



# TECHNICAL UNIVERSITY OF MOMBASA

---

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF MEDICAL SCIENCES

**UNIVERSITY EXAMINATION FOR:**

DIPLOMA IN MEDICAL LABORATORY SCIENCES

AML2302 : HELMINTHOLOGYII

END OF SEMESTER EXAMINATION

**SERIES:** DECEMBER 2016

**TIME:** Choose hours HOURS

**DATE:** 5 Dec 2016

## Instructions to Candidates

You should have the following for this examination

*-Answer Booklet, examination pass and student ID*

This paper consists of Choose No Section(s). Attempt ALL questions.

**Circle the correct answer in section A.**

---

Section A

PAPER II

Section A

1. A freshwater snail is always a part of the life cycle in which of the following groups?

- a. Cestodes
- b. Trematodes
- c. Filarial worms
- d. Intestinal nematodes

2. Mature infectious eggs are ingested from the soil, which of the following parasites might be seen in the same patient at the same time?

- a. Hookworm and *Ascaris lumbricoides*
- b. *Ascaris lumbricoides* and *Trichuris trichiura*
- c. *Trichuris trichiura* and *Schistosoma japonicum*
- d. *Schistosoma japonicum* and Hookworm

3. Which of the following helminth eggs would not float using the zinc sulfate flotation concentration method?

- a. *Paragonimus* spp. and *Diphyllobothrium latum*
- b. *Opisthorchis sinensis* and *Taenia* spp.
- c. *Fasciola hepatica* and *Hymenolepis nana*
- d. Unfertilized *Ascaris lumbricoides* and *Trichuris trichiura*

4. What is the intermediate host for the schistosomes?

- a Raw sewage
- b Blood-sucking insects
- c Snails
- d Soil

5. Which one of the following is diagnosed by muscle biopsy?

- a. *Trichinella spiralis*
- b. *Ascaris lumbricoides*
- c. *Strongyloides stercoralis*
- d. *Cryptosporidium parvum*

6. A host that harbors the asexual stage of a parasite is known

- a. Definitive host
- b. Intermediate host
- c. Reservoir host
- d. Facultative

7. Produces Ground itch to man.

- a. *Trichuris trichiura*
- b. *Necator americanus*
- c. *Enterobius vermicularis*

d. *Ascaris lumbricoides*

8. Which of the following drugs would be the best choice for the treatment of a *Schistosoma haematobium* infection in man?

- a. Albendazole
- b. Fenbendazole
- c. Eprinomectin
- d. Praziquantel

9. Which one of the following is not a cutaneous larva migran?

- a. *Toxocora cati*
- b. *Ancylostoma braziliense*
- c. *Ancylostoma caninum*
- d. *Uncinaria stenocephala*

10. Very high eosinophilia is associated with which of the following

- a. Trichinosis
- b. Onchocerciasis
- c. Hydatid disease
- d. Ascariasis

11. Which is the most common cause of Creeping Eruption or Cutaneous Larva Migrans.

- a. Trichinosis
- b. Onchocerciasis
- c. Hydatid disease
- d. *Ancylostoma braziliense*

12. Which of the following parasite may produce Loeffler's syndrome to man

- a. *Trichuris trichiura*
- b. *D. latum*
- c. *Gnathostoma spinigerum*
- d. *Ascaris lumbricoides*

13. The adult worm of *Clonorchis sinensis* is most frequently found in the following
- Intrahepatic bile duct
  - Lung parenchyma
  - Urinary bladder submucosa
  - Lumen of intestine
14. The size of ova of *Trichuris trichiura* is approximately
- 70 x 30  $\mu\text{m}$
  - 60 x 40  $\mu\text{m}$
  - 50 x 22  $\mu\text{m}$
  - 60 x 38  $\mu\text{m}$
15. Which one of the following is not a cestode
- Diphyllobothrium*
  - Hymenolepis*
  - Schistosoma*
  - Taenia*
16. *Diphyllobothrium latum* is associated with
- Cat
  - Fish
  - Pig
  - Dog
17. Lateral uterine branches in gravid proglottid are counted for diagnosis of infection caused by the following
- Diphyllobothrium latum*
  - Dipylidium caninum*
  - Taenia saginata*
  - Hymenolepis nana*

18. Bothriocephalus anemia is associated with
- a. microcytic hypochromic cells
  - b. Folate deficiency
  - c. iron deficiency anemia
  - d. pernicious anemia
19. The normal lifecycle of *Strongyloides stercoralis* is approximately
- a. 2 years
  - b. 5 years
  - c. 12 years
  - d. 30 years
20. Which of the following can infect the central nervous system?
- a. *Taenia solium*
  - b. *Toxoplasma gondii*
  - c. *Echinococcus sp*
  - d. *Taenia saginata*
17. Eosinophils kills the parasite by the following
- a). Production of antibodies
  - b). Intracellular digestion
  - c). Extra cellular killing
  - d). Activation of mononuclear cells
18. Obstructive uropathy is associated with
- a). *Schistosoma haematobium*
  - b). *Schistosoma japonicum*
  - c). *Schistosoma mansoni*
  - d). *Schistosoma mekongi*
19. Pipe-stem fibrosis of the liver in Schistosomiasis is due to what stage of the parasite?
- a). Adult

