



**TECHNICAL UNIVERSITY OF MOMBASA**  
**FACULTY OF APPLIED AND HEALTH SCIENCES**

**DEPARTMENT OF MEDICAL SCIENCES**

**UNIVERSITY EXAMINATION FOR:**

**BMLS**

**AML 4201: MEDICAL VIROLOGY**

**END OF SEMESTER EXAMINATION**

**SERIES: APRIL 2016**

**TIME: 2 HOURS**

**DATE:** Pick Date Select Month Pick Year

**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). Attempt **ALL** questions.

**Circle the correct answer in section A.**

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Section A

1. Which of the following viruses will readily grow in the allantoic membrane of an embryonated egg?
  - a. Herpes
  - b. Pox
  - c. Newcastle
  - d. Influenza
  - e. Mumps
2. Which of the following statements is true about an infectious virus particle?
  - a. is composed of RNA and DNA only
  - b. must have a nucleic acid composed of host protein
  - c. don't need attachment to initiate infection
  - d. is composed of DNA or RNA genetic material
  - e. none of the above
3. The virus component forming the basis of ether sensitivity is.....
  - a. Nucleocapsid

- b. Capsomers
  - c. Envelop
  - d. Capsid of enveloped viruses
  - e. Viral attachment proteins
4. An example of a virus exhibiting a rod shaped morphology is
    - a. Rabies virus
    - b. Pox virus
    - c. Ebola virus
    - d. Parainfluenza virus
    - e. Hepatitis B virus
  5. The major determinant of host range in viruses is.....
    - a. Viral DNA
    - b. Viral envelop
    - c. Viral capsid
    - d. Viral surface receptors
    - e. Viral RNA
  6. 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
    - e. A' and 'c' respectively
  7. The polio virus is transmitted through.....
    - a. Respiratory droplets
    - b. Contact with body fluids
    - c. Vector transmission
    - d. Faecal oral transmission
    - e. Direct contact
  8. Viral symmetry is a function of.....
    - a. Viral nucleic acid
    - b. Viral capsid
    - c. Viral envelop
    - d. Viral genome
    - e. Viral toxins
  9. Viral cytopathic effects are associated with.....
    - a. Accumulation of viral toxins
    - b. Bacterial co-infections
    - c. Viral death
    - d. Viral replication processes
    - e. Antiviral drugs
  10. Which of the statements below best describes a virus
    - a. A unicellular microorganism lifeless on its own
    - b. An enveloped or naked parasitic organism

- c. An obligate intracellular DNA or RNA parasite
  - d. The smallest living parasite
  - e. An obligate parasite which can lead an independent life
11. Below are some of the ways used to estimate viral size. Which one is not.
- a. Use of electron microscope
  - b. Use of colloidin membrane filters of graded pore size
  - c. Use of available receptors on the surface of the virus
  - d. Comparative Measurements
  - e. Sedimentation in the Ultracentrifuge
12. Which one of the phases is not included during viral growth
- a. Eclipse period
  - b. Initial adsorption
  - c. Latent phase
  - d. Decline phase
  - e. Synthetic phase
13. What is a viral capsid as?
- a. A viral protein coat full of peplomers
  - b. A viral protein coat enclosing the viral genome
  - c. The outermost protein coat of a virus
  - d. Outer protein coat responsible for viral antigenicity viruses
  - e. A viral glycoprotein coat made of host proteins
14. Viral genome is
- a. The genetic makeup of a virus
  - b. The molecular entity of a virus
  - c. The nucleocapsid in enveloped viruses
  - d. The composition of viral particle
  - e. The transcription enzymes
15. Viral envelope is chiefly made of.....
- a. Lipoproteins, proteins
  - b. Lipoproteins and lipids
  - c. Proteins and viral specific glycoproteins
  - d. Glycoproteins, lipoproteins and lipids
  - e. Viral specific glycoproteins
16. The correct sequence of events in viral replication is
- a. Attachment-uncoating-replication transcription
  - b. Adsorption-uncoating-entry-assembling
  - c. Uncoating-transcription-assembling-release
  - d. Adsorption-assembling-synthesis-budding
  - e. Adsorption-biosynthesis-uncoating-release
17. The classical receptor site for gp 120 is
- a) CD3
  - b) CD4
  - c) CD8

- d) CD2
- e) CD5

18. In the laboratory, microbes may get to the body through

- a. Scratched skin
- b. Eyes
- c. Eating
- d. Needle sticks
- e. All of the above.

19. Which of the following is true of microbes in risk group IV?

- a. They include encephalitis viruses
- b. They include arthropod borne viruses
- c. They cause serious diseases
- d. They do not have any prophylaxis
- e. All of the above.

20. Which virus can produce plaques on the CAM of embryonated eggs

- a. Smallpox
- b. Influenza
- c. Rotavirus
- d. Ebola virus
- e. Zika virus

21. Which of the following cells can be infected by HIV?

- a. T<sub>h</sub> cells
- b. Intestinal epithelium
- c. Antigen presenting cells
- d. Brain cells
- e. T<sub>c</sub> cells

22. Cells respond to viral infection in different ways, which one is not

- a. Neutralisation
- b. Death
- c. No apparent change
- d. Transformation
- e. All the above

23. Direct cell damage and death due to viral infection may result from

- a. Inflammation
- b. Host immune response
- c. Integration of the viral genome
- d. Diversion of the cells energy
- e. Induction of mutations in the host genome

24. Which of the following drugs inhibits viral penetration

- a. Amantidine
- b. Aspirin
- c. Ribavirin

- d. Forscanet
- e. stavudine

25. 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
- e. Viral uncoating is completed

26. The following statements are true about viral multiplication except

- a. May lead to cell death
- b. Occurs only in living cells
- c. May lead to synthesis of toxins.
- d. May take place without apparent host cell damage
- e. May transform the cell

27. Which of the following is true about viral adsorption?

- a. The ligands confer specificity
- b. Its occurs after viral entry into host cell
- c. The viral nucleic acid is released
- d. It is enhanced by magnesium salts
- e. It contributes to the abnormal replicative cycle

28. Which of the following would be MOST resistant to UV light

- a. RNA
- b. Delta viruses
- c. DNA
- d. Proteins
- e. prions

29. Which of the following is not a class of DNA virus?

- a. Hepadna viruses
- b. Pox viruses
- c. Retroviruses
- d. Picornaviruses
- e. Parvoviruses

30. Which of the following viral diseases are most likely to be characterised by skin lesions?

- a. Polio viral infection
- b. Rabies viral infection
- c. Measles
- d. Shingles
- e. Cytomegalovirus infection

## Section B

31. a) Outline ten advantages and disadvantages of live attenuated versus killed vaccines (10mks)

b) Describe the various outcomes of viral interactions (10mks)

32. a) Discuss the effects of virus replication on the host (15mks)

b) Draw a well labelled viral replication curve (5mks)