

**CHUKA**



**UNIVERSITY**

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**UNIVERSITY EXAMINATIONS**

**FIRST YEAR EXAMINATION FOR THE AWARD OF  
BACHELOR OF SCIENCE (NURSING)**

**NURU 122: PARASITOLOGY.**

**STREAMS: Bsc Nursing - UPGRADING (Y1S2)**

**TIME: 2 HOURS**

**DAY/DATE: WEDNESDAY 4/12/2019**

**2.30 P.M – 4.30 P.M**

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**INSTRUCTIONS:**

- Do not write anything on the question paper.
- Mobile phones and any other reference materials are NOT allowed in the examination room.
- The paper has THREE sections. Answer ALL questions
- Number ALL your answers and indicate the order of appearance in the space provided in the cover page of the examination answer booklet

**SECTION A (20 MARKS)**

1. Which of the following organisms penetrates skin and has a large lateral spine on its eggs?
  - a. *Clonorchis*
  - b. *S. mansoni*
  - c. *Schistosoma japonicum*
  - d. *Schistosoma haematobium*
2. In malaria, the form of plasmodia that is transmitted from mosquito to human is the
  - a. Sporozoite
  - b. Gametocyte
  - c. Merozoite
  - d. Hypnozoite
3. Each of the following statements concerning *Ascaris lumbricoides* is correct EXCEPT:

- a. *Ascaris lumbricoides* is one of the largest nematode
  - b. *Ascaris lumbricoides* can cause pneumonia
  - c. Both dogs and cats are intermediate host of *Ascaris lumbricoides*
  - d. *A lumbricoides* is transmitted by ingestion of eggs
4. Which of the following organisms penetrates skin, is endemic in Africa and the Middle East, has large terminal spines on its eggs, and is found in urine samples?
- a. *Paragonimus*
  - b. *Clonorchis*
  - c. *S. mansoni*
  - d. *S. japonicum*
  - e. *S. haematobium*
5. *G. lamblia* is best diagnosed by
- a. Examination of a cellophane tape swab
  - b. Baermann technique
  - c. Dilution followed by egg count
  - d. Enzyme immunoassay (EIA)
6. *E. histolytica* infection is best diagnosed by
- a. Sigmoidoscopy and aspiration of mucosal lesions
  - b. Baermann technique
  - c. Dilution followed by egg count
  - d. Enzyme immunoassay (EIA)
7. The best method for the detection of *Strongyloides* larvae is
- a. Sigmoidoscopy and aspiration of mucosal lesions
  - b. Baermann technique
  - c. Dilution followed by egg count
  - d. Examination of a cellophane tape swab
8. *Ascaris* are best observed in human specimens by which one of the following?
- a. Sigmoidoscopy and aspiration of mucosal lesions

- b. Baermann technique
  - c. Dilution followed by egg count
  - d. Examination of a cellophane tape swab
9. A protozoan with characteristic jerky motility is most commonly observed in
- a. Vaginal secretions
  - b. Duodenal contents
  - c. Blood
  - d. Sputum
10. A helminth that is naturally transmitted by ingestion of pork, bear, or walrus meat could be detected in
- a. Duodenal contents
  - b. Blood
  - c. Biopsied muscle
  - d. Sputum
11. A tissue-dwelling trematode that may be found in feces can also be detected in
- a. Duodenal contents
  - b. Blood
  - c. Biopsied muscle
  - d. Sputum
12. Cysts of a protozoan adhere to a piece of nylon yarn coiled in a gelatin capsule which is swallowed. These cysts are usually found in
- a. Duodenal contents
  - b. Blood
  - c. Biopsied muscle
  - d. Sputum
13. A parasite resembling malaria that infects both animals and humans and is carried by the same tick that transmits *B. burgdorferi* (the bacterium that causes Lyme disease) would most likely be observed in
- a. Duodenal contents
  - b. Blood
  - c. Biopsied muscle
  - d. Sputum
14. A renal transplant patient was admitted for graft rejection and pneumonia. A routine evaluation of his stool showed rhabditiform larvae. Subsequent follow-up revealed similar worms in his sputum. He had no eosinophils in his peripheral circulation. The most likely organism is
- a. *Necator*
  - b. *Hymenolepsis*
  - c. *Ascaris*
  - d. *Loa loa*
15. A woman complains of having paroxysmal attacks of chills, fever, and sweating; these attacks last a day or two at a time and recur every 36 to 48 h. Examination of a stained

blood specimen reveals ring-like and crescent-like forms within red blood cells. The infecting organism most likely is

- a. *Plasmodium falciparum*
  - b. *Plasmodium ovale*
  - c. *Plasmodium malariae*
  - d. *Plasmodium vivax*
16. The diagnostic characteristics of *Plasmodium falciparum* are best described by which one of the following statements?
- a. A period of 72 h is required for the development of the mature schizont, which resembles a rosette with only 8 to 10 oval merozoites
  - b. An important diagnostic feature is the irregular appearance of the edges of the infected red blood cell
  - c. The signet-ring-shaped trophozoite is irregular in shape with amoeboid extensions of the cytoplasm
  - d. Except in infections with very high parasitemia, only ring forms of early trophozoites and the gametocytes are seen in the peripheral blood

**For questions 17 and 18 indicate the cestode that is transmitted to humans through the mode indicated:**

17. Ingesting larvae in undercooked fish \_\_\_\_\_

18. Ingesting eggs in food contaminated with dog feces \_\_\_\_\_

**For questions 19 and 20 the stage in the life cycle of a given nematode (roundworm) responsible for causing human disease is stated. Indicate the matching nematode:**

19. Worms in colon may cause rectal prolapse \_\_\_\_\_

20. Larvae migrate to lung, causing pneumonia \_\_\_\_\_

**SECTION B (30 MARKS)**

1. Describe the life cycle of *Entamoeba histolytica* (5 marks)
2. Describe the life cycle of *Ancylostoma duodenale* (5 marks)
3. State five symptoms associated with *Schistosoma hematobium* infestation (5 marks)
4. Describe the life cycle of *Teania saginata* (6 marks)
5. Describe the clinical course of untreated *Trypanosoma* infection (6 marks)
6. State three (3) ways of preventing blood-borne protozoal infections in humans (3 marks)

**SECTION C (20 MARKS)**

Discuss plasmodium infection under:

- (i) Life cycle (6 marks);
- (ii) Pathogenesis (10 marks)
- (iii) treatment (4 marks)