

**W1-2-60-1-6**

**JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY**

**UNIVERSITY EXAMINATIONS 2015/2016**

**EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN MEDICAL LABORATORY SCIENCE**

**MLS 2209: PRINCIPES OF IMMUNOLOGY**

**DATE:DECEMBER 2015 TIME: 2 HOURS**

**INSRUCTIONS:** Answer all questions in section A and section B. Answer any one question in section C. Illustrate where appropriate.

SECTION A: MULTIPLE CHOICE QUESTIONS. (20 MARKS)

1. It is true about MHC in humans.

a. It is located on chromosome 16.

b. Transplant rejection is determined by MHC proteins

c. Defends against fungal & bacterial infections.

d. It is involved in antibody dependent cellular cytotocisity.

2. The process by which leukocytes exit blood vessels into tissues is

a. Diapedesis

b. Osmosis

c. Active transplant

d. Diffussion

3. Distinctive markers on antigens that trigger an immune response

a. Haptens

b. Paratope

c. Epitope

d. Idoitype

4. The idea target of immune system is

a. Infectious organism

b. Allergens

c. Autoimmune disorders

d. Chemical agents

5. Who observed phagocytosis first?

a. Alexander Fleming

b. Robert Koch

c. Elie Metchnikoff

d. Edward Jenner

6. It is a generative lymphoid organ

a. Spleen

b. Lymph nodes

c. Appendix

d. Thymus

7. Acute phase proteins in innate immunity are produced by

a. Kidney cells

b. Liver cells

c. Neutrophilis

d. YK cells.

8. The class to which an antibody molecule belongs to is determined by

a. Its light chain

b. Fab fragement

c. Its heavy chain

d. Disulphide bonds

9. HLA is

a. Located on chromosome 26.

b. Found on opsonins

c. Synonymous with MHC

d. Environmentally acquired

10. Tears contain

a. Macrophages

b. IgA

c. Opsonins

d. IgG.

11. Injection of IgG to protect against hepatitis is an example of

a. Natural active acquired immunity.

b. Natural passive acquired immunity

c. Artificial active acquired immunity

d. Artificial passive acquired immunity.

12. Immunoglobulin that posse a J chain

a. 1gG

b. 1gM

c. 1gD

d. 1gE

13. The spleen is involved in

a. Antigen dependent maturation of erythrocytes.

b. Graft rejection

c. Collection of antigens from blood

d. Transport of cellular products.

14. Predominant antibody in body fluids and secretions.

a. 1gE

b. 1igD

c. 1igG

d. 1gA

15. Cells that require education and maturation in thymic gland

a. B-lymphocytes

b. NK cells

c. T-lymphocytes

d. Easinophils

16. Cells identical to basophils in tissue

a. Mast cells.

b. NK cells.

c. Eosinophils

d. Dendritic cells

17. Features of inflammation

a. Vomiting

b. Nausea

c. Diarrhoea

d. Reddening

18. MHC class I molecules are associated with

a. Easinophils

b. T-helper cells.

c. T cytotoxic cells

d. Neutrophils

19. Edward Jenner is associated with the discovery of

a. Small pox vaccination

b. Pasterization of milk

c. Process of phagocytosis

d. BCG development

20. Primary function of natural killer cells.

a. Mucosal immunity

b. Parasitic infection

c. Defense against viral infections

d. Transplacental transfer.

SECTION B SHORT ANSWER QUESTIONS (30 MARKS)

21. Explain lymphocyte traffic and recirculation. (6 marks)

22. Explain the structure and function of MHC class I molecules. (6 marks)

23. Outline differences between B lymphocytes and T-lymphoctyes. (6 marks)

24. Write short notes on immunoglubin G (1gG) (16 marks)

25. Explain major classes of antigens (6 marks)

SECTION C ESSAY TYPE QUESTIONS.

26. Write a detailed essay on immunity. (20 marks)

27. Discuss the ontogeny, morphology and functions of cells. (20 marks)

28. Discuss theories of mechanisms of generation of antibody diversity. (20 marks)