



**AMREF INTERNATIONAL UNIVERSITY  
SCHOOL OF MEDICAL SCIENCES  
DEPARTMENT OF NURSING & MIDWIFERY SCIENCES  
END OF SEMESTER AUGUST 2024 EXAMINATIONS**

**COURSE CODE AND TITLE: BSM 211-MEDICAL MICROBIOLOGY & PARASITOLOGY**

**DATE:** Tuesday 6<sup>th</sup> August 2024

**Duration:** 2 HOURS      **Start:** 9:00 AM      **Finish:** 11:00 AM

**INSTRUCTIONS**

1. This exam is out of 70 marks
2. This Examination comprises THREE Sections. Section I: Multiple Choice Questions (20 marks) Section II: Short Answer Questions (30 marks) and Section III: Long Answer Questions (20 marks)
3. Answer ALL Questions.
4. Do Not write anything on the question paper -use the back of your booklet for rough work if need be.

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

1. Among this early scientist who is regarded as the “Father of Microbiology”
  - A. Joseph Lister
  - B. Robert Koch
  - C. Louis Pasteur
  - D. Paul Ehrlich
2. Conditions classified as subcutaneous mycoses include the following EXCEPT;
  - A. Lobomycosis
  - B. Dermatophytosis
  - C. Rhinosporidosis
  - D. Sporotrichosis
3. An important characteristic of mycobacteria is that they are;
  - A. Gram negative
  - B. Rapid growing
  - C. Alpha hemolytic
  - D. Acid fast
4. In processing clinical specimens for fungal infections, health workers may contract systemic fungal infection through;
  - A. Inhalation
  - B. Ingestion
  - C. Skin contact
  - D. Insect vector
5. Infection of the urinary tract is most frequently associated with;
  - A. Staphylococcus aureus
  - B. Escherichia coli
  - C. Enterococcus faecalis
  - D. Serratia marcescens

6. A medium that aids in the presumptive identification of organisms based on its appearance on the medium is called;
- A. Enriched
  - B. Selective
  - C. Differential
  - D. Specialized
7. The steam autoclave method of sterilization;
- A. Uses 15 lbs of pressure for 15 minutes
  - B. Utilizes dry heat for 20 minutes
  - C. Produces a maximum temperature of 100oc
  - D. Requires a source of ethylene oxide
8. The Winterbottom sign in sleeping sickness is also referred to as;
- A. Unilateral conjunctivitis
  - B. Posterior cervical lymphadenitis
  - C. Narcolepsy
  - D. Transient erythema
9. The following is a common strategy for preventing tick-borne diseases;-
- A. Avoiding outdoor activities during the day
  - B. Using insect repellent containing DEET
  - C. Drinking boiled water
  - D. Wearing bright-colored clothing
10. The following is a characteristic of nematodes;-
- A. Segmented body
  - B. Flat, leaf-shaped body
  - C. Cylindrical, unsegmented body
  - D. Presence of scolex
11. The protozoan associated with severe diarrhea in immunocompromised individuals is;-
- A. Toxoplasma gondii
  - B. Cryptosporidium parvum
  - C. Trichomonas vaginalis
  - D. Plasmodium falciparum

12. *Entamoeba histolytica* trophozoites multiply by;
- A. Binary fission
  - B. Schizogony
  - C. Gametogony
  - D. Sexual reproduction
13. Motility of *Trichomonas vaginalis* is described as.
- A. Amoeboid
  - B. Jerky
  - C. Falling leaf
  - D. Lashing
14. Viral nucleocapsid consists of the following: -
- A. Viral genome and a capsid
  - B. Viral genome and envelope
  - C. Viral genome and enzymes
  - D. Viral genome alone
15. The order of stains in Gram-staining procedure is;
- A. Crystal violet, Iodine solution, Alcohol, Safranine
  - B. Iodine solution, Crystal Violet, Safranine, Alcohol
  - C. Alcohol, Crystal Violet, Iodine solution, Safranine
  - D. Crystal violet, Safranine, Iodine solution, Alcohol
16. Fungal infection of the stratum corneum epidermidis that manifests as hypopigmented or hyperpigmented skin patches is called?
- A. Tinea Corporis
  - B. Tinea versicolor
  - C. Tinea capitis
  - D. Tinea cruris
17. Conditions classified as subcutaneous mycoses include the following **EXCEPT**:
- A. Lobomycosis
  - B. Dermatophytosis
  - C. Otomycosis
  - D. Sporotrichosis

18. The following viruses is NOT implicated in human cancers;-

- A. Hepatitis C virus
- B. Epstein-Barr virus
- C. Hepatitis E virus
- D. Human papilloma virus

19. Hepatitis A and E viruses share one of the following characteristics;-

- A. They both cause chronic diseases
- B. Both are transmitted via fecal-oral route
- C. Both cause hepatocellular carcinoma
- D. Both are transmitted via blood transfusion

20. The bacteria which can grow at 0°C but which grow at 10°C to 20°C, are known as

- A. Psychrophiles
- B. Thermophiles
- C. Average Mesophiles
- D. Mesophiles

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

1. With the aid of diagrams describe four (4) types of bacteria flagella arrangements (6 marks)
2. Outline six (6) preventive measures and control strategies for soil-transmitted helminthiasis. (6 marks)
3. Outline SIX (6) key characteristics of arthropods (6marks)
4. Explain briefly any SIX (6) characteristics of Viruses (6marks)
5. Explain three (3) classification of fungal mycoses (6marks)

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

1. Understanding Microorganism is essential in developing a strategy to eliminate them;-
  - a) Citing the causative agents, discuss five common hospital acquired Infections (10 Marks)
  - b) Describe the 5 stages of viral replication cycle (10 Marks)