GUIDELINES

Criteria	Marks
• Provides characteristics and features of the purpose of the wall and a suitable construction technique • Provides sketches	7
• Provides some characteristics and features of the purpose of the wall and construction techniques • Provides incomplete sketches	5–6
• Lists the purpose of the wall and the construction technique • Provides an incomplete sketch	3–4
• Outlines the purpose of the wall OR • Provides a poor sketch	1–2

Question 5 (a)

Outcomes assessed: H1.2

MARKING GUIDELINES

Criteria	Marks
• Recognises and names TWO or more components	2
• Recognises and names ONE component	1

Question 5 (b)

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

MARKING GUIDELINES

Criteria	Marks
• Indicates the main differences between strip and pad footings in construction and use	3
• Indicates the main differences between strip and pad footings in construction or use	2
• Lists a feature of strip or pad footings	1

Question 5 (c)

Outcomes assessed: H1.2, H2.1, H4.3, H6.1

MARKING GUIDELINES

Criteria	Marks
• A clearly developed sketch showing all components in the correct relationship	4
• A sketch showing most of the necessary components and following acceptable construction standards	3
• A poor sketch that doesn't follow acceptable construction standards	2
• Poorly developed sketch	1

Question 5 (d)

Outcomes assessed: H1.2, H2.1, H4.3, H6.1

MARKING GUIDELINES

Criteria	Marks
• Provides characteristics and features of TWO methods of attaching the posts to the floor • Provides clear sketches	4
• Provides characteristics and features of ONE method of attaching the posts to the floor • Provides clear sketches	3
• Indicates some features of ONE method • Provides a poor sketch	2
• Names ONE example of attaching the posts to the floor	1

Question 5 (e)

Outcomes assessed: H1.2, H2.1, H4.3, H6.1

MARKING GUIDELINES

Criteria	Marks
• Clear explanation of the technique used to construct a hipped roof on a building including covering materials	7
• A good description of the sequence of steps used without including covering materials OR • A good but incomplete sequence of steps	5–6
• A number of steps have been left out, therefore not sufficient information to allow the roof to be built	3–4
• Poor description of a pitched roof OR • An incomplete set of instructions	1–2

BOARD OF STUDIES
NEW SOUTH WALES

2005 HSC Industrial Technology
Electronics Industries
Marking Guidelines

Section II

Question 4 (a)

Outcomes assessed: H4.3

MARKING GUIDELINES

Criteria	Marks
• Indicates the main features of the function of the LDR	2
• Shows a limited understanding of the function of the LDR	1

Question 4 (b)

Outcomes assessed: H4.3

MARKING GUIDELINES

Criteria	Marks
• Indicates the main features of speakers that would need to be considered	3
• Indicates a feature of speakers that would need to be considered	2
• Shows limited understanding of speaker features	1

Question 4 (c)

Outcomes assessed: H1.2, H4.3

MARKING GUIDELINES

Criteria	Marks
• Recognises and names (and indicates the main functions of) each type of capacitor	4
• Recognises and names (and indicates a function of) each type of capacitor	3
• Recognises and names each type of capacitor	2
• Shows limited understanding of capacitor types	1

Question 4 (d)

Outcomes assessed: H1.2, H4.3

MARKING GUIDELINES

Criteria	Marks
• Recognises and names the type of transistor and provides characteristics and features of their operation in the circuit	4
• Recognises and names the type of transistor and provides a characteristic and/or features of their operation in the circuit	3
• Recognises and names the type of transistor and indicates some aspect of their operation in the circuit	2
• Shows limited understanding of transistors	1

Question 4 (e)

Outcomes assessed: H1.2, H4.3, H6.1, H7.1

MARKING GUIDELINES

Criteria	Marks
• Provides a correct copper side track layout • Providing a good relationship between the track layout and the component layout	7
• Provides a mostly correct copper side track layout • Provides some relationship between the track layout and the component layout	5–6
• Provides an incorrect copper side track layout • Provides a poor relationship between the track layout and the component layout	3–4
• Shows limited understanding of the relationship between track layouts and component layouts OR • Provides a poor copper side track layout	1–2

Question 5 (a)

Outcomes assessed: H4.3

MARKING GUIDELINES

Criteria	Marks
• Provides characteristics and features of the term VLSI in relation to ICS	2
• Shows limited understanding of the term VLSI	1

Question 5 (b)

