



**NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

FACULTY OF NATURAL RESOURCES AND SPATIAL SCIENCES

DEPARTMENT OF ARCHITECTURE AND SPATIAL PLANNING

QUALIFICATION :	BACHELOR OF REGIONAL AND RURAL DEVELOPMENT		
QUALIFICATION CODE:	07BRAR		
COURSE CODE:	IEM621S	COURSE NAME:	INTEGRATED ENVIRONMENTAL MANAGEMENT
NQF LEVEL:	6	NQF CREDITS:	12
SESSION:	JANUARY 2019	PAPER:	THEORY
DURATION:	3 HOURS	MARKS:	100

SUPPLEMENTARY/SECOND OPPORTUNITY EXAMINATION PAPER			
EXAMINER(S)	Mr. Cyrlus Tjipetekera	081 149 3699	tjipetekera@nust.na
MODERATOR:	Dr. M. Hauptfleisch	081 124 1365	mhauptfleisch@nust.na

<ol style="list-style-type: none">1. Answer ALL the questions2. Write clearly and legibly3. Number the answers clearly4. Do not forget to write your Student Number on the Answer Book(s)
--

THIS EXAMINATION PAPER CONSISTS OF 7 PAGES (Including this front page)

Question 1

Select the correct answer. Only write down the number, for example (a) B.

- a) Which one of the following characteristics is widely regarded as an important aspect of sustainable development?
- (i.) Inter-generational equity
 - (ii.) Increasing consumption
 - (iii.) Intra-generational inequity
 - (iv.) Decreasing production
- (1)
- b) ISO 14001 is ...
- (i.) A particularly harmful global warming gas
 - (ii.) A European Union regulation on pollution control
 - (iii.) A quality regulation set out under the Namibian Environmental Management Act
 - (iv.) An international standard setting out best practice for carrying out audits of companies' environmental management systems and policies
- (1)
- c) The current era is sometimes known as the Anthropocene, because ...
- (i.) It is the era in which humans have evolved.
 - (ii.) It is the era in which humans have had the biggest impact on the world.
 - (iii.) It is the era in which humans invented air travel and telecommunication
 - (iv.) It is the era in which anthrax has been used as a biological weapon
- (1)
- d) The combustion of fossil fuels will negative affect the following planetary boundary/boundaries:
- (i.) Climate Change
 - (ii.) Atmospheric aerosol loading
 - (iii.) Ocean acidification
 - (iv.) All of the above
- (1)
- e) According to the Namibian Constitution, the duty to investigate complaints concerning the over-utilization of living natural resources, irrational exploitation of non-renewable resources, degradation and destruction of ecosystems and failure to protect the beauty and character of Namibia is the responsibility of ...
- (i.) The Sustainable Development Advisory Council
 - (ii.) The Ombudsman
 - (iii.) The Minister of Environment and Tourism
 - (iv.) The Environmental Commissioner
- (1)

- f) The purpose of an environmental audit is to ...
(i.) Inform the environmental authorities of potential impacts of new legislation
(ii.) Assign blame for poor environmental management practices
(iii.) Improve environmental performance of an organization and/or ensure compliance with industry standards
(iv.) Measure harmful emissions over time (1)
- g) An Environmental Clearance Certificate is valid for a period of ...
(i.) 1 year
(ii.) 3 years
(iii.) 5 years
(iv.) 10 years (1)
- h) A company operating a manufacturing plant has developed an Environmental Management System (EMS). A key aspect of this EMS would be to ...
(i.) Maximize profits to shareholders of the company
(ii.) Develop an environmental policy for the company
(iii.) Implement financial audits
(iv.) Keep record of technical specifications of machinery (1)
- i) Cradle-to-grave analysis is also known as
(i.) Eco-balance assessment
(ii.) The Linear Economy
(iii.) The Circular Economy
(iv.) Life-and-death analysis (1)
-
- [9]

Question 2

- a) **Scenario:** You have been appointed as an Environmental Assessment Practitioner by the Namibia University of Science and Technology to assess the possible impacts that will emanate from the construction of its proposed hostel for the students.
- i. Name all the nine (9) steps that you will follow which are part of the Environmental Impact Assessment process in Namibia? (9)
- ii. Discuss the nine (9) steps that you mentioned in Q2 (a) (i) above? (9)

[18]

Question 3

- a) List six examples of Infrastructure Related Projects for which an environmental impact assessment (EIA) is mandatory under Namibian legislation, and explain why the EIA is required for these projects? (12)
- b) During the process of Environmental Impact Assessment there are a number of tools that are used for the identification and assessment of the impacts. List six of these tools that are used for impact identification and assessment? (6)

