



**AMREF INTERNATIONAL UNIVERSITY  
SCHOOL OF MEDICAL SCIENCES  
DEPARTMENT OF NURSING & MIDWIFERY SCIENCES  
BACHELOR OF SCIENCE IN NURSING  
END OF SEMESTER JANUARY - APRIL 2026 EXAMINATIONS**

**COURSE CODE AND TITLE: BSN 125: Medical Parasitology and Virology Main Examination**

**DATE: 10TH APRIL 2026**

Duration: 2 HOURS

Start: 9AM

Finish: 11AM

**INSTRUCTIONS**

1. This exam is out of 70 marks.
2. This Examination comprises THREE Sections. Section I: Multiple Choice Questions (20 marks). Section II: Short Answer Questions (30 marks) and Section III: Long Answer Questions (20 marks).
3. Answer ALL Questions.
4. Do NOT write anything on the question paper - use the back of your booklet for rough work if need be.

**SECTION I: MULTIPLE CHOICE QUESTIONS (MCQs) (20 MARKS)**

1. The main role of low endosomal pH in the entry of viruses into the host cells is to: -
  - A. causes destabilization of capsid protein
  - B. stabilize enzymatic activity of DNA-dependent RNA polymerase
  - C. induces the formation of clathrin protein around the vesicle
  - D. allow the virus to properly bind to its receptor
2. The respiratory virus that has a DNA genome is: -
  - A. Parainfluenza virus
  - B. Adenovirus
  - C. Influenza A
  - D. SARS-CoV-2
3. The type of cells that measles virus primarily infects during the early stages of infection is: -
  - A. Neurons
  - B. Hepatocytes
  - C. Respiratory epithelial cells
  - D. Red blood cells
4. The clinical presentation that is most commonly associated with poliovirus infection is: -
  - A. Encephalitis
  - B. Asymptomatic or mild febrile illness
  - C. Hemorrhagic fever

- D. Rash and arthralgia
5. Primary HSV-1 infection in children often presents as: -
- A. Herpes zoster
  - B. Gingivostomatitis
  - C. Pharyngoconjunctival fever
  - D. Croup
6. The hepatitis virus that is most likely to cause chronic liver disease and hepatocellular carcinoma is: -
- A. Hepatitis A
  - B. Hepatitis C
  - C. Hepatitis D
  - D. Hepatitis E
7. Immune cells targeted by Cytomegalovirus are: -
- A. Monocytes
  - B. T cells
  - C. NK cells
  - D. Dendritic cell
8. The most accurate regarding parvovirus B19 is: -
- A. vaccine is available that contains killed virus as the immunogen
  - B. Patients infected by parvovirus B19 can be diagnosed in the laboratory using the cold agglutinin test
  - C. Parvovirus B19 causes severe anemia because it preferentially infects erythrocyte precursors such as erythroblasts
  - D. Parvovirus B19 commonly infects neutrophils, resulting in an immunodeficiency that predisposes to pyogenic bacterial infections
9. The most accurate regarding the rabies virus and the rabies disease is: -
- A. Finding intranuclear inclusion bodies within macrophages is presumptive evidence of rabies virus infection
  - B. Lamivudine is used to treat rabies because it inhibits the RNA-dependent DNA polymerase in the virion
  - C. The incubation period of the disease is usually 2 to 4 days
  - D. After the animal bite, rabies virus enters the bloodstream, replicates in internal organs such the liver, then reaches the central nervous system during secondary viremia
10. The most accurate statement regarding human papilloma virus (HPV) is: -
- A. There is no vaccine available against HPV
  - B. Acyclovir is effective in preventing lesions caused by HPV but does not cure the latent state
  - C. Antigen-antibody complexes play an important role in the pathogenesis of warts caused by HPV
  - D. The early proteins of HPV play a more important role in malignant transformation than the late proteins
11. Paralysis in poliomyelitis results mainly from destruction of: -
- A. Sensory neurons in dorsal root ganglia
  - B. Upper motor neurons in cerebral cortex
  - C. Lower motor neurons in anterior horn cells
  - D. Autonomic neurons in brainstem

12. One of the following protozoa is a hemoflagellate: -
- A. Plasmodium falciparum
  - B. Leishmania donovani
  - C. Giardia lamblia
  - D. Trichomonas vaginalis
13. The number of trophozoites produced in each excystation in Entamoeba histolytica is: -
- A. Two
  - B. Four
  - C. Eight
  - D. Numerous
14. One of the following drugs is widely used in control of fascioliasis: -
- A. Ivermectin
  - B. Niclosamide
  - C. Metronidazole
  - D. Triclabendazole
15. The egg of Schistosoma mansoni: -
- A. Has lateral spine
  - B. Is unembryonated
  - C. has terminal spine
  - D. Is infective
16. In which of the following cestodes man can act as intermediate host: -
- A. Diphyllobothrium latum
  - B. Taenia saginata
  - C. Taenia solium
  - D. Hymenolepis nana
17. Subcutaneous nodules are a typical finding in: -
- A. hydatid disease
  - B. strongyloidiasis
  - C. onchocerciasis
  - D. trichinosis
18. Loeffler's syndrome is associated with: -
- A. common roundworm
  - B. threadworm
  - C. guinea worm
  - D. hookworm
19. Fertilized eggs may be found in the stool in infections with: -
- A. Taenia saginata
  - B. Ascaris lumbricoides
  - C. Necator americanus
  - D. Trichuris trichiura

20. The infective stage of *Ascaris* and *Trichuris* is the: -
- A. embryonated egg
  - B. rhabditiform larva
  - C. filariform larva
  - D. fertilized egg

**SECTION II: SHORT ANSWER QUESTIONS (SAQs) (30 MARKS)**

1. With reference to the life cycle stages, state the control/*Schistosoma haematobium* infection (5 marks)
2. Briefly describe the life cycle of *Ascaris lumbricoides*. (5 marks)
3. A 35-year-old male presents with multiple symptoms: a papulovesicular pruritic rash and itch on the foot, diarrhea, pleuritic pain, and hemoptysis. A stool stain showed presence of larvae. History taken shows that he has no toilet and running water.
  - a) The likely parasite that the patient was suffering from is: - (1 mark)
  - b) Describe the life cycle of this parasite outlining its multiple transmission methods. (4 marks)
4. Describe the transmission, replication and prevention of the monkeypox virus. (5 marks)
5.
  - a) Distinguish between antigenic drift and antigenic shift as it pertains to influenza virus pathogenesis. (4 marks)
  - b) What type of reassortment lead to the H2N2 influenza virus. (1 mark)
6. Explain the transmission, replication and clinical symptoms of Hepatitis A and C. (5 marks)

**SECTION III: LONG ANSWER QUESTIONS (LAQs) (20 MARKS)**

1. With regard to *Plasmodium falciparum*:
  - a) Describe the intrinsic life cycle. (10 marks)
  - b) Explain the clinical manifestations. (6 marks)
  - c) State the treatment measures available. (4 marks)