



AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF MEDICAL SCIENCES
DEPARTMENT OF NURSING AND MIDWIFERY SCIENCES
KENYA REGISTERED COMMUNITY HEALTH NURSING
End of Semester Examinations Dec 2024

COURSE CODE AND TITLE: DNS 113: Microbiology, Parasitology & Immunology

DATE: WEDNESDAY 4TH DECEMBER 2024

TIME: 2 Hours

Start: 0900 HOURS

Finish: 1100 HOURS

INSTRUCTIONS

- 1. This exam will be marked out of 70 Marks**
- 2. ALL Questions are compulsory.**
- 3. The Examination has Three Sections: Section A- Multiple Choice Questions, Section B: Short Answer Questions, Section C: Long Essay Questions**
- 4. Answer all Questions in the ANSWER BOOKLET provided**

SECTION I: MULTIPLE CHOICES QUESTIONS

(20 MARKS)

1. Cephalosporins: -
 - a) Affects protozoal metabolism
 - b) Affects fungal nucleic acid synthesis
 - c) Inhibits RNA synthesis
 - d) Inhibits cell wall synthesis
2. One of the following options is true about Acid fact Bacteria: -
 - a) Cell walls with mycolic acid
 - b) Exotoxin production
 - c) Skin infections that can lead to septicemia
 - d) Diseases that come in stages
3. Meningitis is an infection of the: -
 - a) The peripheral nervous system
 - b) The spinal cord and brain
 - c) The covering of the spinal cord and brain
 - d) The blood brain barrier
4. The following are methods of controlling microorganisms except: -
 - a) Autoclaving
 - b) Radiation
 - c) Disinfection
 - d) Incinerator
5. One of the following microorganisms is classified as a eukaryote: -
 - a) Virus
 - b) Bacteria
 - c) Fungi
 - d) None of the above
6. The main component of the bacterial cell wall in Gram-positive bacteria: -
 - a) Lipopolysaccharide
 - b) Peptidoglycan
 - c) Lipoprotein
 - d) Protein

7. Monkey pox virus is classified as a: -
- a) DNA virus
 - b) RNA virus
 - c) Retrovirus
 - d) Adenovirus
8. Viruses replicate by: -
- a) Binary fission
 - b) Budding
 - c) Host cell machinery
 - d) None of the above
9. Upon Gram staining Gram-positive bacteria turn: -
- a) Pink
 - b) Red
 - c) Blue
 - d) Purple
10. Bacteria that grows in presences of some of oxygen are referred to as: -
- a) Aerobic bacteria
 - b) Anaerobic bacteria
 - c) Facultative anaerobes
 - d) macrophile bacteria.
11. The type of virus that is responsible for the common cold: -
- a) Rhinovirus
 - b) Epstein-Barr virus
 - c) Hepatitis C virus
 - d) Zika virus
12. One of the following is a characteristic of viruses: -
- a) Have a nucleus
 - b) Can grow on their own
 - c) Contain either DNA or RNA
 - d) Have cell walls

13. The life cycle of a parasite involving two different hosts is referred to as: -
- a) Direct life cycle
 - b) Indirect life cycle
 - c) Complete life cycle
 - d) Continuous life cycle
14. The term used for disease transmission through a contaminated inanimate object: -
- a) Vector transmission
 - b) Fomite transmission
 - c) Droplet transmission
 - d) Direct contact
15. Virus that replicates using reverse transcription are called: -
- a) DNA viruses
 - b) RNA viruses
 - c) Retroviruses
 - d) Adenoviruses
16. Viruses differ from bacteria because they: -
- a) Have a cell wall
 - b) Replicate independently of host cells
 - c) Lack metabolic machinery for independent life
 - d) Are larger than bacteria
17. Immunity acquired from vaccination is called: -
- a) Active immunity
 - b) Passive immunity
 - c) Innate immunity
 - d) Herd immunity
18. Humoral immunity involves the production of: -
- a) Antigens
 - b) B cells
 - c) T cells
 - d) Antibodies

19. Protozoa is classified into the following EXCEPT: -

- a) Amoebae
- b) Trophozoites
- c) Ciliates
- d) Coccidia

20. The following are cell mediated immunity EXCEPT

- a) Macrophages, dendritic cells
- b) Helper T lymphocytes
- c) Immunoglobulin IgG antibody
- d) Cytotoxic T lymphocytes.

SECTION B: SHORT ANSWER QUESTIONS **(30 MARKS)**

1. Explain the steps used in Koch's Postulates to determine the pathogen that causes a specific disease. (6 Marks)
2. Outline Seven (7) steps of bacteria pathogenesis. (7 marks)
3. State Five (5) factors influencing infection. (5 marks)
4. Explain Three (3) mode of microbe's transmission. (6 marks)
5. Outline Three (3) classification of microbiota. (6 marks)

SECTION C: LONG ANSWER QUESTIONS **(20MARKS)**

1. You are giving health message to a community on Infection prevention. In regards to chain of transmission
 - a) Explain the Robert) Koch's Postulates on infection (4 marks)
 - b) Explain 3 modes of transmission (6 marks)
 - c) Describes chain of infection. (12marks)