

**MURANGA UNIVERSITY COLLEGE**

(A Constituent college of Jomo Kenyatta University of Agriculture & Technology)

**SCHOOL OF PURE AND APPLIED SCIENCE**

**AS/SLT/14C**

**UNIT CODE: ASLT 0203: BIOLOGY TECHNIQUES**

**END TERM 2015 EXAMS**

**Time: 2Hours    Date:**

**SECTION A (60 mks)**

**Attempt all questions in this section**

1. a) Distinguish between serum and plasma.    (2 mks)  
    b) How would you sterilize a given part on an animal before obtaining blood? (2 mks)
2. Define the following terms as used in immunology,
  - (i) Antibody
  - (ii) Antigen                      (4 mks)
3. Differentiate between the terms anesthesia and euthanasia.    (4 mks)
4. State the function of each of the following cells
  - (i) Plateletes
  - (ii) Erythrocytes
  - (iii) Neutrophils
  - (iv) Basophils                      (4 mks)
5. Explain the effect of placing red blood cells in
  - a) Hypotonic solution
  - b) Hypertonic solution              (4 mks)
6. Describe the Biuret test.    (4 mks)
7. State any four reasons for rearing laboratory animals. (4 mks)
8. State any four physical methods of humane killing of laboratory animals. 4 mks

9. (i) Differentiate obligate from facultative anaerobes (2 mks)  
ii) Define agglutination (2 mks)
10. Name any four types of laboratory animals concentrates. (4 mks)
11. Explain the meaning of the following terms.  
(i) Phagocytosis  
(ii) Lymphocytes (4 mks)
12. (a) Name any two method of disposing carcasses (2 mks)  
(b) Name any two types of cells involved in innate immune system. (2 mks)
13. Distinguish between passive acquired immunity and active acquired immunity. (4 Mks)
14. Draw a labeled diagram of  
(i) A neutrophil  
(ii) A monocyte
15. Name four organs involved in immune system. (4 mks)

## **SECTION B (40 mks)**

### **Answer any two questions in this section**

16. (a) Discuss hamsters with respect to  
(i) Sexing  
(ii) Breeding cycle  
(iii) Humane killing (14 mks)
- (b) Outline the proper disposal of carcass after observation (6 mks)
- 17.(a) Outline the procedure of using an autoclave to sterilize substances. (10 mks)  
(b) Describe precaution during bacterial culturing process. (10mks)
18. Outline the procedure of dissecting a rat (20 mks)

