

# Tutorial letter 101/3/2013

Our living Earth

**GGH1503**

**Semesters 1 & 2**

**Department of Geography**

**IMPORTANT INFORMATION:**

This tutorial letter contains important information  
about your module.

BAR CODE

# CONTENTS

	<i>Page</i>
<b>1 INTRODUCTION .....</b>	<b>3</b>
1.1 Tutorial matter.....	3
<b>2 PURPOSE OF AND OUTCOMES FOR THE MODULE.....</b>	<b>4</b>
2.1 Purpose .....	4
2.2 Outcomes .....	4
<b>3 LECTURER(S) AND CONTACT DETAILS.....</b>	<b>5</b>
3.1 Lecturer(s) .....	5
3.2 Department.....	5
3.3 University.....	6
<b>4 MODULE-RELATED RESOURCES .....</b>	<b>6</b>
4.1 Prescribed books .....	6
4.2 Recommended books .....	6
4.3 Electronic Reserves (e-Reserves).....	6
<b>5 STUDENT SUPPORT SERVICES FOR THE MODULE .....</b>	<b>7</b>
<b>6 MODULE-SPECIFIC STUDY PLAN .....</b>	<b>9</b>
<b>7 MODULE PRACTICAL WORK AND WORK-INTEGRATED LEARNING .....</b>	<b>10</b>
<b>8 ASSESSMENT .....</b>	<b>10</b>
8.1 Assessment plan .....	10
8.2 General assignment numbers .....	11
8.2.1 Unique assignment numbers .....	11
8.2.2 Due dates for assignments .....	11
8.3 Submission of assignments .....	12
8.4 Assignments .....	15
8.4.1 Semester 1 .....	15
8.4.2 Semester 2 .....	27
<b>9 OTHER ASSESSMENT METHODS .....</b>	<b>38</b>
<b>10 EXAMINATION.....</b>	<b>38</b>
<b>11 FREQUENTLY ASKED QUESTIONS .....</b>	<b>39</b>
<b>12 SOURCES CONSULTED .....</b>	<b>39</b>
<b>13 CONCLUSION.....</b>	<b>39</b>
<b>14 ADDENDUM.....</b>	<b>39</b>

# 1 INTRODUCTION

Dear Student

I have pleasure in welcoming you to the module “Our living Earth”. This module was originally developed for the first year of the study programme for the BA degree with specialization in environmental management, but has subsequently been included in other study programmes as well. It deals with life on Earth, the way nature works and how things in nature are interconnected. All natural processes are driven by energy and governed by physical laws, and all life on Earth depends on certain chemical compounds. In order to understand the environmental issues of our time, one has to have some knowledge of energy, physical laws and life-sustaining chemical compounds, all of which are fundamental to our living environment. This module was specially developed to give you exactly that knowledge.

I hope that you will find “Our living Earth” both interesting and rewarding. I shall do my best to make your study of this module successful. You will be well on your way to success if you start studying early in the semester and resolve to do the assignment(s) properly. The study guide was developed in conjunction with a customized prescribed textbook. So you will notice that the order of the chapters in your prescribed book vary a little so that it follows the study guide.

## 1.1 Tutorial matter

At the time of registration, you will receive an inventory letter that will inform you what you have received in your study package and also show items that are still outstanding. Some of this tutorial matter may not be available when you register. Tutorial matter that is not available when you register will be posted to you as soon as possible, but is also available on *myUnisa*.

The Department of Despatch should supply you with the following study material for this module:

- Study Guide
- Tutorial letter 101 - General information and assignments
- Tutorial letter 301

Please note that your lecturers cannot help you with missing study material.

**You can access study guides and tutorial letters for all modules on *myUnisa* at <http://my.unisa.ac.za> All tutorial material is loaded onto this website as soon as it leaves the department – it will therefore be available online long before you will receive it by post. I suggest that you check the link ‘Official Study Material’ link on *myUnisa* on a regular basis.**

A tutorial letter is our way of communicating with you about teaching, learning and assessment. Apart from the tutorial letters mentioned above, you will receive other tutorial letters during the semester. These will be despatched to you as soon as they are available or needed (for instance for feedback on assignments). Some of this tutorial matter may not be available when you register. Physical copies of tutorial matter that is not available when you register will be posted to you as soon as possible, but electronic versions of the tutorial matter are also available on *myUnisa*.

The 101 tutorial letter contains important information about GGH1503. In particular, it addresses the scheme of work, resources and assignments for this module. I urge you to read it carefully and to keep it at hand when working through the study material, preparing your assignment(s),

preparing for the examination and addressing any questions to me. Please read the Tutorial Letter 301 in combination with Tutorial Letter 101 as the information they contain is important.

In this tutorial letter, you will find the assignments and assessment criteria as well as instructions on the preparation and submission of the assignments. It also provides all the information you need with regard to the prescribed study material and other resources, including where they can be obtained. Please study this information carefully and make sure that you obtain the prescribed material as soon as possible.

I have also included certain general and administrative information about this module. Please study sections 3 and 4 of this tutorial letter carefully.

I would like to point out that **you must read all the tutorial letters** you receive during the semester **immediately and carefully**, as they always contain important and possibly urgent information.

I hope that you will enjoy this module and I wish you success with your studies.

Kind regards

Mr David William Hedding

## **2 PURPOSE OF AND OUTCOMES FOR THE MODULE**

### **2.1 Purpose**

The formal purpose for this module is to provide students with sufficient knowledge, skills and attitudes that will enable them to identify and explain the impact of human activities on the physical environment on the global, regional and local scales and measures that can be taken to reduce environmental degradation. In simple terms, the purpose of this module is to teach students how nature works and how things in nature are interconnected. All natural processes are driven by energy and governed by physical or natural laws, and all life on Earth depends on certain chemical compounds. In order to understand the environmental issues of our time and the effect of human actions on our natural environment, one has to have some knowledge of energy, scientific laws and life-sustaining chemical compounds, all of which are fundamental to our environment. These basic scientific fundamentals usually form part of most courses in the natural and life sciences (it is compulsory for the BSc Geography major), but not in the human and social sciences. The module "Our Living Earth" was developed to fill this gap.

Students in Human and Social Sciences often get a fright when Chemistry, Physics and Biology are mentioned. They typically regard them as "difficult". Rest assured that there is nothing difficult about this module. The Chemistry, Physics and Biology taught here are very elementary and are taught within the context of the natural environment and life processes. You may not even realize that you are learning basic Chemistry, Physics or Biology. The scientific knowledge you acquire from this module will deepen your understanding of environmental concepts and issues, of which sustainability is the central theme.

### **2.2 Outcomes**

The learning outcomes of this module can therefore be summarized as follows:

- explain what our most serious environmental problems are, how they were caused and how they might be solved
- define sustainability and discuss its importance in terms of addressing environmental problems

- explain what science is and what scientists do
- explain the importance of the systems and scientific laws
- explain what ecosystems are, how they function and why life on Earth is so diverse
- distinguish between life on land and life in the water and explain how both could be conserved
- explain the ecology of biological communities
- explain why the production of food for the world's population is a serious environmental problem
- explain why clean freshwater is the Earth's most precious resource
- distinguish between renewable and non-renewable energy resources and describe the environmental impacts of energy use
- discuss the different types of air pollution and explain how air pollution might be reduced and prevented
- explain the effects of chemicals and pathogens on life
- discuss the problem of solid waste
- explain the extinction crisis
- collect, process, represent and interpret data on the environment and environmental issues

### **3 LECTURER(S) AND CONTACT DETAILS**

#### **3.1 Lecturer(s)**

The contact details of the lecturer responsible for this module are as follows:

David William Hedding  
 Room 044, B Block  
 UNISA (Florida Campus)  
 Cnr Christiaan de Wet & Pioneer Avenues  
 Florida, 1709

Email address: heddidw@unisa.ac.za  
 Tel number: (011) 471-2120  
 Fax number: (011) 471-3216

#### **3.2 Department**

If you experience any problems in contacting me, you may leave a message on my voicemail or you can contact the secretary on (011) 471-3689 and leave a message for me.

