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**KIBABII UNIVERSITY**  
**DEPARTMENT OF CURRICULUM AND PEDAGOGY**  
**SPECIAL/SUPPLEMENTARY EXAMINATION**  
**2022/2023 ACADEMIC YEAR**  
**COURSE CODE: ESM712 COURSE TITLE: ENVIRONMENTAL**  
**EDUCATION**

**DATE...23/11/2022.....**

**TIME...2:00PM**

**VENUE: ABB204**

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**INSTRUCTIONS TO CANDIDATES**

Answer **THREE** questions: Question **ONE** and any other **TWO**

TIME: 2 Hours

The university observes **ZERO** tolerance to examination cheating.

*This paper consists of 3 printed pages. Please turn over.*

**QUESTION ONE (30 MKS)**

a) Explain the need to include environmental education (6 mks).

- ii) Distinguish between food webs and food chains in an ecosystem (4mks)  
iii) Briefly explain how the ozone layer is destroyed. (4mks)  
b) Differentiate pyramid of numbers and pyramid of biomass (6mks)  
c) Explain two functions of the atmosphere (4 mks)  
d) Briefly discuss two ways of mitigating the effects of climate change (4 mks)  
e) Briefly describe the Biosphere (2 mks)

**QUESTION TWO (20 MKS)**

- a. Describe energy flows in the ecosystem (15 mks)  
b. Explain the pyramid of numbers (5 mks)

**QUESTION THREE (20 MKS)**

- a. Outline the objectives of environmental education. (5 mks)  
b. State the difference between teaching methods, teaching techniques and teaching strategies as related to environmental education. (9 mks)  
c. Discuss the advantages and disadvantages of using multidisciplinary approach in developing curriculum in Environmental Education. (6 mks)

**QUESTION FOUR (20 MKS)**

- a) Using national and global examples, explain the term “**environmental crisis**”. (8mks)  
b) By giving clear examples, discuss the extent of environmental crisis at global level, national and regional levels. (12mks)

**QUESTION FIVE (20 MKS)**

Using clear relevant examples, discuss **five** effects of the human factor on the natural balance of nature. (20 mks)