Guidance on the use of past paper questions for Advanced Design and Manufacture

The Curriculum for Excellence Advanced Higher Courses draw on the strengths of popular areas of study from existing Advanced Higher with the introduction of some new content. The purpose of this support document is to help centres and departments to identify suitable past paper questions/items that could be used, or possibly amended, to support learners in their preparation for sitting question papers (exams) as part of the Advanced Higher Course assessment. The advice in this document reflects questions selected from **2012, 2013 and 2014** past papers for Advanced Higher Product Design.

When utilising any past paper questions, you need to take into account the following:

- You must select questions that provide the learners with the same level of challenge as those in the Advanced Higher Specimen Question Paper.
- You may be able to use questions as published or with amendments as suggested in the columns below.
- You must use questions that adhere to the Advanced Higher General Marking Principles and reflect the form of Detailed Marking Instructions as published in the Advanced Higher Specimen Question Paper.

If any change to a question/items is necessary, you must ensure that:

- The style and structure matches the Specimen Question Paper for Advanced Higher.
- Marking of the learner's response to the question adheres to the General Marking Principles in the Advanced Higher Specimen Question Paper.
- Marking Instructions are amended to reflect the style of the Advanced Higher Detailed Marking Instructions.

The details below should be read in conjunction with the relevant:

Mandatory documentation:

- Course Specification
- Unit Specifications
- Course Assessment Specification

Advice and guidance:

- Course and Unit Support Notes

Assessment:

- Question Paper Component:
  - general assessment information
  - general marking principles and detailed marking instructions

Related Information as provided in the relevant N5-Advanced Higher Course Comparison Document.

Key for the section below:

C — amend context as required
S — amend source as required
St — amend question style
Str — amend structure of the question

Not all topic/areas of study will appear every year due to the sampling techniques used in producing question papers.

Information from the Course Assessment Specification Each Section of the question paper will be made up of restricted and extended response questions. Questions will **sample** the knowledge and understanding and apply skills described in the **Further mandatory information on Course coverage** section.	**The columns below identify additional support questions from Advanced Higher Product Design Past Papers 2012, 2013 and 2014.**	
	Advanced Higher Product Design	
	Use question as published	Amend question style/structure
Advanced Higher Design and Manufacture topics		
Product evaluation	This topic has not appeared in recent past papers due to sampling requirements.	
The design process in a commercial context	2012 Q1 d 2012 Q4 c 2012 Q5 c(ii)	
	2013 Q3 b 2013 Q4 b	2013 Q5 b — change to *'Describe the activities you have used in your own work to resolve conflicting design issues'.* (4 marks)
	2014 Q3 a,c	2014 Q2 c(ii) — change to '*Describe the steps the designers of the Jacob Mazor rickshaw could have employed to assess its safety before it went into commercial manufacture.'* 2014 Q4 c — change to '*Describe how research has influenced your decisions when developing a design proposal.'* (6 marks)
The impact of commercial design and manufacturing decisions on the environment and society	2012 Q1 a 2012 Q3 b 2012 Q5a	
		2013 Q2 d — a more extended answer would be required and marks increased to 3. 2013 Q6 b(i) — increase marks to 4. (Str)
	2014 Q6 a(i), a(iii)	

The role of visualisation techniques and technologies and their application	2012 Q1 b, c 2012 Q4 a	
		2013 Q1 a combine parts (i) and (ii) and change to *'Explain the advantage of using a range of different visualisation techniques during the development of a product such as the GO portable boat'.* (4 marks) (St/Str)
	2014 Q3 c 2014 Q6 b	2014 Q5 c(ii) — change to *'Describe how different visualisation techniques may have been used to resolve conflicting issues during the development of the Mojito shoe'.* (5 marks)
Design factors	2012 Q3 a 2012 Q6 c	
	2013 Q4 c 2013 Q5 a, c	2013 Q1 c — combine parts (i) and (ii) change to *'Explain the contribution anthropometrics and physiology will have made to the comfort and ease of use of the Go portable boat.'* (4 marks)
	2014 Q2 a,b, c(i)	
The selection of materials and manufacturing processes in the design of commercial products	2012 Q2 a, b 2012 Q6 b	2013 Q1 b — combine parts (i) and (ii) change to *'Describe how computers can be used to make the **production** of products more efficient'.* (5 marks)
	2013 Q2 b,c 2013 Q6 a(ii)	2013 Q2 a — combine parts (i) and (ii) change to *'Explain why drop forging would be the most suitable production method for the jaws of the cutting jaws'.* (3 marks)
	2014 Q1 c,d 2014 Q4 a 2014 Q5 c(i)	2014 Q1 — combine sub questions a and b, eg *'Describe the advantages and disadvantages of manufacturing the casings from elastomers and polymers'.* (4 marks)
Market influences and marketing	2012 Q4 b 2012 Q6 a	
	2013 Q6 a(i), c	2013 Q6 d — increase marks to 3. (Str)
	2014 Q4 d 2014 Q5 a	

Resources	
SQA past papers www.sqa.org.uk/pastpapers/findpastpaper.htm	Additional assessment support material is available here: Education Scotland www.educationscotland.gov.uk/ Glow www.educationscotland.gov.uk/usingglowandict/ Glow Log-in https://secure.glowscotland.org.uk/login/login.htm