Should you prefer to write to me, letters should be sent to:  
 The Module Leader GGH1503  
 Department of Geography  
 Private Bag X6  
 Florida, 1710

If you want to contact me via e-mail, please make sure that you provide the module code and your student number. Please take note that lecturers at Unisa work on a number of modules each semester, and we get many e-mails to which we must reply. As such, make sure that your subject line is descriptive, like "GGH1503 - Student Number - Query about Assignment 2". If your subject is something like "hello", your message may be viewed as junk e-mail by the system and deleted before it even gets to me.

All queries that are not of a purely administrative nature but are about the content of this module should be directed to me.

### 3.3 University

If you need to contact the University about matters not related to the content of this module, please consult the publication *my Studies @ Unisa* that you received with your study material. This booklet 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.

Please note that all administrative enquiries should be directed to the correct department. The details are as follows:

- Assignment enquiries: [assign@unisa.ac.za](mailto:assign@unisa.ac.za)
- Examination enquiries: [exams@unisa.ac.za](mailto:exams@unisa.ac.za)
- Study material enquiries: [despatch@unisa.ac.za](mailto:despatch@unisa.ac.za)
- Student account enquiries: [finan@unisa.ac.za](mailto:finan@unisa.ac.za)
- Application and registration-related enquiries: [study-info@unisa.ac.za](mailto:study-info@unisa.ac.za)
- Online address: <http://my.unisa.ac.za>

## 4 MODULE-RELATED RESOURCES

### 4.1 Prescribed books

The only prescribed book for this module is the following:

*Miller GT and Spoolman S. 2011: Our Living Earth. Custom Edition. Brooks/Cole Cengage Learning.*

Prescribed books can be obtained from the University's official booksellers. Please refer to the list of official booksellers and their addresses in the *my Studies @ Unisa* brochure. If you have difficulty in locating your book(s) at these booksellers, please contact the Prescribed Book Section at Tel: (012) 429-4152 or email [vospresc@unisa.ac.za](mailto:vospresc@unisa.ac.za).

### 4.2 Recommended books

There are no recommended books for this module but the two books below can be used to broaden your knowledge. A limited number of copies are available in the library.

*Miller, GT. and Spoolman, S., 2008: Environmental Science: Principles, Connections and Solutions, 12th Edition. Thompson, London.*

*Miller, GT., 2010: Living in the Environment: Principles, Connections and Solutions, 17th Edition, Brooks/Cole and Thomson, London.*

### 4.3 Electronic Reserves (e-Reserves)

There are no e-Reserves for this module.

## 5 STUDENT SUPPORT SERVICES FOR THE MODULE

For information on the various student support systems and services available at Unisa (e.g. student counselling, tutorial classes, language support), please consult the publication *my Studies @ Unisa*, which you received with your study material.

### Contact with fellow students

Study groups: It is advisable to have contact with fellow students. A very good way to do this is to form study groups. The addresses of students in your area may be obtained from the following department:

Directorate: Student Administration and Registration

P O Box 392

UNISA

0003

### myUnisa

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* system is Unisa's online campus that will help you communicate with other students, your lecturers and the administrative departments of the university.

To go to the *myUnisa* website, start at the main Unisa website, <http://www.unisa.ac.za> and then click on the 'Login to *myUnisa*' link on the right-hand side of the screen. This should take you to the *myUnisa* website. You can also go there directly by typing in <http://my.unisa.ac.za>. Please consult the publication *my Studies @ Unisa* which you received with you study material for more information on *myUnisa*.

The *myUnisa* Learning Management System webpage is dedicated to supporting your learning for GGH1503. If you make a regular habit of checking your module webpages, you can take full advantage of these features:

1. Announcements contain information about important course-related issues or special meetings and local conferences. When an announcement is posted, you may also receive an email reminding you to check the website.
2. Assignments allows you to see whether your assignments have been submitted. You can also select the "**Assignments**" link under "**My Admin**" on *myUnisa* and this will display a list of all your subjects and their assignments as well as show you the closing dates and received dates. When you submit your assignment you will be prompted to print/save the screen as proof that your assignment has been submitted. Please note that this is very important and can only be to your benefit.
3. Discussion Forum contains various discussion topics and provides an opportunity for students to communicate with each other and their lecturers in an open forum. You will find a topic called "General subject-related discussions". This is a space for you to talk to your fellow students about this course. Other topics can be added and students are encouraged to discuss the questions among themselves. Their answers will be monitored by the lecturers to keep students on the right track.
4. Self assessment is intended to help students learn in an open-distance learning environment. The self-assessment "tests" are completely voluntary and can be done many times over. Students are urged to utilise this resource in preparation for the examination.

5. Official Study Material provides you with PDF files containing your tutorial letters and study guide. If you are experiencing trouble with the postal delivery of tutorial letters you can easily download your tutorial letters here.
6. Additional Resources contains any other documents provided by your lecturer. These might include the material used during the discussion class and will assist you greatly with exam preparations.
7. Schedule informs you of official assignment and examination due dates.
8. Prescribed Textbooks gives the details of the prescribed textbook for this module.
9. Course Contact provides a mailbox for you to contact the lecturer via *myUnisa*.

Another important site is the *e-Bookshop* that you can access on the *myUnisa* site before logging onto your account. Here you will find ads from other students wanting to sell their old textbooks.

I trust that you will take full advantage of these additional features to make your studies more exciting and successful.

### **Student / Lecturer Contact Sessions**

No discussion classes will be arranged for this module. Instead a video conference for this module will be conducted in both semesters in 2013. You will be informed of the date, time and venues in a tutorial letter for each respective semester.

### **Repeat students**

Just a word to any students who are repeating this course: please ensure that you contact me as soon as possible, so that we can work out a strategy for your studies together. Please do not wait — you need to start working immediately and I would like to support you. If I only find out that you are experiencing difficulty in April or September, then it is too late for me to be of any real help.

I want to ask each and every one of you to register on *myUnisa* and to check in at least once a week (or choose the option to have email alerts sent to you).

Online education is where Unisa is headed, even if I am not quite there yet.



## 6 MODULE-SPECIFIC STUDY PLAN

Study unit	Study unit title:	Chapters in prescribed textbook:	To be completed by (First semester):	To be completed by (Second semester):
	Introduction		20 January	14 July
1	Environmental problems, their causes and sustainability	Ch 1: 5-27 Ch 25: 28-43	27 January	21 July
2	Science, matter, energy and systems	Ch 2: 44-65 Supplement 6: S39-S45	3 February	28 July
3	Ecosystems: what are they and how do they work?	Ch 3: 66-92 Supplement 7: S46	17 February	4 August
4	Biodiversity and evolution	Ch 4: 93-115	24 February	11 August
5	The ecology of biological communities	Ch 5: 116-137 Ch 7: 138-160	3 March	18 August
6	Humankind: the ultimate consumer	Ch 6: 160-178 Ch 12: 179-216	10 March	25 August
7	Freshwater	Ch 13: 217-247	17 March	1 September
8	Energy drives it all	Ch 15: 248-276 Ch 16: 277-315	24 March	8 September
9	The air we breathe	Ch 18: 316-343 Ch 19: 344-379	31 March	15 September
10	Destroying the Earth with waste	Ch 21: 380-408	7 April	22 September
11	In for the kill	Ch 9: 409-439	14 April	29 September
12	For those who come after us	Ch 10: 440-474; Supplement 3: S10-19	21 April	6 October

Use your *my Studies @ Unisa* brochure for general time management and planning skills.

