Tutorial Letter 101/3/2018

Engineering Management II (Module B) EMA2602

Semesters 1 and 2

Department of Electrical and Mining Engineering

This tutorial letter contains important information about your module.

BARCODE



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Dear Student

1 INTRODUCTION

Welcome to Unisa and to this module, Engineering Management II (Module B). I hope that you will find this module useful and informative.

The objective of this letter is to introduce you to Engineering Management II (B) and to inform you about a few administrative arrangements. You will find the **three** assignments that must be completed and sent to the University in the addendum. **All three assignments are compulsory. You will not be permitted to write the examination if you do not submit all three assignments.**

Take note that this is a **semester module** and it is offered in both **the first and the second semesters** of 2018. Two sets of due dates are therefore provided – for the first and the second semesters. Select the assignments and due dates that apply to you.

2 PURPOSE AND OUTCOMES

2.1 Purpose

This module focuses on the engineering management needs of technical people such as engineers, technologists, scientists and technicians. Young engineers often find themselves managing people and other resources soon after they have started their careers. Some may find themselves in a supervisory, management or entrepreneurial role very soon after graduating. Most engineers cannot escape involvement in commercial or administrative dealings with customers, suppliers, contractors, accountants and managers.

Engineering managers normally are people with technical and management skills, who are appointed in managerial positions at organisations such as mines, factories, plants or power stations. The purpose of this module is therefore to introduce you, as engineering students, to such business and management environments and to equip you with the required knowledge and skills. On completion of this module, you will be able to apply basic management principles in your organisation. The focus of this module is on content that is of particular importance to technical persons involved with employment relations, engineering contracts, total quality management, information and communication systems, management of technology and

innovation, and growing the business (entrepreneurship). I believe that this module will help you become better engineers, supervisors and engineering managers.

2.2 Outcomes

For this module, you will have to master several outcomes:

- Specific outcome 1: Apply relevant labour laws and manage employment relations in an engineering context.
- **Specific outcome 2:** Assess the legal implications of various contracts that organisations enter into with customers.
- **Specific outcome 3:** Apply the principles of total quality management to improve efficiency in the operations and the quality of the goods and services of an engineering company.
- **Specific outcome 4:** Identify, select and apply appropriate information and communication technologies to various engineering and engineering management activities.
- **Specific outcome 5:** Analyse the importance of managing technology and technological innovation in the workplace.
- **Specific outcome 6:** Explain the culture of entrepreneurship and intrapreneurship and the process of converting dreams and ideas into new businesses and business ventures.

3 LECTURER(S) AND CONTACT DETAILS

3.1 Lecturer

Your lecturer for this module is Wilhelm (Willie) P Nel. If you experience any problems with the subject matter, you can either go to the relevant **Discussion Forum** on **myUnisa** and inform me of your problem or **contact** me as follows:

- by telephone, at 011 471 2596 (or 27 11 471 3185/2596, if you are phoning from outside South Africa) between 08:00 and 16:00 on weekdays
- by e-mail (<u>wnel@unisa.ac.za</u>)
- personally please make an appointment in advance

You may find answers to some of your questions on the myUnisa **Discussion Forums**. I will assist you with queries of an academic nature, but you need to direct all administrative queries

to <u>scientia@unisa.ac.za</u> or contact the numbers that you will find on the Unisa website (<u>www.unisa.ac.za</u>) or in the *Study @ Unisa* brochure.

3.2 Department

The Department of Electrical and Mining Engineering is offering this module. Contact one of the departmental secretaries at 011 471 3953 or 011 471 3706 when I am not available, or send an e-mail message to electrical&mining@unisa.ac.za

3.3 University

If you need to contact the University about matters not related to the content of this module, consult *Study* @ *Unisa*, the brochure that you received with your study material. This brochure contains information on how to contact the University (e.g. to whom you can write for different queries, important telephone and fax numbers, addresses and details of the times certain facilities are open). Always have your student number at hand when you contact the University. Whenever you write to me, include your student number to enable me to assist you more effectively.

4 RESOURCES

If you have access to a computer that is linked to the internet, you can quickly access resources and information at the University. The myUnisa learning management system is the University's online campus that will help you communicate with your lecturer, with other students and with the administrative departments at Unisa – all through the computer and the internet.

The course material for this module consists of the following:

- this Tutorial Letter 101
- a study guide You will find this information also on myUnisa under Learning Units.
- a prescribed book (which you must purchase yourself)
- workbook chapters Updated versions of these chapters will be uploaded to myUnisa during the semester. When you go to myUnisa, you will find it under Additional Resources.
- Tutorial Letter 201, Tutorial Letter 202 and Tutorial Letter 203, which you will receive later during the semester; they will provide feedback on Assignments 01, 02 and 03.

myUnisa tutorials – You will find them on myUnisa under Additional Resources.

You can start at the main Unisa website at http://www.unisa.ac.za and then click on the myUnisa orange block. This will take you to the myUnisa website. To go to the myUnisa website directly enter https://my.unisa.ac.za. Click on the Claim UNISA Login on the right-hand side of the screen on the myUnisa website. You will then be prompted to give your student number in order to claim your initial myUnisa details as well as your myLife e-mail login details.

For more information on myUnisa, consult the brochure, **Study** @ **Unisa**.

