AFRICA UNIVERSITY
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COLLEGE OF HEALTH, AGRICULTURE & NATURAL SCIENCES
DEPARTMENT OF HEALTH SCIENCES
BACHELOR OF MEDICAL LABORATORY SCIENCES HONOURS

SLS 206 PARASITOLOGY, MYCOLOGY & VIROLOGY THEORY EXAMINATION
END OF SECOND SEMESTER EXAMINATIONS

MAY 2019

LECTURER: Dr E. MUGOMERI

DURATION: 3 HOURS

INSTRUCTIONS
The paper comprises of three sections (A, B and C).

Section A (20 marks)
Answer all questions in this section.
Circle the correct answer

Section B (20 marks)
Answer all questions in this section.

Section C (60 marks)
Choose **three** questions. Credit will be given for logical, systematic and neat presentations.

SECTION A: TRUE (T) OR FALSE (F) QUESTIONS [20 MARKS]

1. Produces congenital infection in man.
T F A. Cryptosporidium parvum
T F B. Toxoplasma gondii
T F C. Pneumocystis carinii
T F D. A & C

2. Produces massive diarrhea in patient with low resistance.
T F A. Cryptosporidium parvum
T F B. Toxoplasma gondii
T F C. Pneumocystis carinii
T F D. A & C

3. Produces autoinfection to man.
T F A. Ancylostoma duodenale
T F B. Necator americanus
T F C. Ascaris lumbricoides
T F D. Strongyloides stercoralis

4. What parasite/s has a blood-lung phase in the life cycle?
T F A. Ascaris lumbricoides
T F B. Strongyloides stercoralis
T F C. Enterobius vermicularis
T F D. A &C

5. The usual manner of transmission by the parasite is by skin penetration.
T F A. Ascaris lumbricoides
T F B. Strongyloides stercoralis
T F C. Necator americanus
T F D. B & C

6. What parasite produces infection that simulates tuberculosis?
T F A. Clonorchis sinensis
T F B. Opisthorchis felineus
T F C. Fasciola hepatica
T F D. Paragonimus westermani

7. The infective stage of what parasite is encysted in aquatic vegetations?
T F A. Clonorchis sinensis
T F B. Echinostoma ilocanum
T F C. Fasciolopsis buski
T F D. Paragonimus westermani

8. What stage of the Trematodes swims in the water?
T F A. Cercariae
T F B. Metacercariae
T F C. Coracidium
T F D. Sporocyst

9. What is the infective stage of Schistosoma to man?
T F A. Cercariae
T F B. Metacercariae
T F C. Embryonated egg
T F D. Miracidium

10. What is the usual manner of transmission of Schistosoma to man?
T F A. Arthropod vector
T F B. Skin penetration of the cercariae
T F C. Ingestion of the embryonated egg
T F D. B & C

11. What Schistosoma produces more severe infection to man?
T F A. Schistosoma haematobium
T F B. Schistosoma mansoni
T F C. Schistosoma japonicum
T F D. Schistosoma mekongi

12. Diphyllobothrium latum is associated with
T F A. cat
T F B. fish
T F C. dog
T F D. pig

13. Produces cysticercosis to man.
T F A. Dipylidium caninum
T F B. Taenia solium
T F C. Taenia saginata
T F D. B & C

14. Taenia saginata is associated with
T F A. cat
T F B. dog
T F C. cattle
T F D. pig

15. The most commonly involved organ in Hydatid Disease is the
T F A. liver
T F B. kidney

T F C. lungs
T F D. brain

16. Viruses range in size from:
T F A. 1-100 nm
T F B. 25-300 nm
T F C. 10-100 μm
T F D. 1-10 μm

17. A structural component that is found in all viruses is:
T F A. The envelope
T F B. DNA
T F C. Capsid
T F D. Spikes

18. Viruses that can remain latent (usually in neurons) for many years are most likely:
T F A. Togaviruses
T F B. Herpesviruses
T F C. Enteroviruses
T F D. Retroviruses

19. Bacteriophage are readily counted by the process of:
T F A. ELISA
T F B. Plaque assays
T F C. Tissue cell culture
T F D. Electron Microscopy

20. A chemical component that is found in all viruses is:
T F A. Protein
T F B. Lipid
T F C. DNA
T F D. RNA

SECTION B: SHORT ANSWERS [20 MARKS]
Answer all questions in this section

B1. Explain what you understand by the following parasitic diseases
(i). Cystercercosis (2)
(ii). Hydatid disease (2)

B2. Describe the following techniques of parasite examination:
(i). Floatation technique (4)
(ii). Sedimentation technique (4)

B3. Describe one fungal infection associated with the following:
(i). Superficial infection (2)

(ii). Subcutaneous infection (2)
(iii). Systemic infection (2)
(iv). Opportunistic infection (2)

SECTION C: LONG ANSWERS [60 MARKS]

Choose three questions in this section

C1. Illustrate and describe the life cycle of *Plasmodium falciparum* (20)

C2. Illustrate and describe the life cycle of *Ascaris lumbricoides* (20)

C3. Describe how parasites of medical importance are classified, giving at least one example of each class (20)

C4. Illustrate how ELISA and PCR techniques can be used for diagnosis of viral infections, giving an example for of typical viral infection for each technique (20)

C5. Write short notes on immune response to parasitic infections (20)