

# 2015 HSC Industrial Technology Multimedia Technologies Marking Guidelines

## Section I

### Multiple-choice Answer Key

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

## Section II

### Question 11

Criteria	Marks
<ul style="list-style-type: none"> <li>Correctly states the purpose of anti-aliasing</li> </ul>	1

**Sample answer:**

The purpose of anti-aliasing is to smooth the edges of a raster (bitmap) image.

**Answers could include:**

Removing jagged edges from edge of graphic image.

### Question 12

Criteria	Marks
<ul style="list-style-type: none"> <li>Correctly identifies the main advantages and disadvantages</li> </ul>	3
<ul style="list-style-type: none"> <li>Identifies an advantage and a disadvantage of converting from paper based to digital OR gives two advantages OR gives two disadvantages</li> </ul>	2
<ul style="list-style-type: none"> <li>Provides limited information about converting from paper based to digital</li> </ul>	1

**Sample answer:**

Advantages can include:

- You can attach metadata to a digitised image such as geo-location or time stamp
- A large digital photo library is portable compared to paper photography

Disadvantages can include:

- It takes time to convert paper photos to digital
- You need specialist software and hardware

**Answers could include:**

- Easy to pirate or copy illegally
- You can colourise black and white photos
- Potential loss of data
- No degradation of digital copies

**Question 13**

Criteria	Marks
• Sketches in general terms THREE or more main features that multimedia designs need to consider	3
• Sketches in general terms TWO features that multimedia designs need to consider	2
• Sketches in general terms ONE feature to be considered	1

**Sample answer:**

Designers need to consider a number of factors for web delivery including:

- Designing and creating content to suit available bandwidth
- Ensure compatibility across browser platforms
- Designing interfaces that will suit a number of devices and screen sizes.

**Answers could include:**

- Consideration of file size
- Protection against theft, piracy, copyright infringement

**Question 14**

Criteria	Marks
• Correctly sketches in general terms elements that need to be considered	3
• Provides some relevant information about a multimedia element to be considered	2
• Outlines an element that needs to be considered	1

**Sample answer:**

When adapting a game from a computer to a hand held device the game design should be suitable for the intended hardware, such as a smaller screen. Furthermore, the game design should consider user interactivity and ergonomics with respect to a smaller (touch) screen. As most hand held games are downloaded over the internet, software needs to be designed to ensure efficient file size of the app.

**Answers could include:**

The platform specific requirements should be identified (eg Android vs IOS vs PSP).

**Question 15**

<b>Criteria</b>	<b>Marks</b>
• Provides detailed characteristics and features of the impact on the delivery of multimedia content online	5
• Provides the main features of the impact on the delivery of multimedia content online	3–4
• Lists aspects of the impact on the delivery of multimedia content online	1–2

***Sample answer:***

Greater bandwidth has led to a number of positive and negative results. Traditional methods of delivery of video movies, such as DVD, have given way to video on demand services such as Netflix/Quickflix. This allows greater flexibility in when and where people watch these movies.

Music is now listened to and accessed online, therefore, online stores such as iTunes have increased availability of music at generally lower prices. Disadvantages include increase in digital piracy that results in decreased income for authors of digital content.

## Section III

### Question 16 (a)

Criteria	Marks
• Detailed understanding of the causes and effects of restructuring a business on quality control	5
• Provides characteristics and features of the causes and effects of restructuring a business on quality control	3–4
• Indicates the main features of restructuring and/or quality control	1–2

***Answers could include:***

- Restructuring can involve personnel, systems, processes, physical environment
- Effects can be positive and negative
- Restructuring can cause stress/anxiety on workers, causing a lowering of the quality of the product/services
- Workers moved during a restructure may initially lack the skills to perform new tasks, retraining must be under taken to provide knowledge to overcome lack of experience. This can lead to a short drop in quality of the product/services.
- New workers can provide a fresh attitude and show less complacency, possibly improving the quality of product/services
- The introduction of new machinery can improve the quality of products through increased accuracy, precision and output
- Restructuring personnel into specific teams with designated roles can help to improve product quality through skill specialisation

