



*(University of Choice)*

**MASINDE MULIRO UNIVERSITY OF  
SCIENCE AND TECHNOLOGY  
(MMUST)**

**(KISUMU CAMPUS)**

**UNIVERSITY EXAMINATIONS (MAIN PAPER)  
2017/2018 ACADEMIC YEAR**

**THIRD YEAR SECOND TRIMESTER EXAMINATIONS**

**FOR THE DEGREE  
OF  
BACHELOR OF SCIENCE, MEDICAL LABORATORY  
SCIENCES**

**COURSE CODE: BML 311**

**COURSE TITLE: MEDICAL PROTOZOOLOGY**

**DATE: JULY 2018**

**TIME:**

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**INSTRUCTIONS TO CANDIDATES**

This paper is divided into three sections, **A B** and **C**, carrying respectively: Multiple Choice Questions (**MCQs**), Short Answer Questions (**SAQs**) and Long Answer Questions (**LAQs**). Answer all questions.

TIME: 2 Hours

MMUST observes ZERO tolerance to examination  
cheating

This Paper Consists of 4 Printed Pages. Please Turn Over

**SECTION A: Multiple Choice Questions (MCQs – 20 Marks)**

1. Which of the following protozoan does NOT belong to the phylum mastigophora?
  - (a) *Entamoeba histolytica*
  - (b) *Giardia lamblia*
  - (c) *Leishmania donovani*
  - (d) *Trypanosoma cruzi*
2. *Entamoeba gingivalis* in the mouth is a case of?
  - (a) Parasitism
  - (b) Commensalism
  - (c) Mutualism
  - (d) Symbiosis
3. Primary attack of malaria infection is characterized by:
  - (a) Irregular undulating fever
  - (b) Anemia
  - (c) Periodical paroxysm of chill followed by fever
  - (d) Subclinical inflammation
4. An example of an intestinal protozoan flagellate is?
  - (a) *Trichomonas vaginalis*
  - (b) *Trypanosoma brucei*
  - (c) *Naegleria fowleri*
  - (d) *Giardia lamblia*
5. Which of the following parasites does NOT belong to the phylum Apicomplexa?
  - (a) *Entamoeba histolytica*
  - (b) *Toxoplasma gondii*
  - (c) *Babesia microti*
  - (d) *Plasmodium vivax*
6. The following laboratory test is NOT used for diagnosis of malaria parasites?
  - (a) Examination of thick and thin stained blood smears
  - (b) Ritchie's Stool concentration technique
  - (c) Polymerase chain reaction
  - (d) Buffy coat technique
7. *Balantidium coli* species is an example of?
  - (a) Sporozoa
  - (b) Piroplasmia
  - (c) Ciliophora
  - (d) Apicomplexa
8. Which of the following is NOT a mode of transmission for *Toxoplasma gondii*?
  - (a) Accidental ingestion of the oocyst shed in the cats faeces
  - (b) Ingestion of the tachyzoite in infected milk or transplacentally
  - (c) Transplant of an infected organ in a seronegative recipient
  - (d) Sexual transmission

9. This is a genitourinary flagellate:
- (a) *Trichomonas vaginalis*
  - (b) *Trypanosoma cruzi*
  - (c) *Chilomastix mesnili*
  - (d) *Giardia intestinalis*
10. In Toxoplasmas, the following is NOT a developmental stage:
- (a) Oocyst
  - (b) Schizont
  - (c) Bradyzoite
  - (d) Tachyzoites
11. The host in which parasite development occurs but does not reach sexual maturity is a?
- (a) Reservoir
  - (b) Definitive
  - (c) Intermediate
  - (d) Vector
12. The diagnosis of this protozoa is by finding the double nucleated trophozoites in stool:
- (a) *Entamoeba gingivalis*
  - (b) *Iodamoeba butschlii*
  - (c) *Endolimax nana*
  - (d) *Dientamoeba fragilis*
13. The following protozoan invades the nervous system through the nose in swimmers:
- (a) *Naegleria fowleri*
  - (b) *Plasmodium vivax*
  - (c) *Trypanosoma gambiense*
  - (d) *Babesia microti*
14. An undulating membrane is found in the following protozoan parasite:
- (a) *Giardia lamblia*
  - (b) *Trypanosoma brucei*
  - (c) *Cryptosporidium parvum*
  - (d) *Balantidium coli*
15. The following protozoan is not transmitted by an vector:
- (a) *Trypanosoma cruzi*
  - (b) *Leishmania mexicana*
  - (c) *Trichomonas hominis*
  - (d) *Babesia bovis*
16. Diarrhea of fatty stools, aka, 'steatorrhea', is a phenomenon found in which protozoans?
- (a) *Balantidium* species
  - (b) *Cryptosporidium* species
  - (c) *Trichomonas* species
  - (d) *Giardia* species

17. Men are transporters (vectors of transmission) of this protozoan parasite:
- (a) *Trichomonas vaginalis*
  - (b) *Giardia lamblia*
  - (c) *Entamoeba histolytica*
  - (d) *Iodamoeba butschlii*
18. Which of the following trypanosome species is riverine:
- (a) *Trypanosoma brucei brucei*
  - (b) *Trypanosoma brucei gambiense*
  - (c) *Trypanosoma brucei rhodesiense*
  - (d) *Trypanosoma cruzi*
19. Neglected tropical diseases, NTDs, including some protozoa are the main cause of?
- (a) Increased ability by the affected to attend school or even work
  - (b) Normal growth in children
  - (c) Impairment of cognitive skills and development in children
  - (d) Enhanced economic empowerment of countries
20. Syngamy is a form of sexual reproduction in certain protozoa, in which?
- (a) The nucleus and cytoplasm divides into 2 equal parts to form new cells
  - (b) The nucleus divides into several parts followed by division of the cytoplasm
  - (c) A small daughter cell is separated from the mother cell and grows to full size cell
  - (d) There is formation and union of male and female gametes to produce a zygote

**SECTION B: Short Answer Questions (40 Marks)**

- 21. Explain the developmental stages of hemoflagellates (8mks)
- 22. Describe the laboratory diagnosis and control of *Trichomonas vaginalis* (8mks)
- 23. Outline the life cycle of *Plasmodium falciparum* (8mks)
- 24. Distinguish between *E. histolytica* and *E. coli* (8mks)
- 25. Explain the process of protozoan reproduction processes (8mks)

**SECTION C: Long Answer Questions (40 Marks)**

- 1. Discuss factors that influence parasitic diseases endemicity (20mks)
- 2. Discuss the differences between amoebic & bacillary dysentery (20mks)