4.1 Prescribed book

The following book is prescribed for this module:

Nel, WP (ed). 2012. *Management for engineers, technologists and scientists*. 3rd edition. Cape Town: Juta. (ISBN: 9780702186882)

Information on prescribed books can also be found on myUnisa. Please refer to the list of official booksellers and their addresses in *Study* @ *Unisa*. You can obtain prescribed books from the University's official booksellers. If you have difficulty in locating a book at these booksellers, contact the Prescribed Book Section at 012 429 4152 or e-mail them at vospresc@unisa.ac.za.

You must study the following chapters from the prescribed book:

Chapter 4 – The Impact of Employment Relations and Labour Legislation on an Organisation

Chapter 6 – Engineering Contracts and Law

Chapter 8 – Total Quality Management

Chapter 12 – The Engineer, User of Information and Communication Systems

Chapter 18 – Managing Technology and Innovation

Chapter 20 – Entrepreneurship

Note that the prescribed book is abbreviated as follows in this tutorial letter:

<u>M</u>anagement for <u>e</u>ngineers, <u>t</u>echnologists and <u>s</u>cientists, 3rd edition – **METS-3**

You will find questions for self-evaluation purposes in the study guide as well as in the prescribed book at the end of each chapter.

4.2 Recommended books

There are no recommended books for this module.

4.3 Electronic reserves (e-reserves)

There are no electronic reserves for this module.

4.4 Library services and resources information

For brief information, go to www.unisa.ac.za/brochures/studies.

For detailed information, go to the Unisa website at http://www.unisa.ac.za/ and click on Library.

For research support and services of personal librarians, go to http://www.unisa.ac.za/Default.asp?Cmd=ViewContent&ContentID=7102.

The Library has compiled various library guides:

- finding recommended reading in the print collection and e-reserves –
 http://libguides.unisa.ac.za/request/undergrad
- requesting material http://libguides.unisa.ac.za/request/request/
- postgraduate information services http://libguides.unisa.ac.za/request/postgrad
- finding, obtaining and using library resources and tools to assist in doing research –
 http://libguides.unisa.ac.za/Research Skills
- contacting the library/finding us on social media/frequently asked questions http://libquides.unisa.ac.za/ask

5 STUDENT SUPPORT SERVICES

Important information can be found in *Study* @ *Unisa*. Take note that no group discussions or video conferences have been scheduled for this module. However, a number of discussion forums have been created on myUnisa. Use these discussion forums; your fellow students may also benefit from your questions and ensuing discussions.

Visit **myUnisa** as soon as you have registered and start participating in discussions. Contact myUnisahelp@unisa.ac.za if you experience any problems with myUnisa.

6 STUDY PLAN

Consult *Study* @ *Unisa* for general time-management and planning skills. You will find guidelines on myUnisa on developing your own study schedule.

7 PRACTICAL WORK AND WORK-INTEGRATED LEARNING

There are no practicals for this module.

8 ASSESSMENT

8.1 Assessment criteria

<u>Specific outcome 1</u>: Apply relevant labour laws and manage employment relations in an engineering context.

Assessment criteria

- 1.1 The role of the various stakeholders in the employment relationship is explained.
- 1.2 A service contract is compiled according to the requirements of the Basic Conditions of Employment Act.
- 1.3 The differences between an employee and an independent contractor are explained.
- 1.4 Employee grievances are dealt with.
- 1.5 A fair disciplinary hearing is conducted.
- 1.6 The difference between dismissals, unfair labour practices and automatically unfair dismissals is pointed out.
- 1.7 Procedures to follow in cases of misconduct, incapacity and operational requirements are designed.
- 1.8 Legal requirements are complied with to ensure protected strikes and lockouts.

1.9 Labour legislation is consulted.

<u>Specific outcome</u> 2: Assess the legal implications of various contracts that organisations enter into with customers.

Assessment criteria

- 2.1 The requirements for a contract to come into existence and to be valid are listed.
- 2.2 Basic terminology related to contracts is described.
- 2.3 The role of the engineer in ensuring the meeting of contractual obligations is described.
- 2.4 Offers are evaluated for validity.
- 2.5 The authority that engineers have to act as an employer's agent in terms of the General Conditions of Contract is described and applied.
- 2.6 Contracts are correctly interpreted.
- 2.7 The various remedies that exist in the case of breach of contract are indicated.
- 2.8 A simple contract for the letting and hiring of work is drawn up.

Specific outcome 3: Apply the principles of total quality management to improve efficiency in the operations and the quality of the goods and services of an engineering company.

Assessment criteria

- 3.1 Seven fundamental principles of total quality management are explained.
- 3.2 Total quality management practices and techniques are discussed and are applied to manufacturing and service industries.

<u>Specific outcome 4</u>: Identify, select and apply appropriate information and communication technologies to various engineering and engineering management activities.

Assessment criteria

4.1 The information needs of engineers, scientists and technologists are explained.

- 4.2 The information technology needed by an engineer involved in design, development, research, manufacturing and management is listed and described.
- 4.3 A database is defined and its benefits listed.
- 4.4 How information systems can assist engineers in making better decisions is explained.
- 4.5 Information as an important organisational resource is explained.
- 4.6 The role of information technology in assisting engineers and engineering managers to improve products and services, process efficiencies and competitiveness is explained.
- 4.7 Various sources of information are listed.
- 4.8 Some of the opportunities that the internet offers businesses are described.