**Question 16 (b)**

Criteria	Marks
<ul style="list-style-type: none"> <li>Provides a detailed judgement of the value of new technology with an explanation of its effects on production and efficiency in the industry</li> </ul>	10
<ul style="list-style-type: none"> <li>Provides an effective judgement of the value of new technology with a description of its effects on production and efficiency in the industry</li> </ul>	8–9
<ul style="list-style-type: none"> <li>Provides some measure of the value of new technology with features of its effects on production and efficiency in the industry</li> </ul>	5–7
<ul style="list-style-type: none"> <li>Attempts to provide an assessment of the effect of new technology on production and/or efficiency in the industry</li> </ul>	3–4
<ul style="list-style-type: none"> <li>Lists aspects of new technology or production or efficiency in the industry</li> </ul>	1–2

**Sample answer:**

There are ways to determine the value of new technology improving production and efficiency. CAD drawings have allowed faster production due to reduced time in planning and drawing. These drawings are able to have elements such as a library of parts, which can be reused and save time for the business, therefore increasing efficiency in the production of drawings. For example, if you consistently use one component of a drawing, eg a particular cog, then you can save complex drawings and reuse and edit them. CAD drawings allow for electronic distribution of drawings around the world via the internet (even attached to emails). This could previously not have been done with hand drawings, as the drawings would have to be physically sent. This fast method of distribution is a significant cost saving, which is more efficient due to the time and cost saved by not having down time when waiting for delivery. With electronic distribution, there are no postal costs and no flying workers around the world with drawings/plans to attend meetings. In addition, if you were sending physical drawings, these may be lost. CAD allows for multiple backups to be made so the work will be able to be sent again reducing duplication of effort. As this globalisation has been made so much easier by the introduction of new technologies, you also have access to a global work force, and companies can get more qualified and experienced staff which are then likely to work more efficiently, thus increasing the amount of drawings produced in a set time.

3D printing allows rapid prototyping in the early stages of production. It allows concept sketches to be produced quickly, and then tested as a physical prototype to scale. This physical prototype is faster to generate than previous methods such as creating cardboard models thus reducing money the company may have spent on labour costs and freeing up this capital for re-investment. This model can then be shown to clients and feedback given which is then applied to the model. The time within the design process in preparing for production is then minimised, as changes can be made quickly and easily to the model based on feedback. This is a more efficient process, as previously, feedback would be received, drawing would have to be modified then new drawings printed, or perhaps new models created. This can all be done in the one process now with the model that is used for the prototype can then be repurposed and sent out for production, thus saving time in making a separate prototype and product, therefore being more efficient. Some 3D printers also print in different resins that can be used for things such as moulding and casting of multiple copies of objects. This is time and cost efficient and allows smaller businesses that do not have access to large budgets to be competitive in the market.

# 2015 HSC Industrial Technology Multimedia Technologies Mapping Grid

## Section I

Question	Marks	Content	Syllabus outcomes
1	1	Multimedia elements – animation	H1.2
2	1	Multimedia elements – animation	H4.3
3	1	Multimedia elements – animation	H4.3
4	1	Multimedia elements – graphics	H1.2
5	1	Multimedia elements – animation	H1.2, H4.3
6	1	Multimedia elements – audio	H4.3
7	1	Multimedia elements – graphics	H4.3
8	1	Multimedia elements – animation	H4.3
9	1	Multimedia elements – graphics	H4.3
10	1	World Wide Web	H4.3

## Section II

Question	Marks	Content	Syllabus outcomes
11	1	Multimedia elements – graphics	H6.1
12	3	Multimedia elements – graphics	H3.2
13	3	World Wide Web	H7.2
14	3	World Wide Web	H4.3
15	5	World Wide Web, IP and ethics	H1.3, H7.2

## Section III

Question	Marks	Content	Syllabus outcomes
16 (a)	5	Structural considerations	H1.1, H2.1, H6.1, H6.2
16 (b)	10	Structural considerations	H1.1, H2.1, H7.2