



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF MEDICAL SCIENCES

UNIVERSITY EXAMINATION FOR:

DIPLOMA

AML 2103: MEDICAL BACTERIOLOGY 1

SPECIAL SUPPLEMENTARY EXAMINATION

SERIES: Select series 2017

TIME: 2 HOURS

DATE: Pick Date Select Month Pick Year

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of Choose No choose Sect/Quest. Attempt Choose instruction.

Circle the correct answer in section A.

Section A

- 1 Use of microorganisms to clean up environment is known as ?
 - a. bioremediation
 - b. lyophilization
 - c. Fermentation
 - d. Biolistics
- 2 The iodine used in gram staining serves as a?
 - a. cofactor
 - b. cheater
 - c. mordant
 - d. Catalyst

3 The following information is contained in the material safety data sheet except?

- a. Chemical name
- b. The manufacturer's name and address
- c. Hazardous ingredients
- d. The price of the chemical

4 Which of the following bacteria is a filamentous bacteria

- a. Mycoplasma
- b. Spirochetes
- c. Actinomycetes
- d. Vibrios

5 Cork-screw shaped forms of bacteria are?

- a. Bacilli
- b. Actinomycetes
- c. Spirochetes
- d. Mycoplasmas

6 Inhibition of microbes living tissue is

- a. Sanitation*
- b. Sterilization*
- c. Antisepsis*
- d. Disinfection*

7 Which of the following safety cabinet is used in Biosafety level 1 laboratory?

- a. Class III biological safety cabinet
- b. Class II biological safety cabinet
- c. Class I biological safety cabinet
- d. None

- 8 The following may be used to differentiate Gram positive bacteria from Gram negative ones. Gram positive bacteria have _____
- teichoic acid in their walls
 - lipopolysaccharide layer in their cell walls
 - peptidoglycan cell walls
 - an elaborate resistance to lysozyme action
- 9 In general bacterial spores are responsible for?
- Cell death
 - Survival
 - Protein synthesis
 - Respiration
- 10 An example of biological method of sterility control in autoclaving is
- Use of *Serratia mercenscens*
 - Use of vegetative bacillus stearothermophilus
 - Use of autoclave tape
 - Use of bacillus stearothermophilus spores
- 11 Bacterial flagellum arranged at each pole of the cell is referred to as
- Lophotrichous flagella
 - Amphitrichous flagella
 - Monotrichous flagella
 - Peritrichous flagella
- 12 Most desired media for transport of stool sample for cholera is?
- Nutrient broth
 - Stuart medium
 - Alkaline peptone water
 - Mac Conkey broth

13 Sterile Specimen includes which of the following?

- a. Sputum
- b. Swabs
- c. Pus
- d. Blood

14 The following statements is true of Endotoxins except ?They are:

- a. produced by gram negative bacteria
- b. Are also known as lipopolysacharide
- c. Are specific in action
- d. Are non specific in action

15 The following must be taken into consideration when collecting specimen for culture except?

- a. Patients sex
- b. Specimen container
- c. Clinical history
- d. Laboratory request

16 The following sugars are incorporated in the media TSI except

- a. glucose
- b. sucrose
- c. lactose
- d. fructose

17 The bacterial fimbriae is responsible for?

- a. Conjugation
- b. Protein synthesis
- c. Attachment

d. Strengthening the cell wall

18 The causative agent of whooping cough is?

- a. *Staphylococci aureus*
- b. *Streptococcus pneumoniae*
- c. *Bordetella pertussis*
- d. *Haemophilus influenza*

19 Antony van Leeuwenhoek

- a. Introduced the term staphylococcus which was associated with pyogenic diseases
- b. Discovered the importance of using antiseptics
- c. Resolved bodies to x200
- d. Demonstrated transmission of cholera

20 Lyophilization is a process of?

- a. Deep freezing
- b. Freeze drying
- c. Heat drying
- d. Smoking

21 Capnophiles will grow well in the presence of?

- a. 5-10% O₂
- b. 5-10% CO₂
- c. 5-10% CO₂ increased tension.
- d. Increased CO₂ and O₂

