TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Applied and Health Sciences

DEPARTMENT OF MEDICAL SCIENCES

DIPLOMA IN MEDICAL LABORATORY SCIENCES
(DMLS)

AML 2220 : IMMUNOLOGY I

SPECIAL/SUPPLEMENTARY : EXAMINATIONS

SERIES: OCTOBER 2013

TIME: 2 HOURS

INSTRUCTIONS:

You should have the following for this examination

- *Answer booklet*

This paper consists of **TWO** sections.
Answer all questions in **Section A** and **B.** ½ marks deducted for any wrong answer in **Section A**.

*This paper consists of **9** **PRINTED** pages*

SECTION A MCQ (40MARKS)

1. The following is not function of CD4-T-helper cells

   a) Helps a cytotoxic cell kill a virus through production of cytokines

   b) Synthesize antibodies

   c) Activate macrophages

   d) Activates phapocytosis

   e) Comes into contact with B – Cells and activate

2. The following statements is not true about $^{\alpha}$ -defensins

   a) Are anionic proteins

   b) Are cationic proteins

   c) Are antibiotic peptides

   d) Are Rich in arginine

   e) Have aptoptic ligans

3. Which of the following is a substance that acts as a danger signal to phapocytes and release protective inflammatory responses

   a) Exogenous polysachride

   b) Endogenous heat protein – 60

   c) Endogenous polysacetiande

   d) Exogenous cold protein – 60

   e) Endogensus cold protein – 60

4. Lysis in membrane attack complex is due to

   a) Net preflux of Na+ and water into the cell

   b) Activation of compliments

c) Sepuential activities

d) Lack of ampipathic molecules

e) Polymezation

5. Activation of the actin mysin contractile system which extendeds pseudopods around particles is achieved by

a) Adivated phayocyte cells

b) Activated microbe

c) Destruction phase

d) Lymphocytes

e) Basophils

6. Which of the following does not explain extracellular killing by natural killer cells

a) Perform

b) Granyme

c) Apoptosis

d) Allergy

e) Phagucytsis

7. The following events are true about acute inflammatory response except

a) Redness

b) Accumulation of neutrophils

c) Exuclation of plasma proteins and fluids

d) Capillary dilalation

e) Allergy

8. Which of the following induces an immune response

a) Precipitin

b) Haemolysin

c) Immunogen

d) Antibody

e) Agglutinin

9. Which of the following are lymphoid cells

a) Mast cells

b) Plasma cells

c) Memmory cells

d) Macrophages and lymphocytes

e) Blast cells

10. The following are not PAMPS linked to extracellular infection

a) Myco bacteriaum glycolipids

b) Yeast all wall mannans

c) Gram negative lipopoly saccharides

d) Double stranded RNA in RNA viruses

e) Gram positive lipotechoic acids

11. The following is not a preformed phagocyte antibacterial

a) Low pH

b) Lacto ferrin

c) Nectral proteases

d) Protrenol

e) Bacteria permeability increasing protein

12. Which of the following is found in the while pulp of the spleen

a) B and T –lymphocyte

b) Kupeffer cells

c) Alveolar cells

d) Langham's cells

e) Myoglial cells

13. The following is a factor that influences Immuno genecity

a) Physical form

b) Size

c) Degradability

d) Genetic factors

e) All of the above

14. T-independent antigens to stimulate production of antibodies from B- lymphocytes requires

a) CD5

b) CD8

c) CD4

d) Natural killer cells

e) Null cells

15. Antibodies potent in precipitation and agglutination reactions are

a) IgG and IgM respectively

b) IgG and IgA respectively

c) IgM and IgE respectively

d) IgG and IgD respectively

e) IgM and IgA respectively

16. Phagocyte region in an antibody is

a) Ciq

b) CH_3

c) FC

d) $F(ab)^2$

e) Fab

17. The following is a substance that enhances immune response to an immunogen

a) Boosters

b) Adjurants

c) Additives

d) Minerals

e) Enhances

18. The following agents cannot acticate properdin

a) Zymusan

b) Yeast cells

c) Snake venom

d) Lipopolypsaccharide

e) Sandarac resin

19. Exocrine and honcytotrophic immunoglobular are

a) IgA

b) And IgE

c) Respectively

d) IgG and IgE respective

e) IgA and IgE respective

20. Which of the following true about the fab option of an antibody

a) Has light chains

b) Has heavy chain domain

c) Has heavy drain

d) Has CH1 domain

e) All of the above

21. Anamnestu Response antibody is

a) IgA

b) IgE

c) IgD

d) IgG

e) IgM

22. Polymeric structure in T-Indepent antigens means

a) Have same repeated epitopes many times

b) Have allotypes

c) Have idiotypes

d) Have Xenotypes

e) Have Isolypes

23. The following is not a lymphoid organ

a) Kidney

b) Liver

c) Bonemarrow

d) Ionsil

e) Spleen

24. Enzymes responsible for splitting C_3 in classical pathway of complement activation and alternate pathway of complement activation are