- b). Juvenile
- c). eggs
- d). Cercaria

20. Which of the following has been associated with Schistosomes?

- a). Carcinoma of urinary bladder
- b). Carcinoma of liver
- c). Carcinoma of small intestine
- d). Carcinoma of lungs

21. Adult worms of the following are found in subcutaneous nodules

- a. *Loa loa*
- b. *Dracunculus medinensis*
- c. *Onchocerca volvulus*
- d. *Brugia malayi*

22. The eggs of the following Schistosoma sp are elongate and have a prominent terminal spine are

- a. *S. mansoni*
- b. *S. japonicum*
- c. *S. haematobium*
- d. *S. intercalatum*

23. Snails are both the first and second intermediate hosts of the following trematodes

- a. *Echinostoma ilocanum*
- b. *Fasciola hepatica*
- c. *Paragonimus westermani*
- d. *Fasciola hepatica*

24. The infective stage of the following parasite is found in crabs or crayfishes.

- a. *Echinostoma ilocanum*

- b. *Clonorchis sinensis*
- c. *Opisthorchis felinus*
- d. *Paragonimus westermani*

25. What parasite has an egg that is plano-convex and is readily infective after discharge?

- a). *Toxocara canis*
- b). *Trichuris trichiura*
- c). *Ancylostoma duodenale*
- d). *Toxocara cati*

26. Which one of the following is diagnosed by urine microscopy?

- a). *Ascaris lumbricoides*
- b). *Strongyloides stercoralis*
- c). *Cryptosporidium parvum*
- d) *Schistosoma haematobium*

27. A host that harbors the sexual stage of a parasite is known

- a). Definitive host
- b). Intermediate host
- c). Reservoir host
- d). Facultative

28. Produces Ground itch to man.

- a). *Trichuris trichiura*
- b). *Necator americanus*
- c). *Enterobius vermicularis*
- d). *Ascaris lumbricoides*

29. Which of the following drugs would be the best choice for the treatment of a *Schistosoma mansoni* infection in man?

- a. Albendazole
- b. Fenbendazole
- c. Eprinomectin
- d Praziquantel

30. What is the specimen of choice to recover *Paragonimus westermani*?

- a). Stool
- b). Blood
- c). Sputum
- d). Urine

31. What Cestode has an operculated egg similar to the Trematodes?

- a). *Diphyllobothrium latum*
- b). *Echinococcus granulosus*
- c). *Paragonimus westermani*
- d). *Taenia* species

32. Katayama syndrome may be caused by

- a). *Schistosoma mansoni*
- b). *Ascaris lumbricoides*
- c). *Taenia*
- d). *Enterobius vermicularis*

33. Snails serve as intermediate hosts of which of the following parasites?

- (a) *Enterobius vermicularis*
- (b) *Echinococcus granulosus*
- (c) *Schistosoma mansoni*
- (d) *Wuchereria bancrofti*

34. Humans can serve as the *intermediate* host of which of the following parasites?

- (a) *Taenia solium*
- (b) *Taenia saginata*



- (c) *Echinococcus multilocularis*
- (d) *Spirometra spp.*

35. Which of the following parasites are diagnosed by muscle biopsy?

- (a) *Ancylostoma duodenale*
- (b) *Trichuris trichiura*
- (c) *Trichinella spiralis*
- (d) *Strongyloides stercoralis*

36. The following statements concerning hookworm infection are correct except

- (a) Hookworm infection can cause pneumonia
- (b) Hookworm infection is acquired by active penetration
- (c) Diagnosed by finding the trophozoite in the stool
- (d) Hookworm infection is caused by *Necator americanus*

37. Pigs or dogs are the source of human infection by each of the following parasites except:

- (a) *Ascaris lumbricoides*
- (b) *Trichinella spiralis*
- (c) *Ascaris suum*
- (d) *Echinococcus granulosus*

38. Which of the following parasites are diagnosed by use of xenodiagnosis?

- (a) *Strongyloides stercoralis*
- (b) *Shistosoma mansoni*
- (c) *Trichinella spiralis*
- (d) *Ascaris lumbricoides*

39. One of the following parasites has more than two host to complete its lifecycle

- (a) *Ascaris lumbricoides*
- (b) *Enterobius vermicularis*
- (c) *Trichuris trichiura*
- (d) *Paragonimus westermani*

40. How is the intermediate flea host of *Dipylidium caninum* infected?

- (a). Hatched larvae penetrate through the adult flea exoskeleton
- (b.) Hatched larvae penetrate through the larval flea exoskeleton
- (c). Hatched larvae are engested by the adult flea
- (d). Eggs still within their gravid proglottids are engested by larval fleas

#### Section B 60 Marks

Section B Answer all questions

1. Discuss the hermaphroditic flukes giving examples (20 marks)
2. a). Classify *Taenia saginata* parasites ( 10 marks)  
b). Describe the effect of *Clonorchis sinensis* on humans? (10 marks)
3. a). Outline the lifecycle of *Fasciola hepatica*? (10 marks)  
b) Describe compliment fixation test in aid of Helminthes diagnosis? (10 marks)