



AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF MEDICAL SCIENCES
DEPARTMENT OF NURSING AND MIDWIFERY SCIENCES
KENYA REGISTERED COMMUNITY HEALTH NURSING
End Semester April 2025 Examinations

COURSE CODE AND TITLE: DNS 113: Microbiology, Parasitology And Immunology

DATE:8-4-2025

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. For the host, the MOST dangerous relationship with another organism is:
 - a) Symbiosis
 - b) Parasitism
 - c) Commensalism
 - d) Mutualism
2. Neutrophils, basophil, lymphocytes, eosinophil and monocytes are examples of _____ against infections.
 - a) Physical barriers
 - b) Cellular barriers
 - c) Cytokine barriers
 - d) Physiological barriers
3. Cryptococcosis is a:
 - a) Bacterial infection
 - b) Parasitic infection
 - c) Viral infection
 - d) Mycotic infection
4. Most pathogenic 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 is:
 - a) Sterilization
 - b) Disinfection
 - c) Decontamination
 - d) Removal
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 solium* is:
 - a) Pig
 - b) Cow
 - c) Fish
 - d) Dog

8. The differential diagnosis for a 22-year-old woman presenting with a 2 cm painless ulcer on the labia majora characterized by a raised border is:-
- Adenovirus infection
 - Neisseria gonorrhoea infection
 - Papilloma infection
 - Treponema pallidum infection
9. The disease characterized by significant weight loss within a short period of time cough lasting longer than 2 weeks ,a history of night sweats and a sputum culture revealing the presence of acid-fast bacilli is most likely :-
- Typhoid
 - Tuberculosis
 - Shigellosis
 - Pneumonia
10. Due to its toxicity profile, amphotericin B is only prescribed for:-
- Systemic fungal infections
 - Fungal infections of the skin
 - Viral infections
 - Bacterial infections
11. The following factors predispose a patient to the greatest long-term risk of acquiring fungal infections?
- Recent surgery
 - AIDS and chronic illnesses such as diabetes
 - Good nutrition
 - Physical activity
12. All of the following bacteria are members of family *Enterobacteriaceae* EXCEPT:
- E. coli
 - Shigella
 - Staphylococcus
 - Salmonella
13. Facultative anaerobic bacteria grow in presence of:-
- Only Oxygen
 - Both Oxygen and carbon dioxide
 - Only carbon dioxide
 - Nitrogen only

14. Innate immunity involves all EXCEPT:-
- Anatomical barriers
 - Phagocytosis
 - Inflammatory mechanisms
 - Antibody production
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 following is considered to be a zoonotic infection:-
- Anthrax
 - Gas gangrene
 - Diphtheria
 - Tuberculosis
17. The following organism produces a life-threatening diarrhoeal disease that is effectively managed by fluid replacement:-
- Mycoplasma pneumoniae
 - Mycobacterium tuberculosis
 - Treponema pallidum
 - Vibrio cholerae
18. The following statements regarding HIV is FALSE:
- 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. A gram negative, sexually transmitted diplococci that causes urethral discharge, painful urination and urgency is most likely:-

- a) Treponema pallidum
- b) Neisseria meningitidis
- c) Neisseria gonorrhoeae
- d) Human papilloma virus

20. Small white threadlike worms that cause severe nocturnal perianal itching are most likely:-

- a) Ascaris lumbricoides
- b) Enterobius vermicularis
- c) Trichuris trichiura
- d) Strongyloides stercoralis

SECTION II. SHORT ANSWER QUESTIONS. (30 MARKS)

1. Outline five (5) types of bacteria according to morphology and give an example of each. (5 Marks.)
2. State five (5) ways to prevent and control anthrax. (5 Marks)
3. State four (4) sources of parasites giving an example of a parasite from each source. 6 marks
4. State four (4) predisposing factors to fungal infections. 4 marks
5. State four (4) viruses that cause human cancer and the cancer they cause. (6 Marks)
6. State four (4) mechanical barriers that help protect against infections. (4 Marks)

SECTION III. LONG ANSWER QUESTION. 20 MARKS

1. Describe *Enterobius vermicularis* in terms of:
 - a) Mode of infection. (3 Marks)
 - b) Life cycle. (10 Marks)
 - c) Clinical manifestation. (4 Marks)
 - d) Prevention of the infection. (3 Marks)