



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES
DEPARTMENT OF MEDICAL SCIENCES
UNIVERSITY EXAMINATION FOR:

DIPLOMA IN MEDICAL LABORATORY SCIENCES

AML 2302 : MEDICAL HELMINTHOLOGY II

END OF SEMESTER EXAMINATION

SERIES: AUGUST 2019

TIME: 2 HOURS

DATE: 13 Aug 2019

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of TWO Section(s). Attempt ALL questions.

Circle the correct answer in section A.

PAPER 1

Section A 40 Marks

1. Examination of a 24 hour unpreserved urine specimen is sometimes helpful in the recovery of

- a. *Trichomonas vaginalis* trophozoites
- b. *Schistosoma haematobium* eggs
- c. *Enterobius vermicularis* eggs
- d. *Strongyloides stercoralis* larvae

2. The examination of sputum and stool may be necessary to diagnose infection with:

- a. *Paragonimus westermani*
- b. *Trichinella spiralis*
- c. *Wuchereria bancrofti*
- d. *Fasciola hepatica*

3. Eating poorly cooked pork can lead to an infection with
- Taenia solium* and *Trichinella spiralis*
 - Taenia saginata* and *Hymenolepis nana*
 - Trichuris trichiura* and *Hymenolepis diminuta*
 - Diphyllobothrium latum* and *Ascaris lumbricoides*
4. The region of growth in Cestodes is the
- Scolex
 - Neck
 - Proglottid
 - Strobila
5. Which Cestodes does NOT need an intermediate host?
- Dipylidium caninum*
 - Echinococcus granulosus*
 - Hymenolepis diminuta*
 - Hymenolepis nana*
6. The adult worm of *Clonorchis sinensis* is most frequently found in the following
- Intrahepatic bile duct
 - Lung parenchyma
 - Urinary bladder submucosa
 - Lumen of intestine
7. Which parasite from the list below has been associated with the development of pernicious anemia?
- Diphyllobothrium latum*
 - Echinococcus granulosus*
 - Spirometra mansonioides*
 - Schistosoma haematobium*

- 8 Which of the following requires two intermediate hosts to complete its life cycle?
- (a) *Taenia solium*
 - (b) *Diphyllobothrium latum*
 - (c) *Hymenolepis nana*
 - (d) *Taenia saginata*
9. All of the following are intra hepatic flukes except?
- (a) *Faciola hepatica*
 - (b) *Metagonimus yokogawi*
 - (c) *Dicrocoelium dentriticum*
 - (d) *Chronechis sinensis*
10. Lateral uterine branches in gravid proglottid are counted for diagnosis of infection caused by the following
- a). *Diphyllobothrium latum*
 - b). *Dipylidium caninum*
 - c). *Taenia saginata*
 - d). *Taenia solium*
11. Bothriocephalus anemia is associated with
- a). microcytic hypochromic cells
 - b). Folate deficiency
 - c). iron deficiency anemia
 - d). pernicious anemia
12. The miracidial hatching test helps to demonstrate the viability of
- a. Eggs of *Taenia* species.
 - b. Eggs of *Schistosoma* species.
 - c. Eggs of hookworm species.
 - d. Eggs of *Opisthorchis*.

13. Which of the following can infect the central nervous system?

- a). *Taenia solium*
- b). *Toxoplasma gondii*
- c). *Echinococcus sp*
- d). *Taenia saginata*

14. This condition results from the accidental ingestion of helminth eggs. In this instance the human becomes the intermediate rather than the definitive host. The correct answer is

- a. Trichinosis
- b. Cysticercosis.
- c. Ascariasis.
- d. Strongyloidiasis

15. A dog that chases and eats wild rabbits is most likely to become infected with which cestode?

- a. *Echinococcus granulosus*
- b. *Taenia saginata*
- c. *Diphyllobothrium latum*
- d. *Dipylidium caninum*

16. Ultrasound and MRI usually help in the diagnosis of the infection cause by

- a. *Dipylidium caninum*
- b. *Echinococcus granulosus*
- c. *Hymenolepis diminuta*
- d. *Hymenolepis nana*

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. Liver 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. The most commonly involved organ in Hydatid Disease is the

- a. liver
- b. lungs
- c. kidney
- d. brain

22. The eggs of the following *Schistosoma* sp are elongate and have a prominent lateral 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*
- e) *Clonorchis sinensis*

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

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

25. 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

26. Taeniasis solium is produced after ingestion of the

- a. *cysticercoid larvae*
- b. *cysticercus bovis*
- c. *cysticercus cellulosae*
- d. *Taenia* egg

27. Which one of the following is diagnosed by concentration methods?

- a). *Trichinella spiralis*
- b). *Ascaris lumbricoides*
- c). *Strongyloides stercoralis*
- d). *Cryptosporidium parvum*
- e) *Schistosoma haematobius*

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

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

29. Produces autoinfection in man.

- a. *Dipylidium caninum*
- b. *Hymenolepis diminuta*
- c. *Taenia saginata*
- d. *Taenia solium*

30. Which of the following has an-incorrect match between organism and the appropriate diagnostic procedure is:

- a. *Onchocerca volvulus* - examination of skin snips
- b. *Cryptosporidium* - modified acid fast stain
- c. *Echinococcus granulosus* - routine ova and parasite examination
- d. *Schistosoma haematobium* -- examination of urine sediment

31. What parasite produces infection that simulates tuberculosis?

- a. *Clonorchis sinensis*
- b. *Fasciola hepatica*
- c. *Opisthorchis felineus*
- d. *Paragonimus westermani*

32. The infective stage of what parasite is encysted in aquatic vegetations?

- a. *Clonorchis sinensis*
- b. *Fasciolopsis buski*
- c. *Echinostoma ilocanum*

d. *Paragonimus westermani*

33. Snails are both the first and second intermediate hosts of

a. *Echinostoma ilocanum*

b. *Fasciola hepatica*

c. *Fasciola hepatica*

d. *Paragonimus westermani*

34. The eggs of *Paragonimus westermani* may be demonstrated from the

a. sputum

b. stool

c. urine

d. A & B

35. What stage of the Trematodes swims in the water?

a. Cercariae

b. Coracidium

c. Metacercariae

d. Sporocyst

36. What is the infective stage of *Schistosoma* to man?

a. Cercariae

b. Embryonated egg

c. Metacercariae

d. Miracidium

37. What is the usual manner of transmission of *Schistosoma* to man?

a. Arthropod vector

b. Ingestion of the embryonated egg

c. Skin penetration of the cercariae

d. B & C

38. What *Schistosoma* produces more severe infection to man?

a. *Schistosoma haematobium*

b. *Schistosoma japonicum*

c. *Schistosoma mansoni*

d. *Schistosoma mekongi*

39. What *Schistosoma* is more resistant to treatment?

a. *Schistosoma haematobium*

b. *Schistosoma japonicum*

c. *Schistosoma mansoni*

d. *Schistosoma mekongi*

40. Pipe-stem fibrosis of the liver in Schistosomiasis is due to what stage of the parasite?

a. Adult

b. Cercaria

c. Egg

d. Metacercaria

Section B Answer all the questions 60 marks

41a). Describe general characteristic of Trematodes (10 marks)

b). Describe the clinical manifestations of Hepatosplenic Shistosomiasis (15 marks)

42. a). State the prevention and control of *Paragonimus westermani* infection (10 marks)

b) Describe the source and mode of parasitic infection or infestation (15 marks)

43. Describe in detail the formal ether concentration technique in the epidemiology helminthes (10 marks)