



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 4211 : MEDICAL BACTERIOLOGY II

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. *Streptococcus agalactiae* produces ?
 - a) Yellow golden pigment on prolonged incubation
 - b) CAMP factor
 - c) Colicins
 - d) Yellow colonies on macconkey
 - e) Arrange pigment on serum starch agar
2. Phenol red indicator is contained in which of the following media?
 - a) K.I.A
 - b) Mac Conkey
 - c) X.L.D
 - d) C.L.E.D
 - e) E.M.B
3. Early cultures of *staphylococci* can be differentiated from *streptococcus* by

- a) Staining test
 - b) Coagulase test
 - c) Catalase test
 - d) Haemolysis
 - e) Colonial morphology
4. The presence of fimbriae in bacteria is indicative of?
- a) Virulence
 - b) Avirulence
 - c) Toxin production
 - d) O Antigen
 - e) Antibiotic resistance
5. *Yersinia pestis* is transmitted to human mainly by?
- a) Rat
 - b) Lice
 - c) Ticks
 - d) Fleas
 - e) Flies
6. *Bordetella pertussis* is the causative agent of which disease?
- a) Toxic shock syndrome
 - b) Whooping cough
 - c) Tuberculosis
 - d) Urinary tract infection
 - e) Skin scalded syndrome
7. Gram positive Lancet shaped diplococci is a characteristic of which organism?
- a) *Neisseria gonorrhoeae*
 - b) *Streptococci pneumoniae*
 - c) *Streptococci agalactiae*
 - d) *Diplococcus pneumoniae*
 - e) *Neisseria meningitidis*
8. Wayson's staining is required for identification of?
- a) *Bacillus streptothermophilus*
 - b) Capsules
 - c) *Streptococcus faecalis*
 - d) Plaque bacilli
 - e) *Corynebacterium diphtheriae*
9. Importance of normal flora in man includes?
- a) Production of vital nutrients in infancy
 - b) Building bacterial resistance
 - c) Development of immune competence
 - d) Prevention of infection with gut pathogen
 - e) None of the above

10. Biochemical tests that can be used to differentiate *micrococcus* from coagulate negative *staphylococci*
- Novobiocin sensitivity
 - Oxidase susceptibility
 - Methyl red test
 - Catalase
 - Gram stain
11. Presence of capsules can be demonstrated by ?
- Microscopy using x10 and x 40 objectives
 - India ink technique
 - Positive staining technique
 - Gram staining techniques
 - Giesma staining
12. The indicator system for detecting production of hydrogen sulphide in triple sugar iron agar is?
- Neutral red
 - Phenol red
 - Ferric citrate
 - Bromothymol blue
 - Bromocresyl blue
13. Which of the following organism is an important cause of skin infection
- Mycobacterium leprae*
 - Bacillus cereus*
 - Yersinia pestis*
 - Listeria monocytogens*
 - Citrobacter freundii*
14. A 30 years old woman has bloody diarrhoea for the past 14 hours. Which one of the two following organisms is least likely to cause the illness?
- Streptococcus pyogenes*
 - Clostridium difficile*
 - Shigella dysenteriae*
 - Salmonella enteritidis*
 - Shigella boydii*
15. Each of the following agents is a recognized causes of diarrhea except
- Clostridium perfringens*
 - Vibrio cholera*
 - Enterococcus faecalis*
 - Escherichia coli*
 - Shigella dysenteriae*
16. Which of the streptococci is implicated in causing un complicated pharyngitis and tonsillitis
- S. pyogenes*
 - S. pneumoniae*
 - S. mutans*
 - S. agalactiae*

e) *S. oralis*

17. The coagulase test is used to differentiate
- Staphylococcus epidermidis* from *Neisseria meningitidis*
 - Staphylococcus aureus* from *staphylococcus epidermidis*
 - Staphylococcus pyogenes* from *staphylococcus aureus*
 - Staphylococcus pyogenes* from *Enterococcus faecalis*
 - Genus *streptococcus* from genus *staphylococci*
18. Which of the following disease is best diagnosed by serologic means ?
- Cholera
 - Food poisoning
 - Typhoid fever
 - Syphilis
 - Diarrheal diseases
19. The yellow colonies of vibrio cholera on TCBS appear is due to?
- Neutralization
 - Lactose fermentation
 - Sucrose fermentation
 - Alkalinity
 - Oxidation
20. Under appropriate conditions motility may be demonstrated for all of the following pathogenic organisms except?
- E.Coli*
 - H. Pylori*
 - Salmonella typhi*
 - Campylobacter jejuni*
 - Bacillus anthracis*
21. Stool cultures are important in the diagnosis of typhoid fever infection in the 3rd week of infection and are positive in:-
- 25% of the cases
 - 50% of the cases
 - 80% of the cases
 - 30% of the cases
 - 100% of the cases
22. Why is decontamination of sputum important?
- It reduces chances of contamination during culture
 - It reduces the survival of the isolate
 - It increases the survival of the isolate
 - It protects the laboratory worker from infection
 - It reduces the incubation period
23. When carrying out catalase test one should
- Use ion wire loop
 - Avoid carryover of BA
 - Avoid wire loop made from nicrome material

- d) Use concentrated hydrogen peroxide
 - e) Emulsify the organism with normal saline
24. The mutual inhibition of swarming by the genus proteus is indicative of?
- a) Over incubation
 - b) Growth of different strains
 - c) Growth of similar strains
 - d) Contamination
 - e) Under incubation
25. In the absence of plasma the following tests can be used for identification of *staphylococci aureus* ?
- a) Catalase test
 - b) Coagulase test
 - c) Indole test
 - d) DNase test
 - e) Indole test
26. Which of the following can be used as a counter stain for Ziehl Neelsen technique
- a) Crystal violet
 - b) Methyl cresyl blue
 - c) Carbol fuchisin
 - d) Malachite green
 - e) Cresyl blue
27. “*Streptococci agalactiae*” are identified by?
- a) Motility
 - b) Optchin
 - c) Possession of capsule
 - d) Catalase test
 - e) Coagulase test
28. *Vibrio cholera* was discovered by
- a) Koch Robert
 - b) Metchnikoff
 - c) John Snow
 - d) Antony Van
 - e) Robert Hooke
29. Which of the following enzyme act as a spreading factors?
- a) Hyaluronidase
 - b) Coagulase
 - c) Catalase
 - d) DNase
 - e) All of the above
30. The causative agent of scrub typhus?
- a) *R. quintana*
 - b) *R. rickettsii*
 - c) *R. arinetalis*

- d) *R.prowazekii*
- e) *R. ysutsugamushi*

SECTION B ESSAY
(ANSWER ALL QUESTION IN THIS SECTION)

1. Write short notes on the following:-
 - a) Indole test **(10marks)**
 - b) Bound coagulase test **(10marks)**
2. Discuss the process of laboratory diagnosis of vibiocholerae in the laboratory and the prevent
measures employed in controlling transmission **(20marks)**