

**KISII UNIVERSITY SPECIAL/SUPPLEMENTARY EXAMINATIONS**

**CIMS 0121: MICROBIOLOGY**

**TIME: 3HOURS**

**Short Essays Questions: Section A (60 Marks)**

**Attempt All Question**

**Section B (40 Marks)**

**Answer only TWO questions**

**SECTION A: SHORT ESSAYS**

**ATTEMPT ALL QUESTIONS**

1. Define the following terms as used in microbiology.
  - (a) Pathology (2 Marks)
  - (b) Infection (2 Marks)
  - (c) Pathogenesis (2 Marks)
  - (d) Capsid (2 Marks)
  - (e) Bacteriophage (2 Marks)
2. List benefits of micro-organism. (10 Marks)
3. Discuss Koch's postulate. (10Marks)
4. Write short notes on the following micro-organism.
  - (a) Mycobacterium leprae. (5 Marks)
  - (b) Clostridium tetani. (5 Marks)
5. Describe how viruses are named. (10 Marks)
6. Discuss stages of Viral Replication within the Host. (10 Marks)

**SECTION B: LONG ESSAYS**

**Answer any TWO questions**

1. Describe causative micro-organism, epidemiology, pathogenesis, clinical features, management and prevention of Gonorrhoea. (20 Marks)
2. Classify micro-organism and give examples in each. (20 Marks)
3. Discuss Tuberculosis under the following
  - (a) Risk factors (10 Marks)
  - (b) Types, signs, symptoms and prevention. (10 Marks)

## PAPER II: MULTIPLE CHOICE AND T/F

### SECTION A: MCQ CHOOSE ONE CORRECT ANSWER.

1. Microbiology is the study of micro-organisms that are
  - a) Microscopic in dimension and are above 1mm
  - b) Too small and can be seen with naked eye.
  - c) Too small to be perceived by the unaided human eye.
  - d) Above 1mm but can be seen using microscope.
2. Microscope was first used by
  - a) Anton Van Leeuwenhoek
  - b) Robert Hooke
  - c) Augustine Bussy
  - d) Joseph Lister
3. Theory of Spontaneous generation was disputed by
  - a) Robert Koch
  - b) Francesco Redi
  - c) Robert Hooke
  - d) Anton Van Leeuwenhoek
4. The smallest infectious agents are
  - a) Bacteria
  - b) Viruses
  - c) Parasites
  - d) Protozoans
5. Concerning Neisseria gonorrhoea
  - a) Found in both man and animals
  - b) Gram positive
  - c) Gram negative
  - d) Third most common venereal disease
6. Streptococcus agalactiae cannot reside in
  - a) Human vagina
  - b) Pharynx
  - c) Large intestine
  - d) Mouth
7. The following are endospore-formers of Bacilli
  - a) Listeria
  - b) Erysipelothrix
  - c) Mycobacterium
  - d) Clostridium
8. True concerning Bacillus anthracis
  - a) Small block-shaped rods
  - b) Gram-negative rod
  - c) Facultative anaerobe
  - d) None of the above

9. Which of the micro-organism can grow in food and produce toxins that can cause food poisoning.
  - a) Bacillus anthracis
  - b) Bacillus cereus
  - c) Mycobacterium tuberculosis
  - d) Clostridium tetani
10. The following are clinical features of inhalation Anthrax except
  - a) Fever
  - b) Pharyngitis
  - c) Neck swelling
  - d) Abdominal pain
11. True concerning capsid of a virus
  - a) A virus particle that is functionally deficient in some aspect of replication.
  - b) The protein shell or coat that encloses the nucleic acid genome.
  - c) A lipid containing membrane that surrounds some virus particle.
  - d) A single folded viral polypeptide chain.
12. Which of the following viruses is Deoxyribonucleic Acid (DNA) virus.
  - a) Calicivividae
  - b) Adenovividae
  - c) Pox vividae
  - d) Papillomavidae
13. False concerning nucleic acid of a virus
  - a) Nucleic acid can be double or single stranded.
  - b) Nucleic acid can be linear or a closed loop.
  - c) Nucleic acid of virus is known as genome.
  - d) Nucleic acid can only be single stranded.
14. Human immunodeficiency virus first case was described in Kenya in.
  - a) 1981
  - b) 1986
  - c) 1996
  - d) 1984
15. The most common way by which HIV can be transmitted is through
  - a) Sexual intercourse
  - b) Mother- to- child – transmission
  - c) Blood transfusion
  - d) Injecting drug use

### **SECTION B: TRUE/ FALSE QUESTIONS**

1. Benefits of micro-organisms include
  - a) Nitrogen fixation
  - b) Photosynthesis
  - c) Manufacture of food, drinks and drugs

- d) Recycling of sewage
  - e) Maintain balance of environment
2. True concerning pathogens
    - a) Disease causing micro-organism
    - b) The process of transmission of disease
    - c) The process by which disease starts in the body
    - d) The process by which disease develops in the body
    - e) None of the above
  3. Streptococcus agalactiae can complicate to the following disease.
    - a) Ophthalmia neonatorum
    - b) Neonatal pneumonia
    - c) Meningitis
    - d) Endocarditis
    - e) All of the above
  4. The following are complication of Gonorrhoea in men
    - a) Pelvic inflammatory disease
    - b) Cervicitis
    - c) Vaginitis
    - d) Urethritis
    - e) Epididymitis
  5. The following are examples of endospore-formers of positive Bacilli except
    - a) Bacillus
    - b) Clostridium
    - c) Listeria
    - d) Erysipelothrix
    - e) Mycobacterium
  6. False concerning general characteristics of mycobacteria
    - a) Gram-negative irregular Bacilli
    - b) Acid fast staining
    - c) Produce catalase
    - d) Gram positive irregular bacilli
    - e) Do not form capsules
  7. Examples of mycobacteria include
    - a) Listeria
    - b) Lepae
    - c) Marium
    - d) Fartuitum
    - e) Paratuberculosis
  8. The following are functions of lipid layer in the cell wall of mycobacterium tuberculosis
    - a) Permeability to stains and dyes
    - b) Resistance to many antibiotics
    - c) Resistance to killing by acidic and alkaline compounds
    - d) Do not resist osmotic lysis
    - e) Can be destroyed by lethal oxidation

9. Tuberculosis can affect every part of the body except
  - a) Hair
  - b) Nails
  - c) Skin
  - d) Bones
  - e) Lungs
10. True concerning cholera
  - a) Is severe diarrhea disease caused by vibrio-cholerae
  - b) Transmission is by water or food
  - c) One of the most rapidly fatal illnesses
  - d) Causes epithelium mucosal damage
  - e) Incubation period is more than five days
11. the following are characteristics of clostridia
  - a) Small Gram positive
  - b) Anaerobic
  - c) Spore bearing
  - d) Saprophytes
  - e) Only b is true
12. True concerning Helicobacter pylori
  - a) It is a spiral- shaped gram- negative rod
  - b) It is a spiral – shaped gram + positive
  - c) It is associated with duodenal and gastric ulcer
  - d) All of the above.
13. The following are species of Brucella
  - a) Brucella abortus
  - b) Brucella melitensis
  - c) Brucella suis
  - d) Brucella canis
  - e) Only a and b are true
14. Viruses are named based on
  - a) Disease thy cause
  - b) Type of disease
  - c) Discovers
  - d) Only a is true
  - e) Only b and c are true
15. Modes of HIV Transmission include
  - a) Sexual contact
  - b) Parenteral
  - c) Perinatal
  - d) Only a is true
  - e) All of the above