## 7 MODULE PRACTICAL WORK AND WORK-INTEGRATED LEARNING

There are no practicals for this module.

## 8 ASSESSMENT

### 8.1 Assessment plan

#### Criteria for marking of assignments

Assignments are seen as part of the learning material for this module. As you do the assignments, study the reading texts, consult other resources, discuss the work with fellow students or do research, you are actively engaged in learning. Looking at the assessment criteria given for each assignment will help you to understand what is required of you more clearly.

#### Commentaries and feedback on assignments

You will receive the correct answers automatically for multiple-choice questions. For written assignments, markers will comment constructively on your work. However, commentaries on all the assignments **will be sent to all students registered for this module** in a follow-up tutorial letter, and not only to those students who submitted the assignments. The tutorial letter number will be 201, 202, etc. I strongly suggest that you scan *myUnisa* weekly for new tutorial letters: the pdf version of a tutorial letter appears there weeks before the postal system can get it to you. As soon as you have received the commentaries, please check your answers. The assignments and the commentaries on these assignments constitute an important part of your learning and should help you to be better prepared for the examination.

#### Semester mark

Assignments will make up 20% of your semester mark so students are encouraged to submit all assignments before their respective due dates. **Please note that the assignments are not the same for the first and second semesters.** Assignments are seen as part of the learning experience for this module. As you do the assignment, study the texts, consult other resources, discuss the work with fellow students or tutors or do research, you are actively engaged in learning. Looking at the assessment criteria given for each assignment will help you to understand what is required of you more clearly.

In some cases, additional assessment opportunities might be available on the *myUnisa* site for your module. For students attending tutorial sessions, tutors may also set additional tasks and give feedback in class.

#### Year mark

If you submit all your assignments and you get, say, a mark of 66 percent, you will have earned 13 for a semester mark. Let's assume that you write the examination and get 50%.

Exam mark	50 out of 100 re-calculated to 40 out of 80 for the final exam mark
Semester mark	13 out of 20
Final mark	53 %

It must be clear to you that it is very important and in your best interest to do well in all the assignments in order to earn a good semester mark. In addition, please take note that this

module has a sub-minimum of 40% for the examination; meaning that if you receive lower than 40% in the exam you will forfeit your semester mark and fail the module.

### Composition of Final Mark

Component	Percentage
Semester Mark	20
Examination	80

## 8.2 General assignment numbers

Assignments are numbered consecutively per module, starting from 01.

### PLEASE NOTE:

Please refer to the assignment info in *my Studies @ Unisa* for general assignment information and rules. Enquiries about assignments (e.g. whether or not the University has received your assignment or the date on which an assignment was returned to you) must be addressed to:

- [assign@unisa.ac.za](mailto:assign@unisa.ac.za)

Assignments should be posted to:  
 Assignments Department  
 Unisa Florida campus  
 Private Bag X11  
 Florida  
 1710

### 8.2.1 Unique assignment numbers

In addition to the general assignment number (e.g. 01), assignments to be completed by means of mark-reading sheets (multiple-choice questions) and written assignments must also have their own unique assignment number (provided in the next section). Make sure that you use the correct unique number and complete the information as required.

### 8.2.2 Due dates for assignments

#### First semester

Assignment	Assignment type	Unique number	Due date	Remarks
1	Multiple Choice Questions	689630	25 Feb	<b>Compulsory.</b> Must be submitted by <b>25 February in order to gain admission to the examination.</b> This counts 10% toward your <b>semester mark.</b>
2	Written	873814	11 March	This counts 50% toward your <b>semester mark.</b>
3	Multiple Choice Questions	798193	15 April	This counts 40% toward your <b>semester mark.</b>

## Second semester

Assignment	Assignment type	Unique number	Due date	Remarks
1	Multiple Choice Questions	660731	19 Aug	<b>Compulsory.</b> Must be submitted by <b>19 August in order to gain admission to the examination.</b> This counts 10% toward your <b>semester mark.</b>
2	Written	800932	9 Sept	This counts 50% toward your <b>semester mark.</b>
3	Multiple Choice Questions	859267	1 Oct	This counts 40% toward your <b>semester mark.</b>

### 8.3 Submission of assignments

I urge all students to submit **all** of their assignments online. It's quick and easy. Students may submit written assignments and assignments completed on mark-reading sheets either by post or electronically on *myUnisa*. Assignments may **not** be submitted by fax or e-mail.

#### **myUnisa Website**

You may submit written assignments and assignments done on mark-reading sheets either by post or electronically via *myUnisa*. Assignments may **not** be submitted by fax or e-mail directly to your lecturer. For detailed information and requirements as far as assignments are concerned, see the brochure *My Studies @ Unisa*, which you received with your study material.

To submit an assignment **via myUnisa:**

- Go to *myUnisa*.
- Log in with your student number and password.
- Select the module.
- Click on assignments in the left-hand menu.
- Click on the assignment number you want to submit.
- Follow the instructions on the screen.

I **strongly** urge all students to submit their assignments electronically. After all, this module deals specifically with environmental science and aims to make you aware of not only the grounding concepts and principles of environmental science but also make you aware of your environmental footprint and strategies that will help you reduce it. Online submission of your assignment is one such example to lessen your environmental footprint because it limits the carbon emissions produced to get your assignment to Unisa through the post as well as limiting the amount of paper used to print out your assignment, process it and mark it. It is very easy to submit your assignments (in PDF format) via *myUnisa*. Instructions to download and use software to convert Word documents to PDF are available on *myUnisa* using the following link <https://my.unisa.ac.za/portal/site/!gateway/page/c919799a-6cdd-4ec2-0019-839c23c198f8>. You can also download a PDF convertor from <http://www.primopdf.com/index.aspx>. Please note the free version is sufficient for the purposes of the submission of your assignments. Also, you can download your Tutorial Letters directly from the *myUnisa* website (See *my Studies @ Unisa*); another easy way to lessen your environmental footprint.

Should you encounter any problems in submitting an assignment on *myUnisa*, you may phone the following number: (012) 429 3689 or contact the help line at: [myUnisaHelp@unisa.ac.za](mailto:myUnisaHelp@unisa.ac.za).

For detailed information and requirements as far as assignments are concerned, see the brochure *my Studies @ Unisa* that you received with your study material.

## Plagiarism

An assignment is designed to be a product of your own study and your own thought. It is not intended to be a piece of work which merely reproduces details, information or ideas from a study guide, from books or articles, or from the Internet.

If you do this, you commit plagiarism. Plagiarism is the act of copying word for word *with or without acknowledgment* from study sources (e.g. books, articles, the Internet). In other words, you must submit your own ideas in your own words, sometimes interspersing relevant short quotations that are properly referenced.

Yes, simply copying a few pages from the prescribed book is plagiarism. Pasting paragraphs from Wikipedia into your assignment is also plagiarism. And it does not stop being plagiarism if you mention the source.

Skilled scientific writers can use direct block quotations to make a specific point. They know what they are doing. You still need to develop your own voice, your own style of arguing the point. Do not plagiarise.

Note that you also commit plagiarism if you copy the assignment of another student. Although I do encourage you to work together and form study groups, you are, however, expected to prepare and submit your own assignments. When I receive two or more identical assignments and I am not able to work out who copied from whom, I will therefore penalize all students involved.