<u>Specific outcome 5:</u> Analyse the importance of managing technology and technological innovation in the workplace.

Assessment criteria

- 5.1 The reasons that technological innovation is important to businesses, society and the economy are explained.
- 5.2 The innovation process and various terms related to the management of technology and innovation body of knowledge are described.
- 5.3 The evolution of technology, the measurement of such evolution and the coevolution of technology and industries are explained.
- 5.4 A simple technology strategy for an organisation is developed.
- 5.5 The creation and maintenance of an innovative organisational environment are explained.
- 5.6 A number of statutory and non-statutory mechanisms to protect the intellectual property of an organisation are listed and evaluated.

5.7 A number of sources that can be used to generate ideas for new products are listed and key factors that will contribute to the development of successful new products are identified.

<u>Specific outcome 6:</u> Explain the culture of entrepreneurship and intrapreneurship and the process of converting dreams and ideas into new businesses and business ventures.

Assessment criteria

- 6.1 The nature and characteristics of an entrepreneur and intrapreneur are explained.
- 6.2 The importance of innovation and creativity in entrepreneurship are explained.
- 6.3 A new business venture is identified and evaluated.
- 6.4 Various options to enter a market are identified.
- 6.5 The key building blocks of a new venture in terms of various forms of a business enterprise; legal considerations; and various finance options are described.
- 6.6 The annual budgeting and business planning cycle are described.
- 6.7 The layout of a business plan for a start-up business venture and for a company already in operation is designed.
- 6.8 The key issues and steps to take when starting a new venture are described.

The study material for this course will help you meet these criteria.

8.2 Assessment plan

You must complete and submit THREE assignments by the due dates. All three assignments are **compulsory** and by submitting the assignments, you will gain admission to the examination. All three assignments will be used to calculate your semester mark. This semester mark will form part of your final mark for the subject in a specific ratio. **Your performance in the assignments thus plays a vital part in your studies.** You need a final mark of 50% in order to pass this subject.

Remember that assignments (and tutorials on myUnisa) are part of the learning process. They will deepen your understanding of the subject and allow you to apply what you are learning. The assignments will also allow you to make mistakes that can be corrected by feedback (TL201, TL202 and TL203) before you write the examination.

All three assignments consist of multiple-choice questions (MCQs) and you will need a mark-reading sheet if you want to send it to Unisa via the postal system. However, the examination will not wholly consist of MCQs. It is therefore important that you also prepare to answer other types of questions, for example short questions, long questions and calculations, where applicable. The **tutorials** on myUnisa will help you with your preparation.

You will find a number of past examination papers on myUnisa. Look at these as another type of assignment (Assignment 04), but do not submit your answers. The workbook that is available on myUnisa, and the myUnisa tutorials based on it, will also provide you with an opportunity to test yourself. The workbook contains different types of questions, from multiple-choice to short and long questions.

The semester mark for this subject is based on all the assignment marks obtained and their contribution to the final mark is shown in the table below.

Assignment number	Contribution to year mark
01 – compulsory	34%
02 – compulsory	33%
03 – compulsory	33%

Therefore: **Semester mark** = 0,34 × Assignment 01 mark + 0,33 × Assignment 02 mark + 0,33 × Assignment 03 mark.

Your **semester mark** will count 20% towards your final mark. Therefore: **Final mark** = 0.8×10^{-2} Examination mark + 0.2×10^{-2} Semester mark.

You need to obtain a minimum final mark of 50% to pass the module.

Submit assignments either electronically (via myUnisa) or physically (by mail). I recommend that you submit the assignments electronically because then you know immediately whether Unisa has received them or not. Take note that assignment servers can be very busy at times when thousands of students try to submit assignments on the same day. You can find out about your **assignment marks** from myUnisa.

Take note that I will not be receiving your assignments. The Assignments Section will receive the assignments and will register them. Once this Section has registered the assignments, you will be able to check the results on myUnisa (see the link on the www.unisa.ac.za website). Multiple-choice questions (Assignments 01, 02 and 03) are marked by computer. Do not send assignments by e-mail to me. If you do that, it will not be recorded by the Assignments Sections at Unisa (Unisa will not know that you submitted it), and it will not be loaded on to the assignment server. Hundreds of students register for this module and it is therefore important that you follow the rules.

Guidelines for answering Assignments 01, 02 and 03

Assignments 01, 02 and 03 consist of multiple-choice questions. You may submit the answers to these questions either electronically via myUnisa or through the postal system on a mark-reading sheet. I recommend that you submit your assignments via myUnisa because then the system will immediately give you feedback on whether your answers have been successfully submitted. Should you decide to send your assignments using the postal system, check immediately whether you have received a mark-reading sheet with your course material from Unisa. Contact Unisa immediately (info@unisa.ac.za) if you did not receive such a sheet. You will find instructions on how to complete a mark-reading sheet in *Study @ Unisa*. The assignment is marked by computer and it therefore requires a unique number – see section 8.3.2 of this tutorial letter.

