



(University of Choice)

**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY
(MMUST)
UNIVERSITY EXAMS**

SCHOOL OF NURSING, MIDWIFERY AND PARAMEDICAL SCIENCES

MAIN CAMPUS

**END OF TRIMESTER EXAMS
2021/2022 ACADEMIC YEAR**

FOR THE DEGREE OF

COURSE CODE: NMM 225 LECTURER: DR. STEFFI SCHATZ

COURSE TITLE: VIROLOGY AND MYCOLOGY

DATE: 19 /04/2022

TIME: 3-6 PM

INSTRUCTIONS TO CANDIDATES

**ALL QUESTIONS IN THE THREE SECTIONS (A, B AND C) ARE
COMPULSORY**

DURATION: 3 HOURS

SECTION A: MULTIPLE CHOICE QUESTIONS (MCQs); 20 MARKS

Choose the most appropriate answer

1. The genetic material of a virus is composed of
 - A) DNA
 - B) RNA
 - C) DNA or RNA
 - D) DNA and RNA
2. The Baltimore classification of Viruses is based on
 - A) The morphology
 - B) The size
 - C) The manner of the synthesis of the m-RNA
 - D) The appearance in a stain
3. What are Herpes viruses?
 - A) Single stranded DNA Virus
 - B) Double stranded DNA Virus
 - C) Single stranded RNA virus
 - D) Single stranded RNA reverse transcriptase Virus
4. Which Baltimore class is Corona virus?
 - A) I
 - B) III
 - C) V
 - D) IV
5. What does Reo-Virus mean?
 - A) Respiratory- enteric-orphan Virus
 - B) Reorganized Virus
 - C) Enterovirus
 - D) None of the above
6. HI- Virus is a...
 - A) Reovirus
 - B) Retrovirus
 - C) Picornavirus
 - D) Togavirus
7. Which of the following Virus contains a single stranded DNA?
 - A) Herpes virus
 - B) Poxvirus
 - C) Adenovirus
 - D) Parvovirus
8. Which part of the human body is mostly affected by Varicella Zoster Virus?
 - A) Respiratory System
 - B) Genital system
 - C) Skin
 - D) CNS

9. Which of the following Viruses causes an inflammation of the liver?
- A) HBC
 - B) HIV
 - C) Papilloma Virus
 - D) Herpes Virus
10. A Virus which causes an effect called "mononucleosis" is called..
- A) Epstein Barr Virus
 - B) Parvovirus
 - C) Rotavirus
 - D) HIV
11. Which applies for Fungi's? They are...
- A) Eukaryotes
 - B) Prokaryotes
 - C) Animals
 - D) Archaeobacteria
12. What is the reservoir of Blastomyces dermatidis?
- A) Soil
 - B) Standing water
 - C) Fomites
 - D) Herbivores
13. What is Aspergillus?
- A) A yeast
 - B) A mold
 - C) A virus
 - D) A bacterium which supports a fungicidal infection
14. Which of the following statement is right?
- A) Infections with fungi's are mostly affecting immune compromised patients
 - B) Infections with fungi's are highly infectious
 - C) Infections with fungi's are simple to treat
 - D) Infections with fungi's causing a lifelong immunity
15. An infection with Blastomyces dermatididis can be treated with..
- A) Amphotericin B
 - B) Acyclovir
 - C) Tetracycline
 - D) Ampicillin
16. Which parts of the body can be affected by Candida?
- A) The mouth cavity
 - B) The genital organs
 - C) The mouth cavity and the genital organs
 - D) The respiratory system
17. Onychomycosis is a disease which affects
- A) The skin
 - B) The nails
 - C) The gastrointestinal system
 - D) The genital system
18. Which fungi infections should be treated systemically?
- A) Tinea corpora
 - B) Tinea cruris
 - C) Tinea capitis

- D) Candidiasis
19. What does probiotic means?
- Preventive treatment of intestinal tract infections by the use of fungi's
 - A type of antibiotic
 - A drug against fungi's
 - The preform of an antibiotic
20. How can Viruses be identified?
- With the microscope
 - With a stain procedure
 - Via PCR test
 - With the naked eye

SECTION B: SHORT ANSWER QUESTIONS (SAQS); 40 MARKS

Answer all the questions

- | | |
|--|---------|
| 1. Define "Virus"! | 4 marks |
| 2. Name the phases of the life cycle of a virus! | 8 marks |
| 3. Draw a model of a virus and name the main components! | 8 marks |
| 4. How can viruses be identified? | 8 marks |
| 5. Define "fungis"! | 4 marks |
| 6. Draw and name the parts of the structure of fungis! | 8 marks |

SECTION C: LONG ANSWER QUESTIONS (LAQS); 40 MARKS

Answer all the questions

- A) Describe unspecific clinical symptoms of the infection with a virus and explain which parts of the body can be affected by viral infections. Name examples for viruses and their specific diseases! 10 marks

B) Explain the type, the structure, the transmission and the clinical signs of an infection with the HI-virus! 10 marks
- A) Describe "Candidiasis" as a disease and explain clinical features, affected parts of the body and effective treatments methods! 10marks

B) Describe the pathogenesis of an infection with Dermatophytes, different types of diseases and the treatment procedures! 10 marks

END

NMM 225: Virology and Mycology (3 Credit Hours)

Purpose

The course is designed for the student to gain knowledge and skills on Microbiological methods, viruses and other organisms for treatment and disease control to enable student midwives apply in midwifery care.

Learning Outcomes

At the end of the course the student will be able to:

1. Classify viruses, fungi and describe the methods used to identify them
2. Describe characteristics of each virus and fungi.
3. Carry out and interpret staining procedures for identification of micro-organisms
4. Carry out and interpret other procedures for identification of virus and fungi.
5. Apply principles and concepts of microbiology in the control of infections

Content

Viruses: classification, mode of action, bodily defense against viral infections. **Fungi:** types: aspergillus and candida, cryptococcus and histoplasma, blastomyces, coccidioides, paracoccidioides, mycoses of skin and adjacent tissues, fungi causing zygomycosis, mycoplasmas.

Learning Resources: pre-session reading assignment, laboratory practical sessions, handling specimen, working in small groups, self directed learning (SDL), library with reading materials.

Learning- Teaching Strategies

Lectures, demonstrations, laboratory practical, group discussions.

Assessment Methods

3CAs and end of trimester written examinations.

References/Required Resources

1. Talaro, K.P. (2008). *Foundations in Microbiology*. 6th ed. McGraw-Hill Publishing Company. ISBN 10: 0073305405, ISBN 10: 9780073305400
2. Gladwin, M. (2007). *Clinical Microbiology Made Ridiculously Simple*. 4th Ed. MedMaster, Inc. ISBN 10: 094078081X, ISBN 13: 978094780811