TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF MEDICAL SCIENCES

UNIVERSITY EXAMINATION FOR:

CMLS

AML 1108: MEDICAL VIROLOGY1

END OF SEMESTER EXAMINATION

SERIES: AUGUST2017

TIME: 2HOURS

DATE: Pick DateSelect Month2017

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.

Section A

1. Viral capsid is
   a) The outer most protein coat of a virus
   b) The viral protein coat enclosing viral genome
   c) A viral protein coat with some peplomers
   d) The protein coat responsible for viral antigenicity in naked viruses

2. Haemadsorption is
   a) Attachment of viruses on erythrocytes
   b) Attachment of erythrocytes on to infected cells
   c) Is limited to haemagglutinin positive viruses only
   d) Is limited to haemagglutinin negative viruses only

3. Magnus phenomenon is
   a) When viral yield has high haemagglutinin titre
   b) When viral yield has high haemagglutinin titre but low infectivity

c) When viral yield has high infectivity but low haemagglutinin titre
d) Is an effect of abnormal replicative cycle

4. The following are enveloped viruses except
   a) Influenza virus
   b) Herpes simplex virus
   c) Yellow fever virus
   d) Rhino viruses

5. The following are functions of the viral Capsid except
   a) Acts as source of stimuli for antibody production
   b) Genome protection
   c) It forms part of viral virulence devices
   d) It can be used for viral classification

6. Which of the following is not a member of flaviviridae family
   a) Yellow fever
   b) Western Equine Encephalitis
   c) Dengue fever
   d) Hepatitis C virus

7. The following undergoes DNA/RNA intermediate form before transcription of mRNA
   a) Human T- lymphotrophic virus
   b) Hepatitis B virus
   c) Crimean- congo haemorrhagic fever virus
   d) Human Immunodeficency virus

8. Rabies virus is transmitted via
   a) Faecal oral route
   b) Vector bites
   c) Canine bites
   d) Respiratory droplets

9. The following belongs to the Bunyavirdae family of viruses
   a) Phleboviruses
   b) Sandfly fever
   c) Nairobi Sheep Disease
   d) Zika viruses

10. The following viral diseases are spread by respiratory droplets
    a) Smallpox
    b) Adeno viruses
    c) Coxsackie
    d) Hawaii virus

11. Which of the following belongs to the family of Retro viruses
    a) Hepatitis B virus
    b) Herpes simplex virus
    c) HIV

d) Rotavirus

12. Interferons are
    a) Viral coded glycoproteins that inhibit replication
    b) Host coded glycoproteins produced in response to virus infection on other inducers
    c) Host coded glycoproteins involved in the 1st line defence.
    d) Host coded lipoprotein receptors

13. The Dane particlce is also known as
    a) Adeno virus
    b) Herpes virus
    c) Hepatitis B virus
    d) Marburg virus

14. Which of the following is not a component of cell mediated immunity?
    a) T cytotoxic cells
    b) T neutralising cells
    c) T helper cells
    d) T suppressor cells

15. The largest viruses are found in the family of
    a) herpes viruses
    b) hepadeno viruses
    c) orthomyxoviruses
    d) pox viruses

16. Viral size can be determined through the following except
    a) use of electron microscope
    b) use of colloidin membrane filters of graded pore size
    c) use of ultracentrifugation
    d) use of mass spectrometer

17. The following are characteristics of viruses except
    a) viruses are acellular
    b) lack cellular organization
    c) can exist independently outside their host
    d) contain either RNA or DNA

18. Which of the following are rod shaped viruses
    a) Ebola
    b) Marburg
    c) Rhabdo viruses
    d) Small pox

19. The major determinant of host range in viruses is
    a) Viral DNA
    b) Viral envelop
    c) Viral capsid

d) Viral surface receptors

20. Bacteriophages are
    a) Viruses that infect animals
    b) Viruses that invade the respiratory system
    c) Bacteria that infect viruses
    d) Viruses that infect bacteria

21. One of the following is an Oncogenic virus
    a) Marburg
    b) Influenza A
    c) Rous sarcoma
    d) Reo viruses

22. One of the following is true about the defective viruses
    a) They replicate in host cells
    b) They are infective outside the host cells
    c) Hepatitis delta virus is only infective in the presence of Hepatitis B virus
    d) Maintain and synthesise proteins for viral assembly

23. The polio virus is transmitted through
    a) Respiratory droplets
    b) Contact with body fluids
    c) Vector transmission
    d) Faecal oral transmission

24. Which of the following best describes a virus

    a) A unicellular microorganism lifeless on its own
    b) An enveloped parasitic organism
    c) An obligate intracellular DNA and RNA parasite
    d) An obligate parasite which can led an independent life

24. Which of the following viral infections are spread by mosquitoes
    a) Rift valley fever
    b) Ebola virus
    c) HIV viruses
    d) Hepatitis B viruses

25. Viral symmetry is a function of
    a) Viral envelop
    b) Viral genome
    c) Viral Capsid
    d) Viral Peplomers

26. The mode through which bacteriophage penetrate their host is
    a) Pinocytosis
    b) Phagocytosis
    c) Direct infection by viral genome
    d) Viropexia

27. The following are classes of interferon except
    a) α- interferon
    b) β- interferon
    c) Gamma- interferon
    d) Lambda- interferon

28. Viral oncogenes are
    a) Malignancy inducing genes
    b) Viruses responsible for skin infections
    c) Viruses that code for viral Capsid proteins
    d) Cause high infection in latent face

29. The following are Double stranded DNA viruses
    a) Small pox
    b) Dane particles
    c) JC viruses
    d) Rotaviruses
30. Innate immunity consists of the following except
    a) Body temparatures
    b) Mucocillia and skin
    c) Immunoglobulins
    d) Natural killer cells
31. In the laboratory, microbes may get to the body through
    a) Scratched skin
    b) Eyes
    c) Eating
    d) All of the above
32. Which of the following if true of microbes in risk group IV?
    a) They include encephalitis viruses
    b) They include arthropod borne viruses
    c) They cause serious diseases
    d) All of the above.
33. Which of the following cells can be infected by HIV?
    a) T_h cells
    b) Intestinal epithelium
    c) Antigen presenting cells
    d) Brain cells
34. Viruses may be classified on the basis of the following except
    a) Nucleic acid strand
    b) mRNA production
    c) Protein synthesis
    d) Number of capsomers
35. The following would be MOST resistant to UV light
    a) RNA
    b) Delta viruses
    c) DNA
    d) prions
36. Viral pathology is mostly attributed to

a) Bacterial co-infection
b) Viral replication processes
c) Accumulation of viral toxins
d) Immune molecules activity

37. The largest virus may be about

a) 30 nm
b) 300 nm
c) 20 nm
d) 200 nm

38. In biosynthesis,

a) The viral nucleic acid is degraded into smaller fragments
b) Transcription of mRNA takes place
c) Bacteriophage nucleic acid is taken into the nucleus.
d) Viral proteins may be produced

39. The following are shapes of viruses except

a) Spherical shape
b) Head and tail
c) ring shape
d) Rod shape

40. What is the final step before virion release in naked viruses

a) Synthesis of late viral proteins
b) Viral genome replication
c) Viral budding processes
d) Viral assembling processes

Section B

1. Classify the viruses using the following -

a) Taxonomical system (6mks)
b) Structural properties (6mks)
c) Baltimore classification system (8mks)

2. Discuss the various routes of viral transmission citing two relevant examples under each route (20mks)

3. a) Outline the differences between the killed and live attenuated vaccines (10mks)

b) Draw well labelled illustrations of enveloped and naked virus (10mks)