Further guidelines are as follows:

- Submit each assignment with an assignment cover page unless you submit it electronically
 via myUnisa. Complete the assignment cover fully and CORRECTLY. Some assignments
 are not marked because of incorrect module codes. Attach the mark-reading sheet to the
 assignment cover with a paper clip.
- KEEP A COPY OF YOUR ASSIGNMENTS. This is important, as assignments can and do
 get lost.

Although the assignments aim to be fairly comprehensive, they do not cover the entire syllabus. They are set on sample areas of the course material. You should therefore study all the course material, including the myUnisa tutorials, for the examination.

Course material and tutorial letters for this subject are available in English only. Take note that the examination paper for this subject will also be available in English only.

You will find your assignments for this subject in this Tutorial Letter. Assignments 01, 02 and 03 are compulsory and all of them will be used in the calculation of your year mark. Submit the completed assignments to UNISA before the due dates stated in this section.

8.3 General assignment numbers

Assignments are numbered consecutively per module, starting from 01.

8.3.1 Unique assignment numbers

Take note that all three assignments will be marked by means of a computerised system that requires a mark-reading sheet (unless you submit your assignment via myUnisa). In addition to your name, address, student number, module code and assignment number, you must fill in a unique assignment number on the sheet.

Note the **unique assignment numbers** below. Draw a line through the semester column that does not apply to you. Students sometimes submit assignments using the wrong unique number and this completely "confuses" the Unisa information system.

	Semester 1 of 2018	Semester 2 of 2018
Assignment 01	865618	794170
Assignment 02	699796	785688
Assignment 03	798371	891587

8.3.2 Due dates of assignments

Assignment	Assignment	t due dates	Feedback	Examination period		
number	Semester 1	Semester 2	on assignment	Semester 1	Semester 2	
01 (compulsory)	9 March 2018	24 Aug 2018	01 – TL201			
02 (compulsory)	23 March 2018	7 Sep 2018	02 – TL202	May/Jun 2018	Oct/Nov 2018	
03 (compulsory)	13 April 2018	28 Sep 2018	03 – TL203			

Ensure that you adhere to these due dates. No extensions will be granted on these dates because of the effect it would have on the rest of the Unisa systems. Late assignments will be returned unmarked by the Assignment Administration Section. The suggested solutions for Assignments 01, 02 and 03 will be sent to you in Tutorial Letters 201, 202 and 203,

respectively, after the due date of each assignment. The tutorial letters will also be available on myUnisa after the due dates.

8.4 Submission of assignments

You can submit the three MCQ assignments in any one of the following ways:

- 1) electronically via myUnisa (recommended)
- 2) on a mark-reading sheet by post

Do not submit assignments by e-mail.

For detailed information on assignments, refer to Study @ Unisa.

To submit an assignment via myUnisa, follow the steps below:

- Go to myUnisa.
- Log in using your student number and password.
- Select the module.
- Click on Assignments on the menu on the left-hand side of the screen.
- Click on the assignment number you wish to submit.
- Follow the instructions.

Once you have submitted an assignment via myUnisa, a date will appear in the **Processed** column.

How to submit assignments by mail (postal system)

Place your assignments in the envelopes that you will be provided with and **mail** them to the assignments section <u>or</u> post them in a Unisa assignment box. Below is the postal address of the Assignments Section:

Assignments Section

Unisa Florida (Science) Campus

Private Bag X11

Florida, 1710

You will find the street addresses of assignment boxes in Study @ Unisa.

Check on myUnisa whether Unisa has received the assignment by no later than three weeks after submitting the assignment.

IT IS VERY IMPORTANT TO CONSIDER THE FOLLOWING POINTS:

NO LATE ASSIGNMENT SUBMISSIONS WILL BE ACCEPTED.

KEEP A CLEAR COPY of the assignment for your own reference. This is **IMPORTANT**, as assignments do get lost.

Submissions of assignments must be in accordance with the **GUIDELINES** provided in *Study* @ *Unisa*.

Take note that model answers for the assignments will be dispatched to all of you within one (1) week of the due date of the assignment. This implies that you cannot submit your assignment later than the stipulated submission date.

For detailed information on and requirements for assignments, see Study @ Unisa.

8.5 The assignments

You will find the assignments for both Semesters 1 and 2 in the addendum.

How to answer MCQs

Different types of multiple-choice questions can be constructed:

(i) Suppose a question reads as follows:

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

- a) Good employment relations will usually result in improved employee productivity.
- b) Good employment relations will usually result in reduced absenteeism.
- c) One of the main functions of a trade union is to negotiate better wages and working conditions on behalf of its members.
- [1] a
- [2] a and c
- [3] a, b and c
- [4] b and c
- [5] c

In this case, all three of the statements (a, b and c) are correct and you would therefore select [3] on the screen or on the mark-reading sheet (depending on whether you submit your answers electronically or via the postal system).

- (ii) Write down only one of the options (1 to 5) for each question.
- (iii) No marks will be deducted for incorrect answers.

You will find some multiple-choice questions and answers in the workbook that you can download from myUnisa. Work through these examples.

You will find detailed instructions on how to complete a mark-reading sheet in Study @ Unisa.

8.6 Other assessment methods

There are no other assessment methods for this module.

8.7 The examination

Tutorial Letter 203 will include general examination guidelines. You will be able to find information about your examination results on myUnisa.

Examination (admission) requirements

You must submit **all three** assignments in order to qualify for the examination!