[18]

Question 4

- a) Define State of the Environment Reporting. (2)
- b) Discuss the importance of State of the Environment Reporting for Namibia, by referring to the goal and objectives of SOER. (8)

[10]

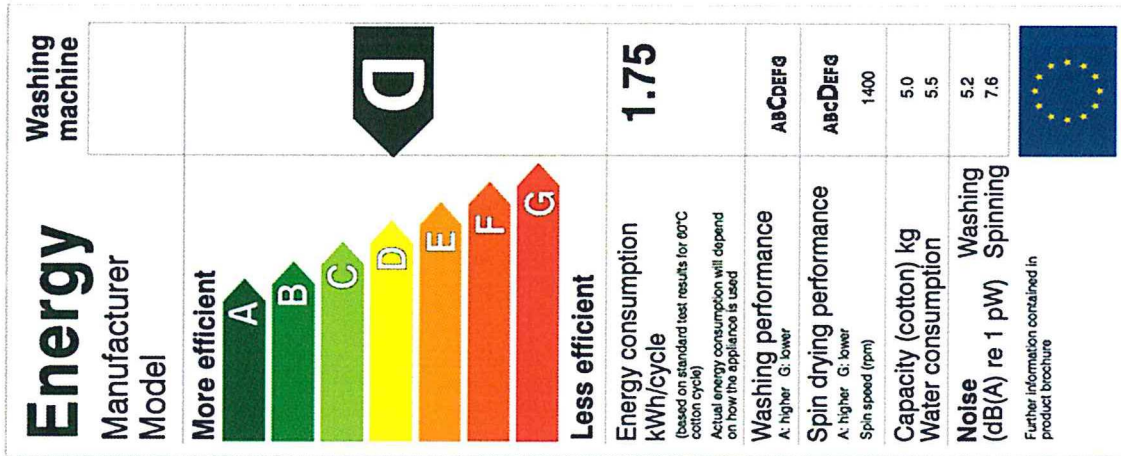
Question 5

Identify the five (5) components of the *DPSIR environmental indicator framework* and explain briefly what each component represents. (10)

[10]

Question 6

You consider buying a new washing machine on which you find the following label:



- a) What type of label is this? (1)
- b) What information does this label provide to you? (6)
- c) If you are concerned about the impact that human activities have on the environment, would you buy this washing machine? (1)
- d) What alternatives will you consider? Justify your answer. (2)

[10]

Question 7

The Land-Potential Knowledge System (LandPKS) is being developed to provide freely available technology and tools for inventory, assessment and monitoring, sustainable land use planning, and connecting people across the globe.”

- a) What is Land Potential Knowledge System about? (3)
- b) What do you understand by the term land potential? (1)
- c) Name three elements that are important with reference to the land potential? (3)

[7]

Question 8

a) What do you understand by the term Land Evaluation? (2)

b) When is it necessary to carry out a Land Evaluation? (6)

[8]

Question 9

Match each term in Column 1 with the most appropriate description in Column 2. Write down only the *capital letter* from Column 2 next to the *small letter* from Column 1, for example (a) M.

<u>Column 1</u>	<u>Column 2</u>
a) Ecosystem	A Exponential increase in the rates of global changes over the last century
b) Hydrosphere	B A tool for determining the impact that a product has on the environment while it is being used by the consumer
c) succession	C The care a reasonable person should take before entering into an agreement or a transaction with another party, or to avoid committing an offence
d) Restoration	D The genetic relationship between several different species
e) Precautionary principle	E When, during the project (life)cycle, a particular effect will appear
f) Degraded ecosystem	F consists of the biota (plants, animals, micro-organisms) or biological community that occurs within an area, and the environment that sustains it, namely the physical and chemical factors that make up its non-living or abiotic environment, and their interactions.
g) Environmental monitoring	G The number of species in an area
h) Species diversity	H The relative number of individuals per species in an area
i) Great acceleration	I Planetary-scale changes in the Earth System
j) Disturbance	J The predictable and orderly, progressive (directional) changes in the composition or structure of an ecological community over time.
	K The frozen water part of the Earth System
	L A temporary change in average environmental conditions that causes a pronounced change in an ecosystem.
	M A process of systematically observing and/or measuring

	environmental indicators
N	Refers to the variety / number of different species within a community / area / region / collection of individuals.
O	How long a particular effect of a project will last
P	Making a degraded site safe and usable
Q	Repairing ecosystem structure and functioning completely
R	The liquid water part of the Earth System
S	An ecosystem that has undergone subtle or gradual changes
T	The molten rock part of the Earth System

(10)

[10]

TOTAL: 100

****** THE END ******