



**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.**

Section A

- 1) What are interferon's?
  - a. Viral coded glycoproteins that inhibit replication
  - b. Host coded glycoproteins produced in response to virus infection or other inducers
  - c. Host coded glycoproteins involved in the 1<sup>st</sup> line defence
  - d. Host coded lipoprotein receptors
  - e. Viral receptors
- 2) Which of the following describes the mechanism of action of Rifamycin
  - a. Inhibits reverse transcription
  - b. Inhibits translation of late mRNA
  - c. Inhibits viral attachment
  - d. Inhibits viral assembling processes in Pox virus
  - e. Inhibits viral uncoating
- 3) Creutzfeldt-Jacob disease is thought to be caused by
  - a. Pox virus
  - b. Paramyxovirus

- c. Rift valley virus
  - d. Prions
  - e. Dane particle
- 4) What are oncogenic viruses?
- a. Are transformed virus
  - b. Viruses that induce transformation
  - c. Abnormal viruses
  - d. Bacteriophage activating viruses
  - e. Viruses that lyse the cells
- 5) Which of the following is not a RNA viruses
- a. Measles viruses
  - b. Toga viruses
  - c. Rabies viruses
  - d. Herpes viruses
  - e. Ebola virus
- 6) Viral host cell specificity is a function of
- a. Viral surface receptors
  - b. Viral genome
  - c. Viral polymerase
  - d. Viral nucleic acid
  - e. Viral capsid
- 7) An example of a respiratory virus is.....
- a. Adenovirus
  - b. Toga virus
  - c. Rhabdovirus
  - d. Reovirus
  - e. poxvirus
- 8) The dane particle is also known as
- a. Adeno virus
  - b. Herpes virus
  - c. Hepatitis B virus
  - d. Marburg virus
  - e. Influenza virus
- 9) Negri bodies are inclusion bodies found in infections caused by
- a. HIV
  - b. Human papilloma infection
  - c. Rabies infection
  - d. Herpes infection
  - e. Cytomegalovirus infection
- 10) Viral symmetry is a function of
- a. Viral envelop
  - b. Viral genome
  - c. Viral capsid

- d. Viral peplomers
  - e. Viral enzymes
- 11) Viral pathology is majorly attributed to
- a. Bacterial co-infection
  - b. Viral replication processes
  - c. Accumulation of viral toxins
  - d. Immune system reactions
  - e. Drug resistance
- 12) Which of the following virus will cause systemic infections
- a. Enteroviruses
  - b. Rhinoviruses
  - c. Rotaviruses
  - d. Papilloma viruses
  - e. None of the above
- 13) The final step before virion release in naked viruses is
- a. viral genome replication
  - b. synthesis of late viral protein
  - c. viral budding processes
  - d. Viral assembling processes
  - e. Late transcription
- 14) Which of the following statement is true about RNA dependent DNA polymerase
- a. Uses a DNA template to manufacture DNA
  - b. Uses a DNA template to manufacture RNA
  - c. Uses an RNA template to manufacture DNA
  - d. Is always contained in the virus concerned
  - e. Is a host cell enzyme
- 15) The eclipse period is a.....
- a. Period between uncoating and the formation of the first progeny virus
  - b. Period between onset of infection and the appearance of the first extracellular virus
  - c. Period when viruses are scarce extracellularly but in abundance intracellularly
  - d. Period during which no virus is found inside the cell
  - e. Period when the virus is abundant extracellularly
- 16) Which of the following statement is true about positive polarity RNA viruses
- a. The RNA'S becomes mRNA automatically during replication
  - b. Carry their own RNA dependent RNA polymerase
  - c. Depend on host cell RNA dependent polymerase
  - d. Their purified nucleic acid is infection if infected into the host cell
  - e. Replicate in the host cell nucleus
- 17) Which of the following is not a type of a cell culture
- a. Continuous cell cultures
  - b. Diploid cell cultures
  - c. primary cell cultures
  - d. Explant cell cultures

- e. All the above
- 18) An infectious nucleic acid is.....
- a. One which is contained in viruses lack viral polymerase
  - b. One which is contained in viruses that have viral polymerase
  - c. One which has a positive sense
  - d. One which has a negative sense
  - e. One which has small amounts of RNA
- 19) Which of the following statements best describes Haemadsorption
- a. Attachment of viruses on the 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
  - e. Phenomenon seen in abnormal replicative cycle
- 20) Which of the following statement is true about Azidothymidine
- a. Has nucleases activities
  - b. Inhibits transcription
  - c. Inhibits translation
  - d. Inhibit reverse transcription
  - e. Hinders viral assembly
- 21) The difference between killed and attenuated viral vaccines may not be
- a. Killed vaccines offers poor cellular immunity
  - b. Killed vaccines stimulate poor production of IgA
  - c. Killed vaccines are less safer than attenuated
  - d. Attenuated viral vaccines offer long lasting immunity than killed ones
  - e. Attenuated vaccines are given in a single dose
- 22) The mode through which Influenza virus penetrate their host is
- a. Pinocytosis
  - b. Phagocytosis
  - c. Membrane fusion
  - d. Viropexia
  - e. Locomotion
- 23) The largest viruses are found in the family of
- a. herpes viruses
  - b. hepadeno viruses
  - c. orthomyxoviruses
  - d. pox viruses
  - e. parvo viruses
- 24) Which of the following statement is true about viral surface antigens
- a. may help in developing the immune response
  - b. may help in viral identification
  - c. are always lipids in nature
  - d. form the basis of genome replication
  - e. are immunosuppressive in nature

- 25) viral replication cycle for animal viruses takes
- between 15 to 30minutes
  - between 15 to 30 seconds
  - between 15 to30 hours
  - around 45minutes
  - less than 20minutes
- 26) rod shaped viruses are found in the family of
- filo viruses
  - hepadna viruses
  - retro viruses
  - myxo viruses
  - pox viruses
- 27) Magnus phenomenon is.....
- when viral yield has haemagglutinin titre
  - when viral yield has high haemagglutinin titre but low infectivity
  - when viral yield has high infectivity but low haemagglutinin titre
  - a reduction in the amount of RNA in the virion
  - a genetically deficient virus particle
- 28) The main buffer employed in tissue culture media is
- Bicarbonate
  - Ethanoic acid
  - Biphosphate
  - Buffered water
  - None of the above
- 29) Tissue cultures are grown in stoppered vessels
- To prevent evaporation of medium
  - To prevent increase in pH of the medium
  - To prevent bacterial contamination
  - To prevent loss of oxygen to the atmosphere
  - To prevent carboxylation
- 30) Which of the following virus contains circular partially double stranded DNA
- small pox
  - Hepatitis B virus
  - Influenza virus
  - Herpes simplex virus
  - Hepatitis C virus

## Section B

31) a. Draw well labelled illustrations of an enveloped and naked virus. (8mks)

b. Classify the viruses using the Baltimore classification system citing appropriate examples of viruses in each class (12 mks)

32) a) Discuss the physical and chemical agents that viruses react to giving relevant examples (8mks)

b) Outline with examples the types of cell cultures (5mks)

c) Draw an embryonated egg showing the various sites which can support viral replication and examples of viruses which can grow in each site. (7mks)