

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

FIRST YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF
SCIENCE IN NURSING

NURU 178: MEDICAL PARASITOLOGY

STREAMS: B.Sc Nursing Y1T2

TIME: 2 HOURS

DAY/DATE: THURSDAY 7/12/2017

11.30 A.M - 1.30 P.M.

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
- All your Answers for section I (MCQs) should be on the first page of the answer booklet.
- Number ALL your answers and indicate the order of appearance in the space provided in the cover page of the Examination answer booklet.
- Write your answers legibly and use your time wisely

PART A: [20 MARKS]

1. Which of the following nematodes is likely to migrate through the lungs causing significant pneumonitis during the larval stage?
 - A. *Ascaris lumbricoides*
 - B. *Enterobius vermicularis*
 - C. *Trichinella spiralis*
 - D. *Trichuris trichura*
2. Which of the following organisms is likely to be spread through eating raw vegetables?
 - A. *Ancylostoma duodenale*
 - B. *Enterobius vermicularis*
 - C. *Trichinella spiralis*
 - D. *Ascaris lumbricoides*

3. A male patient reports an episode of painful ejaculation and postcoital hematuria. This was heralded by low-grade perineal pain for several weeks. Urinalysis and urine culture were negative. Cystoscopy revealed several polypoid lesion and a biopsy was taken. Cytological examination of cells urine revealed no tumor cells. Tissue examination under light microscope revealed no tumor cells. Tissue examination under light microscope revealed eggs with terminal spine. The most probable cause of the problem is
 - A. *Paragonimus westermani*
 - B. *Schistosoma japonicum*
 - C. *Schistosoma hematobium*
 - D. *Schistosoma mansoni*

4. Regarding *Taenia solium*, which of the following is most accurate?
 - A. It has a scolex with four suckers and a circle of hooklets
 - B. The cysticercus contains mature eggs
 - C. The typical laboratory finding is eggs in stool
 - D. Ingestion of terminal proglotids by pigs results in mature tapeworms in the pigs' intestine

5. Regarding *Echinococcus granulosus*, which one of the following is most accurate?
 - A. The drug of choice is metronidazole
 - B. Dogs are a required part of the life cycle
 - C. Its larvae typically migrate to skeletal muscle
 - D. The main mode of transmission to humans is by ingestion of eggs in water or food contaminated with human feces

6. Regarding *Toxoplasma gondii*, which one of the following is the most accurate?
 - A. One way of preventing this infection is by advising pregnant women to avoid drinking unpasteurized milk
 - B. Rapidly dividing tachyzoites in the form found in human tissue cysts.
 - C. The most important definitive host is the domestic cat
 - D. Infection in people with reduced cell-mediated immunity presents as persistent watery diarrhea

7. Which of the following is associated with *Entamoeba histolytica*?
 - A. Domestic animals are the main reservoir
 - B. Laboratory diagnosis is confirmed by the presence of trophozoites with two paired flagella
 - C. Infection is acquired by ingestion of trophozoites in food or water
 - D. Causes flask-shaped ulcers in colonic mucosa.

8. A HIV+ patient with a CD4+f count of less than 50 has had persistent watery diarrhea for two weeks. Routine stool culture has no bacterial growth and ova and parasite analysis show cysts that stain red in acid-fast stain. The most likely cause of the infection is
 - A. *Cryptosporidium parvum*
 - B. *Entamoeba histolytica*
 - C. *Cryptococcus neoformans*
 - D. *Pneumocystis jiroveci*

9. Human infection with the beef tapeworm, *Taenia saginata*, usually is less serious than infection with the pork tapeworm, *T. Solium*, because
- A. Acute intestinal stoppage is less common in beef tapeworm infection
 - B. Larval invasion does not occur in beef tapeworm infection
 - C. Toxic by-products are not given off by the adult beef tapeworm
 - D. The adult beef tapeworms are smaller
10. People with sickle-cell disease are protected from
- A. *Plasmodium vivax*
 - B. *Plasmodium malariae*
 - C. *Plasmodium ovale*
 - D. *Plasmodium falciparum*
11. Black water disease in malarial infection is due to
- A. *Dehydration*
 - B. *Vascular occlusion*
 - C. *Hypoglycaemia*
 - D. *Red blood cell hemolysis*
12. Human cysticercosis is associated with
- A. *Taenia solium*
 - B. *Taenia saginata*
 - C. *Hymanolepis nana*
 - D. *Ecchinococcus granulosus*
13. In order to exert control over the primary cause of toxoplasmosis of pregnancy, which one of the following steps of the life cycle of *Toxoplasma* would be most practical to interrupt?
- A. Step 1
 - B. Step 2
 - C. Step 3
 - D. Step 4

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14. Which organism causes intense burning sensation on the lower limbs and humans get infected are infected when tiny crustaceans (copepods) with infective larvae are swallowed in drinking water?
15. In malaria, the form of plasmodia that is sucked from human to mosquito is the
16. A thick blood smear reveals the microfilaria shown below

The probable parasite is

17. A patient presents with complaint of pruritus (ground itch), urticarial rash and larva currens on the buttocks, perineum and thighs. Blood examination show eosinophilia and examination of a stool specimen of the same patient in the laboratory reveals the larvae shown below. The most probable nematode is

For questions 18-20 match the items given with the most appropriate response

18. Eating raw fish
19. Transmitted by sandfly bite
20. Associated with hydatid disease

Responses

- (i) *Onchocerca volvulus*
(ii) *Giardia lamblia*
(iii) *Loa loa*
(iv) *Chronorchis sinensis*
(v) *Trichuris trichura*
(vi) *Echinococcus granulosus*

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PART B [30 MARKS]

1. Describe the clinical course of the African Trypanosoma infection. [5 Marks]
2. Describe the life cycle of *Schistosoma haematobium* [10 Marks]
3. Describe the lifecycle of visceral leishmaniasis [7 Marks]
4. Outline the lifecycle of the fish tapeworm (*Diphyllobothrium latum*) [8 Marks]

PART C [20 MARKS]

1. Using a table, outline the important properties, mode of transmission, clinical presentation, laboratory investigations and treatment of the six medically important intestinal nematodes. [20 Marks]

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