Examination Period 2: 2017/18

ENGM00918NA

Module Title: Professional Practice for Technologists
Level: Seven
Time Allowed: Two hours

Instructions to students:
- Enter your student number **not** your name on all answer books.
- Answer **three** out of **four** questions.
- All questions carry equal marks. Where a question has more than one part the division of marks is stated.
- Begin each question in a separate answer book; label each answer book clearly with the number of the question you are answering.
- Neither books nor notes may be taken into the examination.
- The use of calculators is **not** permitted.

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Answer three out of four questions.

**Question 1**

Projects are a very common method of delivering required results within the engineering sector.

a. Discuss three benefits of using the ‘Agile’ project management methodology.  
   (9 marks)

b. Using an example of a project failure with which you are familiar, evaluate why the project has failed.  
   (16 marks)

Total: 25 marks

**Question 2**

Quality is an essential consideration for the engineering sector. The ISO9000 series of standards are International Standards supporting quality.

a. Using examples, discuss each of the eight quality management principles.  
   (16 marks)

b. Critically evaluate three reasons, supporting with examples, why an engineering business would opt to gain certification under ISO9001. 
   (9 marks)

Total: 25 marks
Question 3

Creativity and innovation within engineering is an essential element required to develop new products, processes and services.

a. Critically evaluate the factors within the innovation ‘ecosystem’ system looking at how they may enhance or hinder innovative development. 

   (18 marks)

b. Using an example of a failed innovation, evaluate the reasons for its failure.

   (7 marks)

Total: 25 marks

Question 4

Recently the UK Government has made a clear commitment to prohibit the sale of cars fuelled by petro-chemical based fuels by 2040. In this context consider the following:

a. Critically evaluate three reasons why the UK has taken this approach.

   (9 marks)

b. Discuss the threats and opportunities this commitment will pose to the engineering industry.

   (16 marks)

Total: 25 marks