22 The following is true of prokaryotes except? They.....

- a. Lack mitochondria
- b. Use fimbriae as organs of attachment
- c. Transfer of genes is done by the sex Pilli
- d. Organelles are membrane bound

23 Which of the following is characteristic of Exotoxins?

- a. Less antigenic
 - b. Weakly antigenic
 - c. Highly antigenic
 - d. Produced by gram negative bacteria
- 24 When carrying out Catalase test one should avoid.....
- a. Use of nicrome wire loop
 - b. Avoid carryover of BA
 - c. Avoid using iron wire loop
 - d. Use concentrated Hydrogen peroxide
- 25 What is common in Chlamydia, Rickettsia, and viruses?
- a. Poses DNA and RNA
 - b. Poses DNA or RNA
 - c. Obligate intracellular
 - d. Reproduce through replication
- 26 In Ziehl-Neelsen stain phenol is used as
- a. A dye
 - b. A mordant
 - c. A buffer
 - d. An acidifier
- 27 Virulent factors include all of the following EXCEPT?
- a. ability to produce toxins
 - b. ability to produce extracellular enzymes
 - c. presence of plasmids
 - d. possession of fimbriae
- 28 Bacteria that grows between 25-40 °c is termed as
- a. Psychrophiles
 - b. Mesophiles
 - c. Saprofites
 - d. Thermophiles

29 Which of this specimen contain comensals?

- a. Sputum
- b. Urine in bladder
- c. Blood
- d. CSF

30 The following statements are true about a simple stain except?

- a. Differentiate one bacterial group from another.
- b. Demonstrate bacteria morphology only.
- c. Demonstrate internal structures
- d. Does not employ multiple staining steps.

31 In Gram stain, if the decolorizing step is deleted, gram-negative cells will appear:

- a. clear
- b. pink
- c. green
- d. blue

32 When carrying out coagulase test, a positive result is indicated by ?

- a. Effervescence
- b. Agglutination
- c. Neutralization
- d. Bubbling

33 Which of the following types of microscopy is most useful for viewing the internal structures of unstained specimens?

- a. Electron
- b. Confocal
- c. Phase-contrast
- d. Fluorescence

34 The following is common to both the Gram stain and acid-fast stain?

- a. Fixation of the smear prior to staining.
- b. Use of the same counterstain
- c. Use of acid alcohol for decolorizing.
- d. Examination of the slide by low power objective

35 India ink staining is encountered in?

- a. Albert staining
- b. spore demonstration
- c. capsule demonstration
- d. demonstration of volutin granules

36 Why is sterilization important in a microbiology laboratory?

- a. For ensuring un safe working environment
- b. For ensuring that the workers lab coats are kept clean
- c. For ensuring that wastes from micro lab are safely disposed
- d. Is included in the SOP's of waste disposal

37 Chocolate blood agar belongs to which class of media?

- a. Differential
- b. Selective
- c. Enrichment
- d. Indicator

38 Prokaryotes' include?

- a. Protozoan's

- b. Fungi
 - c. Bacteria
 - d. Parasites
- 39 The term pandemic refers to
- a. Constant presence of disease or agent of disease
 - b. Acute outbreak of disease
 - c. Disease that is world wide
 - d. A vector
- 40 In bacteria protein is synthesised by?
- a. Cell membrane
 - b. Ribosomes
 - c. Fimbriae
 - d. Nucleus

Section B

41 State the differences between the following

- a. Eukaryotes and prokaryotes 10 marks
- b. Endotoxin and Exotoxins 10 marks

42 Write short notes on the following

- a. The causes of false gram reaction 10 marks
- b. Ziehl Nielsen staining technique 10 marks

43 When bacteria are grown in a liquid media it will grow in a particular Manner clearly explain the bacterial growth curve

(20 marks)