



**AMREF INTERNATIONAL UNIVERSITY  
DEPARTMENT OF NURSING AND MIDWIFERY SCIENCES  
KENYA REGISTERED COMMUNITY HEALTH NURSING  
END OF SEMESTER EXAMINATIONS**

**DNS 113: MICROBIOLOGY, PARASITOLOGY AND IMMUNOLOGY**

**DATE: WEDNESDAY 8<sup>TH</sup> APRIL 2026**

**TIME: 2 HOURS**

**Start: 0900 HOURS**

**Finish: 1100 HOURS**

**INSTRUCTIONS**

1. This exam will be marked **out of 70 Marks**
2. ALL Questions are compulsory.
3. The Examination has Three Sections: Section A- Multiple Choice Questions, Section B: Short Answer Questions, Section C: Long Essay Questions
4. Answer all Questions in the ANSWER BOOKLET provided
5. Do not write anything on the question paper
6. Use the back of your booklet for rough work if need be.

**SECTION I: MULTIPLE CHOICE QUESTIONS (20 MARKS)**

1. The scientist who discovered the modern method of vaccination against small pox is:-
  - a) Antonie van Leeuwenhoek
  - b) Edward Jenner
  - c) Louis Pasteur
  - d) Robert Koch
2. Neutrophils, basophil, lymphocytes, eosinophils and monocytes are examples of \_\_\_\_\_ against infections.
  - a) Physical barriers
  - b) Cellular barriers
  - c) Cytokine barriers
  - d) Physiological barriers
3. The viruses that live as parasites on bacteria are known as:-
  - a) Commensals
  - b) Fungi
  - c) Bacteriophages
  - d) Normal flora
4. Mesophilic microorganisms grow best at an optimum temperature of:
  - a) 30 to 37 degrees Celsius
  - b) 22 to 30 degrees Celsius
  - c) 37 to 42 degrees Celsius
  - d) 42 to 50 degrees Celsius
5. The technique used to kill all microorganisms as well as bacterial spores is:
  - a) Sterilization
  - b) Disinfection
  - c) Decontamination
  - d) Cleansing
6. The following parasite causes malaria:
  - a) *Plasmodium vivax*
  - b) *Toxoplasma gondii*
  - c) *Entamoeba histolytica*
  - d) *Schistosoma mansoni*
7. The intermediate host for the parasite *Taenia saginata* is:
  - a) Pig
  - b) Cow
  - c) Fish
  - d) Dog

8. The differential diagnosis for a lesion in a 22-year-old woman that has a painless, 2 cm ulcer with a raised border on her labia majora is :
- Adenovirus infection
  - Neisseria gonorrhoea* infection
  - Papilloma infection
  - Treponema pallidum* infection
9. Toxic shock syndrome is caused by which bacteria:
- Bacillus anthracis*
  - Staphylococcus aureus*
  - Staphylococcus pyogenes*
  - Clostridium tetani*
10. A fungal infection on the groin is called:
- Tinea corporis
  - Tinea cruris
  - Tinea barbae
  - Tinea pedis
11. The following predisposing factors would leave a patient with the greatest long-term risk of acquiring fungal infections:-
- Recent surgery
  - AIDS and chronic illnesses such as diabetes
  - Good nutrition
  - Physical activity
12. The following bacteria are members of family *Enterobacteriaceae* EXCEPT:
- E. coli*
  - Shigella*
  - Staphylococcus*
  - Salmonella*
13. The protozoa sexually transmitted is :-
- Trichomonas vaginalis*
  - Entamoeba histolytica*
  - Giardia lamblia*
  - Trypanosoma gambiense*
14. The layer of the skin constantly sheds dead cells along with any microbes that may be attached to those cells:-
- Epidermis
  - Dermis
  - Hypodermis
  - Mucous membrane

15. Transfer of antibodies from mother to her baby through breast milk is example of:
- Active natural acquired immunity
  - Passive artificial acquired immunity
  - Passive natural acquired immunity
  - Active artificial acquired immunity
16. The infection can be considered a zoonotic infection is:-
- Anthrax
  - Gas gangrene
  - Diphtheria
  - Tuberculosis
17. The worm causes lymphatic filariasis leading to elephantiasis:-
- Wuchereria bancrofti*
  - Ascaris lumbricoides*
  - Dranculuculus medinensis*
  - Onchocerca volvulus*
18. The following statements regarding HIV are true EXCEPT ONE:-
- It belongs to the family Reteroviridae
  - It is an oncogenic virus
  - The virus is present in all body fluids
  - The sexual route is the main mode of transmission
19. The most likely infection in a 30-year-old, sexually active male, presenting with urethral discharge, painful urination, urgency and a lab test revealing gram negative diplococci is:-
- Treponema pallidum*
  - Neisseria meningitidis*
  - Neisseria gonorrhoeae*
  - Human papilloma virus*
20. A worm infection predominantly affecting the pediatric population, characterized nocturnal perianal itching and laboratory swabs revealing small white worms with thread-like appearance is;-
- Ascaris lumbricoides*
  - Enterobius vermicularis*
  - Trichuris trichiura*
  - Strongyloides stercoralis*

**SECTION II. SHORT ANSWER QUESTIONS. (30 MARKS)**

1. State 4 characteristics of naked virions. (4 Marks.)
2. State 5 reasons why it is important for nurses to learn microbiology. (5 marks)
3. State 4 predisposing factors to fungal infections. (4 Marks)
4. Outline 5 chemical secretions produced by the body that inhibit microbial growth. (5 Marks)
5. Explain 4 factors that affect immunity. (6 Marks)
6. Outline 6 signs and symptoms of the infection caused by *Mycobacteria tuberculosis*. (6 Marks)

**SECTION III. LONG ANSWER QUESTION (20 MARKS)**

1. Describe *HIV infection* in terms of:
  - a) Mode of infection. (4 Marks)
  - b) Characteristics of the virus. (2 Marks)
  - c) Stages of the infection . (8 Marks)
  - d) Prevention of the infection. (6 Marks)