Outcomes assessed: H4.3

MARKING GUIDELINES

Criteria	Marks
• Recognises and names more than one feature of ICS	3
• Recognises and names a feature of ICS	2
• Shows limited understanding of the features of ICS	1

Question 5 (c)

Outcomes assessed: H4.3

MARKING GUIDELINES

Criteria	Marks
• Recognises and names the logic gate • Provides reasons for the operation of the circuit	4
• Recognises and names the logic gate • Provides some indication of the operation of the circuit	3
• Recognises and names the logic gate • Provides a basic understanding of the operation of the logic circuit	2
• Shows limited understanding of the operation of the logic circuit	1

Question 5 (d)

Outcomes assessed: H1.2, H4.3

MARKING GUIDELINES

Criteria	Marks
• Provides more than one similar and/or different properties of each type of electric motor	4
• Provides a similar and/or different property of each type of electric motor	3
• Provides more than one property for one electric motor	2
• Shows limited understanding of electric motors	1

Question 5 (e)

Outcomes assessed: H4.3, H6.1

MARKING GUIDELINES

Criteria	Marks
• Provides a correct answer with a complete set of accurate calculations	7
• Provides an incorrect answer with a set of calculations, some of which are correct	5–6
• Provides some relevant calculations	3–4
• Shows limited understanding of relevant calculations	1–2

BOARD OF STUDIES
NEW SOUTH WALES

2005 HSC Industrial Technology
Graphics Industries
Marking Guidelines

Section II

Question 4 (a)

Outcomes assessed: H1.2, H4.3

MARKING GUIDELINES

Criteria	Marks
• Recognises and names TWO features of sectioned drawings	2
• Recognises and names a feature of sectioned drawings	1

Question 4 (b)

Outcomes assessed: H1.2, H4.3

MARKING GUIDELINES

Criteria	Marks
• Identifies a number of features relating to the purpose of rendering when presenting product concepts	3
• Identifies ONE feature of rendering and relates this to presenting product concepts	2
• Shows limited understanding of rendering	1

Question 4 (c)

Outcomes assessed: H1.2, H4.3

MARKING GUIDELINES

Criteria	Marks
• Shows more than one difference or similarity between the roles of assembled drawing and exploded drawings	4
• Shows ONE difference or similarity between the roles of assembled and exploded drawings	3
• Outlines the roles of both assembled drawing AND exploded drawing	2
• Outlines the role of an assembled drawing OR an exploded drawing	1

Question 4 (d)

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

MARKING GUIDELINES

Criteria	Marks
• A good pictorial sketch of the assembled tool tray showing all folded edges and drawn in proportion	4
• A pictorial sketch of the assembled handle and body not showing folded edges but drawn in proportion	3
• A pictorial sketch of the handle and body of the tool tray not showing folded edges and not in proportion	2
• A poor sketch of the toolbox	1

Question 4 (e)

Outcomes assessed: H1.2, H2.1, H6.1, H7.1

MARKING GUIDELINES

Criteria	Marks
• Identifies more than one issue, providing points for and/or against using freehand sketches, pictorial and orthogonal drawings when used to communicate design ideas for projects	7
• Identifies an issue of each drawing providing points for and/or against using freehand sketches, pictorial and orthogonal drawings when used to communicate design ideas for projects	5–6
• Identifies an issue from TWO of the drawing types when used to communicate design ideas	3–4
• Identifies an issue of using any drawing types to communicate ideas	1–2

Question 5 (a)

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

MARKING GUIDELINES

Criteria	Marks
• Lists TWO reasons why architects use models to represent ideas	2
• Lists ONE reason why architects use models to represent ideas	1

Question 5 (b)

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

MARKING GUIDELINES

Criteria	Marks
• A quality sketch of the completed perspective drawing of the shed drawn in correct proportion	3
• A good sketch of the completed perspective drawing of the shed but with incorrect proportions	2
• An incomplete sketch of the shed showing some views using the vanishing points	1

Question 5 (c)

Outcomes assessed: H1.2, H2.1, H4.3, H6.1

MARKING GUIDELINES

Criteria	Marks
• Identifies at least two pieces of information from the site plan and provides a relationship showing how the builder would use this information	4
• Identifies at least two pieces of information from the site plan and provides a relationship showing how a builder would use one piece of this information	3
• Identifies one piece of information from the site plan and shows how a builder would use this information OR • Identifies two pieces of information with no relationship as to how the builder would use this information	2
• Identifies one piece of information that is important to a builder	1

