NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

FACULTY OF HEALTH, NATURAL RESOURCES AND APPLIED SCIENCES

SCHOOL OF AGRICULTURE AND NATURAL RESOURCE SCIENCES

DEPARTMENT OF NATURAL RESOURCE SCIENCES

QUALIFICATION: BACHELOR OF NATURAL RESOURCE MANAGEMENT	
QUALIFICATION CODE: 07BNRS	**LEVEL: 7**
COURSE CODE: BCM721S	**COURSE NAME:** BIODIVERSITY CONSERVATION AND MANAGEMENT
DATE: November 2024	
DURATION: 3 HOURS	**MARKS: 70**

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
EXAMINER(S)	Prof. Vera De Cauwer
MODERATOR:	Dr Mark Bilton

INSTRUCTIONS
1. Answer ALL the questions. 2. Write clearly and neatly. 3. Number your answers clearly. 4. Show your detailed work for calculations.

PERMISSIBLE MATERIALS

1. Calculator

THIS QUESTION PAPER CONSISTS OF 2 PAGES (Excluding this front page)

Question 1 **[4]**

Explain the purpose of a management plan for natural resources.

Question 2 **[15]**

Indicate if the following statements are True or False. If false, correct the statement.

a)	A biosphere reserve is one of the IUCN-protected area categories.
b)	A recently deforested area that will be planted again remains a forest according to FAO.
c)	A zebra is a mixed feeder.
d)	The higher the temperature, the less biogas is produced in an anaerobic digestion process.
e)	The resilience of an ecosystem will increase when it is artificially kept stable in a certain condition.
f)	Increasing CO_2 levels enhance the water-use efficiency of plants.
g)	A flagship species occurs in a particular area only and nowhere else.
h)	The rate of surface temperature increase has been more rapid in Africa than the global average, with human-induced climate change being the dominant driver.
i)	Hybrids between a wild species and its domestic relative are often unhealthy or sterile.
j)	Stocking rate refers to the forage produced.

Question 3 **[5]**

What are the threats to the genetic diversity of wildlife populations?
Name two management interventions that can counteract these threats.

Question 4 **[7]**

Complete the sentence with one word or concept.

a) The maximum quantity of forest produce which may be harvested is called ...
b) Global Forest Resources Assessments are produced every ..... years by the Food and Agricultural Organization (FAO).
c) In the absence of predators, the natural mortality of most herbivores is around ...% per year.
d) The three levels of biodiversity are ..., ... and ... diversity.
e) Actions to reduce greenhouse gas emissions are referred to as ....

Question 5 **[4]**

Why do you need to manage a forest?

Question 6 **[8]**

What purpose do management interventions have?
Give three examples of natural resources management interventions with the objectives of each of these interventions.

Question 7 **[7]**

Compare the harvest with the disc pasture method to determine herbaceous biomass.

Question 8 **[5]**

Explain the urban heat island effect and the main cause.

Question 9 **[9]**

A game farm of 3000 ha has 20% grassland. The farm has only browsers and the manager decides to introduce blue wildebeest. The grass biomass varies between 200 and 500 kg DM per ha depending on the annual rainfall, with an average utilization of 60%. Note that the fodder requirement of 1 GU is 4.5 kg per day.

a) What is the grazing capacity of the game farm? Explain in your own words what this means.
b) How many blue wildebeest can graze sustainably?

Write down your calculations.

Question 10 **[4]**

What is the main objective of the Paris Agreement?

Question 11 **[2]**

What is a habitat?