

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

**FACULTY OF APPLIED SCIENCES
DEPARTMENT OF FOREST RESOURCES AND WILDLIFE MANAGEMENT
BACHELOR OF SCIENCE HONOURS DEGREE
MAIN EXAMINATION**

BIODIVERSITY AND CONSERVATION: EFW 4202

May 2014

Time Allowed: 3 Hours Total Marks: 100

INSTRUCTIONS TO CANDIDATES

Answer **QUESTION ONE** and any other **THREE**. Each question carries **25 marks**.

1. (a) Explain the four forms of “speciation”. **[16 marks]**
(b) Outline how patterns of species richness characterizing ecosystems are influenced by:
 - (i) primary productivity **[3 marks]**
 - (ii) spatial heterogeneity **[3 marks]**
 - (iii) time-scale **[3 marks]**
2. (a) With reference to locality, describe the five forms of primary succession. **[10 marks]**
(b) Discuss on the three theories that explain the mechanism of ecological succession **[15 marks]**
3. Using examples, discuss the interaction and association of species in relation to:
 - (i) competition **[5 marks]**
 - (ii) predation **[5 marks]**
 - (iii) parasitism **[5 marks]** (iv) mutualism **[5 marks]**
 - (v) commensalism. **[5 marks]**
4. Discuss how the development and use of GMOs can be both beneficial and detrimental to biological diversity.
5. Discuss the potential of community based conservation strategies in promoting the sustainable use of wildlife resources.
6. Discuss how you could conduct an assessment of Arthropod species diversity in a named biological hotspot.

***** END OF PAPER *****

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HUMANS AND WILDLIFE: EFW 1202

May 2014

Time Allowed: 3 Hours Total Marks: 100

INSTRUCTIONS TO CANDIDATES

Answer **QUESTION ONE** and any other **THREE**. Each question carries **25 marks**.

1. Provide the evidence for biological evolution.
2. Choose one animal from the 'big five' of mammals (English and Latin name), and write notes on its,
 - (i) physical characteristics[**4 marks**]
 - (ii) distribution in Zimbabwe and Africa[**4 marks**]
 - (iii) food and feeding habits[**5 marks**]
 - (iv) reproduction[**6 marks**]
 - (v) conservation and usage by humans.[**6 marks**]
3. (a) Discuss the role of CAMPFIRE programme in wildlife conservation in Zimbabwe.
[10 marks]

(b) Show how CITES affects one named tree and four named mammals in Zimbabwe
[15 marks]
4. Using the African context, discuss the impacts of humans on the natural resource base.
5. Discuss the role of indigenous knowledge systems in the conservation of biological diversity.
6. Discuss how population growth control measures can be employed to suppress the rapid increase in global human population.

***** END OF PAPER *****