Question 5 (d)

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

MARKING GUIDELINES

Criteria	Marks
• Identifies at least TWO issues and provides points for and/or against making concept drawings important for an architect when presenting information to clients	4
• Identifies at least ONE issue and provides points for and/or against making concept drawing important for an architect when presenting information to clients	3
• Identifies the importance of concept drawings with no relationship to architects or clients	2
• Shows some understanding of concept drawings	1

Question 5 (e)

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

MARKING GUIDELINES

Criteria	Marks
• Identifies issues and provides points for and/or against the use of all THREE approaches in the production of presentation drawings	7
• Identifies issues and provides points for and/or against the use of TWO approaches in the production of presentation drawings	5–6
• Identifies an advantage or disadvantage of TWO approaches for producing presentation drawings OR • Identifies and discusses the advantages or disadvantages of ONE approach	3–4
• Shows some understanding of the use of presentation drawings	1–2

BOARD OF STUDIES
NEW SOUTH WALES

2005 HSC Industrial Technology
Metals and Engineering Industries
Marking Guidelines

Section II

Question 4 (a)

Outcomes assessed: H1.2, H4.3

MARKING GUIDELINES

Criteria	Marks
• States two reasons for the suitability of cast iron	2
• States one reason for the suitability of cast iron	1

Question 4 (b)

Outcomes assessed: H1.2, H2.1

MARKING GUIDELINES

Criteria	Marks
• Names a suitable manufacturing method and gives two reasons for its suitability	3
• Names a suitable manufacturing method and gives one reason for its suitability	2
• States a suitable manufacturing method	1

Question 4 (c)

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

MARKING GUIDELINES

Criteria	Marks
• Names and provides characteristics and features of a suitable process AND • Names TWO advantages of the identified process	4
• Names and provides a characteristic or feature of a suitable process AND • Names ONE advantage OR • Names a suitable process and names TWO advantages of this process	3
• Names and indicates a feature of a suitable process OR • Names a suitable process and names ONE advantage of this process	2
• Names a suitable process	1

Question 4 (d)

Outcomes assessed: H1.2, H4.3

MARKING GUIDELINES

Criteria	Marks
• Provides characteristics and features of both the sand mould and the casting processes	4
• Provides a basic understanding of the sand moulding and the casting process	3
• Shows a basic understanding of the moulding process OR the casting process	2
• Lists one step of the sand moulding process or the casting process	1

Question 4 (e)

Outcomes assessed: H1.2, H4.3, H6.1, H7.1

MARKING GUIDELINES

Criteria	Marks
• Provides characteristics and features of TWO suitable finishing processes for the handle • Indicates the main advantages and/or disadvantages of each process	7
• Provides characteristics and features of ONE suitable finishing process for the handle AND indicates the main advantages and/or disadvantages of the process OR • Provides characteristics and features of TWO suitable finishing processes for the handle OR • Identifies TWO suitable finishes and identifies advantages and disadvantages of the processes	5–6
• Identifies a suitable finishing process for the handle AND states ONE advantage or disadvantage OR • Provides characteristics and features of ONE suitable process	3–4
• Identifies a suitable finishing process for the handle	1–2

Question 5 (a)

Outcomes assessed: H1.2, H4.3

MARKING GUIDELINES

Criteria	Marks
• Provides, in general terms, TWO reasons for the use of this material	2
• Provides, in general terms, ONE reason for the use of this material	1

Question 5 (b)

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

MARKING GUIDELINES

Criteria	Marks
• Indicates the main features of the manufacturing processes for the plates and bolts	3
• Indicates the main features of the manufacturing process for the plate OR the bolts OR • Shows a basic understanding of the manufacturing process for the plate and the bolts	2
• Names processes for manufacturing the plate OR the bolts	1

Question 5 (c)

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

MARKING GUIDELINES

Criteria	Marks
• Provides characteristics and features of the processes used to manufacture the mudguard	4
• Provides characteristics and features of TWO of the processes in the manufacture of the mudguard	3
• Provides characteristics and features of ONE process in the manufacture of the mudguard OR • Provides a basic understanding of all processes	2
• Names a process used in the manufacture of the mudguard	1

Question 5 (d)

