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University Examinations 2023/2024

THIRD YEAR SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR
OF SCIENCE IN MEDICAL LABORATORY

HML 3224: MEDICAL PARASITOLOGY

DATE: APRIL 2024

TIME: 2 HOURS

INSTRUCTIONS:

- (i) The paper consists of **Three** Sections
 - (ii) Section A: Multiple Choice Questions
 - (iii) Section B: Short Answer Questions
 - (iv) Section C: Long Answer Questions
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MULTIPLE CHOICE QUESTIONS (20 MARKS) (ANSWER ALL QUESTIONS)

1. Two hosts are required in
 - a) Taenia solium
 - b) Entamoeba histolytica
 - c) Trichuris trichiura
 - d) Giardia lamblia
2. Which of the following parasite passes its life cycle through three hosts
 - a) Fasciola hepatica
 - b) Fasciola buski
 - c) Schistosoma hematobium
 - d) Clonorchis sinensis
3. All float in a saturated salt solution except

- a) Clonorchis sinensis
 - b) Fertilized eggs of Ascaris
 - c) Larva of Strongyloides
 - d) Trichuris trichiura
4. Man is the intermediate host for
- a) Stroglyoides stercoralis
 - b) Plasmodium vivax
 - c) Entamoeba histolytica
 - d) Enterobious vermiculosis
5. Protozoa belong to kingdom
- a) Monera
 - b) Protista
 - c) Plantae
 - d) Animalia
6. All are intercellular parasites except
- a) Leishmania
 - b) Plasmodium
 - c) Toxoplasma
 - d) None of the above
7. Non-nuclear DNA present in addition to nucleus in protozoan parasite is
- a) Chromatid
 - b) Karyosom
 - c) Kinetoplas
 - d) Basal body
8. Which one following test is used for diagnosis of Giardia lamblia infections
- a) Enterotest
 - b) Casoni's test
 - c) Parasight F test
 - d) Napier's test
9. Motility of Trichomonas vaginalis is described as
- a) Amoeboid

- b) Jerky
 - c) Falling leaf
 - d) Lashing
10. Vaginal discharge in *Trichomonas vaginitis* is
- a) Colorless
 - b) Yellow
 - c) Curd—white
 - d) Blood stained
11. LD bodies are
- a) Amastigotes of *Leishmania donovani* inside RBCs
 - b) Giant cells seen in leishmaniasis
 - c) Degenerative lesions seen in leishmaniasis
 - d) Amastigotes of *Leishmania donovani* inside
12. What is the difference between Lugol's iodine and Dobell's iodine
- a) Concentration of iodide and potassium iodide used
 - b) Quantity of iodine solution
 - c) Preparation method
 - d) Staining characteristics
13. Time of collection of blood is important in
- a) *Microfilaria*
 - b) *Trypanosoma* spp.
 - c) *Leishmania* spp.
 - d) *Babesia* spp.
14. Modified acid-fast stain is used for the diagnosis of
- a) *Entamoeba histolytica*
 - b) *Toxoplasma gondii*
 - c) *Cryptosporidium parvum*
 - d) *Leishmania donovani*
15. Sputum examination is commonly done for detecting the eggs of?
- a) *Strongyloides stercoralis*
 - b) *Entamoeba histolytica*

- c) *Paragonimus westermani*
 - d) *Ascaris lumbricoides*
16. Larval forms of which parasite can be found in muscle biopsy
- a) *Ascaris lumbricoides*
 - b) *Taenia solium*
 - c) *Trichuris trichiura*
 - d) *Ancylostoma duodenale*
17. In malaria, the form of plasmodia that is transmitted from mosquito to human is the
- a) Sporozoite
 - b) Gametocyte
 - c) Merozoite
 - d) Hypnozoite
18. which blood film is used to identify the species of parasite?
- a) wet mount
 - b) Thick film
 - c) Thin Film
 - d) dipstick
19. Liquid stools should be examined or preserved within
- a) 30 minutes of passage.
 - b) 45 minutes of passage
 - c) 15 minutes of passage
 - d) 24 hours of passage
20. Soft stools should be examined or preserved within
- a) 20 minutes of passage
 - b) 1 hour of passage
 - c) 24 hours of passage
 - d) 30 minutes of passage

SECTION B: SHORT ANSWER QUESTIONS (40 MARKS) (ANSWER ALL QUESTIONS)

1. Differentiate between an intermediate host and a definitive host with examples.

(5 Marks)

2. Describe the pathogenesis of *Trichomonas vaginalis* (5 marks)
3. Discuss the life cycle of *Hymenolepis nana* (5 marks)
4. Discuss the pathogenesis of *Ascaris lumbricoides* (5 marks)
5. Explain the pathogenicity and clinical manifestations of *Trichuris trichiura* (5 marks)
6. Compare and contrast the clinical features presented by *Trypanosoma Rodesiense* and *Trypanosoma gambiense* (5 marks)
7. Describe the clinical manifestations for *Onchocerca volvulus* (5 marks)
8. Highlight the lifecycle of *Balantidium coli* (5 marks)

SECTION C. LONG ANSWER QUESTIONS- Choose any 2 (20 marks each)

QUESTION ONE

A 34-year-old man visited Kiambu level V Hospital presenting with mucoid diarrhea, abdominal pain, fever, cough, urticaria, and hepatosplenomegaly. The stool microscopy results showed a rhabditiform larva.

- a) Indicate the most likely parasitic infection he was suffering from (1 mark)
- b) Describe the life cycle of the parasite while highlighting its pathogenesis (16 marks)
- c) Outline its prevention measures (3 marks)

QUESTION TWO

- a) Discuss the pathogenesis and clinical manifestations in visceral leishmaniasis (10 marks)
- b) Describe the life cycle of kala-azar (10 marks)

QUESTION THREE

A middle-aged man visited Garissa Referral Hospital presenting with diarrhoea, abdominal pains, chest pains, coughing, and haemoptysis. During clinical history taking, the patient mentioned that he routinely feeds on sea food especially crustaceans in raw or semi-cooked form

- a) Name the likely parasite causing the disease (1 mark)
- b) Discuss the life cycle and pathogenesis while indicating the types of hosts (15 marks)
- c) Outline the laboratory diagnostic tests (3 marks)
- d) State the preferred drug for treatment (1 mark)