



**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	LEVEL:	5
		CREDITS:	10
COURSE CODE:	NRM511S	COURSE NAME:	Natural Resource Management
SESSION:	JUNE 2019	PAPER:	THEORY
DURATION:	3 HOURS	MARKS:	100

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
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INSTRUCTIONS
<ol style="list-style-type: none">1. Answer ALL the questions.2. Read the entire question paper before answering the questions.3. Questions may be answered in any sequence, provided that they are numbered clearly and correctly.4. Write clearly and legibly.

PERMISSIBLE MATERIALS

Calculator, ruler, pencil and eraser

THIS QUESTION PAPER CONSISTS OF 13 QUESTIONS AND 6 PAGES (including this front page)

Question 1:

Select the single *CORRECT* answer to each of the following questions. Just write down the number, e.g. (a) D.

- (a) Water is provided to
A Gobabis by Omatako Dam
B Windhoek by Otjivero Main Dam
C Keetmanshoop by Neckartal Dam
D Karasburg by Naute Dam
E Swakopmund by the Omdel Scheme (1)
- (b) Explosive growth of cyanobacteria (also known as blue-green algae) in lakes is known as
A eutrication
B algination
C algal blooms
D deoxygenation
E hydro-proliferation (1)
- (c) Demand-side water management *excludes*
A awareness campaigns
B installation of water-saving toilets and showers
C fixing of leaking pipes and taps
D sliding-scale water-use tariffs
E inter-basin water transfers (1)
- (d) The major international treaty for protection against land degradation is the
A UNFCCC
B Paris Agreement
C UNCCD
D Kyoto Protocol
E UNCBD (1)
- (e) The acronym DLDD is used for
A Drought, Land Dryness and Desertification
B Drought, Land Desertification and Dryness
C Desertification, Land Degradation and Drought
D Dryness, Land Destruction and Drought
E Dry Land, Deserts and Dongas (1)

- (f) Alien invasive species do *not* harm indigenous biodiversity through
- A predation
 - B being vectors of diseases
 - C competition for habitats
 - D competition for mates
 - E competition for food
- (1)
- (g) Namibia *does not* use electricity generated by the
- A Omburu Solar Plant near Omaruru
 - B Kudu Gas-fired Power Station near Oranjemund
 - C Southern African Power Pool
 - D Von Eck Power Station in Windhoek
 - E Ruacana Hydropower Station on the Kunene River
- (1)
- (h) In 2015, Namibia signed an international treaty to limit emissions of greenhouse gasses by implementing 'Nationally Determined Contributions'. This treaty is known as the
- A Vienna Convention
 - B Sendai Protocol
 - C Rio Earth Summit
 - D Johannesburg Implementation Plan
 - E Paris Agreement
- (1)
- (i) Stratospheric ozone
- A intercepts harmful gamma rays from the sun
 - B is restored by burning fossil fuels
 - C concentrations increase over the poles during winter
 - D is susceptible to substances prohibited under the Montreal Protocol
 - E suppresses plant growth and contributes to lung diseases in humans
- (1)
- (j) Most weather-related phenomena (e.g. wind storms, hurricanes, frost) take place in the
- A thermosphere
 - B troposphere
 - C mesosphere
 - D magnetosphere
 - E stratosphere
- (1)
- [10]

Question 2:

List and explain four (4) ecosystem services provided by *microbes*.

[4]

Question 9:

“Renewable energy is not necessarily green energy”.

Debate this statement, with reference to some of the negative impacts that the use of renewable energy sources may have on humans and the environment.

[6]

Question 10:

What can Namibian livestock farmers do to sustainably manage their soil and rangeland, and prevent land degradation?

[8]

Question 11:

What was the purpose of the Montreal Protocol, and why is it considered to be one of the most successful global environmental interventions?

[6]

Question 12:

Suggest five (5) practical actions that the Namibian government or local inhabitants can carry out to safeguard wetlands.

[5]

Question 13

Match each *commodity* in Column 1 with the *name of the mine or place where it is excavated or processed* in Column 2. Write down only the *capital letter* from Column 2 next to the *small letter* from Column 1, for example (a) D.

Column 1

- (a) Graphite
- (b) Diamonds
- (c) Gold
- (d) Cobalt
- (e) Uranium
- (f) Limestone

Column 2

- A B2G Otjikoto, near Otjiwarongo
- B Desert Lion, near Karibib
- C Ohorongo Cement, near Otjiwarongo
- D Okarusu, near Otjiwarongo
- E Tshudi, near Tsumeb
- F Otjozonde, near Okahandja