



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. A type of cell culture that can reproduce for an extended number of generations and is used to support viral replication is a :

- a. Primary cell culture
- b. Continuous cell line
- c. Cell strain
- d. Diploid fibroblast cell
- e. Connective tissue

2. The following antiviral agents is active against the following virus

- a. Lamivudine and HIV
- b. Lamivudine and HBV
- c. Amantidine and Influenza B virus
- d. Ribavirin and RSV
- e. Acyclovir and HSV

3. Which of the following samples is considered satisfactory for isolation of influenza viruses?

- a. Peri-nasal swab
- b. Throat swab
- c. Nasopharyngeal secretion
- d. Sputum
- e. Buccal swabs

4. Viral specimen on transit should be kept at what temperature

- a. 37⁰c
- b. -70⁰c
- c. 4⁰c
- d. 2⁰c
- e. -90⁰ c

5. Which of the following confer(s) passive immunity:

- a. Hepatitis B vaccine
- b. MMR vaccine
- c. Hepatitis B immunoglobulin
- d. Infection with measles virus
- e. Sabin polio vaccine

6. Live attenuated vaccines are available against the following viruses

- a. Influenza A Virus
- b. Hepatitis B Virus
- c. Rubella Virus
- d. Yellow Fever Virus
- e. Varicella-Zoster Virus

7. Which statement is true about blood specimen for antibody testing in viral infections?

- a. Should be analyzed immediately after collection
- b. Should be collected in anti-coagulated vacutainers
- c. Should be collected in the chronic stages of the disease as possible
- d. Two sera specimen are necessary to detect the rise in the antibody titre
- e. Should be collected in plain vacutainer tubes

8. Which of the following is not a constituent of viral transport media?

- a. Buffered isotonic sodium chloride
- b. Antiviral agents
- c. Antifungal agents
- d. Antibiotics
- e. Proteins

9. Which of the following virus forms intranuclear inclusions?

- a. Rabies
- b. Ebola virus
- c. Varicella zoster virus
- d. Influenza virus
- e. Epstein Barr virus

10. The intracytoplasmic inclusions of rabies virus are known as

- a. LD bodies
- b. Negri bodies
- c. Guarneri bodies
- d. artifacts
- e. None of the above

11. Which of the following is not an example of a molecular diagnostic method?

- a. NASBA
- b. TMA
- c. ELISA
- d. RT-PCR
- e. LCR

12. Which of the following is not a direct method of specimen examination?

- a. Detection of IgM using immunofluorescence technique
- b. Detection of antigen using immunofluorescence technique
- c. Light microscopy for histological appearance
- d. Molecular techniques for genome analysis
- e. Antigen detection using immune electron microscopy

13. Which of the following is an example of a cell culture?

- a. Explants
- b. Animal cell culture
- c. Secondary cell culture
- d. Continuous cell culture
- e. Tissue culture

14. Which virus will grow in the amniotic sac of Embryonated eggs?
- Mumps
 - Herpes simplex
 - Paramyxovirus
 - Pox virus
 - HIV
15. The human virus that has been associated with Burkett's lymphoma (a malignant tumor of the jaw) is:
- Cytomegalovirus
 - Human papilloma virus
 - Retroviruses
 - Epstein- Barr virus
 - Herpes simplex virus
16. Eye infections characterized by swimming pool conjunctivitis is caused by?
- Measles virus
 - Adenovirus
 - Cytomegalovirus
 - Mumps
 - Rubella virus
17. German measles is caused by?
- Adenovirus
 - Measles virus
 - Rubella virus
 - Mumps virus
 - Paramyoxo virus
18. Immunoglobulins are made from the following except?
- In a laboratory from deactivated viruses and bacteria
 - From the plasma of a person in the acute phase of an infectious disease
 - From the pooled plasma of blood donors
 - From protein produced artificially in a laboratory
 - From treating red blood cells
19. Kopliks spots is a disease presentation of which viral disease?
- Measles
 - Rabies
 - Human papilloma
 - Small pox
 - Rubella

20. In the immune system:

- a. B lymphocytes secrete antibodies
- b. Vaccines provide passive immunity
- c. B cells stimulate T cells to produce antibodies
- d. Cell-mediated immunity is controlled by T lymphocytes
- e. Macrophages neutralize toxins

21. The presence of heterophile antibodies is associated with

- a. Hepadnavirus
- b. Herpes simplex virus
- c. Papovavirus
- d. Pox virus
- e. Paramyxovirus

22. Owl's eye inclusion in cells is a feature of

- a. Cytomegalovirus
- b. Parvovirus
- c. Adenovirus
- d. Human papilloma virus
- e. HIV

23. What type of a vaccine is Yellow fever vaccine?

- a. Toxoid
- b. Recombinant
- c. Live vaccine
- d. Live attenuated vaccine
- e. Killed vaccine

24. Which viral infection below can be classified as a laboratory acquired infection?

- a. Human papilloma virus
- b. Yellow fever
- c. Hepatitis B
- d. Rabies
- e. Adenovirus

25. Creutzfeldt-Jakob disease (CJD), kuru, scrapie, and Mad Cow disease are caused by:

- a. Viroids
- b. Retroviruses
- c. DNA viruses
- d. Prions
- e. RNA viruses

26. Which of the virus below is found in the gut as an opportunistic organism?

- a. Cytomegalovirus
- b. Hepatitis A virus
- c. Rotavirus
- d. Adenovirus
- e. Measles virus

27. Infants infected with cytomegaloviruses (CMV) in utero may suffer from:

- a. mental retardation
- b. enlarged spleen
- c. liver damage
- d. any of these
- e. none of these

28. Maintaining the cold chain ensures that vaccines are stored according to the manufacturer's instructions at:

- a. 0 - +4 °C
- b. -1 - +5 °C
- c. +2 - +10°C
- d. +4 - +8 °C
- e. +2 - +8 °C

29. Which of the following vaccines is/are given by the intramuscular route:

- a. Influenza
- b. BCG
- c. Cholera
- d. MMR
- e. Varicella

30. Viruses can be visualized directly from the cerebrospinal fluid by-----?

- a. Fluorescence microscopy
- b. Electron microscopy
- c. Dark field microscopy
- d. Negative staining
- e. Immuno electron microscopy

SECTION B (40mks)

31. Discuss the following

- i. direct methods of specimen analysis (10mks)
- ii. Isolation of viruses (10mks)

32. Discuss the FOLLOWING citing relevant examples where applicable

- i. Packaging of specimen for transportation to other laboratories for viral analysis (6mks)
- ii. Outline six hazards of immunization (6mks)
- iii. Classification of pathogens into hazard groups (8mks)