**If you commit plagiarism you will be penalized and given no marks for your assignment. This will have a serious effect on your chances to succeed in your studies because you will have no (or a very poor) semester mark.** Furthermore, you may be penalised or subjected to disciplinary proceedings by the University. Plagiarism is also an offence in terms of the law.

## A Signed Declaration

Every essay-type assignment I receive must include the following declaration along with your name, date and signature:

***I, David William Hedding, declare that assignment 02 for GGH1503 is my own work and that all sources quoted have been acknowledged by appropriate references.***



**2012-06-21**

Please ensure that you proofread your assignments because I **will** subtract marks if this declaration on plagiarism is absent from your assignment, just as I will subtract marks if your assignment does not have a list of references cited.

For typed assignments, the format for each page must be as follows:

- A4 size paper must be used.
- One column of text must be used.
- Margin size should be approximately 2.5cm for left and right margins and 2cm for top and bottom margins (most packages have 2.54cm as default – this is acceptable and is used for all margins in this document). **Do not** leave a 5cm marking margin when submitting an assignment online (via *myUnisa*) for onscreen marking.
- A simple font must be used, e.g. Arial. This document is printed using Arial font as it is the "cleanest" font and photocopies best.
- Write **headings** in bold and *sub-headings* in italic.
- The body of the report (including headings and sub-headings) must be typed in 11-point font with 1.15 line spacing.
- An open line must separate each paragraph.
- Type and duplicate on one side of the page only.
- The text must be justified to both margins.
- Page numbers must appear at the bottom right-hand corner of the page and printed in 10 or 11-point font.

## 8.4 Assignments

### 8.4.1 Semester 1

## ASSIGNMENT 01

**Closing date:** 25 February 2013

**Unique assignment number:** 689630

**Contribution to semester mark:** 10%

**If you do not submit this assignment on time you will not get examination admission!**

**Also note the following concerning the assignment:**

- Your assignment must be received at Unisa by the closing date.
- It covers study units 1 - 3 and consists of 15 multiple choice questions - five questions on each of the study units.
- **No** extension for submission will be granted.
- The assignment must be answered on a mark reading sheet.
- For each question, select one alternative unless otherwise indicated.
- A feedback tutorial letter will be sent out after the closing date of the second assignment.

### Questions

#### ***Study unit 1 - The root of the rot***

- 1 Ecology is the study of ... .
  - (1) plants
  - (2) animals
  - (3) global climate change
  - (4) relationships between organisms and their environment
  - (5) the chemistry of living things
  
- 2 Which **one** of the following is one of the root causes of environmental problems?
  - (1) Rapid population growth
  - (2) Even distribution of wealth
  - (3) Increasingly sustainable use of resources
  - (4) Prices reflecting environmental costs
  - (5) Using nonrenewable resources sensibly
  
- 3 All of the following probably characterised the first agricultural communities **except** ... .
  - (1) slash-and-burn cultivation
  - (2) specialised farming of one crop
  - (3) shifting cultivation
  - (4) subsistence agriculture
  - (5) abandoned plots after several years

- 4 Natural capital includes all of the following **except** ... .
- (1) sunlight
  - (2) air
  - (3) water
  - (4) soil
  - (5) nutrients
- 5 Which **one** of the following alternatives is an example of recycling?
- (1) Collecting and re-melting aluminium beer cans
  - (2) Cleaning and refilling soft-drink bottles
  - (3) Selling used clothing at a garage sale
  - (4) Saving leftovers in a peanut butter jar
  - (5) Using household water to water the garden

**Study unit 2 - The basics: matter, energy and the scientific laws**

- 6 The Earth's supply of concentrated, usable energy is steadily being ... .
- (1) depleted
  - (2) replenished
  - (3) converted to more usable forms
  - (4) converted to higher-quality forms
  - (5) maintained
- 7 Positive feedback loops ... .
- (1) accelerate change and go on infinitely
  - (2) accelerate change and are finite
  - (3) slow down change and go on infinitely
  - (4) slow down change and are finite
  - (5) do not effect a change
- 8 Energy can formally be defined as ... .
- (1) the random motion of molecules
  - (2) the ability to do work and transfer heat
  - (3) a force that is exerted over some distance
  - (4) the movement of molecules
  - (5) the loss of matter
- 9 In any heat-to-work conversion, the quality of the energy available after the work has been performed will always be ... the initial energy quality.
- (1) equal to
  - (2) higher than
  - (3) equal to or higher than
  - (4) lower than
  - (5) slightly higher than



- 10 Which **one** of the following statements about a matter-recycling society is **false**?
- (1) The goal of a matter-recycling society is to allow economic growth to continue without depleting matter resources.
  - (2) One limitation of a matter-recycling society is dependence on high-quality energy to recycle materials.
  - (3) A matter-recycling society is limited by the environment's capacity to absorb and disperse waste heat and to dilute and degrade waste matter.
  - (4) A matter-recycling society is independent of high-quality matter because materials can continue to be recycled indefinitely.

**Study unit 3 - The living wholeness**

- 11 Humans are **most likely** to alter the earth's thermostat through their impact on the compound ... .
- (1) carbon dioxide
  - (2) nitrogen
  - (3) phosphate
  - (4) oxygen
  - (5) water
- 12 The **most** important factor in determining which biome is found in a particular area is ... .
- (1) soil type
  - (2) topography
  - (3) magnetic fields
  - (4) climate
  - (5) longitude
- 13 The existence of individual organisms on earth is maintained by the ... .
- (1) cycling of energy and the flow of matter
  - (2) flow of energy and the cycling of matter
  - (3) cycling of both energy and matter
  - (4) flow of both energy and matter
- 14 The transfer of carbon between organisms depends **primarily** on ... .
- (1) fuel combustion and decomposition
  - (2) photosynthesis and cellular respiration
  - (3) soil bacteria and precipitation
  - (4) volcanic activity and organic decay
  - (5) the rock cycle
- 15 Where would a geologist collect rock and soil samples?
- (1) Atmosphere
  - (2) Lithosphere
  - (3) Biosphere
  - (4) Hydrosphere
  - (5) Troposphere

## ASSIGNMENT 02

**Closing date:** 11 March 2013

**Unique assignment number:** 873814

**Contribution to semester mark:** 50%

**Also note the following concerning the assignment:**

- Your assignment must be received by Unisa by the closing date.
- You must **answer any two** of these questions.
- **No** extension for submission will be granted.
- Each question has to be answered on **only** one page (written or typed) and this excludes a list of references, declaration on plagiarism, *etc.*
- Students will be **heavily penalised** if they do not include a declaration on plagiarism, a list of references for each question and if your answer exceeds one (written or typed) page.
- A feedback tutorial letter with comments on this assignment will be sent out after the closing date of this assignment.

