



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE
AND TECHNOLOGY**

**UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN
ANIMAL SCIENCE**

SECOND YEAR FIRST SEMESTER 2016/2017 ACADEMIC YEAR

CENTRE: MAIN CAMPUS

COURSE CODE: AAS 3214

COURSE TITLE: ANIMAL GROWTH AND DEVELOPMENT

EXAM VENUE:

STREAM: ANIMAL SCIENCE

DATE:

EXAM SESSION:

TIME: 2 HOURS

Instructions:

- 1. Answer ALL questions in section A and ANY other 2 Questions in section B**
- 2. Candidates are advised not to write on question paper.**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room.**

SECTION A (30 Marks)

1. a) Define homeostasis and outline how it influence growth and development .(**4 marks**)
 - b) Define growth.(**2 marks**)
 - c) Highlight factors affecting birth weight. (**4 marks**)
2. a) Using examples differentiate chronological age from physiological age. (**4 marks**)
 - b) Using examples highlight phases of growth curve. (**4 Marks**)
 - c) Briefly outline the difference between embryogenesis and organogenesis. (**2 Marks**)
3. a) A steer was brought into feedlot weighing 250 kg, it was sold for slaughter after 3 months with live weight of 460 kg.
 - i) What was the average daily weight gain? (Show your workings) (**3 Marks**).
 - ii) Interpret your result in (i). (**1 Marks**)
 - b) Briefly discuss marbling. (**2 Marks**)
 - c) Briefly outline what happens during chicken embryonic development from just before the egg is laid to day 4 of incubation. (**4 Marks**)

SECTION B (40 Marks)

4. Explain why it is important that young animals receive the best nutritional feed available.
In your explanation:
 - a. Describe how growth or development is influenced by the age of livestock. (**10 Marks**)
 - b. Explain why feeding young animals the best nutritional feeds increases productivity. (**10 Marks**)
5. a. Discuss compensatory growth and how it can be applied in beef production (**10 marks**)

- b.** Deposition of different tissues and partitioning of energy for various processes involved in growth and development are regulated by hormones. Discuss some of the important hormones involved in growth and development. **(10 marks)**
6. A farmer running Dopper sheep on low quality pastures decides to castrate all ram lambs. All the castrated lambs will eventually be killed. Justify the farmer's decision to castrate all ram lambs by explaining why this practice is better than leaving the lambs as ram lambs. In your justification:
- a.** Describe the castration process. **(5 Marks)**
 - b.** Explain how castration influences growth rates and carcass value **(10 Marks)**
 - c.** Explain why it is desirable that all ram lambs on this property are castrated. **(5 Marks)**