



# **MAASAI MARA UNIVERSITY**

**SUPPLEMENTARY UNIVERSITY EXAM  
EXAMINATIONS 2021/2022 ACADEMIC YEAR  
FOURTH YEAR FIRST SEMESTER**

**SCHOOL OF NATURAL RESOURCE, TOURISM  
AND HOSPITALITY**

**BACHELOR OF ENVIRONMENTAL STUDIES  
(EARTH SCIENCES)**

**COURSE CODE: EES 4154**

**COURSE TITLE: PALAEOLOGY**

**DATE: 1<sup>ST</sup> APRIL, 2022**

**TIME: 1100-1300**

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## **INSTRUCTIONS TO CANDIDATES**

Answer **ALL** questions in section **A** and any other **THREE** in section **B**.

*This paper consists of 2 printed pages. Please turn over*

**SECTION A: 25 MARKS - ANSWER ALL THE QUESTIONS IN THIS SECTION**

1. Describe any four (4) fundamental principles of stratigraphy that form the foundation of our understanding of Earth's history  
**(5 marks)**
2. Illustrate the use of fossil spores and pollen as biostratigraphic indices  
**(5 marks)**
3. Discuss the role of paleoecology in ecosystem restoration and resource management
4. Explain the methods that are used to estimate diversity in the fossil record  
**(5 marks)**
5. Explain whether it will be possible to identify past plant diversity through fossil record  
**(5 marks)**
6. With insights from palynology, provide understanding into how and when plants first colonized the land or how the earth's vegetation has developed through geological time  
**(5 marks)**

**SECTION B: 45 MARKS - CHOOSE ANY THREE (3) QUESTIONS**

7. Justify the economic importance of palaeontology and micropalaeontology in applied geology.  
**(15 marks)**
8. Describe the physical conditions which determine preservation of fossils and identify the rock types in which fossils are found  
**(15 marks)**
9. With evidence from the fossil record, discuss the evolutionary processes  
**(15 marks)**
10. Concisely and definitively discuss the importance of calcareous algae in paleoenvironmental interpretations by listing the kinds of limiting factors which control their distribution and discussing, with the help of diagrams and/or environmental cross-sections, how light intensity and quality, temperature, water movement and other environmental variables affect the distribution of representative specific groups or individual species  
**(15 marks)**
11. Discuss the factors that determine the marine type of organism's distribution  
**(15 marks)**

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