### Questions

#### Question 1

Should developed countries provide most of the money to help preserve the remaining tropical forests in developing countries? Explain. [20]

OR

#### Question 2

Environmental groups in a heavily forested region want to restrict logging in some areas to save the habitat of an endangered squirrel. Timber company officials argue that the survival of one type of squirrel is not as important as the wellbeing of the families who will be affected if the restriction causes the company to lay off hundreds of workers. If you had the power to decide this issue, explain what would you do and why? Can you come up with a compromise? [20]

OR

#### Question 3

Explain why you agree or disagree that each member of the human species has a right to use as many resources as they want. Relate your answer to the environmental worldviews that you made contact with in this module. [20]

OR

#### Question 4

a What is an *ecological footprint per person* and what useful information does it give us? (4)

- b Based on Figure 1, explain why the total and per capita ecological footprints of India and the United States are so different from one another (Hint: **do not** discuss the differences in population density between the two countries). (16) [20]

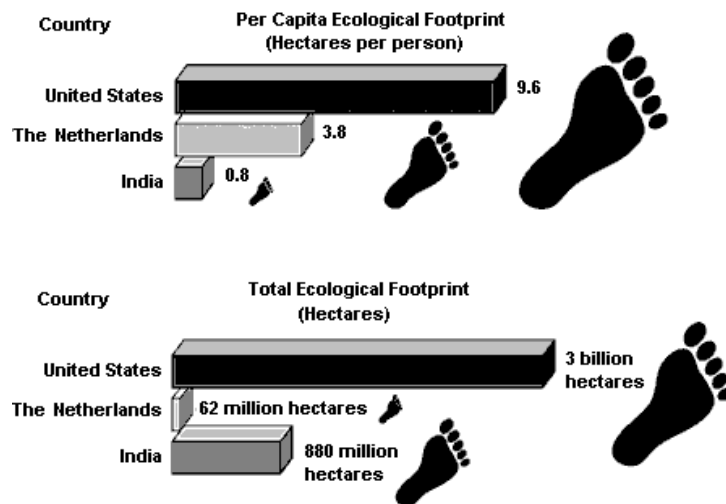


Figure 1: Ecological footprints for a collection of countries. Note: the size of the population of India and the United States is 1181 and 309 million people respectively. The area of India and the United States is 328.7 and 962.9 million hectares respectively (<http://www.wikipedia.co.za>: site accessed on 07/07/2010).

## ASSIGNMENT 03

**Closing date:** 15 April 2013

**Unique assignment number:** 798193

**Contribution to semester mark:** 40%

**Also note the following concerning the assignment:**

- Your assignment must be received at Unisa by the closing date.
- It covers study units 4 - 10. It consists of 30 multiple choice questions – approximately four questions on each of the study units. Please note that no questions are provided for study units 11 and 12, you can use the self assessment quizzes on *myUnisa* to test your knowledge on these two study units.
- **No** extension for submission will be granted.
- The assignment must be answered on a mark reading sheet.
- For each question, select one alternative unless otherwise indicated.
- A feedback tutorial letter will be sent out after the closing date of the third assignment.

### Questions

***Study unit 4 - How it started, changed and might end***

- 1 If a species of frogs becomes threatened because they can only live in a narrow range of temperatures, they would be classified as a/an ... .
  - (1) generalist species
  - (2) species with a broad niche
  - (3) species without a niche
  - (4) specialised species
  - (5) extinct species
- 2 The distance of the earth from the sun ... .
  - (1) ensures that our climate will be too hot for evolution to continue
  - (2) ensures that our climate will be too cold for evolution to continue
  - (3) ensures that the earth will overheat of its own accord long before global warming from human causes could happen
  - (4) has created a temperature just right for the evolution of life that is dependent upon water
  - (5) ensures that our climate will be too dry for evolution to continue

3 Speciation, induced by geographic isolation, may be the result of ... .

- (a) volcanic eruptions
- (b) earthquakes
- (c) mountain ranges
- (d) rivers

The correct alternative or combination of alternatives is:

- (1) Only (a)
- (2) Only (c)
- (3) Only (b), (c) and (d)
- (4) Only (a) and (d)
- (5) All of the above

4 An organism's niche is analogous to its ... .

- (1) address
- (2) way of life
- (3) food source
- (4) trash dump
- (5) habitat

5 Patterns of speciation and extinction are **least likely** to be affected by ... .

- (1) climate changes
- (2) continental drift
- (3) meteorites crashing into the earth
- (4) day-to-day weather fluctuations
- (5) human activities

***Study unit 5 - No being is an island: the ecology of biological communities***

6 K-selected species ... .

- (1) are more responsive to environmental changes than R-strategists
- (2) exhibit fast rates of evolution
- (3) are generally less adaptable to change than R-strategists
- (4) reach reproductive age rapidly
- (5) have high genetic diversity

7 A field ecologist observes primary succession occurring over a period of years. Bare rock is colonised by lichens that give way to moss that gives way to ferns. She/he is most likely to report that the process guiding succession in this ecosystem is ... .

- (1) inter-specific competition
- (2) tolerance
- (3) facilitation
- (4) inhibition
- (5) intra-specific competition

- 8 How long does it take natural processes to produce fertile soil?
- (1) Weeks to months
  - (2) Months to years
  - (3) Decades to a few centuries
  - (4) Several centuries to several thousand years
  - (5) Several thousand years to millions of years
- 9 Birds and trout make good ... .
- (1) non-native species
  - (2) native species
  - (3) keystone species
  - (4) indicator species
  - (5) generalist species
- 10 Emigration is ... .
- (1) the one-way movement of individuals into an established population
  - (2) the one-way movement of individuals out of an uninhabited area
  - (3) the one-way movement of individuals out of a population to another area
  - (4) the repeated movement into and out of an area
  - (5) the lack of immigration into an area

**Study unit 6 - Humankind: the ultimate consumer**

- 11 Which **one** of the following activities causes more pollution and environmental degradation than any other human activity?
- (1) Transportation
  - (2) Agriculture
  - (3) Industry
  - (4) Recreation
  - (5) Building houses
- 12 Which **one** of the following effects on water resources would agriculture, as it is currently practised, be **least likely** to have?
- (1) Cultural eutrophication
  - (2) Sediment pollution from erosion
  - (3) Recharging of aquifers
  - (4) Flooding from land cleared to grow crops
  - (5) Desertification
- 13 Sustainable agriculture ... .
- (1) emphasises large-scale farms
  - (2) uses local inputs as much as possible
  - (3) maximises the use of fossil fuels
  - (4) promotes subsidies to farmers
  - (5) maximises the use of pesticides

14 Imagine that you are a wheat farmer in the Boland region of South Africa. You decide to plant several different varieties of wheat. A student from Unisa studying sustainable agriculture makes the observation that you are practising ... .

- (1) polyculture
- (2) agroforestry
- (3) intercropping
- (4) polyvarietal cultivation
- (5) crop rotation

**Study unit 7 - Water resources**

15 Throughout the world, the **most** water is used for ... .

- (1) irrigation
- (2) industrial processes
- (3) the needs of animals and humans
- (4) transportation
- (5) the cooling towers of power plants

16 Water scarcity from the drying up of soil because of deforestation or overgrazing is called ... .

- (1) water stress
- (2) aridity
- (3) drought
- (4) desiccation
- (5) acute shortage

17 Which **one** of the following uses of water tends to consume the **smallest** amount of water?

- (1) Irrigation
- (2) Domestic use
- (3) Industry
- (4) Energy production
- (5) Agriculture

18 Sustainable use of water ... .

- (a) requires integrated governance of water pollution among all users of a watershed
- (b) might be discouraged by water marketing
- (c) is encouraged by government subsidies on water
- (d) requires integrated governance of water use and sewage treatment among all users of a watershed

The correct alternative or combination of alternatives is:

- (1) (a) and (b)
- (2) (b) and (c)
- (3) (c) and (d)
- (4) (a) and (d)
- (5) (b) and (d)

### **Study unit 8 - The energy that drives it all**

19 The world's fastest growing energy resource is ... .

- (1) hydroelectric dams
- (2) wind power
- (3) nuclear power
- (4) coal-fired power plants
- (5) tidal energy