The Examinations Section will send you the necessary particulars concerning the examination venue and the actual date and time a few weeks before the examination starts. You can also obtain this information from myUnisa.

The examination will be a **2-hour closed-book** examination. **Calculators** will be allowed. You must obtain a sub-minimum of 40% in the examination.

9 FREQUENTLY ASKED QUESTIONS

The Study @ Unisa brochure contains an A-to-Z guide of the most relevant study information.

10 SOURCES CONSULTED

- Nel, WP. 2012. Workbook based on "Management for Engineers, Technologists and Scientists".
- http://www.yancy.org/research/project_management/quality_sample_questions.html

11 IN CLOSING

Please ensure that you have the prescribed book available before starting with your studies. I hope that you will enjoy your studies and find the newly acquired knowledge useful.

12 ADDENDUM

Take note that this module is a semester module that is offered in both semesters of 2018. Assignments for both the first and the second semesters of 2018 follow. Submit the three assignments for the semester for which you have registered.

ASSIGNMENTS OF SEMESTER 1 OF 2018

Assignments for those of you who are registered for the FIRST SEMESTER of 2018

Note: Ignore this section if you registered in the second semester of 2018, and go to the next section.

Assignment 01 (Semester 1, 2018)

1.1 IVEAU LITE TOHOWING LITTEE STATETHER	1.1	Read the following	three statement	S
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- a) The employment relationship is the relationship that exists between the employer and the employee in the working environment.
- b) Good employment relations will usually result in improved productivity of employees.
- c) Good employment relations will usually result in reduced absenteeism.

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

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

1.2 Read the following three statements:

- a) The employee's ordinary hours of work and days of work are some of the information that an employer should supply to an employee at the commencement of employment.
- b) The Labour Relations Act sets minimum standards for conditions of service, such as working hours and overtime.
- c) Deductions made from an employee's remuneration are some of the information that an employer should supply to an employee at the commencement of employment.

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

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

1.3 Read the following three statements:

- a) An employee who works on a public holiday must receive 1,5 times the ordinary wage for that day.
- b) An employee is entitled to 14 consecutive days' annual leave per leave cycle.
- c) An employer is not required to pay an employee while she is on maternity leave.

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

1.4 Read the following three statements:

- a) The primary aim of discipline in any organisation should be to punish employees.
- b) The primary aim of discipline in any organisation should not be to punish employees, but rather to point out their unacceptable behaviour or performance and to motivate them to change it.
- c) The LRA provides guidelines for workplace discipline.

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

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

1.5 Read the following three statements:

- Arriving late for work and loafing are both normally classified as serious offences in the disciplinary code of organisations.
- b) An employee is entitled to an interpreter during a disciplinary hearing.
- c) An employee is entitled to calling his/her own witnesses during a disciplinary hearing.

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

[1] a

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

1.6 Read the following three statements:

- a) The CCMA stands for the Council of Conciliation, Media and Arbitration.
- b) The main objectives of the CCMA are to promote a sound working relationship, to prevent labour disputes, and to settle disputes that do arise.
- c) Pre-dismissal arbitration, conciliation, conciliation and arbitration (con-arb), and arbitration are some of the mechanisms that are available to the CCMA when solving a dispute.

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

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

1.7 Read the following three statements:

- An employee employed by a mining or engineering company has the right to join a trade union.
- b) One of the organisational rights of registered, representative unions is the right of access to a workplace to communicate with their members.
- c) One of the organisational rights of registered, representative unions is that the employer may deduct union subscriptions or levies and pay them over to the union when a member of such a union provided such authorisation in writing.

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

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

1.8 Read the following three statements:

- a) The SETAs have to approve learnership programmes.
- b) The purpose of the Unemployment Insurance Fund (UIF) is to provide retired employees with money.
- c) Employees must contribute 3% of their salary to the UIF, while employers must contribute 3% of their total salary bill to the UIF.

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

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

Questions are based on chapter 6 ("Engineering contracts")

1.9 Read the following three statements:

- a) The principal agent may be one of the parties involved in a complex building contract.
- b) The law of obligation is based on the principle that one must honour one's promises.
- c) In return for performing construction or engineering work, a building contractor would expect counter-performance from the client.

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

- 1.10 A surface mining company enters into a contract with an earthmoving company. The purpose of the contractual agreement is to outsource the loading and hauling functions at the mine to the earthmoving contractor at a fee. The fee structure is described in detail in the contract. Read the following four statements:
 - a) The surface mining company is both a creditor and a debtor.
 - b) As a debtor, the surface mining company may claim performance from the earthmoving contractor to do the loading and hauling at the mine.
 - c) As a creditor, the surface mining company has a duty to perform, namely to pay the earthmoving contractor for loading and hauling services provided.
 - d) The earthmoving contractor is a creditor because it may claim the fee from the mine for work done. It is also a debtor because it has to deliver loading and hauling services to the mine.

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

Assignment 02 (Semester 1, 2018)

Questions are based on chapter 6 ("Engineering contracts")

- 2.1 Read the following three statements:
 - a) A request for a quotation constitutes a firm offer to do business.
 - b) If the consensus of one of the parties is legally invalid, there can be no contract.
 - c) The most common way of determining whether there has been agreement is to identify an offer, and acceptance of that offer.