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

MARKING GUIDELINES

Criteria	Marks
• Provides detailed responses as to why the coupling is attached by bolts rather than welding	4
• Provides a detailed response as to why bolts are used to attach the coupling OR why welding is not used	3
• Provides the characteristics or features of both bolting and welding	2
• Provides the characteristics or features of either bolting and welding	1

Question 5 (e)

Outcomes assessed: H1.2, H2.1, H4.3, H6.1

MARKING GUIDELINES

Criteria	Marks
• Provides characteristics and features of the processes involved in manufacturing and finishing of the bracket and the axle	7
• Provides characteristics and features of the processes involved in manufacturing and finishing of the bracket or the axle	5–6
• Provides characteristics and features of the processes involved in manufacturing OR finishing of the bracket or the axle	3–4
• Lists the processes used in the manufacturing or finishing of the bracket or the axle	1–2

BOARD OF STUDIES
NEW SOUTH WALES

2005 HSC Industrial Technology
Multimedia Industries
Marking Guidelines

Section II

Question 4 (a)

Outcomes assessed: H4.3

MARKING GUIDELINES

Criteria	Marks
• Recognises and names TWO suitable storage devices	2
• Recognises and names ONE suitable storage device	1

Question 4 (b)

Outcomes assessed: H1.2

MARKING GUIDELINES

Criteria	Marks
• Provides detailed relationships between file size and at least two related factors	3
• Provides detailed relationship between file size and one related factor OR • Provides elementary relationships between file size and two factors	2
• Provides elementary relationship between file size and a related factor	1

Question 4 (c)

Outcomes assessed: H6.1

MARKING GUIDELINES

Criteria	Marks
• Provides detailed characteristics/features of TWO or more web resources that are suitable for the development of a multimedia presentation	4
• Provides detailed characteristics/features of a web resource suitable for the development of a multimedia presentation	3
• Recognises and names two or more resources available on the world wide web that are suitable for the development of a presentation	2
• Recognises and names a resource available on the world wide web that is suitable for the development of a multimedia presentation	1

Question 4 (d)

Outcomes assessed: H4.3

MARKING GUIDELINES

Criteria	Marks
• Recognises and names TWO printer types AND • Provides, in general terms, relative advantages of each	4
• Recognises and names TWO printer types AND • Provides, in general terms, ONE advantage of each	3
• Recognises and names TWO printers AND • Provides an advantage of ONE printer	2
• Recognises and names TWO printer types OR • Recognises ONE printer and provides a relevant advantage	1

Question 4 (e)

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

MARKING GUIDELINES

Criteria	Marks
• Provides a detailed response indicating an in-depth knowledge and understanding of more than one hardware and more than ONE software solution relating the implications when using them to overcome downloading difficulties	7
• Relates the implications of more than ONE hardware solution and ONE software solution OR • Relates the implications of more than ONE software solution and ONE hardware solution	5–6
• Relates the implications of ONE hardware solution AND ONE software solution	3–4
• Relates the implication of ONE hardware solution OR • Relates the implication of ONE software solution	1–2

Question 5 (a)

Outcomes assessed: H4.3

MARKING GUIDELINES

Criteria	Marks
• Recognises and names TWO differences between high and low resolution graphic images	2
• Recognises and names a difference between high and low resolution graphic images	1

Question 5 (b)

Outcomes assessed: H1.2

MARKING GUIDELINES

Criteria	Marks
• Provides, in general terms, points on TWO characteristics of a suitable paper	3
• Provides, in general terms, points on ONE characteristic of a suitable paper	2
• Identifies a characteristic of a suitable paper	1

Question 5 (c)

Outcomes assessed: H6.1

MARKING GUIDELINES

Criteria	Marks
• Recognises and names a suitable file format and indicates TWO advantages for the presentation of a multimedia project	4
• Recognises and names a suitable file format and indicates the features of ONE advantage	3
• Names a suitable file format and indicates a related advantage	2
• Names a suitable file format	1

Question 5 (d)

Outcomes assessed: H6.1

MARKING GUIDELINES

Criteria	Marks
• Identifies more than one issue in relation to the role of a storyboard and provides points for and/or against each issue	4
• Identifies more than one issue in relation to the role of a storyboard and provides points for and/or against one issue	3
• Identifies one issue in relation to the role of a storyboard and provides for and/or against the issue	2
• Identifies one issue in relation to the role of a storyboard	1

Question 5 (e)