20 The reasons why burning solid coal is a popular means of producing electricity and high-temperature heat are ... .

- (1) high heat content and low carbon dioxide output
- (2) great abundance and high net useful energy yield
- (3) low net useful energy yield and high versatility
- (4) relative abundance and ease of pollution control

21 A sustainable energy future is **least likely** to encourage ... .

- (1) greatly increased use of perpetual and renewable resources
- (2) phasing out of government subsidies for non-renewable resources
- (3) taxing of fossil fuels with energy assistance to the poor
- (4) no government influence on personal decisions about purchases of energy-consuming goods
- (5) tax credits for buying efficient cars

22 Oil is widely used because it ... .

- (a) is relatively cheap
- (b) is easily transported
- (c) has a high net useful energy yield
- (d) has an artificially low cost

The correct alternative or combination of alternatives is:

- (1) Only (a)
- (2) Only (b) and (c)
- (3) Only (c) and (d)
- (4) Only (a), (c) and (d)
- (5) (a), (b), (c) and (d)

### **Study unit 9 - The air we breathe**

23 The atmosphere is divided into spherical layers based upon the ... .

- (1) density of each layer
- (2) concentration of ozone in each layer
- (3) temperature changes from variations in absorption of solar energy
- (4) concentration of oxygen in each layer
- (5) precipitation in each layer



- 24 Acid deposition is properly defined as the ... deposition of ... pollutants onto earth's surface.
- (1) wet ... secondary
  - (2) dry ... secondary
  - (3) wet and dry ... primary
  - (4) wet and dry ... secondary
  - (5) dry ... primary
- 25 Which **one** of the following strategies would help to protect the atmosphere?
- (1) Use a city-by-city rather than a regional approach to air quality control.
  - (2) Shift from renewable to more efficient non-renewable energy resources.
  - (3) Integrate air pollution, water pollution, energy, land-use and population regulation policies.
  - (4) Exclude the social costs of air pollution from pricing strategies.
  - (5) Decrease the usage of renewable energy.
- 26 Stratospheric ozone is responsible for all of the following, **except** ... .
- (1) screening out ultraviolet radiation
  - (2) allowing the evolution of life on land
  - (3) preventing ozone formation in the troposphere
  - (4) helping protect humans from sunburn and cataracts
  - (5) lowering atmospheric water vapour

### ***Study unit 10 – Wasting the Earth***

- 27 Which **one** of the following principles does **not** contribute to a transition to a low-waste society?
- (1) Economic growth and free markets reduce waste
  - (2) Everything is connected
  - (3) There is no “away”
  - (4) Reduce, reuse and recycle are the best priorities for using matter
  - (5) Dilution is not always the solution to pollution
- 28 Which **one** of the following alternatives is **not** a property of hazardous waste?
- (1) Flammable.
  - (2) Unstable
  - (3) Soluble
  - (4) Corrosive
  - (5) Carcinogenic, mutagenic or teratogenic

29 Of the following methods of reducing hazardous wastes, the **most** desirable is ... .

- (1) recycling and reusing hazardous wastes
- (2) substitution with safer products that don't produce hazardous wastes
- (3) to convert it into less hazardous and non-hazardous materials
- (4) incineration
- (5) perpetual storage

30 Environmentalists say that the best way to handle soft drink and beer containers is to ... .

- (1) dispose of them in landfills
- (2) recycle aluminum cans
- (3) use stainless steel cans
- (4) use reusable glass bottles
- (5) bury them

## 8.4.2 Semester 2

**ASSIGNMENT 01**

**Closing date:** 19 August 2013

**Unique assignment number:** 660731

**Contribution to semester mark:** 10%

**If you do not submit this assignment on time you will not get examination admission!**

**Also note the following concerning the assignment:**

- Your assignment must be received at Unisa by the closing date.
- It covers study units 1 - 3 and consists of 15 multiple choice questions - five questions on each of the study units.
- **No** extension for submission will be granted.
- The assignment must be answered on a mark reading sheet.
- For each question, select one alternative unless otherwise indicated.
- A feedback tutorial letter will be sent out after the closing date of this assignment.

**Questions**

***Study unit 1 - The root of the rot***

- 1 All non-renewable resources can theoretically be ... .
  - (1) converted to non-metallic minerals
  - (2) converted to renewable resources
  - (3) exhausted or depleted
  - (4) recycled or reused
  
- 2 **Most** of the environmental problems we face are ... .
  - (1) increasing linearly
  - (2) decreasing linearly
  - (3) increasing exponentially
  - (4) decreasing exponentially
  - (5) neither increasing nor decreasing
  
- 3 Natural capital includes all of the following **except** ... .
  - (1) sunlight
  - (2) air
  - (3) water
  - (4) soil
  - (5) nutrients

- 4 A resource that is too expensive to extract is said to be ... .
- (1) perpetual
  - (2) economically depleted
  - (3) ecologically depleted
  - (4) environmentally depleted
  - (5) limited
- 5 Those with an earth-caring (centred) worldview are likely to encourage all of the following actions/viewpoints **except** ... .
- (1) leaving earth in at least as good a shape as we found it
  - (2) creating policies with concern for future generations
  - (3) using up non-renewable resources as quickly as possible to speed the non-renewable resource revolution
  - (4) understanding and working with nature

**Study unit 2 - The basics: matter, energy and the scientific laws**

- 6 A distinctive building block of matter is called a/an ... .
- (1) mixture
  - (2) compound
  - (3) isotope
  - (4) element
  - (5) atom
- 7 Which **one** of the following statements about a matter-recycling society is **false**?
- (1) The goal of a matter-recycling society is to allow economic growth to continue without depleting matter resources.
  - (2) One limitation of a matter-recycling society is dependence on high-quality energy to recycle materials.
  - (3) A matter-recycling society is limited by the environment's capacity to absorb and disperse waste heat and to dilute and degrade waste matter.
  - (4) A matter-recycling society is independent of high-quality matter because materials can continue to be recycled indefinitely.
- 8 All organic compounds are characterised by the presence of ... .
- (1) carbon
  - (2) hydrogen
  - (3) oxygen
  - (4) nitrogen
  - (5) sulphur
- 9  $N_2$  and  $O_2$  are examples of ... .
- (1) compounds consisting of two different elements
  - (2) elements consisting of a compound and an ion
  - (3) molecules consisting of two elements of the same compound
  - (4) molecules consisting of two atoms of the same element
  - (5) molecules consisting of two atoms of different elements

10 The matter and energy laws tell us that we can recycle ... .

- (1) both matter and energy
- (2) neither matter nor energy
- (3) matter but not energy
- (4) energy but not matter

**Study unit 3 - The living wholeness**

11 All of the following are characteristic of life forms **except** ... .

- (1) a highly diffuse internal structure and organisation
- (2) the ability to capture and transform matter and energy from the environment
- (3) the ability to reproduce
- (4) the ability to adapt to external change by mutations
- (5) the ability to react to stimuli

12 Photosynthesis ... .

- (1) converts glucose into energy and water
- (2) requires the combustion of carbon
- (3) produces carbon dioxide and oxygen gas
- (4) yields glucose and oxygen gas as products
- (5) yields glucose and carbon dioxide gas as products

13 A group of individuals of the same species occupying a given area at the same time is called a ... .

- (1) species
- (2) population
- (3) community
- (4) genus
- (5) niche

14 Most of the energy input in a food chain is ... .

- (1) in the form of heat
- (2) converted to biomass
- (3) recycled as it reaches the chain's end
- (4) degraded to low-quality heat
- (5) converted to carbon dioxide

15 Humans remove nitrogen from the soil by all of the following processes **except** ... .

- (1) leaching water-soluble nitrate ions from soil through irrigation
- (2) harvesting nitrogen-rich crops
- (3) applying organic fertilisers to agricultural land
- (4) mining of nitrogen-rich mineral deposits

## ASSIGNMENT 02

**Closing date:** 9 September 2013

**Unique assignment number:** 800932

**Contribution to semester mark:** 50%

**Also note the following concerning the assignment:**

- Your assignment must be received by Unisa by the closing date.
- You must **answer any two** of these questions.
- **No** extension for submission will be granted.
- Each question has to be answered on **only** one page (written or typed) and this excludes a list of references, declaration on plagiarism, *etc.*
- Students will be **heavily penalised** if they do not include a declaration on plagiarism, a list of references for each question and if your answer exceeds one (written or typed) page.
- A feedback tutorial letter with comments on this assignment will be sent out after the closing date of this assignment.

