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.
- The use of calculators is not permitted.
- Neither books nor notes may be taken into the examination.

No. of Pages: 3
No. of Questions: 4
Answer **three** out of **four** questions.

**Question 1**

Innovation is an essential activity required to support progress in technology sectors.

a. Critically discuss **four** factors which drive innovation.  
   **(16 marks)**

b. Identify and critically evaluate **three** factors which may act as a barrier to innovation.  
   **(9 marks)**

**Total: 25 marks**

**Question 2**

Managing the environmental performance is increasingly become a key focus for many engineering and technology companies.

a. Critically evaluate the costs and benefits to industry of implementing ISO14001 the International Standard of Environmental Management.  
   **(15 marks)**

b. In the context of ISO14001 supporting with examples, explain the terms ‘Aspects’ and ‘Impacts’ and critically discuss how these are utilised to control and mitigate environmental impact caused as a result of industrial activities.  
   **(10 marks)**

**Total: 25 marks**

**Question 3**

Renewable technologies are increasingly becoming a more significant global supplier of energy.

a. Critically discuss the aspects which are limiting a wider uptake of renewable technologies to meet energy demands.  
   **(18 marks)**

b. Identify a country which has embraced renewable technologies and critically evaluate the role its Government has played in supporting this development.  
   **(7 marks)**

**Total: 25 marks**
Question 4

Projects form a method of delivering activities within the engineering and technological sectors. The process of project management can ensure these activities are undertaken successfully.

a. Identify a project management methodology you are familiar with and critically evaluate its usefulness in aiding project management and delivery. (10 marks)

b. Identify a project which failed and critically discuss the reason for it doing so. (15 marks)

Total: 25 marks