a) C4b2a and CebBPb

b) Ceb2a and C3bPB

c) C154b and C4

d) C4b2a3b and C2

e) C4n2a and C3bDB

25. The following statement is false about adaptive immunity

a) There is recognition memory and specificity

b) It is based on rallies, species and individual

c) It is long lived

d) It is not rapid

e) It is flexible

26. The following is released by injured cells which become needle

a) Endogenous heat protein – 60

b) Exogenous protein

c) Endogenous polysaccharide

d) Cross reactive antigens

e) Allergen

27. Etracellular killing of parasites by C36 bound Eusinophila is effected by release of the following except

a) Amino transferases

b) Major basic proteins

c) Arysulfatase B

d) Phospholipase

e) Peroxidase

28. Lipid A musty of the lipopolysaccharide serves as

a) Toll like receptor

b) Pattern recognition receptor

c) Intibitor

d) Ligand

e) Pathogen associated molecules pattern

29. Alternate pathway of complement cultivation antibodies are

a) IgE and IgA

b) IgG and IgM

c) IgE and IgM

d) IgE and IgG

e) IgD and IgM

30. Adivated mast cells needtrophils and macrophages release

a) Leukotriene B4

b) ECF

c) NCF

d) PAF

e) Insulin

31. Self components from non self components are recognized and signaled by

a) PRRs and PAMPs respectively

b) TLRs and PRRs respectively

c) Prostaglandin and PRRs respectively

d) Histamine and leucotriene by respectively

e) LPS and PAMPs respectively

32. B-lymphocytes are synthesized in the bone marrow and matures ins

a) Bursa of tabricus

b) Bone marrow

c) Bursa equivalent

d) Thymus gland

e) Liver

33. The following are components of innate immunity except

a) Complement

b) Phapocytes

c) Zinc

d) Spermina

e) Stool

34. The movement of neutrophils through gaps between the endothelial cells is called

a) Chemo tasis

b) Diapedesis

c) Anapthylaxis

d) Inflammation

e) Phapocytosis

35. The following statements are true except

a) Toxoids are detoxified toxins

b) Antiloxin act immediately

c) Toxoids do not act immediately

d) Antitoxins are antiserum

e) Toxoids act immediately

36. Antibody linked to antinuclear is

a) IgD

b) IgE

c) IgM

d) IgA

e) IgG

37. Classical pathway antibodies are

a) IgM and IgG

b) IgE and IgA

c) IgM and IgD

d) IgA and IgM

e) IgG and IgD

38. Destruction of commensals in the gut should be avoided to prevent

a) Death

b) Opportunistic infection

c) Depletion of nutrients

d) Dress

e) Bacterial infection

39. Individuals with altered genes that codes for the receptors for the antigens in the B-cells and T-cells may suffer from

a) Allergy

b) Stress

c) Depression

d) Immunosuppression

e) Willson disease

40. The following antibodies were not discovered in myeloma proteins except

a) IgA

b) IgE

c) IgD

d) IgM

e) IgG

SECTION B ESSAY (60marks)

1. (a) State the roles of the following

(i) Interferons

(ii) Natural killer cell

(iii) Toll lice Receptors

(iv) Eyomophils **(8marks)**

(b) Outline the role of

(i) B-Cell

(ii) T-Cells

(6marks)

(c) Cure

(i) 4 properties of innate immunity **(2marks)**

(ii) 4 properties of Acquired immunity **(2marks)**

(iii) 4 types of Acute phase proteins **(2marks)**

2. Describe

a) Classical pathway of complement cultivation **(10marks)**

b) Killing mechanism in phagocytoris **(8marks)**

c) Dendrite cell **(2marks)**

3. a) Define

(i) Adjusantiatry

(ii) Immunology **(3marks)**

b) Describe FOUR types of immunoglobulin **(12marks)**

c) Describe factors influencing immunogenicity **(5marks)**