### Questions

#### Question 1

Explain why you agree or disagree with each of the proposals by Miller (2011) for making the use of forests throughout the world more sustainable.

[20]

OR

#### Question 2

Congratulations! You are in charge of preventing the premature extinction of the world's existing species from human activities. What three things would you do to accomplish this goal? Explain each.

[20]

OR

#### Question 3

Do you agree or disagree with the argument of developing countries that developed countries should bear the brunt of reducing CO<sub>2</sub> emissions because they produce much more of these emissions than developing countries? Explain.

[20]

OR

#### Question 4

a Explain the acronym HIPPCO, which conservation biologists use to summarise the most important causes of premature species extinction. (10)

b Based on Figure 2, which of the two animals, the panda or the raccoon, is considered a generalist? Also which graph (A or B) is representative of a specialist species? (4)

- c What does the area C in Figure 2 represent? (2)
- d Notice the letter D in Figure 2. It is pointing at a characteristic of this niche. What is this characteristic? Also, what advantage does the characteristic indicated by the letter D give to the animal occupying this niche as opposed to the animal occupying the other niche? (4) [20]

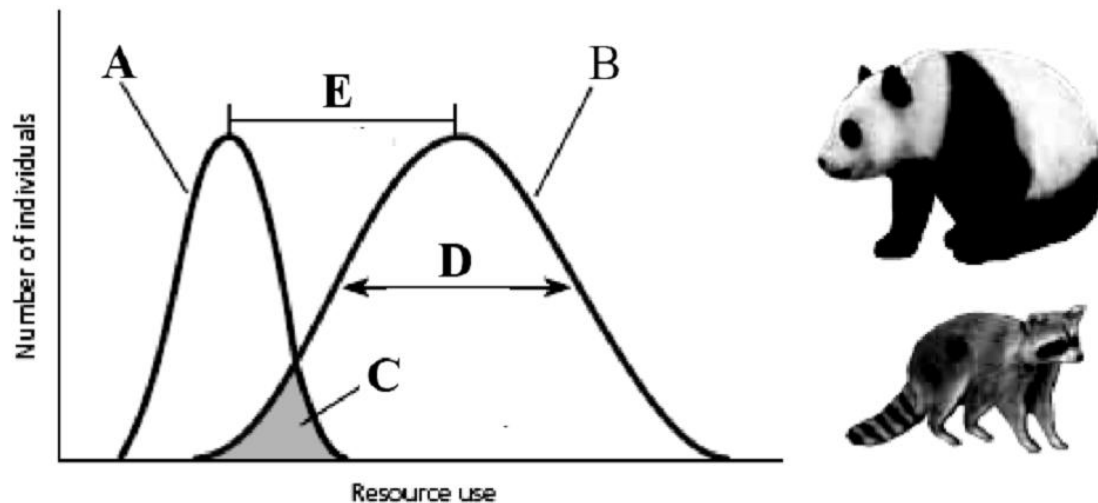


Figure 2: The niche of the panda and raccoon (<http://www.cengage.com>: site accessed on 02/06/2009).

## ASSIGNMENT 03

**Closing date:** 1 October 2013

**Unique assignment number:** 859267

**Contribution to semester mark:** 40%

**Also note the following concerning the assignment:**

- Your assignment must be received at Unisa by the closing date.
- It covers study units 4 - 10. It consists of 30 multiple choice questions – approximately four questions on each of the study units. Please note that no questions are provided for study units 11 and 12, you can use the self assessment quizzes on *myUnisa* to test your knowledge on these two study units.
- **No** extension for submission will be granted.
- The assignment must be answered on a mark reading sheet.
- For each question, select one alternative unless otherwise indicated.
- A feedback tutorial letter will be sent out after the closing date of this assignment.

### Questions

***Study unit 4 - How it started, changed and might end***

- 1 Which **one** of the following alternatives **best** describes an organism's habitat?
  - (1) The nutrient relationships with other species
  - (2) The place where a species lives
  - (3) The type of resource requirements
  - (4) The range of tolerance to different physical and chemical conditions
  - (5) The type of competitors
  
- 2 The earth's biodiversity is believed to be the result of ... .
  - (1) divergent and convergent evolution
  - (2) speciation and extinction
  - (3) speciation and coevolution
  - (4) extinction and coevolution



3 Mutations can be caused by ... .

- (a) ultraviolet light
- (b) X-rays
- (c) certain chemicals
- (d) radioactivity

The correct alternative or combination of alternatives is:

- (1) Only (a)
- (2) Only (b) and (c)
- (3) Only (a) and (d)
- (4) (a), (b), (c) and (d)
- (5) Only (d)

4 The source of energy that probably contributed **least** to the synthesis of biological chemicals on primitive earth is ... .

- (1) ultraviolet light
- (2) hydropower
- (3) radioactivity
- (4) lightning
- (5) sunlight

5 As you study a population of fruit flies, you notice that the pink eye colour is the most common, although white eyes and red eyes also occur. Over the course of time and many generations, you notice that the proportion of individuals with pink eyes is increasing steadily. You conclude that this population is undergoing ... .

- (1) continuous natural selection
- (2) disruptive natural selection
- (3) directional natural selection
- (4) stabilising natural selection
- (5) coevolution

***Study unit 5 - No being is an island: the ecology of biological communities***

6 Which **one** of the following types of species is **least** vulnerable to habitat fragmentation?

- (1) Generalists
- (2) Specialists
- (3) Large predators
- (4) Migratory species
- (5) Keystone species

7 Compared to forests, grasslands have ... .

- (1) more diversity and more inertia
- (2) more diversity and more resilience
- (3) less diversity and more inertia
- (4) less diversity and more resilience
- (5) more diversity and more constancy

- 8 Changes such as depletion of underground aquifers and waterlogging of irrigated soils are considered to be ... .
- (1) natural and catastrophic
  - (2) natural and gradual
  - (3) anthropogenic and catastrophic
  - (4) anthropogenic and gradual
  - (5) anthropogenic, natural and catastrophic
- 9 You are an evolutionary entomologist and have observed beetles who raise their abdomens and give off a defensive chemical that repels predators. You discover a new species of beetle that raises its abdomen in a threatening way similar to the first species, but no defensive chemical is given off. You are **most likely** to characterise this defensive strategy as a form of ... .
- (1) camouflage
  - (2) chemical warfare
  - (3) mimicry
  - (4) diversity
  - (5) warning colouration
- 10 Which **one** of the following would exhibit primary succession?
- (1) A rock exposed by a retreating glacier
  - (2) An abandoned farm
  - (3) A clear-cut forest
  - (4) Newly flooded land
  - (5) A recently burned forest

