TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF MEDICAL SCIENCES

UNIVERSITY EXAMINATION FOR:

BMLS 15M PT/BMLS 14S PT

AML 4304: IMMUNOPATHOLOGY

END OF SEMESTER EXAMINATION

SERIES:APRIL2016

TIME:2HOURS

DATE: Pick DateMay2016

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **TWO**Section(s). AttemptALL questions.

Circle the correct answer in section A.

Exam 1

Section A

Q1. The following are examples of T cell mediated diseases except

a) Type I diabetes
b) Autoimmune myocarditis
c) Multiple sclerosis
d) Pernicious anemia
e) Peripheral arthritis

Q2. Which of the following must take place for mast cells to be activated after sensitization?

a) Expression of co-receptors
b) Expression of co-stimulatory molecules
c) Cross-linking of antibodies
d) Cross-linking of co-receptors
e) Degranulation

Q3. The following are examples of allergens except?

a) Pollen protein molecules
b) House dust mites
c) Animal dander
d) Fish protein molecules
e) DNA molecules

Q4. Which of the following is a major development factor for Eosinophils?

a) IL-1
b) IL-2
c) IL-3
d) IL-4
e) IL-5

Q5. Which of the following is a normal response when a lymphocyte is exposed to microbes?

a) Anergy
b) Proliferation
c) Apoptosis
d) Receptor down modulation
e) Receptor editing

Q6. Which one of the following is necessary for maintaining unresponsiveness to thymus-independent self antigens?

a) Central tolerance
b) B cell tolerance
c) T cell tolerance
d) Peripheral tolerance
e) None of the above

Q7. Which of the following determines whether a patient has antibodies that react with donor leukocytes?

a) Tissue typing
b) Polymerase chain reaction
c) Cross matching
d) Western blotting
e) ABO blood typing

Q8. Which of the following arise from uncontrolled proliferation and spread of clones of transformed cells?

a) Hypersensitivity reactions
b) Cancers
c) Immunological Tolerance
d) Autoimmunity
e) Infections

Q9. Which of the following antibodies cause hyperacute rejection in transplantation between non-compatible blood group individuals?

a) IgG
b) IgD
c) IgM
d) IgA
e) IgE

Q10. Which one of the following is true of the polymorphic genes that determine rejection of transplanted organs?

a) They are initially expressed during puberty
b) They are expressed on all cell types
c) They are expressed in male children
d) They are co-dominantly expressed
e) They are randomly expressed

Q11. Which of the following is the single most important goal in preventing transplantation rejection?

a) To suppress the immune system of the host.
b) To augment the immune responses of the recipient
c) To induce donor specific tolerance
d) To augment the immune system of the host
e) To suppress the immune system of the recipient

Q12. Ataxia telangiectasia is characterized by the following except?

a) Abnormal gait
b) Neurologic deficits
c) Increased incidence of tumors
d) Cardio malformations
e) Immunodeficiency

Q13. Which of the following is acentral feature of the normal immune system?

a) Specificity
b) Diversity
c) Memory
d) Self tolerance
e) Antigen recognition

Q14. Which of the following explain why once an autoimmune disease has developed, it tends to be chronic and often progressive?

a) Receptor editing
b) Antigenic variation
c) Epitope spreading
d) Antigen masking
e) Affinity maturation

Q15. Neutralizing antibodies against HIV's gp120 develop how long after primary infection?

a) 20 days
b) 2 to 3 months
c) 6 months
d) 12 months
e) 2 years

Q16. Which of the following is the most common drug for allergic rhinitis?

a) Anti-histamines
b) Concanavalin A
c) Corticosteroids
d) Azarthioprine
e) Rapamycin

Q17. Which of the following is a factor that determines the growth of tumors?

a) Ability to engulf other cells
b) Ability to secrete cytokines
c) Ability to evade the host defense mechanisms
d) Ability to secrete chemotactic factors
e) Ability to destroy other cells

Q18. The following are used by macrophages to destroy tumor cells except?

a) Reactive nitrogen species
b) Lysosomal enzymes
c) Hydrochloric acid
d) Reactive oxygen species
e) Nitric oxide

Q19. Which of the following is the principal adaptive immune defense mechanism against tumors?

a) Killing of tumor cells by CD8+ T cells
b) Killing of tumor cells by $CD4^+$ T cells
c) Killing of tumor cells by macrophages
d) Killing of tumor cells by NKT cells
e) Killing of tumor cells by NK cells

Q20. The following are effector mechanisms of antibody mediated diseases except?

a) Opsonization and phagocytosis
b) Complement mediated inflammation
c) Receptor mediated inflammation
d) Antibody dependent cellular cytotoxicity
e) Antibody stimulation of receptors without ligands

Q21. Which of the following is the clinicopathologic manifestation of poststreptococcal glomerulonephritis?

a) Vasculitis
b) Nephritis
c) Arthritis
d) Conjunctivitis
e) Kidney vesicles

Q22. Which of the following molecules determine rejection?

a) MICB molecules
b) CD1 molecules
c) CD8 molecules
d) MICA molecules
e) MHC molecules

Q23. Which of the following determines whether the patient has antibodies that react specifically with the donor red blood cells?

a) Tissue typing
b) Polymerase chain reaction
c) Cross matching
d) Western blotting
e) ABO blood typing

Q24. Which of the following complement by-products activates neutrophils to mediate inflammation?

a) C3b
b) C4a
c) C4c
d) C5a
e) C6b

Q25. Which of the following is an immunotherapy strategy for atopic diseases?

a) Systemic administration of anti-IgE antibodies
b) Systemic administration of anti-IgM antibodies
c) Systemic administration of anti-IgD antibodies
d) Systemic administration of anti-IgG antibodies
e) Systemic administration of anti-IgA antibodies

Q26. The following determines the growth of malignant tumors except

a) The proliferative capacity of the tumor cells
b) The ability of the tumor cells to invade the immune system
c) The ability of the tumor cells to metastasize to distant sites
d) The ability of the tumor cells to overcome the host defense mechanisms
e) The ability of the tumor cells to produce many clones of themselves

Q27. The concept of immune surveillance was proposed by which of the following?

a) Francis Crick
b) Louise Pasteur
c) Macfarlane Burnet
d) Ellie Metchinkov
e) Edward Jenner

Q28. Which of the following is a hallmark of allergic diseases?

a) Activation of CD4+ Th2 cells
b) Activation of CD8+ CTL cells
c) Activation of mast cells
d) Activation of macrophages
e) Activation of M cells

Q29. Which of the following is the dissociation constant of the interaction between FcεRI and IgE molecules?

a) $1x10^{-1}$ M
b) $1x10^{-4}$ M
c) $1x10^{-6}$ M
d) $1x10^{-8}$ M
e) $1x10^{-10}$ M

Q30. The following are produced by mast cells on activation except?

a) IL-3
b) IL-4
c) TNF
d) IL-10
e) IL-13

Section B

Q31.

a) Explain four general features of immunodeficiency diseases (10 marks)
b) Describe four therapeutic approaches for congenital immunodeficiency disorders (10 marks)

Q32. Discuss factors that determine the following

a) Immunogenicity to self antigens (10 marks)
b) Tolerogenicity to self antigens (10 marks)