



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF MEDICAL SCIENCES

UNIVERSITY EXAMINATION FOR:

BMLS

AML 4301 : MEDICAL VIROLOGY 11

END OF SEMESTER EXAMINATION

SERIES: AUGUST 2019

TIME: 2 HOURS

DATE: Pick Date Select Month 2019

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 (30mks)

1. Which of the virus below cannot be isolated from the chorio-allantoic membrane?
 - a. Herpes
 - b. Rous sarcoma virus
 - c. Influenza viruses
 - d. Pox viruses
 - e. Mumps

2. The most suitable site for intramuscular vaccine inoculation is?
 - a. Anterolateral aspect of the thigh
 - b. Deltoid area of the upper arm
 - c. Vento-gluteal
 - d. Anywhere in buttock
 - e. All of the above

3. Which of the immunization is a non-human Immunoglobulins preparation?
 - a. Hepatitis A immunization
 - b. Measles immunization
 - c. Rabies immunization
 - d. Rabies immunization
 - e. Mumps immunization

4. How rapid is 'rapid viral diagnosis' by molecular methods?
 - a. Within a working day for most laboratories
 - b. 25 minutes at the bedside
 - c. 3 day laboratory turnarounds
 - d. 1 hour laboratory turnarounds in special emergencies
 - e. One week after sample collection

5. Macroscopic lesions on the chorio-allantoic membrane of embryonated egg are produced by?
 - a. Influenza virus
 - b. Herpes simplex 1 virus
 - c. Polio virus
 - d. Adeno virus
 - e. Rous sarcoma virus

6. Herpes simplex type 11 is transmitted through-----.
 - a. direct contact with saliva and lesions
 - b. mother's milk
 - c. faecal-oral
 - d. Vector bite
 - e. Respiratory droplets

7. The following are direct detection methods except?
 - a. Single radial haemolysis
 - b. Polymerase chain reaction
 - c. Detection of rotavirus antigen in faecal specimen
 - d. Electron microscopy
 - e. Immuno electron microscopy

8. Which cell type plays a critical role in HIV and are responsible for the release of cytokines?
 - a. Helper T cells
 - b. Memory Cells
 - c. B Cells
 - d. Red blood cells
 - e. None of the above

9. Which of the following vaccines is/are given by the intra-muscular route?
- Influenza
 - BCG
 - Cholera
 - MMR
 - Varicella
10. Which of the following viral infection are most likely to be characterized by skin lesions?
- Polio virus
 - Rabies virus
 - Shingles
 - Rota virus
 - Cytomegalovirus
11. Triple vaccine for the prevention of virus infections protects against?
- Mycobacteria, pertussis and tetanus
 - Measles, Mumps and Rubella
 - Mycoplasma, Mycobacteria and Rabies
 - Mycoplasma, Mycobacteria and Rubella
 - Measles, Mycobacteria and Rabies
12. In infantile gastroenteritis diarrhoeal specimen is used for culture and also commonly used for
- Serological analysis
 - Immunofluorescent microscopy analysis
 - Electron microscopy analysis
 - Molecular analysis
 - Western blotting analysis
13. Corneal impressions may be taken from comatose patients suspected of?
- Keratitis
 - Rabies infection
 - Trachoma
 - Herpes simplex
 - Adenovirus serotype 71
14. Specimen for virus isolation in virus transport media should be?
- Kept at near to 4⁰c as possible
 - Frozen
 - Kept at 37⁰c
 - stored at -90⁰ c
 - Processed immediately

15. Live attenuated influenza vaccine is administered via which route?
- Intradermal
 - Intranasal
 - Oral
 - Deep subcutaneous
 - Scarification
16. Which of the viruses below fall under group 2 of hazard groups?
- Viral haemorrhagic fever virus
 - HIV
 - Herpes virus
 - Rabies virus
 - Ebola virus
17. Small pox can be grouped into?
- Group 1 hazard group
 - Group 2 hazard group
 - Group 3 hazard group
 - Group 4 hazard group
 - Group 1 and 2 hazard groups
18. Prions can be destroyed by-----?
- Autoclaving at 121⁰ c
 - Autoclaving at 80⁰ c for 18minutes as a single cycle
 - Tyndallization
 - Use of Lysol
 - Use of Jik
19. Negri bodies are pathophysiological features resulting from infection caused by-----
- Human Hepatitis virus
 - HIV
 - Rabies
 - Reovirus
 - Rous sarcoma virus
20. The following viruses can be controlled by use of vaccine except?
- Influenza virus
 - Polio virus
 - Rotavirus
 - Hepatitis B virus
 - Human immunodeficiency Virus

21. The urban form of yellow fever is transmitted between humans by?
- Aedes aegypti mosquito
 - Culex mosquito
 - Anopheles mosquito
 - Ixodes ticks
 - Mansoni mosquito
22. Which of the following arbovirus is most problematic in the world today?
- Dengue
 - Yellow fever
 - St. Louis encephalitis
 - West Nile
 - Japanese encephalitis
23. Which of the following families is not associated with Viral Hemorrhagic Fevers?
- Arenaviruses
 - Filoviruses
 - Bunyaviruses
 - Flaviviruses
 - Rhabdoviridae
24. Which one below is not a type of Ebola Virus?
- Ebola-Zaire
 - Ebola-Sudan
 - Ebola-Ivory Coast
 - Ebola congo
 - Ebola Reston
25. The following viruses are transmitted from Animal - arthropod vector – man except?
- Japanese encephalitis,
 - EEE,
 - WEE,
 - urban yellow fever
 - jungle yellow fever
26. The viruses below are in the family the Paramyxoviridae except?
- Para-influenza virus
 - Mumps virus
 - Measles
 - Rubella
 - Respiratory syncytial virus

27. Which of the following mediates an early response to viral infections by the innate

immune system?

- a. Complement components
- b. Vaccines
- c. T and B lymphocytes
- d. Cytokines
- e. Interferon's

28. Which of the following is a messenger that mediates the connection between the

innate and adaptive immune systems?

- a. Complement components
- b. Vaccines
- c. T and B lymphocytes
- d. Cytokines
- e. Interferons

29. T cells are made in the ____ and complete their differentiation in the ____.

- a. Spleen; Thyroid
- b. Spleen; Thymus
- c. Bone marrow; Thyroid
- d. Bone marrow; Thymus
- e. Bone marrow; Thalamus

30. Which of the following is not an Enterovirus?

- a. Polioviruses
- b. Coxsackie A viruses
- c. Coxsackie B viruses
- d. Echoviruses
- e. Hepatitis D

SECTION B (40mks)

41. a) Outline five control measures of each of the following viral infections

i. blood-borne viruses (5mks)

ii. Viral Hemorrhagic Fever (5mks)

b) Briefly discuss two genetic determinants of viral virulence (10mks)

42. a) Draw a well labelled diagram of an Embryonated egg and outline the viruses which are grown in various parts of the egg (10mks)
- b) Briefly discuss microbiological safety cabinets and how they are decontaminated (10mks)