

Exemplar Question Paper for Higher Engineering Science

The Exemplar Question Paper and Marking Instructions have been developed to be used by centres and learners to prepare for the question paper (exam) as part of Higher Course assessment. They show how questions from past papers can be used or amended to support learners in their exam preparation.

The structure of the Exemplar Question Paper is aligned with the guidance in the Course Assessment Specification, which is available on the [subject page](#).

The questions in the Exemplar Question Paper follow the style and structure of similar questions in the [Specimen Question Paper](#) (also available on the subject page). The paper overall is designed to provide the same level of demand as the Specimen Question Paper, and the Detailed Marking Instructions reflect the approach of those in the Specimen Question Paper.

The questions included in the Higher Exemplar Question Paper were, as far as possible, selected or amended from those used in past papers, in accordance with the [Guidance on the use of past paper questions](#) document. Care has been taken to align the information in the table below with the questions identified in the guidance document and used in the Exemplar Question Paper. Any misalignment in this information will be updated as part of our regular revisions in 2015.

If no suitable questions were available in recent past papers for reasons of sampling or because there is now new content, new questions were developed or appropriate questions were selected/adapted from other years. Details of how questions have been amended for this Exemplar Question Paper are given in the table below.

When using any past paper questions, it is important to remember that centres and learners must take into account the generic guidance on selection and/or amendments to questions below.

- ◆ You must select questions that provide the learners with the same level of challenge as those in the 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 Higher General Marking Principles and reflect the form of Detailed Marking Instructions as published in the 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 Higher
- ◆ marking of the learner's response to the question adheres to the General Marking Principles in the Higher Specimen Question Paper
- ◆ Marking Instructions are amended to reflect the style of the Higher Detailed Marking Instructions

Additional Subject Specific Information for Higher Engineering Science

The table below shows which questions in the Exemplar Question Paper were selected/amended from past papers (and in what way they were amended) — in accordance with the **Guidance on the use of past paper questions for Higher** document — and also lists any new questions.

The Higher Exemplar Question Paper can be found on the [subject page](#).

Although Engineering Science is a new Course, it has significant overlap in conceptual knowledge with Technological Studies. Most questions used for this paper, were taken from Higher Technological Studies past papers.

Glossary of terms

Term	Explanatory comment
Question used as published in past paper	Past paper question has been used as previously published.
Past paper question with context amended	Past paper question has been used, but the basis of the information has altered, eg in Geography, this may mean a change in context from glaciation to coasts.
Past paper question with source amended	Past paper question has been used, but the source of information is different, eg in English this may mean a different text has been used.
Past paper question with style amended	Past paper question has been used, but the style of questioning has changed, eg in Mathematics, multiple-choice questions may have been changed to a short response question.
Past paper question with structure amended	Past paper question has been used but the structure of the question has changed, eg in Physics it may mean only part of a question was used with amendments to Marking Instructions to take account of no half marks.
New question written	This is a new area of Course content.

Exemplar Question Paper question number	Question used as published in past paper, with or without amendment to Marking Instructions	Past paper question with context amended	Past paper question with source amended	Past paper question with style amended	Past paper question with structure amended	New question written
1		2013 Q4 (a) (ii) and (iii) and (b) — amended to heated propagator; 1 A reduced to 100 mA to give an appropriate answer for h_{FE}				
2	2011 Q7 (a), (b)	2011 Q7 (d) (i) — removal of sketching push/pull driver as this is no longer examined				
3				2012 Q2 (d) — slight change to focus on structural engineer knowledge		
4						2012 Q10 — context used to discuss the social and environmental effects of an engineering project. MIs rewritten

5	2012 Q1(b)					
6						2012 Q4 — context used to examine energy efficiency
7.	2012 Q7(a) (i) and (ii)					Question part added to examine engineering roles skills and knowledge
8.	2013 Q10 (a), (d)			2013 Q10 (c) — some values given that had to be calculated previously MI amended		
9.	2012 Q11 (e) and (f)				2013 Q8(a), (b) and (d) — added to 2012 Q11	Question part on material choice added. Question part on MOSFET energy efficiency added.
10.	2013 Q11 (a)				2013 Q11(b) — restructured slightly to fit pneumatic context	Question part added to examine pneumatic sequential control