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

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

2.2 Which **one** of the following statements is **correct**?

- [1] Implied terms are terms in a contract, which the parties incorporate into the contract.
- [2] Express terms in a contract are incorporated into contracts by operation of law.
- [3] Tacit terms are not expressed in words, but are based on the parties' true intention.

2.3 Read the three statements below:

- a) The registration of professional engineers, technologists and technicians is regulated by the ECSA (Engineering Council of South Africa).
- b) Primary, secondary and tertiary rules can be used to interpret contracts.
- c) An innocent party (to a contract) is always entitled to claim specific performance.

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

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

Questions are based on chapter 8 (TQM)

2.4 Read the following three statements:

- a) Total quality management is a process that ensures that products and services are designed, developed, produced, delivered and supported to meet customer expectations fully, the first time and every time.
- b) The goal of total quality management is perfect quality (zero defect).
- c) To design and build quality into a product is one of the fundamental principles of TQM.

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

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

2.5 Read the following three statements:

- a) The prevention of future quality problems is a key responsibility of new product development teams.
- b) Quality function deployment is a formal method of transforming customer requirements into technical requirements.
- c) For a process to be at Six Sigma, it must have fewer than 3,4 defects per 1 000 opportunities for error.

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

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

2.6 Read the following three statements:

- a) Deming's rule of thumb is that 94% of all variations are due to special causes and 6% are due to common causes.
- b) Variation in product quality owing to an incorrect tool setting falls in the category, "variation due to common causes".
- c) A badly worn machine that causes variation in the output of a manufacturing process is an example of a common cause of variation.

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

2.7 Read the following three statements:

- The ability of a process to produce acceptable quality characteristics is called process performance.
- b) A process is in control when all common causes of variation have been removed.
- c) The process chart and Pareto analysis are two examples of tools that can be used to improve processes.

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

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

2.8 Read the following three statements:

- a) The cost of quality (COQ) can be thought of as the cost of achieving conformance to quality standards plus the cost of non-conformance.
- b) Costs related to reworking, scrapping, inspection, warranty claims and testing are examples of the cost of quality.
- c) Failure costs are costs associated with evaluation and either correcting or replacing defective products, components or materials that do not meet quality standards.

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

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

2.9 Read the following three statements:

- a) The quality control department at an organisation should be held solely responsible for quality.
- b) The cost of quality (COQ) can be thought of as the cost of achieving conformance to quality standards plus the cost of non-conformance.
- c) A process improvement team is a team of employees at shop-floor level who are responsible for quality in their work area.

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

2.10 Read the following three statements:

- a) A process is a repetitive set of interacting activities, which uses resources to transform a defined set of inputs into outputs that are of value to a customer.
- b) Costs related to reworking, scrapping, inspection, warranty claims and testing are examples of failure costs.
- c) Kaizen is the Japanese word for process variation.

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

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

Assignment 03 (Semester 1, 2018)

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.

- [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.
- 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 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 reworking required because of design errors.
 - [3] improved updating of designs above 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)

- 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 in 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 of the options (1, 2, 3 or 4) is correct.
Rea	d the following three statements:
a)	The terms "innovation" and "invention" are synonyms.
b)	According to Haour, innovation is invention converted into a product, an industrial process of a service for the marketplace.
c)	Basic research is usually based on one of the natural sciences and it entails studies that
Whi	involve the understanding of how the laws of nature regulate the world around us. ch 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.
Rea	d 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.
Whi	ch of the above statements is/are correct ?
[1]	a, b and c
[2]	a and b

3.4

3.5

[3] b and c

[4] a and c

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

3.6 Read the following three statements:

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

3.7 Read the following three statements:

- a) The balance between tight and loose, and 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, who provides the communication channel between members of the team, the rest of the organisation and other organisations.

- [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.

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 mobilising 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)

3.9 Read the following three statements:

- a) Private equity and venture capital funds are possible sources of finance for new businesses.
- b) The Johannesburg Securities Exchange (JSE) Ltd operates two markets, namely the Main Board and AltX.
- c) The AltX market of the JSE Ltd is an exchange 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.

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.

- [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.

ASSIGNMENTS OF SEMESTER 2 OF 2018

Assignments for those of you who are registered for the SECOND SEMESTER of 2018

Note: Ignore this section if you registered in the first semester of 2018.

Assignment 01 (Semester 2, 2018)

Questions are based on chapter 4 (Employment relations)

- 1.1 Read the following three statements:
 - a) The state, Cosatu and employees are called the tripartite employment relationship.
 - b) One of the main functions of a trade union is to negotiate better wages and working conditions for its members.
 - c) One of the roles of the state is to provide a legal framework within which workplace relations can be managed.

Which of the above statements is/are correct?

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

1.2 Read the following three statements:

- The Basic Conditions of Employment Act (BCEA) applies to employees and employers in the minerals industry.
- b) In terms of the Basic Conditions of Employment Act, an employer must give employees, who work continuously for at least five hours, a meal interval of at least 20 minutes.

c) In terms of the BCEA, work performed after 18:00 and before 06:00 on the next day is classified as night work.

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

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

1.3 Read the following three statements:

- a) When an employee is dismissed due to operational requirements, the employer must pay the employee at least two weeks' salary for each year of continuous service.
- b) In terms of the BCEA, employing a child who is under 15 years of age is a criminal offence.
- c) Independent contractors are covered by the Labour Relations Act (LRA) but not by the Basic Conditions of Employment Act (BCEA).

