



Technical University of Mombasa

Faculty of Applied and Health Sciences

DEPARTMENT OF MEDICAL SCIENCES
UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF
MEDICAL LABORATORY SCIENCES
BMLS 13M

AML 4202 : MEDICAL BACTERIOLOGY I

SEMESTER EXAMINATION

APRIL 2014 SERIES

2 HOURS

Instructions to candidates:

This paper consists of **TWO** sections **A** and **B**

Section A -Contains MCQS, Answer **ALL** questions in **Section B**.

SECTION A - MCQs - (30marks)

1. In general bacterial respiration is a function of ?
 - a) Mitochondria
 - b) Flagella
 - c) 70s ribosome
 - d) Cytoplasmic membrane
 - e) Plasmid
2. Bacteria belong to the order
 - a) Actinomycetales
 - b) Pseudomonascaes
 - c) Eubacteriates
 - d) Schisomycetes
 - e) Staphilococcaceae
3. Which of the following media can be used to transport stool specimen?

- a) Amies transport media
 - b) P₃ broth
 - c) Cary blair
 - d) Chocolate blood agar
 - e) Alkaline peptone water
4. In bacteria protein is synthesized by?
- a) Cell membrane
 - b) Ribosomes
 - c) Fimbriae
 - d) Nucleus
 - e) Mitochondria
5. Chocolate blood agar belongs to which class of media?
- a) Differential
 - b) Selective
 - c) Enrichment
 - d) Enriched
 - e) Indicator
6. Bacteria described as being lopotrichous have?
- a) Single flagellum
 - b) A pair of flagella
 - c) A tuft of flagella
 - d) No flagella
 - e) Have flagella all over its body
7. Bacterial classification was based on which of the following except?
- a) Genetic similarities
 - b) Biochemical tests
 - c) Staining reactions
 - d) Years of discovery
 - e) Susceptibility to bacteriophage
8. Virulence can be defined as?
- a) Ability of the pathogen to kill
 - b) Ability of the pathogen to cause disease
 - c) Ability of the pathogen to inhibit the normal cell functions
 - d) Is the inability of the pathogen to cause disease
 - e) The ability of the pathogen to reproduce
9. Inhibition of microbes in living tissue is referred to as?
- a) Sanitation
 - b) Sterilization
 - c) Antisepsis
 - d) Disinfection
 - e) Vaccination

10. A virus that infects bacteria is known as ?
- Bacteriophage
 - Bacteriolysse
 - Bacteriocide
 - Antibacterial virus
 - DNA virus
11. Candle jars are used to culture _____ and reduce atmospheric _____
- Anaerobes, Oxygen
 - Microderophiles, carbondioxide
 - Microaerophiles, oxygen
 - Anaerobes , carbodioxide
 - Aerobes, nitrogen
12. Organisms that thrives in elevated carbondioxide are called
- Microaerophiles
 - Anaerobes
 - Aerotolerant
 - Capnophiles
 - Aerobes
13. The character of the nitrogeneous base of DNA determines
- Sequence of folding of protein
 - Base pairing and sequence
 - Structure of the double helix
 - Reactivity with acid
 - The strength of the strand
14. The following protects bacteria from phagocytosis
- Cell wall
 - Flagella
 - Capsule
 - Spore
 - Plasmid
15. Which of the following is characteristic of exotoxins?
- Less antigenic
 - Weakly antigenic
 - Highly toxic
 - Produced by gram negative bacteria
 - Produced by gram positive bacteria
16. Inhibition of microbes in living tissue is
- Sanitation
 - Sterilisation
 - Antisepsis
 - Disinfection

- e) Bacteriostatics
17. Self-replicating small circular DNA molecules present in bacterial cell are known as
- Plasmids
 - Cosmids
 - Plasmomeros
 - Plastids
 - Chloroplasts
18. The amateur scientist thought to be the first person to observe living cells with a simple microscope was?
- Pasteur
 - Jenner
 - Koch
 - A.L. Hock
 - Antony van Leeuwenhoek – 1673
19. B. Anthracis was isolated by
- Luis Pasteur
 - Robert Koch
 - Antony van Leuwenhoek
 - Robert Hooke
 - Lord Jenner
20. Complete elimination of microorganism is accomplished by.
- Sterlization
 - Disinfection
 - Surgical sterilization
 - Disinfection and sterilization
 - Chemical sterilization
21. Autoclaving is carried at
- Dry heat
 - Atmospheric at 1200°C
 - Steam under pressure at 121°C
 - Steam at 100°C
 - Boiling at 100°C
22. Temperature used for hot air oven is
- 100°C for 1 hour
 - 120°C for 1 hour
 - 160°C for 1 hour
 - 60°C for 1 hour
 - None of the above
23. Dark field microscopy is commonly used in the diagnosis of?
- Salmonelosis
 - Tularensis
 - Syphilis

- d) Lyme
 - e) Mycobacteria
24. The gene transfer occurs by
- a) Transformation
 - b) Transduction
 - c) Conjugation
 - d) Cell fusion
 - e) Binary fission
25. The no. of hydrogen bonds existing between guanine and cytosine are
- a) 5
 - b) 2
 - c) 3
 - d) 1
 - e) 4
26. The following are normal flora of the skin
- a) Bacillus
 - b) Staphylococci
 - c) Salmonella
 - d) Vibrio
 - e) Clostridia
27. The following must be contained in the patients lab request form except?
- a) Test request
 - b) Unique patient number
 - c) Name of requesting doctor
 - d) Date and time of sample collection
 - e) Brief clinical history
28. The bacterial culture method that ensure growth of discrete colonies is?
- a) Pour method
 - b) Streaking
 - c) Stabbing
 - d) Rolling
 - e) Swabbing
29. When transporting specimen to referral labs one must meet the following except?
- a) Involve the postmaster / courier services
 - b) Double package with leak proof material
 - c) Use transport media
 - d) Proper labeling of address
 - e) Personally hand deliver
30. The experiment where broth remained free of bacteria when air was free of dust was carried by?
- a) Spallanzani
 - b) John Tyndall

- c) Francisco Redi
- d) Lours Pasteur
- e) Theodore Escherich

SECTION B ESSAY
(ANSWER ALL QUESTION IN THIS SECTION)

1. (a) Tabulate the differences between gram positive bacterial cell wall and gram negative

(10marks)

(b) Explain the gram staining technique

(10marks)

2. Discuss the physical methods of sterilization and give relevant examples of application.

(20marks)