

Final Examination For Master Degree of Parasitology

Course Title: Medical Parasitology (Paper II)

Date: 6-11-2021

Time Allowed: 3 hours

Total Assessment Marks: 270 MARKS



**Tanta University
Faculty of Medicine
Department of Parasitology**

The exam is eight questions in four pages.

All the following questions must be answered: (Draw whenever possible).

I-Enumerate arthropods that may cause allergic manifestations. Discuss the bionomics, treatment, and the control measures of one of them. {30 marks}

II-Give the reason(s) for the following: {50 marks}

- 1- *Musca domestica* is a good vector for transmission of micro- organisms.
- 2- Alternative pathway of complement is activated only in natural immunity.
- 3- Healing of maggot treated wounds is very rapid.
- 4- High level of IgM in some parasitic infections.
- 5- Pericarditis may complicate some parasitic infections.

III-Enumerate antiparasitic drugs which were used as a trial in treatment of Covid 19. Discuss the proposed mechanisms of their action. {40 marks}

IV- Define: {20 marks}

- a) Toll-like receptors
- b) Trophocytosis
- c) Hapten
- d) Amphixenosis

Chairman of Department

Prof. Dr. Howaida Ismail

A handwritten signature in cursive script, appearing to read 'Howaida'.

V- Mention the taxonomy of the following:

{15 marks}

- a) *Phthirus pubis*
- b) *Simulium* fly
- c) *Demodex folliculorum*

VI- Compare between the following:

{50 marks}

- 1- *Dermatobia hominis* and *Hypoderma* species (breeding places and posterior spiracles)
- 2- Atomic force microscopy and electron microscopy
- 3- Light and heavy chains of antibodies
- 4- Scabies and cutaneous myiasis
- 5- Dendritic and NK cells

VII-Enumerate arthropods that may cause or transmit the following:

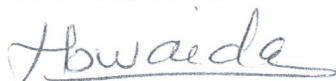
{16 marks}

- 1- Ear disease
- 2- Relapsing fever
- 3- Paralysis
- 4- Skin ulcer

VIII-Mention the parasitological uses of the following:

{24 marks}

- 1- Ig G avidity test
- 2- Nitazoxanide
- 3- Methoprene
- 4- Indirect Buffy coat technique
- 5- Nanotechnology in vaccination
- 6- Bayluscide



IX-Mention the medical importance of the following: {15 marks}

- 1- *Aedes aegypti*
- 2- *Vivipara unicolor*
- 3- *Pediculus humanus corporis*

X- Choose the correct answer: {10 marks}

1) Types of commensalism include the followings, EXCEPT:

- a) Amensalism
- b) Inquilinism
- c) Metabiosis
- d) Phoresy

2) Which of the following statements is true for paratenic hosts?

- a) Paratenic host is a physiological phenomenon in the transmission of helminths.
- b) Infective stage of the parasite can accumulate in high numbers in the paratenic hosts.
- c) The parasite can complete its development in the paratenic host.
- d) They act as a substitute definitive host of a parasite.

3) Which of the following statements is true for host immune deviation?

- a) Organisms fool host immune system into responding with an ineffective effector mechanism.
- b) Organisms hide by acquiring host molecules.
- c) Organisms may locate in privileged sites not accessible to immune effector mechanisms.
- d) Organisms produce factors that inhibit the immune response.

4) Which of the following statements is NOT TRUE regarding house dust mites (HDM)?

- a) The body of the HDM has a striated cuticle and the adult mites have eight legs
- b) Allergens produced by HDM are among the most common triggers of asthma
- c) Primary exposure to HDM allergens does not produce allergic manifestations
- d) The eosinophils play the main role in HDM-induced allergy

- 5) Which of the following statements is NOT TRUE regarding *Triatoma* spp.?
- a) They have well adapted mouthparts for entering a capillary without disturbing the host.
 - b) Male and female are nocturnal blood suckers.
 - c) They can fly for long distance but they don't move rapidly on their legs.
 - d) All species are potential vectors of *Trypanosoma cruzi*.
- 6) Which of the following is relevant to parasite-killing mechanisms of eosinophils?
- a) Release of perforins
 - b) Antibody-dependent cellular cytotoxicity
 - c) Formation of phagolysosome
 - d) Production of nitric oxide
- 7) Which of the followings most likely causes copra itch?
- a) *Hypoderma bovis*
 - b) *Chrysops*
 - c) *Tyroglyphus siro*
 - d) *Dermatobia hominis*
- 8) Which of the following is the type of histone linker of the DNA?
- a) H2A
 - b) H3
 - c) H2B
 - d) H1
- 9) Which of the following snails can live on the banks of water?
- a) *Bulinus truncatus*
 - b) *Biomphalaria alexandrina*
 - c) *Onchomelania*
 - d) *Pirenella conica*.
- 10) Red mange is the name of which of the following?
- a) *Dermatophagoides pteronyssinus*
 - b) *Triatoma megistus*
 - c) *Trombicula akamushi*
 - d) *Demodex folliculorum*

Best wishes

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Chairman of Department

Prof. Dr. Howaida Ismail



Final Examination For Master Degree of Medical Parasitology

Course Title: Medical Parasitology (Paper I)

Date: 30-10-2021

Time Allowed: 3 hours

Total Assessment Marks: 270 MARKS



Tanta University

Faculty of Medicine

Department of Parasitology

The exam is seven questions in four pages.