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

MARKING GUIDELINES

Criteria	Marks
• States the meaning and essential qualities of copyright AND • Makes a clear relationship as to how this will affect the development of a commercial presentation	7
• Identifies the essential qualities of copyright AND • Provides a reason that shows how copyright will affect the development of a commercial presentation	5–6
• Indicates the basic meaning of copyright AND • Identifies some issues that copyright will have on the development of a commercial presentation	3–4
• Indicates the basic meaning of copyright OR • Identifies ONE implication of copyright to the development of a commercial presentation	1–2

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Marking Guidelines

Section II

Question 4 (a)

Outcomes assessed: H1.2

MARKING GUIDELINES

Criteria	Marks
• Names TWO suitable features of MDF	2
• Names a suitable feature of MDF	1

Question 4 (b)

Outcomes assessed: H1.2, H2.1, H4.3, H6.1, H7.1

MARKING GUIDELINES

Criteria	Marks
• Names more than one health hazard of using a manufactured board, indicating ways in which they can be prevented	3
• Names one health hazard of using a manufactured board indicating a way in which it can be prevented	2
• Names a health hazard of using a manufactured board	1

Question 4 (c)

Outcomes assessed: H1.2, H4.3

MARKING GUIDELINES

Criteria	Marks
• Provides characteristics and features of a production process used to manufacture the table top	4
• Provides characteristics and some features of a production process used to manufacture the table top	3
• Identifies suitable manufacturing processes for the table top, listing some steps in the processes	2
• Identifies a suitable manufacturing method for the table top OR • Indicates some steps in the process	1

Question 4 (d)

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

MARKING GUIDELINES

Criteria	Marks
• Names and sketches suitable joining methods using a traditional joint and cabinet hardware	4
• Names two methods but only sketches one OR • Sketches two methods but names only one	3
• Names and sketches a method of joining the legs to the pedestal	2
• Names or sketches a method of joining the legs to the pedestal	1

Question 4 (e)

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

MARKING GUIDELINES

Criteria	Marks
• Puts forward suitable suggestions and gives reasons for the checking of all aspects involved in the production of parts of the table	7
• Puts forward suitable suggestions and gives reasons for checking some parts of the table	5–6
• Names some checking methods and gives reasons for checking some parts of the table	3–4
• Names some checking methods that could be used	1–2

Question 5 (a)

Outcomes assessed: H1.2, H4.3

MARKING GUIDELINES

Criteria	Marks
• Names TWO properties of hardwood	2
• Names ONE property of hardwood	1

Question 5 (b)

Outcomes assessed: H1.2, H4.3

MARKING GUIDELINES

Criteria	Marks
• Indicates the meaning of DAR • Recognises and names TWO advantages of purchasing timber DAR	3
• Indicates the meaning of DAR • Lists the advantages of purchasing timber DAR	2
• Indicates the meaning of DAR OR • Lists an advantage of DAR	1

Question 5 (c)

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

MARKING GUIDELINES

Criteria	Marks
• Recognises, names and provides a clear sketch of TWO widening joints • Provide reasons for using each joint	4
• Recognises, names and provides poor sketches for TWO widening joints • Provides a reason for using each joint OR • Sketches and names two joints and one reason for using a joint	3
• Recognises, names and provides a clear sketch of a widening joint • Provides a reason for its use OR • Two good sketches	2
• Names a widening joint OR • Provides a poor sketch	1

Question 5 (d)

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

MARKING GUIDELINES

Criteria	Marks
• Clearly sketches a suitable method of attaching the rails to the tabletop • Provides advantages for using this method that must allow for movement	4
• Poorly sketches a suitable attaching method • Provides advantages for using this method	3
• Either poorly sketches a suitable method of attaching the rails to the tabletop OR • Provides some reasons OR • Poor method with a reason OR • Good sketch without a reason	2
• Names a suitable method of joining the frame to the tabletop OR • Provides a poor sketch OR • Poor method without a reason OR • Unsuitable method but qualifies it with a reason	1

Question 5 (e)

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

MARKING GUIDELINES

Criteria	Marks
• Provides characteristics and features of a suitable processes to manufacture the drawer, including all quality checks	7
• Provides characteristics and features of some steps in the manufacture of the drawer, including some quality checks	5–6
• Lists some steps in the manufacture of the drawer, including some quality checks	3–4
• Lists some steps in the manufacture of the drawer or quality checks	1–2