

# **Tutorial letter 203/1/2018**

## **Engineering Management II (Module B)**

**EMA2602**

### **Semester 1**

**Department of Electrical and Mining  
Engineering**

**IMPORTANT INFORMATION:**

This tutorial letter contains important information about your module.

BAR CODE

Dear Learner

The purpose of this tutorial letter is to provide you with feedback on assignment 3, some guidelines for the May/June examination and invite you to participate in the discussions on myUnisa. You will find the suggested solution for assignment 3 attached as annexure A and the guidelines for the examination attached as annexure B.

Remember to visit and use **myUnisa**. Under “Additional Resources”, on myUnisa, you will find six tutorials and answers and an updated version of the prescribed chapters of the **workbook**. The workbook contains numerous typical examination questions that you can use for self-evaluation purposes.

You will find the above mentioned information in the following annexures:

Annexure (page)	Description
A, (p. 3)	Feedback on assignment 3
B, (p. 10)	Examination guidelines

Remember to participate in the “**Forum 3 – Tutorial discussions**” discussion forum on **myUnisa**. This will assist you with the answering of selected questions from the prescribed workbook chapters. Assignments 01, 02 and 03 focus on multiple choice questions (MCQs). It is important that you also learn to answer **short and longer questions**. The discussion forums and six tutorials will help you with that. The workbook chapters and myUnisa tutorials include many typical examination questions and the feedback on the myUnisa tutorials include many model answers that you can study and use to test yourself.

I wish you the very best with your studies and the examination.

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**Annexure A****Suggested solution for assignment 03 (Semester 1)****(Unique number: 798371)**Questions are based on Chapter 12 - The engineer, user of information systems

3.1 Read the following three statements:

- a) Organisations that adapt methods of experimenting and learning call themselves learning organisations.
- b) Information and communication technologies can be used to streamline the business value chain.
- c) Unlike biotechnology and nanotechnology, ICTs are used by all organisations.

Which of the above statements is/are **correct**?

- [1] b and c
- [2] a and b
- [3] a, b and c
- [4] b
- [5] None of the options (1, 2, 3, or 4) is correct.

Answer: [3]

- a) True, (METS-3: 248)
- b) True, (METS-3: 247)
- c) True, (METS-3: 247)

3.2 The use of CAD (computer-aided design) reduces the time and money spent to produce and update design drawings. In some cases, the CAD is being used to control other computers and machines to manufacture basic components of equipment. Because the CAD software has the capability to perform design checks and make changes to designs as they are approved, there has been ...

- [1] a significant reduction in engineering errors

- [2] less rework required because of design errors
- [3] improved updating of designs over the former manual methods
- [4] more timely posting of changes to designs
- [5] all of the above

(Adapted from:

[http://www.yancy.org/research/project\\_management/quality\\_sample\\_questions.html](http://www.yancy.org/research/project_management/quality_sample_questions.html))

Answer: [5]

3.3 Read the following three statements:

- a) Computers are excellent devices for data storage and retrieval.
- b) Information and communication technologies (ICTs) can assist companies with increasing the rate at which new products are designed.
- c) Expert systems can assist decision makers.

Which of the above statements is/are **correct**?

- [1] b and c
- [2] a and b
- [3] a, b and c
- [4] a and c
- [5] none (not a, b, or c)

Answer: [3];

a) correct; b) correct; c) correct

Questions are based on chapter 18 (Managing technology and innovation)

3.4 Read the following three statements:

- a) “Innovation” and “invention” are synonyms.
- b) According to Haour, Innovation is invention converted into a product, an industrial process or a service for the marketplace.
- c) Basic research is usually based on one of the natural sciences and entails studies that involve the understanding of how the laws of nature regulate the world around us.

Which of the above statements is/are **correct**?

- [1] a, b and c
- [2] b and c
- [3] a and b
- [4] a and c
- [5] None of the options (1, 2, 3, or 4) is correct.

Answer: [2]

- a) False, (METS-3: 379)
- b) True, (METS-3: 379)
- c) True, (METS-3: 379).

3.5 Read the following three statements:

- a) Dominant designs meet the needs of most users.
- b) The Windows operating system is an example of a dominant design in the PC operating system market.
- c) Movement along an S-curve takes place because of radical innovation.

Which of the above statements is/are **correct**?

- [1] a, b and c
- [2] a and b
- [3] b and c
- [4] a and c

[5] None of the options (1, 2, 3, or 4) is correct.

