

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

FIRST YEAR EXAMINATION FOR BACHELOR OF SCIENCE IN PUBLIC HEALTH

PUHE125/ NURS 223: MEDICAL MICROBIOLOGY

STREAMS: BSC (PUBLIC HEALTH) Y1S2

TIME: 2 HOURS

DAY/DATE: _____ **.....**

INSTRUCTIONS

Do not write anything on the question paper.

Mobile phones and any other reference materials are NOT allowed in the examination room.

The paper has three sections. Answer ALL questions in Sections I and II and ONE question in section III.

All your answers for Section I (MCQs) should be on one page.

Number ALL your answers and indicate the order of appearance in the space provided in the cover page of the examination answer booklet.

Write your answers legibly and use your time wisely

SECTION 1: MULTIPLE CHOICE QUESTIONS [20 MARKS]

1. Smallpox vaccine was first discovered by
 - a) Robert Koch
 - b) Louis Pasteur
 - c) Lister

d) Edward Jenner

e)

2. *Streptococcus pneumoniae* was isolated by
 - a) Robert Koch
 - b) Edward Jenner
 - c) Antony von Leeuwenhock
 - d) Louis Pasteur
3. The etiologic agent of botulism is
 - a) Neurotoxin
 - b) Endotoxin
 - c) Enterotoxin
 - d) All of the above
4. Protein particles which can infect persons are called
 - a) Virions
 - b) Prions
 - c) Nucleoids
 - d) None of these
5. The virulence determining antigens of microorganisms may be
 - a) Proteins and polysaccharides
 - b) Carbohydrate-protein complexes
 - c) Polysaccharide-Phospholipid-Protein complexes
 - d) All of these
6. Cell-wall thickness
 - a) Thicker in Gram positive than Gram negative
 - b) Thicker in Gram negative than Gram positive
 - c) Equal in both
 - d) In Gram negative cell-wall is absent
7. The natural reservoir of infection for cholera is
 - a) Flies
 - b) Horse
 - c) Man
 - d) None of these
8. Lab diagnosis of Leishmaniasis is done by
 - a) CFT
 - b) Peripheral smear
 - c) Blood culture

- d) All of these
9. Which of the following characters are related to viruses?
- a) No growth on inanimate culture media
 - b) Not sensitive to antibiotics
 - c) No energy producing enzymes
 - d) Insensitive to interferon
10. Temperature required for pasteurization is
- a) Above 150°C
 - b) Below 100°C
 - c) 110°C
 - d) . None of these
11. Drug resistance to sulphonamides is due to
- a) Production of PABA
 - b) Folic acid synthetase
 - c) Drug alteration
 - d) Low affinity for drug synthesis by bacteria
12. The bacterial culture prepared by pure culture method is
- a) Inoculum
 - b) Suspension
 - c) Dilution
 - d) None of these
13. Blood agar medium is
- a) Enrichment medium
 - b) Enriched medium
 - c) Selective medium
 - d) Differential medium
14. Glassware are sterilized by
- a) Autoclaving
 - b) Hot air oven
 - c) Incineration
 - d) None of these
15. Growth period of the culture is
- a) Inoculation
 - b) Incubation
 - c) Incineration
 - d) Isolation
16. The primary mode of transmission of poliomyelitis virus:

- a) Flies
 - b) Milk
 - c) Person to person
 - d) Food and water
17. Virulent factor in pneumococcosis
- a) Cell wall
 - b) Capsule
 - c) Mesosomes
 - d) Endotoxins
18. First line of body defense is
- a) Antibody molecules
 - b) Unbroken skin
 - c) Antigen molecules
 - d) Phagocytic cells
19. AIDS disease is caused by a virus which belongs to
- a) Retro virus group
 - b) Rhabdo virus group
 - c) Hepatitis virus group
 - d) Adeno virus group
20. Active immunity is induced by
- a. Infection
 - b. Placental transfer of antibodies
 - c. Injection of antibodies
 - d. Injection of gamma-globulins

SECTION II (30 Marks)
Answer *all* questions in this section

1. Distinguish between (4 Marks)
 - i. Synergism and sensitivity
 - ii. Active and passive immunity.
2. Describe the four main determinants of bacterial pathogenicity and virulence (8 Marks)
3. Describe the mode of action of disinfectants and antiseptics (8 Marks)
4. Describe the Steps of Processing of Clinical Samples in Laboratories (8 Marks)

SECTION III

Answer any *One* question

1. Outline the procedure of collecting a specimen for the microbial examination (20 Marks)

2. Discuss the strategies a Health officer can use to ensure safe disposal of Microbiological contaminated waste from Health facilities (20 Marks).