



# TECHNICAL UNIVERSITY OF MOMBASA

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FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF MEDICAL SCIENCES

**UNIVERSITY EXAMINATION FOR:**

DEGREE

AML 4211 : MEDICAL BACTERIOLOGY II

END OF SEMESTER EXAMINATION

**SERIES: DECEMBER 2016**

**TIME: 3 HOURS**

**DATE:** Pick Date Dec 2016

## 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.**

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## Section A

1. False susceptibility results can be caused by \_\_\_\_\_

- a) Using lag phase cultures
- b) Using Muller Hinton agar
- c) Using log phase cultures
- d) Determining concentration of bacteria in saline
- e) Incubating at 37°C

2. Urea breath test is applied for the diagnosis of \_\_\_\_\_

- a) Typhoid
- b) Pseudomembraneous colitis
- c) Peptic ulcer
- d) HIV/AIDS
- e) Brucellosis

3. Colonies of lactose fermenters appear as \_\_\_\_\_ in MacConkey.
- Pale
  - Pink
  - Black
  - Yellow
  - Colourless
4. Which of the following bacteria can be isolated from urethral swab?
- Candida albicans*
  - Treponema pallidum*
  - Trichomonas vaginalis*
  - Streptococcus fecalis*
  - Neisseria gonorrhoeae*
5. Which of the following test is used in to differentiate Streptococcus and Staphylococcus?
- Lancefield classification
  - Growth in blood
  - Oxidase
  - Catalase
  - Motility
6. Diarrhea caused by consuming refrigerated rice can be caused by \_\_\_\_\_
- Escherichia coli
  - Clostridium botulinum
  - Salmonella typhi
  - Bacillus anthracis
  - Bacillus cereus
7. Which of the following bacteria appear as Chinese letter on Gram staining?
- Lactobacillus
  - Mycoplasma
  - Corynbacterium
  - Mycobacterium complex
  - Bacillus subtilis
8. Which of the following bacteria is associated with rodents?
- Yesinia enterocolitica
  - Plasmodium falciparum
  - Shigella dysenteriae
  - Yersinia pestis
  - Streptococcus pneumoniae

9. The fastidious *Haemophilus* species require the following supplements for growth\_\_\_\_\_
- Sodium selenite
  - Sodium chloride
  - X or V factors
  - Egg yolk
  - Phosphate buffer
10. The following is correct about transport media except\_\_\_\_\_
- May contain reducing agents
  - Allows fastidious bacteria to grow
  - Retains viability of bacteria
  - Do not allow overgrowth of contaminants
  - Is portable
11. Enteropathogenic *Escherichia coli* is commonly cause diarrhea in\_\_\_\_\_
- Children below 5years of age
  - Adults
  - Travellers
  - Military camps
  - Pregnant women
12. Which of the following bacteria is routinely cultured in a safety cabinet?
- Mycobacterium tuberculosis*
  - Neisseria meningitidis*
  - Ebola virus
  - Enterohaemorrhagic *Escherichia coli*
  - Shigella dysenteriae*
13. Which of the following Enterobacteriaceae is oxidase positive?
- Citrobacter freundii*
  - Shigella boydii*
  - Proteus mirabilis*
  - Plesiomonas shigelloides*
  - Pseudomonas aeruginosa*
14. ST toxins are tolerant to\_\_\_\_\_
- High pH
  - Low pH
  - High temperatures
  - Osmotic pressure
  - Cold temperatures

15. API 20E is used for \_\_\_\_\_
- a) Biotyping of *Entamoeba*
  - b) Gram staining fungi
  - c) Biotyping of *Candida*
  - d) Treating opportunistic diseases
  - e) Biotyping of *Enterobacteriaceae*
16. An environment containing 5% Oxygen is suitable for the isolation of \_\_\_\_\_
- a) Obligate aerobes
  - b) Microaerophilic bacteria
  - c) Anaerobes
  - d) Facultative anaerobes
  - e) Strict anaerobes
17. Which of the following bacteria is not culturable?
- a) *Vibrio parahaemolyticus*
  - b) *Non typhi Salmonella*
  - c) *Treponema pallidum*
  - d) *Brucella abortus*
  - e) *Helicobacter pylori*
18. Which of the following is observed in the Catalase test?
- a) White color
  - b) agglutination
  - c) Effervescence
  - d) Hemolysis
  - e) Precipitation
19. Which of the following is not a characteristic of Streptococci?
- a) Aerobic growth
  - b) Oxidase negative
  - c) Gram positive cocci
  - d) Can cause haemolysis in blood agar
  - e) Are flagellated
20. TCBS agar is a selective media which is used for the isolation of \_\_\_\_\_
- a) *Bacillus subtilis*
  - b) *Mycobacterium tuberculosis*
  - c) *Pseudomonas*
  - d) *Vibrio cholerae* O1
  - e) *Staphylococcus aureus*

21. Widal test is performed to
- Screen for Salmonella typhi infection
  - Confirm S. typhi infection
  - Concentrate antibodies
  - Concentrate antigen
  - Culture Salmonella
22. Which of the following is associated with prolonged use of antibiotics?
- Typhoid
  - Candidiasis
  - Boils
  - Plague
  - Tetanus
23. The following statements are correct on normal bacteria flora except\_\_\_\_\_
- The organisms colonize specific anatomic sites
  - Can cause opportunistic infections
  - Can be beneficial to the host
  - Can be affected by antimicrobial therapy
  - Can occur as normal blood flora
24. Who is considered to be the father of medical microbiology?
- Edward Jenner
  - Antony Van Leuwenhoek
  - Robert Koch
  - Alexander Fleming
  - Louis Pasteur
25. Which of the following supplement is used for detecting lecithinase in agar media?
- Tween 80
  - thiosulphate
  - Egg yolk
  - Serum
  - Agar
26. Which of the following specimens is cultured in CLED medium to inhibit swarming of Proteus?
- Sputum
  - Urine
  - Ear swabs
  - Blood
  - Pus swabs

27. The zone of inhibition in antimicrobial test is measured in order to record \_\_\_\_\_
- a) Drug susceptibility
  - b) Number of bacteria
  - c) Number of antibiotics
  - d) The costs of antimicrobials
  - e) The colour of the reaction
28. Lactobacilli prevent opportunistic infections by \_\_\_\_\_
- a) Competing for nutrients
  - b) Producing alkaline products
  - c) Creating an acidic environment
  - d) Creating anaerobic conditions
  - e) Producing filaments
29. Which of the following antimicrobial is not included in the sensitivity tests for *Mycobacterium tuberculosis*
- a) Ampicillin
  - b) Isoniazid
  - c) Rifampin
  - d) Ethambutol
  - e) Streptomycin
30. Which of the following medium contain antibiotics as the selective agents?
- a) Chocolate agar
  - b) Mueller Hinton
  - c) Nutrient agar
  - d) Thayer Martin
  - e) Sheep blood agar

Section B

Q31.

a) Describe the preparation of sputum samples before culturing (10 Marks)

a) Discuss the identification of Gram positive cocci (10 Marks)

Q32.

Discuss in details the bacteriological diagnosis of Urethral pus swabs under the following: specimen collection, transport, culture and identification (20 Marks)