



**AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF MEDICAL SCIENCES
DEPARTMENT OF NURSING AND MIDWIFERY SCIENCES
KENYA REGISTERED COMMUNITY HEALTH NURSING
SUPPLEMENTAY/SPECIAL EXAMINATIONS**

COURSE CODE AND TITLE: DNS 113 MICROBIOLOGY, PARASITOLOGY AND IMMUNOLOGY.

DATE: 3rd August 2023.

TIME: 2 Hours

Start: 2:00 PM

Stop: 4:00 PM

INSTRUCTIONS

1. This exam is out of 70 marks
2. The examination has THREE Sections. Section I: MULTTIPLLE CHOICE QUESTIONS and Section II: SHORT ANSWER QUESTIONS and Section III: LONG ANSWER QUESTIONS.
3. Answer ALL questions in the answer booklet provided.

SECTION A: MULTIPLE CHOICE QUESTIONS (20 MARKS)

1. **The following organism causes serious infections among patients with burn injuries:-**
 - a. Staphylococcus aureus
 - b. Hemenolepis nana
 - c. Pseudomonas aeruginosa
 - d. Bacillus Anthracis
2. **The following infection is of fungal origin:-**
 - a. Onyongnyong fever
 - b. Chikungunya fever
 - c. Candidiasis
 - d. Syphilis
3. **Reverse transcription of the HIV virion is aided by: -**
 - a. Reverse transcriptase enzyme
 - b. Protease enzyme
 - c. Amylase enzyme
 - d. Fusion enzymes
4. **The following is an autoimmune disease: -**
 - a. Malaria
 - b. Systemic Lupus Erythematosus
 - c. Anemia
 - d. Immune Reconstitution Syndrome (IRS)
5. **Reaction to blood during transfusion is a type of: -**
 - a. Hypersensitivity type I reaction
 - b. Hypersensitivity type II reaction
 - c. Hypersensitivity type III reaction
 - d. Hypersensitivity type IV reaction
6. **The following is an endoparasite: -**
 - a. Plasmodium Ovale
 - b. Musca domestica
 - c. Anopheles Mosquitoe
 - d. Cockroaches

7. The Lab diagnosis of Ancylostoma Duodenale is through: -

- a. Identification of ova in stool
- b. Physical examination
- c. History taking
- d. MRI imaging

8. Flagellate type of protozoa include: -

- a. Trichomonas Vaginalis and Giardia lamblia
- b. Trypanosoma gambiense and Balantidium coli
- c. Entamoeba histolytica and Plasmodium falciparum
- d. Balantidium coli and Entamoeba histolytica

9. Small Pox vaccine was first discovered by: -

- a. Robert Koch
- b. Joseph Lister
- c. Edward Jenner
- d. Louis Pasteur

10. Reverse Barrier nursing is recommended for patients with: -

- a. Leukemia
- b. Typhoid
- c. Malaria
- d. COVID-19

11. Antigenic material that help in recognition of viruses are: -

- a. Protein
- b. Nuclear material
- c. Spores
- d. Glycoproteins

12. The primary mediator in anaphylactic reactions is: -

- a. Serotonin
- b. Histamine
- c. Heparin
- d. Acetylcholine

13 BCG is a form of a: -

- a. Live attenuated vaccine
- b. Killed vaccine
- c. Vaccine containing immunoglobulins
- d. Toxoid vaccine

14. In microbiology, bacterial cells are grown on: -

- a. Autoclaves
- b. Culture media
- c. Ionizing radiation
- d. Natural food substrates

15. Tuberculosis is a(n): -

- a. Airborne disease
- b. Waterborne disease
- c. Vector borne disease
- d. Food borne disease

16. Roundworms include: -

- a. *Ascaris lumbricoides* and *Enterobius vermicularis*
- b. *Diphyllobotrium latum* and *Taeneasaginata*
- c. *Taeneasolium* and *Schistosoma haematobium*
- d. *Echinococcus granulosus* and *Taeneasaginata*

17. The compound microscope was discovered by: -

- a. Joseph Lister
- b. A.V. Lewenhoek
- c. Louis Pasteur
- d. Galileo Galilei

18. Protozoa: -

- a. Are unicellular and smaller in size than bacteria
- b. Freely live in the air and water
- c. Have the ability to exist in form of cysts in the soil
- d. Contain chlorophyll thus can synthesize their own food

19. Naturally acquired active immunity results after suffering from: -

- a. Mumps, typhoid fever and poliomyelitis
- b. HIV, Amoeba and Gonorrhoea
- c. Syphilis, mumps and Chancroid
- d. Pneumonia, Typhoid fever and TB

20. The general characteristics of genus *Neisseria* include: -

- a. Gram negative, non-motile and fastidious to grow
- b. Coma shaped, motile and pleomorphic
- c. Coccobacilli, flagellated and gram negative
- d. Kidney shaped, non-motile and non-spore forming

SECTION B: SHORT ANSWER QUESTIONS **(30 MARKS)**

1. State five (5) characteristics of a virus particle. (5 Marks)
2. Describe the growth phases of a bacterial cell. (5 Marks)
3. Outline five (5) characteristics of hypersensitivity type one reaction. (5 Marks)
4. State five (5) reasons why nurses should study microbiology. (5 Marks)
5. Outline the stages of viral replication cycle. (5 Marks)
6. Outline any five (5) components of the immune system. (5 Marks)

SECTION C: LONG ANSWER QUESTIONS **(20 MARKS)**

1. Hospital acquired infections are a major setback in hospitals.
 - a. Explain any five (5) predisposing factors to hospital acquired infections. (10 marks)
 - b. Describe any preventive measures for hospital acquired infections (10 Marks)