***Study unit 6 - Humankind: the ultimate consumer***

- 11 In many developing countries, poor farmers plough up marginal land in order to survive. The resulting soil erosion and land degradation increase poverty. The relationship between poverty and soil erosion is **best described** as a ... feedback cycle.
- (1) constructive positive
  - (2) constructive negative
  - (3) destructive positive
  - (4) destructive negative
  - (5) balanced
- 12 The process **least likely** to conserve soil nutrients is ... .
- (1) crop rotation
  - (2) fertilising with compost
  - (3) fertilising with green manure
  - (4) irrigation
  - (5) fertilising with animal manure

- 13 Which **one** of the following practices reduces both erosion and increases soil fertility?
- (1) Strip cropping
  - (2) Terracing
  - (3) Contour farming
  - (4) Row cropping
  - (5) Line cropping
- 14 Of the following human activities, the **one** which probably contributes **least** to soil erosion is ... .
- (1) urbanisation
  - (2) off-road vehicles
  - (3) sustainable agriculture
  - (4) logging
  - (5) clearing forests

**Study unit 7 – Water resources**

- 15 Which **one** of the following uses of water tends to consume the **smallest** amount of water?
- (1) Irrigation
  - (2) Domestic use
  - (3) Industry
  - (4) Energy production
  - (5) Agriculture
- 16 **Most** water-transfer projects illustrate ... .
- (1) the climate-biome principle
  - (2) the principle that you can not do just one thing
  - (3) the concept of ecological succession
  - (4) the principle of genetic variability
  - (5) that energy is conserved
- 17 Dams ... .
- (1) are relatively inexpensive to build
  - (2) destroy agricultural land and scenic areas
  - (3) facilitate migration of fish
  - (4) provide downstream areas with nutrients
  - (5) are ecologically sound as water management schemes
- 18 Stream channelisation ... .
- (1) increases the rate of water discharge
  - (2) decreases erosion
  - (3) is a form of irrigation
  - (4) is the process of building ditches along natural streams

### **Study unit 8 - The energy that drives it all**

- 19 World crude oil (petroleum) supplies and prices are expected to be controlled over the long term by ... .
- (1) Russia
  - (2) the United States
  - (3) Mexico
  - (4) OPEC
  - (5) Saudi Arabia
- 20 Which **one** of the following is our **best** immediate energy option?
- (1) Find and burn more forms of oil, natural gas, and coal
  - (2) Cut out unnecessary energy waste by improving energy efficiency
  - (3) Build more and better conventional nuclear power plants
  - (4) Increase efforts to develop breeder nuclear fission reactors
  - (5) Discover a new form of energy
- 21 We can conserve energy by ... .
- (1) increasing the efficiency of our equipment
  - (2) recycling the energy we use
  - (3) using nonrenewable resources
  - (4) using high-quality energy whenever possible
  - (5) all of these
- 22 Burning of biomass ... .
- (1) releases more carbon dioxide per ton burned than does coal
  - (2) releases more air pollution per unit of energy produced than does the uncontrolled burning of coal
  - (3) requires little land
  - (4) may cause soil erosion, water pollution and loss of wildlife habitats

### **Study unit 9 - The air we breathe**

- 23 The troposphere differs from the stratosphere in that it has ... .
- (1) 1,000 times less oxygen by volume
  - (2) 1,000 times more ozone by volume
  - (3) 1,000 times less ozone by volume
  - (4) 1,000 times more nitrogen by volume
  - (5) 1,000 times less moisture by volume
- 24 One way to help protect the atmosphere would be to ... .
- (1) quickly burn all remaining fossil fuels to encourage more rapid change to alternative fuels
  - (2) compartmentalise air pollution, water pollution and energy policies so that each has its own focus
  - (3) control population growth
  - (4) decrease the use of renewable energy

- 25 Chronic exposure of tree leaves and needles to air pollutants can ... .
- (1) cause a waxy coating to build up
  - (2) increase the uptake of nutrients
  - (3) cause leaves and needles to turn bright red and drop off
  - (4) reduce susceptibility to pests
- 26 Acid deposition is properly defined as the ... deposition of ... pollutants onto earth's surface.
- (1) wet ... secondary
  - (2) dry ... secondary
  - (3) wet and dry ... primary
  - (4) wet and dry ... secondary
  - (5) dry ... primary

### **Study unit 10 – Wasting the Earth**

- 27 Toxic racism ... .
- (1) occurs only in South Africa
  - (2) refers to location of landfills and hazardous-waste incinerators in poor areas
  - (3) occurs where land is cheap
  - (4) occurs only in highly populated areas
  - (5) occurs where land is expensive
- 28 Of the following methods of reducing hazardous wastes, the **most** desirable is ... .
- (1) incineration
  - (2) conversion to less hazardous materials
  - (3) perpetual storage
  - (4) depositing hazardous waste in ocean trenches
  - (5) recycling and reusing hazardous wastes
- 29 Which **one** of the following alternatives is **not** a property of hazardous waste?
- (1) Flammable.
  - (2) Unstable
  - (3) Soluble
  - (4) Corrosive
  - (5) Carcinogenic, mutagenic or teratogenic
- 30 At the checkout counter, an environmentalist is most likely to ... .
- (1) say, "plastic please"
  - (2) say, "paper please"
  - (3) say, "I brought my own bag"
  - (4) walk out of the store
  - (5) say, "either plastic or paper"

## 9 OTHER ASSESSMENT METHODS

No other assessment methods will be used.

## 10 EXAMINATION

### How the examination system works

Use your *my Studies @ Unisa* brochure for general examination guidelines and examination preparation guidelines.

### Examination admission

Submission of the first assignment before 27 February (first semester) or 20 August (second semester) will confirm your registration for that semester and you will be noted as an "active student". (This is so that Unisa will receive subsidy from the Department of Education for you as a student). This also provides you with admission to the examination. **Please note that if you do not submit Assignment 01 on time you will NOT be allowed to write the examination. There will be NO extensions given and NO exceptions made.**

### A sub-minimum of 40%

Because you can earn a semester mark which will contribute to the final mark, the university requires that a sub-minimum of 40% must be achieved in the examination to pass the module.

### Examination period

This module is offered over a semester period of fifteen weeks. This means that if you are registered for the first semester, you will write the examination in May/ June 2013 and the supplementary examination will be written in October/ November 2013. If you are registered for the second semester you will write the examination in October/ November 2013 and the supplementary examination will be written in May/ June 2014.

During the semester, the examination section will provide you with information regarding the examination in general, examination venues, examination dates and examination times. If your final mark (taking the semester mark into account) is between 40% and 49%, you will be given an opportunity to rewrite the examination in the next examination period. This examination will then count 100% and the semester mark will not be brought into account. However, if you write an aegrotat examination the semester mark will count towards the final mark.

### Duration of the examination

The examination will be of **two hours** duration.

### A special tutorial letter on the examinations

You will receive a tutorial letter that will explain the format of the examination. It will also give you examples of questions that you may expect and set out clearly what material you have to study for examination purposes. This letter may be combined with one containing feedback on Assignment 01 and 02.

## **Previous examination papers**

Previous examination papers are available to students. Old examinations papers will be loaded on the “Official Study Material” link on the *myUnisa* website. I advise you, however, not to focus on old examination papers only as the content of modules and therefore examination papers changes from year to year. You may, however, accept that the structure type of questions that will be asked in the examination will be similar to those asked in the activities in your study guide and in the assignments.

## **11 FREQUENTLY ASKED QUESTIONS**

The *my Studies @ Unisa* brochure contains an A-Z guide of the most relevant study information.

## **12 SOURCES CONSULTED**

None.

## **13 CONCLUSION**

All the best for the module!

## **14 ADDENDUM**

None.