

**MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**P.O. Box 972-60200 – Meru-Kenya.**

**Tel: 020-2069349, 061-2309217. 064-30320 Cell phone: +254 712524293, +254 789151411**

**Fax: 064-30321**

**Website:** [**www.must.ac.ke**](http://www.must.ac.ke) **Email:** **info@must.ac.ke**

**University Examinations 2014/2015**

**THIRD YEAR, SPECIAL /SUPPLEMENTARY EXAMINATION FOR BACHELOR OF SCIENCE IN PUBLIC HEALTH**

**HPP 3302: PRINCIPLES OF IMMUNOLOGY**

**DATE: OCTOBER, 2015 TIME:** $2 $**HOURS**

**INSTRUCTIONS:** *Answer questions* ***one*** *question and any other* ***two*** *questions*

**QUESTION ONE – (30 MARKS)**

1. Outline the different body defence cells involved in the first line immune defence mechanism. (6 Marks)
2. Define;
3. Immunogenecity (2 Marks)
4. Antigenicity (2 Marks)
5. Hypersensitivity (2 Marks)
6. Specificity (2 Marks)
7. List five different types of immunoglobulins. (5 Marks)
8. Briefly describe five cardinal signs of inflammation. (5 Marks)
9. CD4+ (T. helper cells) are key cells in the body’s acquired immune defence mechanism. Discuss. (6 Marks)

**QUESTION TWO – (20 MARKS)**

Discuss Autoselection in the thymus gland. (20 Marks)

**QUESITON THREE – (20 MARKS)**

1. Briefly discuss the principle behind antibody specificity and close reaction. (8 Marks)
2. With the aid of a diagram, discuss;
3. Unideterminant antigens (4 Marks)
4. Multideterminant antigens (4 Marks)
5. Distinguish between epitopes and paratopes. (4 Marks)

**QUESTION FOUR – (20 MARKS)**

1. Discuss four types of hypersensitivity reactions. (12 Marks)
2. Briefly describe four types of auto immune diseases. (8 Marks)