



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF MEDICAL SCIENCES

UNIVERSITY EXAMINATION FOR:

DEGREE

AMD 4104 : MEDICAL MICROBIOLOGY

END OF SEMESTER EXAMINATION

SERIES: DECEMBER 2017

TIME: 2 HOURS

DATE: Pick Date Jul 2017

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **TWO** Section(s). Attempt ALL questions.

Circle the correct answer in section A.

Section A

1. Which of the following organism is a fungus?

- a) *Lactobacillus acidophilus*
- b) *Candida albicans*
- c) *Pseudomonas aureginosa*
- d) Non typhoid Salmonella
- e) *Escherichia coli*

2. How is *Haemophilus ducreyi* transmitted?

- a) Through ingestion
- b) Injection
- c) Mosquito bite

- d) By inhalation
 - e) Sexually
3. The following is correct about isolation medium containing antibiotics except_____
- a) The media is selective
 - b) The medium contains agar
 - c) The medium can inhibit some bacteria from growing
 - d) The medium is not selective
 - e) The media will allow target bacteria to grow
4. Which of the following differential reaction is observed in blood agar medium?
- a) Fastidious growth
 - b) Motility
 - c) Haemolysis
 - d) Spore production
 - e) Capsule production
5. Which of the following disease is associated with *Treponema pallidum*?
- a) HIV/AIDS
 - b) Vaginal thrush
 - c) Chancroid
 - d) Gonorrhoea
 - e) Syphilis
6. Which of the following is observed when 1% Methylene is added to contaminated milk?
- a) Blue colour
 - b) fermentation
 - c) No reaction
 - d) White color
 - e) Precipitation
7. Which of the following is not correct on Gram stain technique?
- a) The primary stain is crystal violet
 - b) Smears are air dried
 - c) Young cultures are used
 - d) Iodine is applied
 - e) Old culture can be used
8. Cholera stool samples can be described as_____

- a) bloody
- b) Rice water stool
- c) mucoid
- d) loose
- e) formed

9. Which of the following bacteria is isolated from drained yellow pus of a boil?

- a) *Staphylococcus aureus*
- b) *Clostridium tetani*
- c) *Proteus mirabilis*
- d) *Bacillus anthracis*
- e) *Pseudomonas aureginosa*

10. Which of the following bacteria causes bacillary dysentery?

- a) Shigella
- b) Amoeba
- c) Staphylococcus
- d) Candida
- e) Chlamydia

11. Who is considered to be the father of medical microbiology?

- a) Edward Jenner
- b) Robert Koch
- c) Antony Van Leuwenhoek
- d) Alexander Fleming
- e) Louis Pasteur

12. Which of the following temperature is required for psychrophilic bacteria?

- a) 37°C
- b) 4°C
- c) 35°C
- d) 44.2°C
- e) Minus 70°C

13. Which of the following specimen not sterile?

- a) CSF
- b) Bone marrow
- c) Blood
- d) stool

- e) Urine
14. Mycotoxins are toxins which are produced by_____
- a) Fungi
 - b) Gram negative bacteria
 - c) Gram positive spore formers
 - d) Non tuberculosis Mycobacterium
 - e) Viruses
14. The Widal test is used to screen patients whom are suspected to have_____
- a) typhoid
 - b) Malaria
 - c) Dengue fever
 - d) Food poisoning
 - e) ulcers
15. Which of the following media is used for culturing *Mycobacterium tuberculosis*?
- a) Lowenstein-Jensen (LJ) media
 - b) Buffered Charcoal-yeast extract agar
 - c) Eosin Methylene Blue Agar
 - d) Campylobacter thioglycollate broth
 - e) Xylose Lysine Deoxycholate Agar
16. Which of the following is associated with the Most Probable Number method?
- a) Bacterial preservation
 - b) PCR techniques
 - c) Serotyping
 - d) Microbiological analysis of water
 - e) Sensitivity tests
17. Enterotoxigenic *Escherichia coli* commonly cause diarrhea in_____
- a) Children below 5years of age
 - b) Travelers
 - c) The elderly
 - d) neonates
 - e) Military camps
18. Which of the following bacteria may cause laboratory acquired infection through aerosols?
- a) *Neisseria gonorrhoeae*

- b) Ebola virus
- c) *Mycobacterium tuberculosis*
- d) Enterohaemorrhagic *Escherichia coli*
- e) *Salmonella typhi*

19. Which of the following vaginal flora cause opportunistic infection?

- a) *Trichomonas vaginalis*
- b) Lactobacillus
- c) *Candida albicans*
- d) *Pseudomonas*
- e) *Neisseria gonorrhoea*

20. Which of the following structures protect bacteria from phagocytosis?

- a) Fimbriae
- b) Plasmid
- c) Capsule
- d) Peptidoglycan
- e) Flagella

21. Food poisoning by *Bacillus cereus* can be acquired through _____?

- a) Consumption of contaminated refrigerated rice meal
- b) Fleas which feed on rodents
- c) Aerosols
- d) Person to person contact
- e) Drinking contaminated water

22. Which of the following dye is used to test microbial contamination of milk?

- a) Safranin
- b) Methylene blue
- c) Crystal violet
- d) Malachite green
- e) Acetone

23. Fever that is acquired from consuming raw milk is called _____

- a) Typhoid fever
- b) Pseudomembraneous colitis
- c) Brucellosis
- d) Malaria
- e) Salmonellosis

24. Which of the following statement on *Bacillus anthracis* is incorrect? The bacteria _____

- a) Can be found in human normal flora
- b) Produce spores
- c) Can be acquired in slaughter houses
- d) Can cause fatal infection
- e) Can cause skin infection

25. Which of the following bacteria causes conjunctivitis in infants?

- a) *Haemophilus species*
- b) *Treponema pallidum*
- c) *Neisseria gonorrhoeae*
- d) *Trichomonas vaginalis*
- e) *Streptococcus fecalis*

26. Botulism poisoning is caused by a species of the following bacteria

- a) Mycobacterium
- b) Bacillus
- c) Clostridium
- d) Brucella
- e) Escherichia

27. Food handler's nostrils are screened for carriage of _____

- a) *Staphylococcus aureus*
- b) *Staphylococcus albus*
- c) *Staphylococcus epidermidis*
- d) *Staphylococcus hominis*
- e) *Streptococcus pyogenes*

28. Which of the following is associated Clostridia infections?

- a) Chancroid
- b) Genital ulcers
- c) Tonsillitis
- d) Plague
- e) Tetanus

29. Which of the following is not a factor which may lead to Candidiasis?

- a) Increased Vaginal Lactobacilli
- b) Pregnancy
- c) Prolonged use of Antibiotics
- d) Decrease in Vaginal Lactobacilli

e) HIV/AIDS

30. Which of the following specimen is analyzed for bacteremia?

- a) CSF
- b) Blood
- c) Lung aspirate
- d) Stool
- e) Biopsy tissues

Section B

Q31.

- a) Outline virulence factors of pathogenic bacteria (10 Marks)
- b) Discuss the collection and transportation of the following specimen
 - a. Urine samples (2 Marks)
 - b. Deep wound samples (4 Marks)
 - c. Cholera samples (4 marks)

Q32.

- a. Describe the diarrhea diseases which can occur during outbreak of waterborne disease (10 Marks)
- b. Explain the bacteriological investigations of water samples from the outbreak area (10 Marks)