All the following questions must be answered: (Draw whenever possible):

I- Eosinophilic enteritis may be one of the presentations of some parasitic diseases. Enumerate these parasites and discuss the pathogenesis, diagnosis and treatment of two of them. {40 marks}

II- Give the reason(s) for the following: {40 marks}

1. Infants are resistant to malaria during the first 3-4 months of life
2. In visceral leishmaniasis, it is difficult to detect antigen in the serum of the patient.
3. Occupational history is important in the diagnosis of parasitic diseases.
4. The trypomastigotes of African trypanosomes may be monomorphic (only long slender).

III- Give an account on the following: {60 marks}

1. Apical complex: structure and function
2. The main radiological features of alveolar echinococcosis
3. Nutritional deficiencies in parasitic infections (mechanism and causes)
4. The skeletal muscle tissue changes due to settling of *Trichinella* larvae.

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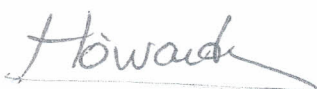
IV- Highlight the differential diagnosis and the required investigations for the following cases. {60 marks}

1. A 20-year-old girl presented to the Ophthalmology Department complaining of photophobia, eye redness and pain. Clinical examination revealed a corneal ulcer.
2. A man coughed up white worms 3 to 6 cm long and his chief complaint was abdominal tenderness. He gave a history of raw food ingestion.
3. A 48-year-old male patient presented to the emergency department with epileptic fits.

V- Case {40 marks}

A 14-year-old male student, resident in Alexandria, presented to hospital with 2-week history of fever, dyspnea, cough and wheezes, after returning from a visit to a village in Delta region in the last month. He gave a history of pruritic eruption for 3 days, followed washing in freshwater canal during his visit. Complete blood count demonstrated 30% eosinophils, but microscopic stool and sputum examinations were negative for parasites. Chest radiograph revealed patchy infiltrates in both lungs.

- a) What are the suspected parasitic disease and the causative parasite?
- b) Discuss the pathogenesis of pulmonary involvement in this case.
- c) Mention other possible complications.
- d) How can you confirm the diagnosis?
- e) Enumerate three protozoal infections affecting the lung.



VI- Mention the taxonomy of the following parasites and describe the life cycle of ONE of them: {20 marks}

1. *Sarcocystis bovi hominis*.
2. *Iodamoeba butschlii*.
3. *Wuchereria bancrofti*.

VII. Choose the correct answer: {10 marks}

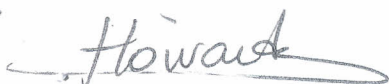
1. Which of the following substances in human skin is attractive to schistosome cercariae?
 - a. Lycine
 - b. Lipopolysaccharides
 - c. Arginine
 - d. Serine

2. Infection with *Babesia* is most observed in which of the following patients?
 - a. Transfusion recipients
 - b. Splenectomized patients
 - c. AIDS patients
 - d. Transplant recipients

3. In the chronic stage of Chagas' disease, the main lesions are often observed in which of the following?
 - a. Heart and digestive tract
 - b. Liver and spleen
 - c. Digestive tract and respiratory tract
 - d. Heart and liver

4. Which of the following hypersensitivity reactions contributes to anaemia in malaria?
 - a. Type I
 - b. Type II
 - c. Type III
 - d. Type IV

5. Yomesan is risky in the treatment of which of the following parasites?
 - a. *Diphyllobothrium latum*
 - b. *Hymenolepis nana*
 - c. *Taenia saginata*
 - d. *Taenia solium*



6. **Calcereous corpuscles are microscopic structures found in which of the following?**
- Diphyllobothrium* spp.
 - Schistosoma* spp.
 - Trichinella* spp.
 - Toxocara* spp.
7. **Corticosteroides may be risky in the treatment of which of the following parasites?**
- Schistosomiasis
 - Onchocerciasis
 - Trichinellosis
 - Cysticercosis
8. **A renal transplant patient was admitted for pneumonia. A routine evaluation of his sputum showed rhabditiform larvae. He had no eosinophils in his peripheral circulation. Which of the following is the causative parasite?**
- Necator americanus*
 - Diocotophyma renale*
 - Ascaris lumbricoides*
 - Strongyloides stercoralis*
9. **A protozoan with characteristic jerky motility is most commonly observed in which of the following?**
- Vaginal secretions
 - Duodenal contents
 - Blood
 - Sputum
10. **A teenager who works in a dog shelter after school has had a skin rash, eosinophilia, and an enlarged liver and spleen for 2 years. The most likely cause of this infection is**
- Trichinosis
 - Schistosomiasis
 - Toxoplasmosis
 - Visceral larva migrans

Best Wishes