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

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

1.4 Read the following three statements:

- a) An employee who is suspected of committing an offence such as fraud or theft may be suspended.
- b) Verbal warnings, written warnings, final written warnings, transfers, suspension, demotion and dismissal are examples of disciplinary sanctions that can be taken against an employee.
- c) Offences are usually classified as minor, serious, very serious and dismissible in the disciplinary codes of organisations.

[1]	a
[2]	a and b
[3]	a and c
[4]	a, b and c
[5]	None of the options (1, 2, 3 or 4) is correct.
Read	d the following three statements:
a)	One example of dismissal (in terms of the LRA) is when the employer renews a fixed-term contract of employment of an employee on less favourable terms, when the employee reasonably expected it to be renewed on the same or similar terms.
b)	An employer has the right to dismiss an employee who participated in a strike that had been undertaken in terms of the provisions of Chapter IV of the LRA.
c)	Procedural fairness means that an employee may be dismissed only if there is a valid reason
Whic	to do so. ch of the above statements is/are correct ?
[1]	a
[2]	a and b
[3]	a and c
[4]	b
[5]	None of the options (1, 2, 3 or 4) is correct
Read	d the following three statements:
a) b) c)	The LRA provides for "freedom of association". Every employee has the right to join a trade union. A workplace forum can only be formed if more than 1 000 employees are employed in a workplace.
Whic	ch of the above statements is/are correct ?

1.5

1.6

[1] a

a and b

[2]

	[3]	a, b and c
	[4]	b
	[5]	None of the options (1, 2, 3 or 4) is correct.
1.7	Rea	nd the following three statements:
	a) b)	A designated employer must implement affirmative action. An employer who employs more than 50 but fewer than 100 employees does not have to implement affirmative action.
	c)	The Skills Development Levies Act imposes a levy equal to 0,25% of the employer's total wage bill.
	Whi	ch of the above statements is/are correct ?
	[1]	a
	[2]	a and c
	[3]	a, b and c
	[4]	b and c
	[5]	None of the options (1, 2, 3 or 4) is correct.
1.8	Rea	d the following three statements:
	a)	The UIF provides benefits and security to unemployed people.
	b)	Employers who employ 10 or more workers must appoint safety representatives.
	c)	The Compensation for Occupational Injuries and Diseases Act applies to casual and full-time employees who have been injured, disabled or killed or who have fallen ill because of a workplace accident or work-related disease.
	Whi	ch of the above statements is/are correct ? (2)
	[1]	a
	[2]	a and c
	[3]	a, b and c
	[4]	b and c
	[5]	None of the options (1, 2, 3 or 4) is correct.

Questions are based on chapter 6 (Engineering contracts)

1.9	Read	d the following three statements:
	a) b) c) Whic	All agreements between people are contracts. A contract is an agreement that creates rights and duties. Parties must reach agreement before a contract can be entered into. ch of the above statements is/are correct?
	[1]	a
	[2]	a and b
	[3]	a, b and c
	[4]	b and c
	[5]	None of the options (1, 2, 3 or 4) is correct.
1.10	Read	d the following three statements:
	a) b) c) Whic	The creditor has a duty to perform. The debtor is the person who may claim performance. The parties to a contract are often simultaneously debtors and creditors the of the above statements is/are correct?
	[1]	С
	[2]	a and c
	[3]	b and c
	[4]	a, b and c

Assignment 02 (Semester 2, 2018)

[5]

Questions are based on chapter 6 (Engineering contracts)

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

2.1 Richard makes an offer to buy Tumelo's car for R10 000. He gives Tumelo 10 days to accept his offer. On the ninth day, Tumelo informs Richard that he will sell his car to him, but that he wants R12 000 for it.

Which one of the following statements is **correct**?

- [1] A contract came into existence between Richard and Tumelo with a purchase price of R12 000.
- [2] A contract came into existence between Richard and Tumelo with a purchase price of R10 000.
- [3] No contract came into existence between Richard and Tumelo, as Tumelo made a counteroffer, which Richard has not yet accepted.
- [4] Richard's offer still stands.

2.2 Read the following three statements:

- a) The law of contract recognises five distinct ways in which breach of contract may occur.
- b) *Mora debitoris* means "default by the debtor".
- c) If a party to a contract indicates that he/she does **not** intend to perform in terms of the contract, a breach of contract occurs in the form of positive malperformance.

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

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

2.3 Read the following three statements:

- a) A contract is an agreement that creates rights and duties.
- b) When the representatives of two companies agree that their verbal contract must be reduced to writing, a valid contract will only be concluded once it has been reduced to writing.
- c) Mora debitoris means "delay of the debtor".

- [1] b and c
- [2] a and c

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

Questions are based on chapter 8 (TQM)

2.4 Read the following three statements:

- a) The quality control department at an organisation should be held solely responsible for quality.
- b) A quality council is a cross-functional team comprising members of senior management and organisational functions.
- c) A process improvement team (PIT) is a small group of employees (at shop-floor level) who improve processes and solve quality problems.

Which of the above statements is/are correct?

