



**PAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

FACULTY OF HEALTH, NATURAL RESOURCES AND APPLIED SCIENCES

DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES SCIENCES

QUALIFICATION: BACHELOR OF NATURAL RESOURCES MANAGEMENT (NATURE CONSERVATION)	
QUALIFICATION CODE: 08BNRS	LEVEL: 8
COURSE CODE: FMG821S	COURSE NAME: Forest Management
DATE: JANUARY 2023	
DURATION: 2 HOURS	MARKS: 100

SECOND OPPORTUNITY / SUPPLEMENTARY EXAMINATION QUESTION PAPER	
EXAMINER(S)	Dr. Jonathan M. Kamwi
MODERATOR:	Mr. Nathanael Amadhila

INSTRUCTIONS
1. Answer all questions.

THIS MARKING SCHEME CONSISTS OF 1 PAGE (Excluding this front page)

1. Define "aesthetics" in terms of forest and natural resources management. How does "visual quality" relate to aesthetics? [5]
2. Describe the circumstances where you will use clear felling, and selection system of silviculture. Explain the outcome of each system. How are the even aged and uneven aged forests managed? [20]
3. Why is sustainable forestry important? [10]
4. Why is the law of Falkenhagen is considered a serious flaw in forest management? Start by describing what the law is about before you answer the question. [4]
5. What are the precautions required for diameter measurements with diameter tapes? Discuss the errors that occur due to non-observation of the precautions. [6]
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 and demerits of each. [6]
8. Variations in stand density, such as thinning, cause very large variations in tree diameter growth but remarkably little in height growth. Discuss. [10]
9. Attack or defend the statement "control of stand density of desired species helps in production of maximum volume". [4]
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 regeneration in open woodlands. [4]
12. The estimated value of the intercept parameter (b_0) in the combined-variable volume equation $V = b_0 + b_1 D^2 H$ for merchantable volume should logically be positive, zero, or negative? Motivate your answer. [4]
13. In regression estimation, one desires that the coefficient of determination (R^2) between x (independent variable) and y (dependent variable) is a. near zero; b. near one: Motivate your answer. [4]
14. Explain the concept of forest site index and its use in forest management. [5]
15. Can deforestation happen naturally? [10]

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