"Investing in Africa's Future"

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

SLS 204 BACTERIOLOGY THEORY EXAMINATION
END OF SECOND SEMESTER SUPPLEMENTARY EXAMINATIONS

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. The infective stage of Entamoeba histolytica to man has
T F A. pseudopodia
T F B. bull's eye karyosome
T F C. ingested red blood cells
T F D. A & B

2. The specimen for the diagnosis of Trichomonas vaginalis infection in female.
T F A. Prostatic secretions
T F B. Vaginal discharges
T F C. Urine
T F D. B & C

3. The usual infective stage of Malaria to man is the
T F A. gametocytes
T F B. sporozoites
T F C. schizonts
T F D. merozoites

4. Produces the more severe type of Malari
T F A. Plasmodium falciparum
T F B. Plasmodium ovale
T F C. Plasmodium malariae
T F D. Plasmodium vivax

5. Stage/s of Malaria usually found in man.
T F A. Gametes
T F B. Trophozoites
T F C. Schizonts
T F D. B & C

6. Opportunistic Protozoa in the stomach and intestine.
T F A. Cryptosporidium parvum
T F B. Toxoplasma gondii
T F C. Pneumocystis carinii
T F D. A & C

7. 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

8. 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

9. 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

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

12. Viruses range in size from:
T F A. 1-100 nm
T F B. 10-100 μm
T F C. 400-1000 nm
T F D. 1-10 μm

13. 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. Tail fibers

14. 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

15. 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

16. Concerning parasites of medical importance
T F A. Entamoeba histolytica is a ciliate
T F B. Trichomonas vaginalis is a sporozoa
T F C. Trichomonas vaginalis has no known cysts
T F D. Ascaris lumbricoides is a trematode

17. The following parasites are sexually transmitted
T F A. Isospora belli
T F B. Cryptosporidium parvum
T F C. Trichomonas vaginalis
T F D. Echnococcus granulosus

18. The following fungi are opportunistic in immunocompromised hosts
T F A. Aspergillus spp.
T F B. Candida albicans
T F C. Cryptococcus neoformans
T F D. Histoplama capsulatum

19. Which of the following is not true of protozoa?
T F A. Lack cell wall
T F B. Produce no sporebearing structures
T F C. Comprise the microbial population known as phytoplankton
T F D. Form active feeding forms called trophozoites

20. Sexual reproduction in the Protozoa occurs most commonly by
T F A. conjugation
T F B. gametangial contact
T F C. binary fission
T F D. binary fusion

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

B1. Concerning stages of viral infection, explain the following:
(i). Attachment (2)
(ii). Entry (2)
(iii). Synthesis (2)
(iv). Assembly (2)
(v). Release (2)

B2. Describe fungal infections associated with the following:
(i). *Melassezia furfur* (2)

(ii). *Sporothrix schenkii* (2)
(iii). *Histoplasma Capsulatum* (2)
(iv). *Candida albicans* (2)

SECTION C: LONG ANSWERS [60 MARKS]

Choose three questions in this section

C1. Write short notes on *Plasmodium falciparum.* (20)

C2. Describe any three types of symbiotic relationships between parasites and humans. (20)

C3. Describe how protozoa of medical importance are classified, giving as many examples of each sub-class as you can. (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. Describe how parasites evade the immune system. (20)