Answer: [2]

- a) Correct. ( METS-3: 384).
- b) True, (METS-3: 384)
- c) False, It is incremental innovation that results in movement along an S-curve ( METS-3: 384).

3.6 Read the following three statements:

- a) The replacement of mechanical watches with quartz watches is an example of a technological discontinuity.
- b) A technological discontinuity occurs when an old technology is replaced by a new dominant technology.
- c) The replacement of passenger propeller-driven aircraft by jet engine-driven aircraft is an example of a technological discontinuity.

Which of the above statements is/are **correct**?

- [1] a, b and c
- [2] b and c
- [3] a
- [4] a and b
- [5] None of the options (1, 2, 3, or 4) is correct.

Answer: [1] – a) T; b) T; c) T

3.7 Read the following three statements:

- a) The balance between tight and loose, rigid and free is one of the important themes of organisational theory in innovative environments.
- b) Tasks that are unstructured, complex and dynamic are generally best performed in rigid organisational structures.

- c) A champion is a team member in a technologically innovative company that provides the communication channel between members of the team, the rest of the organisation and other organisations.

Which of the above statements is/are **correct**?

- [1] a, b and c
- [2] b and c
- [3] a
- [4] a and b
- [5] None of the options (1, 2, 3, or 4) is correct.

Answer: [3]

- a) Correct. ( METS-3: 390).
- b) False. ( METS-3: 390).
- c) False. This is the gatekeeper ( METS-3: 391).

Questions are based on chapter 20 (Entrepreneurship)

3.8 Read the following three statements:

- a) Entrepreneurs usually have a need for achievement and want to accomplish things.
- b) Entrepreneurs usually take personal responsibility for accomplishments and results.
- c) Entrepreneurs often have good skills in organising and mobilizing scarce resources.

Which of the above statements is/are **correct**?

- [1] a
- [2] b and c
- [3] a and c
- [4] a, b and c
- [5] none (not a, b or c)

Answer: [4];

- a) True, (METS-3: 440);
- b) True, (METS-3: 440);
- c) True, (METS-3: 440);

3.9 Read the following three statements:

- a) Private equity and venture capital funds are possible sources of finance for new business.
- b) The Johannesburg Securities Exchange (JSE) operates two markets namely the Main Board and the Alt X.
- c) The Alt X market of JSE Ltd. is for small companies and start-up companies.

Which of the above statements is/are **correct**?

- [1] c
- [2] b and c
- [3] a and c
- [4] a, b and c
- [5] None of the options (1, 2, 3, or 4) is correct.

Answer [4];

- a) Correct (METS-3: 454);
- b) Correct (METS-3: 455);
- c) Correct (METS-3: 455).

3.10 Read the following three statements:

- a) Small companies are more likely to introduce radical innovations than big companies with vested interests.
- b) Corporate intrapreneurs usually challenge convention and exploit new technology and opportunities.
- c) Innovation and creativity are key drivers for the entrepreneur.

Which of the above statements is/are **correct**?



- [1] a
- [2] b and c
- [3] a and c
- [4] a, b and c
- [5] None of the options (1, 2, 3, or 4) is correct.

Answer: [4];

a) True; b) True; c) True

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## Annexure B - Examination guidelines

Please do **not** ask the lecturer for a “**scope**”. Lecturers are not allowed to provide a “scope” and encourage spotting.

Remember to take the following with you to the examination hall:

- Pen(s)
- Student card
- ID book, passport or driver's license card

The examination paper consists of 7 questions. More information on the structure and mark allocation of the examination paper follows:

Examination period	Question 1 - multiple choice questions (marks)	Questions 2 to 7 - short and long questions (marks)	Total (marks)
May/June 2018	20	80	100

Each multiple choice question (MCQ) counts two marks. You have to answer 10 MCQs. You should have enough time in the **2-hour examination** to answer all the questions if you prepare for the examination as advised in the six myUnisa tutorials. Questions 2 to 7 consist of short and long questions. Try to write as economically as possible when you answer them. Consider the number of marks allocated to a question before you write down an answer – writing half a page on a 3-mark question will reduce your chances of completing the paper. You can work on the principle of one mark per fact for normal short and long questions most of the time. Rather return to those questions where you would like to add further information once you have attempted all the questions. Label rough work as such. This is an area of the examination book for your own use that you do not want the marker to assess. A further break-down of the examination paper follows:

