

Parvatibai Chowgule College of Arts and Science
Autonomous

B.Sc. Semester End Examination, January/February 2022

Semester: III

Subject: Zoology

Title: Parasitology (Elective)

Duration: 2 Hours

Max. Marks: 45

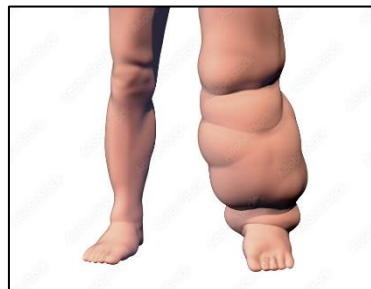
Instructions: 1. *Figures to the right indicate full marks.*
2. *Draw diagrams wherever necessary.*
3. *All main questions are compulsory.*

Q1) Answer ANY THREE of the following: (09)

- a) The Government of Ethiopia, is conducting various awareness programs to eradicate a disease caused by a worm. The disease spreads through contaminated food and water and causes painful blisters in humans. Identify the parasitic worm and comment on its pathogenicity. Mention any three strategies to eradicate the disease.
- b) A lady suffered from diarrhea, abdominal pain and fever after having dinner at a restaurant. Doctor examined the case and learnt that, the lady had undercooked crabs. Identify the parasite that caused the sickness and draw its life cycle. Mention the hosts and their importance in the life cycle of the parasite.
- c) Parasite 'A' is dependent on the host for limited periods for feeding and reproduction, while parasite 'B' attacks a non-specific host and survives on it. Identify and compare giving examples of parasite A and B.
- d) As reported from a study, death of Dolphins in the Amazon River was observed due to nematode infection in the brain. What is the study of such pathologic effect on host known as? Explain giving examples.

Q2) Answer ANY TWO of the following: (12)

- a) The image given below depicts a disease caused by a nematode worm. Identify the parasitic worm and the disease caused. With the help of a neat diagram, explain the mode of transmission of the parasite in humans. Suggest preventive measures to be undertaken to prevent spread of the disease.



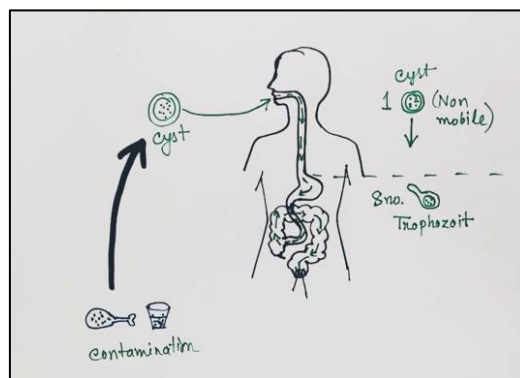
P.T.O

- b) A 37-year-old man was admitted to the hospital for fever and an inflamed foot. Ten days before admission, he visited game reserves in Tanzania, where he reported multiple tsetse fly bites. Six days later, he developed pain in the left foot and high fever. A malaria smear was negative and he was prescribed cephalixin. He continued to have intermittent high fever and developed vomiting, headache, myalgia, and a diffuse rash. What is your diagnosis? Based on what criteria? What are the other symptoms of the diagnosis mentioned above. How can it be treated?
- c) Aman fell sick after drinking unfiltered water containing Nauplii IV larvae. On conducting various tests, the diagnosis showed that Aman was suffering from a neglected tropical disease. Identify and write in detail the life cycle of the pathogen ingested by Aman. Add a note on the effects of this parasite on its host.

Q3) Answer ANY TWO of the questions given below:

(12)

- a) Identify and explain the life cycle from the picture given below. Add a note on its pathophysiology.



- b) Parasite 'X' usually inhabits on the teleost fish, are non-swimming. The females are found permanently attached to the host. The male that first parasites the fish shows the ability to change itself into a female. Identify the parasite 'X'. Write a note on its life cycle and morphology.
- c) A patient presented with a history of low-grade fever for the past few days, with no other symptoms. On examining the blood smear, the technician reported the presence of infected, enlarged and deformed red blood cells, round gametocyte in the enlarged red blood cell and a few ruptured RBC's. What is your most probable diagnosis? To prevent further relapses what preventive measures do you suggest? What can be the possible stages of the parasitic life cycle in the above mentioned situation?

