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**GARISSA UNIVERSITY**

**UNIVERSITY EXAMINATION 2019/2020 ACADEMIC YEAR ONE**

**SECOND SEMESTER EXAMINATION**

**SCHOOL OF SCHOOL OF PURE AND APPLIED SCIENCES**

**FOR THE DEGREE OF BACHELOR OF EDUCATION**

**COURSE CODE: BOT 111**

**COURSE TITLE: BASIC BOTANY I1**

**EXAMINATION DURATION: 2 HOURS**

**DATE: 14/12/2020 TIME: 03.00-05.00 PM**

**INSTRUCTION TO CANDIDATES**

* **The examination has FIVE (5) questions**
* **Question ONE (1) is COMPULSORY**
* **Choose any other TWO (2) questions from the remaining FOUR (4) questions**
* **Use sketch diagrams to illustrate your answer whenever necessary**
* **Do not carry mobile phones or any other written materials in examination room**
* **Do not write on this paper**

**This paper consists of TWO (2) printed pages *please turn over***

**QUESTION ONE (COMPULSORY)**

1. (i) State FOUR differences between Pteridophyte and Angiosperms **[4 marks]**  
   (ii) State three differences between Gymnosperm and angiosperms. **[6 marks]**
2. Using a well labeled diagram describe double fertilization? **[5 marks]**
3. Define the following terms: **[5 marks]**
   * 1. Ecology
     2. Ecosystem
     3. Biological spectrum
     4. Xerophytes
     5. Community
4. Explain the concept of energy flow in atypical ecosystem. **[5 marks]**
5. What is species frequency and species density **[5 marks]**

**QUESTION TWO**

* 1. Describe the types of pollination in Angiosperms and Gymnosperms **[10 marks]**
  2. Describe the process of production of the gamentagia by the higher plants leading to production of male and female gametophyte. **[10 marks]**

**QUESTION THREE**

1. What factors influence carrying capacity? **[10 marks]**
2. Describe how transects are used in ecological studies **[10 marks]**

**QUESTION FOUR**

1. State FIVE human actions that can cause desertification. **[5 marks]**
2. Describe the various sources of atmospheric pollution and their effects. **[15 marks]**

**QUESTION FIVE**

Using illustrations, explain the process of alternation of generation within plants showing how it changes from the lower non-vascular plants to the angiosperms. **[20 marks]**