Question 1: Multiple choice questions based on all 6 prescribed chapters

Question 2 (Employment relations and labour legislation)

Question 3 (Engineering contract and law)

Question 4 (Total quality management)

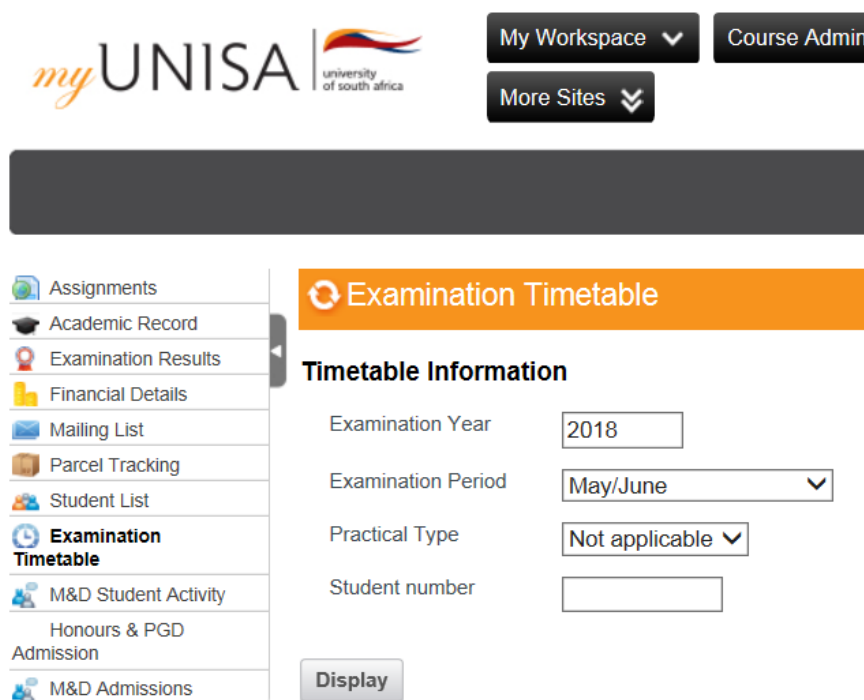
Question 5 (The engineer, user of information systems)

Question 6 (Managing technology and innovation)

## Question 7 (Entrepreneurship)

You will **not** receive a list of **formulae** in the examination. Use the **workbook** questions and the **six myUnisa tutorials** to test yourself before you have to write the examination. You should **prepare for the examination** as if you expect questions on all of the **outcomes** listed in section 2.2 of Tutorial letter 101 (page 4).

You should receive confirmation regarding your examination venue and date from Unisa's Department of Student Assessment Administration (Exams Dept). This can also be obtained from MyUnisa – click on the “Examination Timetable” function.



The screenshot shows the myUNISA website interface. At the top, there is the myUNISA logo and the University of South Africa logo. To the right of the logo are three buttons: "My Workspace" with a dropdown arrow, "Course Admin", and "More Sites" with a dropdown arrow. Below these buttons is a dark grey horizontal bar. On the left side, there is a vertical menu with various icons and labels: Assignments, Academic Record, Examination Results, Financial Details, Mailing List, Parcel Tracking, Student List, Examination Timetable (highlighted with a blue bar), M&D Student Activity, Honours & PGD Admission, and M&D Admissions. To the right of the menu, the "Examination Timetable" section is displayed. It has an orange header with a circular arrow icon and the text "Examination Timetable". Below this is the "Timetable Information" section, which contains four rows of input fields: "Examination Year" with a text box containing "2018", "Examination Period" with a dropdown menu showing "May/June", "Practical Type" with a dropdown menu showing "Not applicable", and "Student number" with an empty text box. At the bottom left of this section is a "Display" button.

Note: The **supplementary examination** is the same as the main examination for students who register for the 2<sup>nd</sup> semester. That is scheduled for Oct/Nov 2018. To qualify, students must obtain 40% or more in the May/June 2018 examination.

Remember to start with your examination preparations as soon as possible so that you have enough time to contact the lecturer if you have any questions. Try not to contact the lecturer a few hours before the examination starts as you may not be able to get hold of him.

Try to make life easy for the marker. Try to answer the questions in numeric order. Leave space open if you do not want to answer a specific question immediately. It helps the markers of the examination scripts.