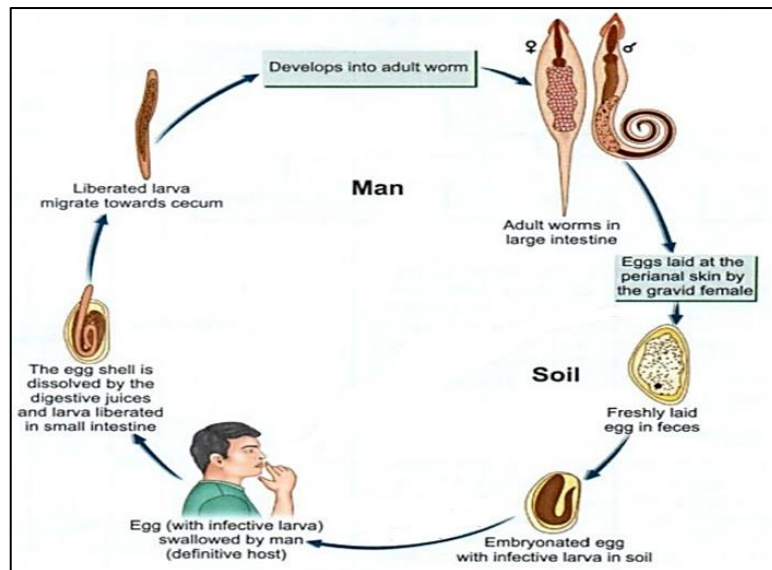
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Q4) Answer ANY ONE of the questions given below :

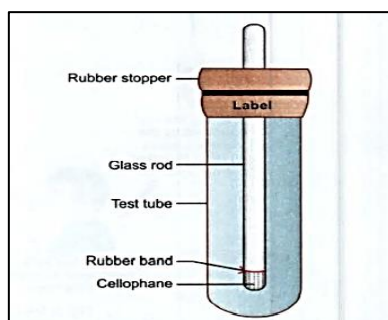
(12)

a) Soil-transmitted helminth (STHs) diseases mostly occur in children, then adults. These diseases are termed as Neglected Tropical Diseases (NTDs) as they disproportionately affect impoverished people.

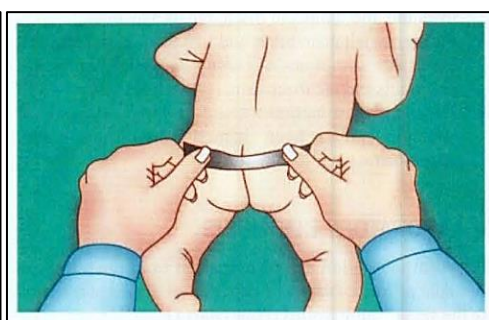
i) The image given below depicts the lifecycle of a parasite. The parasite mostly travels at the anal region, causing discomfort in children while they are asleep. Identify the parasite and comment on such an activity observed during the parasitic infestation. Can the infection reoccur in the same individual? If yes, explain.



ii) Identify and explain the diagnostic techniques (X and Y) from the images given below. Suggest some preventive measures that can be followed to prevent such infections in children.



X



Y

OR

P.T.O

b) i) A 52-year-old avid outdoorsman working at a zoo has had multiple parasite bites throughout his adult life. He experienced nonspecific malaise and fatigue for about one month. There were no fevers, chills, sweats, or weight loss. He was witnessed to have a generalized seizure and a marked decrease in mental status and was admitted into the hospital for thorough evaluation. White footed mouse are the major host of the parasite affecting the man. Identify the above parasite and the disease it caused to the man. Add a note on the pathophysiology and further treatment.

ii) Identify the pathogen and the disease caused from the picture given below. How is the given disease different from the disease “chiggers”. Explain the life cycle and add a note on how such parasites can be prevented.