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

2.5 Read the following three statements:

- a) Process variation results in products of which the quality varies.
- b) Variation in product quality due to an incorrect tool setting falls in the category, "variation due to common causes".
- c) A process is in control when all the general causes of variation have been removed.

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

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

(2)

[5] None of the options (1, 2, 3 or 4) is correct. Read the following three statements: a) The use of control charts is part of statistical process control. b) A process is a repetitive set of interacting activities, which uses resources to transform a defined set of inputs into outputs that are of value to a customer. Process variation results in products of which the quality varies. c) Which of the above statements is/are **correct**? [1] b and c [2] a and c [3] a and b [4] а None of the options (1, 2, 3 or 4) is correct. [5] Read the following three statements: a) The suppliers of raw materials, components and sub-assemblies should ideally also adhere to TQM principles. b) One of the advantages of establishing single sources of supply is that it may be possible to negotiate better prices because higher volumes are purchased from one specific supplier. One of the advantages of establishing single sources of supply is that it may be possible to c) receive better service. Which of the above statements is/are **correct**?

[1] b and c

[2] a and c

[3] a and b

[4] a

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

2.8 Read the following three statements:

2.6

2.7

- a) The quality of a commodity-like product offered to customers can be used to (somewhat) differentiate one company's product from another's product.
- b) The focus group technique is the most useful and versatile qualitative research technique for determining the voice of the customer.
- c) Quality function deployment is a formal method of transforming customer requirements into technical requirements.

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

2.9 Read the following three statements:

- a) The prevention of future quality problems is a key responsibility of new product development teams.
- b) The cost of fixing potential quality problems during the product development phase is usually less than the cost of fixing these problems once they have been embedded in the product.
- c) Quality function deployment is a formal method of transforming customer requirements into technical requirements.

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

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

2.10 Read the following three statements:

a) The goal of total quality management is perfect quality or zero defect.

- b) The focus group technique is the most useful qualitative research technique for determining the voice of the customer.
- c) Quality must be a consideration already in the design phase of a new product.

[1] b and c

[2] a and c

[3] a, b and c

[4] a and b

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

Assignment 03 (Semester 2, 2018)

Questions are based on Chapter 12 - The engineer, user of information systems

- 3.1 Read the following three statements:
 - a) Information should be accurate and provided timely.
 - b) Engineers are knowledge workers.
 - c) Information is more useful for decision-making than data is.

- [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.
- 3.2 Read the following three statements:
 - a) Organisations that adapt methods of experimenting and learning call themselves learning organisations.
 - b) Engineers are knowledge workers.
 - c) The backing-up of data is one of the responsibilities that must be assumed in an organisation.

- [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.

3.3 Read the following three statements:

- a) Information should be accurate and provided in good time.
- b) Information technology and systems can assist engineers and managers in managing complex systems.
- c) The purpose of a decision support system is to provide the manager with the necessary information to make intelligent decisions.

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 of the options (1, 2, 3 or 4) is correct.

Questions are based on chapter 18 (Managing Technology and Innovation)

3.4 Read the following three statements:

- a) Applied research is usually based on one of the natural sciences and it entails studies that involve the understanding of how the laws of nature regulate the world around us.
- b) The science-push approach to innovation starts with scientific discovery, whereas the demand-pull approach starts with the needs of the customer.
- c) Increasing the memory capacity of a flash memory stick from 4GB to 8GB is an example of radical innovation.

[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.
As ir	ndustries evolve, one would expect
a) b) c) Whi	components to become more specific to a product, for example, the wheels of the first motorcars still looked much like those of wagons, but they were changed later. organisational structures to become more rigid and controlled. competition to shift from being functionality based towards being price based. ch 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.
Rea	ad the following three statements:
a) b)	Companies that follow a first-to-market strategy have a temporary monopoly. A fast follower aims to achieve early market entry into the growth phase of the market by imitating the innovation of others.
c)	One method of sourcing (obtaining) technology is to buy out the essential personnel from a rival firm.
Whi	ch of the above statements is/are correct ?
[1]	a, b and c
[2]	b and c
[3]	a
[4]	a and b

3.5

3.6

44

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

3.7 Read the following three statements:

- a) A suggestion scheme is one way of generating ideas for developing new products.
- b) A product portfolio is a collection of current products, product enhancements and future products that a company is currently marketing or intends marketing.
- c) A (technology) portfolio balance involves the balance between high-risk and low-risk types of projects.

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

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

Questions are based on chapter 20 (Entrepreneurship)

3.8 Read the following three statements:

- a) Innovation and creativity are key drivers for the entrepreneur.
- b) The complaints of family, friends and colleagues about products and poor service can be a source of business ideas.
- c) Trade fairs and exhibitions are potential sources of business ideas.

- [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.

3.9 Read the following three statements:

- a) The purpose of a business plan is to define how the entrepreneur or management intend capitalising on a business opportunity.
- b) The "executive summary" section of a business plan should include the essential features of the business plan.
- c) The business plan of a new (start-up) business should justify the business opportunity to new investors.

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.

3.10 Read the following three statements:

- a) The main purpose of a business is to make profit. A business idea should therefore be implemented only if an entrepreneur will be able to generate profits.
- b) One of the advantages of a sole trader as a type of business is that business losses can be deducted from the owner's personal income.
- c) The purpose of a business plan is to define how the entrepreneur or management intend capitalising on a business opportunity.

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.

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