



**TECHNICAL UNIVERSITY OF MOMBASA**

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FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF MEDICAL SCIENCES

**UNIVERSITY EXAMINATION FOR:**

DMLS

AML 2305 : MEDICAL VIROLOGY 11

END OF SEMESTER EXAMINATION

**SERIES:** DECEMBER 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 virus below cannot be isolated from the chorioallantoic membrane?
  - a. Herpes
  - b. Rous sarcoma virus
  - c. Influenza viruses
  - d. Pox viruses
  
2. Which of the following is not an example of a tissue culture?
  - a. Primary cell cultures
  - b. Organ culture
  - c. Explants
  - d. Cell cultures

3. Animal inoculation is useful in the study of the following except
- pathogenesis
  - viral identification
  - immune response
  - Epidemiology and oncogenesis
4. Micro-organisms in group three should be handled in -----
- Basic – Biosafety Level 1
  - Basic – Biosafety Level 2
  - Maximum containment – Biosafety Level 4
  - Containment – Biosafety Level 3
5. Macroscopic lesions on the chorio allantoic membrane of embryonated egg are produced by
- Influenza virus
  - Herpes simplex 1 virus
  - Polio virus
  - Adeno virus
6. Herpes simplex type 11 is transmitted through
- direct contact with saliva and lesions
  - mother's milk
  - faecal-oral
  - Vector bite
7. The following are direct detection methods except
- Single radial haemolysis
  - Polymerase chain reaction
  - Detection of rotavirus antigen in faecal specimen
  - Electron microscopy

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8. Which of the following virus is transmitted by blood
- Rubella
  - Measles
  - Hepatitis c virus
  - Small pox virus
9. The following viruses are associated with respiratory infections except
- Adenovirus
  - Rotavirus
  - Influenza virus
  - Mumps
10. Which of the following viral infection are most likely to be characterized by skin lesions
- Polio virus
  - Rabies virus
  - Shingles
  - Rota virus
11. Which of the following is the most suitable sample for respiratory virus isolation
- Nasal swabs
  - Throat swabs
  - Sputum
  - Saliva
12. In infantile gastroenteritis diarrhoeal specimen is used for culture and also commonly used for
- Serological analysis
  - Immunofluorescent microscopy
  - Electron microscopy
  - Molecular analysis

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13. Corneal impressions may be taken from comatose patients suspected of
- Keratitis
  - Rabies infection
  - Trachoma
  - Herpes simplex
14. Specimen for virus isolation in virus transport media should be
- Kept at near to 4<sup>0</sup>c as possible
  - Frozen
  - Kept at 37<sup>0</sup>c
  - Processed immediately
15. Which of the following is resistance to ether destruction
- Arboviruses,
  - Adenovirus
  - Myxoviruses
  - Herpes viruses
16. Which of the viruses below fall under group 2 of hazard groups
- Viral haemorrhagic fever virus
  - HIV
  - Herpes virus
  - Rabies virus
17. Small pox can be grouped into
- Group 1 hazard group
  - Group 2 hazard group
  - Group 3 hazard group
  - Group 4 hazard group

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18. Prions can be destroyed by
- Autoclaving at 1210c
  - Autoclaving at 1340c for 18minutes as a single cycle
  - Tyndallization
  - Use of Lysol
19. Negri bodies are pathophysiological features resulting from infection caused by
- Human Hepatitis virus
  - HIV
  - Rabies
  - Reovirus
20. The following viruses can be controlled by use of vaccine except
- Influenza virus
  - Polio virus
  - Rotavirus
  - Human immunodeficiency Virus
21. The urban form of yellow fever is transmitted between humans by
- Aedes aegypti mosquito
  - Culex mosquito
  - Anopheles mosquito
  - Mansoni mosquito
22. Which of the following arbovirus is most problematic in the world today?
- Dengue
  - Yellow fever
  - St. Louis encephalitis
  - West Nile

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23. Which of the following families is not associated with Viral Hemorrhagic Fevers.

- a. Arenaviruses
- b. Filoviruses
- c. Bunyaviruses
- d. Flaviviruses

24. Which one below is not a type of Ebola Virus?

- a. Ebola-Zaire
- b. Ebola-Sudan
- c. Ebola-Ivory Coast
- d. Ebola congo

25. The following viruses are transmitted from Animal - arthropod vector – man except

- a. Japanese encephalitis,
- b. Dengue
- c. WEE,
- d. jungle yellow fever

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26. The viruses below are in the family the Paramyxoviridae:

- a. Parainfluenza virus;
- b. Mumps virus;
- c. Measles;
- d. Rubella

27. Which is the transmission route for the Influenza virus

- a. Faecal oral
- b. Inhalation
- c. Blood transfusion
- d. Body contact

28. MMR vaccine stands for

- a. Mumps, Mycobacterium, Rubella
- b. Mumps, Mycobacterium, Rabies
- c. Mumps, Measles, Rubella
- d. Measles, Mycobacterium, Rubella

29. Kopliks spots are associated with which virus?

- a. HIV
- b. Small pox virus
- c. Measles
- d. Rubella

30. Which of the following is not an Enterovirus

- a. Polioviruses
- b. Coxsakie viruses
- c. Echovirus
- d. Rabies

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31. Poliovirus can rarely be isolated from

- a. CSF
- b. Throat swabs
- c. Faeces
- d. Rectal swabs

32. The transmission mode of Polio virus is via

- a. Faecal oral
- b. Inhalation
- c. Blood transfusion
- d. Body contact

33. Which of virus replication steps below is controlled by virus-specified enzymes
- Adsorption
  - Penetration
  - Uncoating
  - Transcription of positive-sense RNA to DNA
34. For virus isolation swabs and other samples that may dry out in transit should be
- Refrigerated at  $-70^{\circ}\text{C}$
  - Analyzed immediately
  - Put in viral transport media
  - Put in Stuart media
35. Which of the following establishes positive results during serology analysis for viral infections?
- A two fold rise in titre between paired sera
  - A fourfold rise in titre between paired sera
  - A threefold rise in titre between paired sera
  - A one fold rise in titre between paired sera
36. Which of the following samples are characterized as unsuitable for virus isolation?
- Diarrhea stool
  - Biopsy
  - Sputum
  - Aspirates
37. The following are types of molecular analytical methods, which one is not
- polymerase chain Reaction
  - Real time polymerase reaction
  - Radio immune assay
  - Nucleic acid. Sequence based Amplification
38. Embryonated eggs are useful for the following except



- a. Viral isolation
- b. Antibody titration
- c. Viral titration in viral vaccines production
- d. Large quantity cultivation in viral vaccines production

39. The growth of virus in inoculated animals may be indicated by

- a. Cytoplasmic effect
- b. Death of the animal
- c. Metabolic inhibitors
- d. Transformation

40. Which of the following viruses is associated with gastroenteritis?

- a. Polio virus
- b. Human immunodeficiency virus
- c. Coronavirus
- d. Hepatitis A virus

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#### SECTION B

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

- i. Viral Gastroenteritis (5mks)
- ii. blood-borne viruses (5mks)
- iii. Respiratory Virus Infections (5mks)
- iv. Viral Haemorrhagic Fever (5mks)

42. a) Draw a well labelled diagram of an embryonated egg (10mks)

b. Outline the viruses which are grown in various parts of the egg (10mks)

43. Discuss microbiological safety cabinets and how they are decontaminated (20mks)