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**GARISSA UNIVERSITY**

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

**SECOND SEMESTER EXAMINATION**

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

**FOR THE DEGREE OF BACHELOR OF EDUCATION**

**COURSE CODE: ZOO 112 / 212**

**COURSE TITLE: VERTEBRATE ZOOLOGY**

**EXAMINATION DURATION: 2 HOURS**

**DATE: 11/12/2020 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. With the aid of a diagram describe the chordate body plan. **[4 marks]**
2. Briefly describe the features of bids that differentiate them from other organisms. **[5 marks]**
3. With the aid of a diagram describe a hagfish. **[5 marks]**
4. Describe the excretion and osmoregulation in mammals **[5 marks]**
5. What are the distinguishing characteristics between Reptiles and Amphibians?  **[5 marks]**
6. Briefly define the following terms as they pertain to bird reproduction
	* 1. Monogamy **[2 marks]**
		2. Polygyny **[2 marks]**
		3. Polyandry **[2 marks]**

**QUESTION TWO**

1. Describe the adaptations of birds to flight and thermoregulation. **[15 marks]**
2. With examples list the economic importance of birds. **[5 marks]**

**QUESTION THREE**

1. Describe the amphibian adaptations that allow them to live on land and water **[15 marks]**
2. What is the economic importance of amphibians? **[5 marks]**

**QUESTION FOUR**

1. Describe the circulatory system of fishes. **[10 marks]**
2. List the economic importance of fishes **[5 marks]**
3. Illustrate the counter current exchange used by fishes for effective gaseous exchange. **[5 marks]**

 **QUESTION FIVE**

1. Briefly describe mammalian adaptations **[10 marks]**
2. List the economic importance of mammals **[10 marks]**