



**AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF MEDICAL SCIENCES
DEPARTMENT OF NURSING & MIDWIFERY SCIENCES
BACHELOR OF SCIENCE IN NURSING
END OF JANUARY-APRIL SEMESTER 2023 EXAMINATIONS**

COURSE CODE AND TITLE: BSN 124 MEDICAL BACTERIOLOGY AND MYCOLOGY

DATE: 12TH APRIL 2023

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 A: MULTIPLE CHOICE QUESTIONSS 20 MARKS

1. Gram staining procedure in microbiology use the following reagents EXCEPT?
 - A. Crystal violet
 - B. Grams iodine
 - C. Acid-alcohol
 - D. Malachite green
2. Corynebacterium diphtheriae bacteria
 - A. Is a non-pathogenic bacteria in humans
 - B. Is associated with congestive heart failure
 - C. Blood is the specimen of choice in respiratory diphtheria
 - D. Pseudomembrane production is not a key feature
3. Virulence factors of Bacillus anthracis include the following EXCEPT?
 - A. Capsule
 - B. Oedema factor
 - C. Vi antigen
 - D. Lethal factor
4. An initial blood culture result submitted by laboratory scientist indicating gram positive diplococci from pediatric cerebrospinal fluid is suggestive of?
 - A. Pneumococcal meningitis
 - B. Meningitis associated with E.coli
 - C. Gonococcal meningitis
 - D. Meningitis associated with E.coli
5. In human microbiota, resident microbial community is associated with the following EXCEPT?
 - A. Acquired in early stages of life
 - B. Re-establish if disturbed
 - C. Only found in diseased population
 - D. Found in specific anatomical sites
6. Intrinsic bacterial antibiotic resistance
 - A. Occurs due to lack target of action
 - B. Require Lysogenic bacteriophage for activation
 - C. Occurs as a result f mutations and acquisition of new genes
 - D. Can be transferred from patient to another during nursing care

7. Toxic shock syndrome is
 - A. Commonly associated with women using tampons
 - B. Is mediated by exfoliative toxin
 - C. Resolves within 24 hours
 - D. Is associated with coagulase negative staphylococcus (CoNS)
8. Shigella dysenteriae?
 - A. Is a gram positive rod
 - B. Infections can be prevented by vaccination
 - C. Associated with haemolytic uremic syndrome
 - D. Pathogenesis is similar to Enterotoxigenic E. coli
9. Malassezia furfur:-
 - A. Infects dry areas of the skin
 - B. Is lipophilic
 - C. Can cause tinea capitis
 - D. Amphotericin B is the drug of choice
10. Tinea cruris is a dermatophytes infection of?
 - A. Finger nails
 - B. Hair scalp
 - C. Groin
 - D. Bearded part of the face
11. Pseudomembrane is a manifestation of disease associated with
 - A. Clostridium botulinum
 - B. Clostridium perfringens
 - C. Corynebacterium diphtheriae
 - D. Clostridium tetani
12. Bacterial capsule is not one of the pathogenicity properties in species of
 - A. Haemophilus
 - B. Escherichia
 - C. Streptococcus
 - D. Corynebacterium
13. A gram-positive, catalase negative and esculin-positive coccus that commonly causes urinary tract infection is
 - A. Staphylococcus saprophyticus
 - B. Enterococcus faecium
 - C. Escherichia coli

D. Streptococcus agalactiae

14. An antimicrobial agent whose activity is limited to gram-positive bacteria
 - A. Amoxicillin
 - B. Colistin
 - C. Vancomycin
 - D. Metronidazole
15. The following statements are true of normal flora EXCEPT
 - A. Resident flora are usually re-established in their niche
 - B. Transient flora have potential to cause disease
 - C. Sterile sites in a healthy individual include the stomach
 - D. Intestinal normal flora is essential for vitamin K synthesis
16. Most likely source of human infection by Clostridium tetani is
 - A. Untreated water
 - B. Soil
 - C. Asymptomatic carriage
 - D. Sea food
17. Causative agent of opportunistic fungal infection which is most likely to involve the peritoneum is a species of
 - A. Cryptococcus
 - B. Coccidioides
 - C. Candida
 - D. Aspergillus
18. Lock-jaw is a manifestation of disease associated with
 - A. Clostridium botulinum
 - B. Clostridium difficile
 - C. Clostridium perfringens
 - D. Clostridium tetani
19. Treponema pallidum
 - A. Are non-motile
 - B. Release exotoxins
 - C. Cause zoonotic illnesses
 - D. Are susceptible to penicillin
20. Human transmission of Brucellosis occurs via
 - A. Dog bite
 - B. Ingestion of infected milk

- C. Cat scratch
- D. Person to person transmission

SECTION B: SHORT ANSWER QUESTIONS (30 MARKS)

1. Write short notes on:
 - a) Virulence factors associated with *Pseudomonas aeruginosa* bed sore infection (2 marks)
 - b) Cutaneous anthrax (3 marks)
2. Briefly discuss Pityriasis versicolor under the following:
 - a) Causative agent (1 mark)
 - b) Epidemiology (1 mark)
 - c) Clinical presentation (2 mark)
 - d) Treatment (1 mark)
3. Briefly discuss specimen type, collection and transportation in a suspected *Clostridium tetani* wound infection (5 marks)
4. Discuss *Salmonella Typhi* under the following sub-headings:
 - a) Clinical pathogenesis (2 marks)
 - b) Clinical features (1.5 marks)
 - c) Laboratory diagnosis (mention the test and specimen of choice) (1.5 mark)
5. Outline five (5) infections caused by *Escherichia coli* (5 marks)
6. State five (5) bacterial infections that can be prevented through vaccines (5 marks)