namibia university
OF SCIENCE AND TECHNOLOGY

FACULTY OF HEALTH, NATURAL RESOURCES AND APPLIED SCIENCES

SCHOOL OF AGRICULTURE AND NATURAL RESOURCE SCIENCES

DEPARTMENT OF NATURAL RESOURCES SCIENCES

QUALIFICATION: BACHELOR OF NATURAL RESOURCES MANAGEMENT	
QUALIFICATION CODE: 08BNRS	**LEVEL:** 8
COURSE CODE: FMG821S	**COURSE NAME:** FOREST MANAGEMENT
DATE: NOVEMBER 2024	
DURATION: 2 HOURS	**MARKS:** 100

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
EXAMINER(S)	Prof. Jonathan M. Kamwi
MODERATOR:	Mr. Nathanael Amadhila

INSTRUCTIONS
1. Answer ALL the questions.
2. Write clearly and neatly.
3. Number the answers clearly.

PERMISSIBLE MATERIALS
1. Examination question paper
2. Answering book
3. Calculator and Ruler

THIS QUESTION PAPER CONSISTS OF 1 PAGE (Excluding this front page)

1. Define "aesthetics" in terms of forest and natural resources management. How [5] does "visual quality" relate to aesthetics?

2. Describe the circumstances where you will use clear felling, and selection system [20] of silviculture. Explain the outcome of each system. How are the even aged and uneven aged forests managed?

3. Why is sustainable forestry important? [10]

4. Why is the law of Falkenhagen is considered a serious flaw in forest [4] management? Start by describing what the law is about before you answer the question.

5. What are the precautions required for diameter measurements with diameter [6] tapes? Discuss the errors that occur due to non-observation of the precautions.

6. What is basal area and what is it used for in forestry? [3]

7. Differentiate between even-aged and uneven-aged stands. Discuss the merits [6] and demerits of each.

8. Variations in stand density, such as thinning, cause very large variations in tree [10] diameter growth but remarkably little in height growth. Discuss.

9. Attack or defend the statement "control of stand density of desired species helps [4] in production of maximum volume".

10. Discuss the differences and utility of average and quadratic mean diameters. [5]

11. Explain in the detail the silvicultural practices that ensure good natural [4] regeneration in open woodlands.

12. The estimated value of the intercept parameter (b_0) in the combined-variable [4] volume equation $V = b_0 + b_1D^2H$ for merchantable volume should logically be positive, zero, or negative? Motivate your answer.

13. In regression estimation, one desires that the coefficient of determination (R^2) [4] between x (independent variable) and y (dependent variable) is a. near zero; b. near one: Motivate your answer.

14. Explain the concept of forest site index and its use in forest management. [5]

15. Can deforestation happen naturally? [10]