

Final Examination For Master Degree of Parasitology

Course Title: Medical Parasitology (Paper II)

Date: 8-6-2021

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 anti-parasitic drugs that are used nowadays in treatment of covid-19 and mention their uses in Parasitology.

Discuss the different mechanisms of action of these drugs as anti-parasitic and as anti-covid 19. {50 marks}

II- In a table form, enumerate eight arthropods that may cause or transmit infections to travellers and tourists and the causative organisms of each infection. Discuss the diagnosis, treatment, and the preventive measures of one of them transmitted by contact.

{50 marks}

III- Give the reason (s) for the following:

{40 marks}

- 1- Sandwich ELISA is superior to indirect ELISA.
- 2- *Simulium* are found at margins of fast running rivers.
- 3- Glomerulonephritis in crusted scabies infection.
- 4- Cardiac affection in American trypanosomiasis.

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IV- Compare between the following:

{50 marks}

- 1- T-helper-1 and T-helper-2 lymphocytes.
- 2- Antigen and haptan.
- 3- Scrub itch and cutaneous myiasis.
- 4- Larva of *Gasterophilus intestinalis* and larva of *Eristalis tenax*.
- 5- Type I and type III hypersensitivity reaction in parasitic infections.

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

{10 marks}

- 1- Typhus
- 2- Ocular affection
- 3- Cutaneous ulcer
- 4- Encephalitis
- 5- Severe painful bite

VI- Mention the parasitological uses of the following:

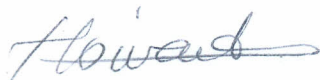
{45 marks}

- 1- Nanotechnology
- 2- γ - interferon
- 3- Stem cells
- 4- Coproantigen
- 5- Inverted microscope
- 6- Phermones
- 7- Real time PCR
- 8- Buffy coat technique
- 9- Methyl bromide

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VII- Mention the taxonomy of the following:

{15 marks}

1. *Dermatophagoides*
2. *Hypoderma*
3. *Pediculus humanus*

VIII- Choose the correct answer:

{10 marks}

1) Toll-like receptors are considered as a component of which of the following?

- a) Innate immunity
- b) Humoral immunity
- c) Cellular immunity
- d) T-B cell interaction

2) Which of the following statements is NOT TRUE for dendritic cells?

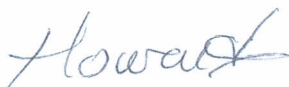
- a) They are antigen presenting cells.
- b) They act as messengers between innate and adaptive immunity.
- c) They secrete IL-12 and IL-13.
- d) They activate T- helper cells.

3) Which of the following statement is NOT TRUE regarding mites?

- a) They are small acarines.
- b) They have four respiratory spiracles.
- c) They have unarmed hypostomes.
- d) Sarcopedidae and Demodecidae are members of medically important mites.

4) Which of the following is considered as a major vaccine candidate for *Entamoeba histolytica*?

- a) Carbohydrate epitopes
- b) 36-kDa molecule
- c) Gal-lectin
- d) Serine-rich *Entamoeba histolytica* protein (SREHP)



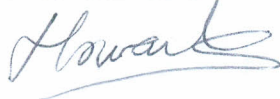
- 5) The following statements are true for complement system **EXCEPT**:
- They attached to the Fc portion of antibodies.
 - They are activated by all types of antibodies.
 - They have anaphylatoxin and chemotactic effects.
 - Their name come from that they complement the immune system.
- 6) Red mange is the name of which of the following?
- Dermatophagoides pteronyssinus*
 - Triatoma megistus*
 - Trombicula akamushi*
 - Demodex folliculorum*
- 7) Immunoglobulin classes must be distinguished by the type of:
- Variable region in their light chain they posses
 - Constant region in their light chain
 - Heavy chains they posses
 - None of the above
- 8) *Lucilia sericata* is the most commonly used fly for maggots' therapy because it is:
- Obligatory necrobiots
 - Facultative necrobiots
 - Facultative sarcobiots
 - All of the above
- 9) The following are the different strategies for immune evasion in *Entamoeba histolytica* **EXCEPT**:
- Cell surface decorations
 - Degradation of cytokines
 - Antigenic disguise
 - Surface receptor capping
- 10) Which of the following statements is **NOT TRUE** regarding allotypes antibodies?
- They represent variants present in serum of individuals.
 - They represent alternatives forms coded for by different alleles.
 - They are not present in all individuals of population.
 - Immunoglobulin G is an example of this type.

Best wishes

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Final Examination For Master Degree of Medical Parasitology

Course Title: Medical Parasitology (Paper I)

Date: 1-6-2021

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- Jaundice 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. Negative stool sample is not exclusive for *Schistosoma mansoni* infection.
2. *Plasmodium falciparum* infection is a medical emergency.
3. The differential agglutination test (AC/HS test) can be useful to determine the possibility of congenital toxoplasmosis.
4. Doxycyclin is useful for treatment of lymphatic filariasis.

III- Give an account on the followings:

{60 marks}

1. Calcareous corpuscles.
2. Parasitic cystic lesions of the brain.
3. Correlation between the pathogenesis of *Leishmania donovani* and its clinical manifestations.
4. Current methods in use for controlling snail vectors.

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IV- Highlight the differential diagnosis and the required

investigations for the following cases.

{60 marks}

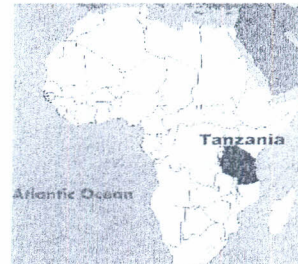
1. A 20-year-old diabetic patient complaining of persistent diarrhea with negative direct stool examination.
2. A 12-year-old female suffering from atopic dermatitis. She was treated with oral and topical corticosteroids and antihistaminic with little benefit.
3. A 48-year-old male patient presented to the emergency department with lower gastrointestinal bleeding.

V- Case

{40 marks}

A 35-year-old Egyptian male presented to the Emergency Department complaining of severe headache, anorexia, and distributed sleep pattern. There was a history of visiting game parks in Tanzania three weeks earlier. On physical examination, he was pale, and the temperature was 39 °C. Laboratory investigations showed high C-reactive protein, low platelet count $75 \times 10^3/\mu\text{l}$ and anaemia with 8.5g/dl hemoglobin.

1. What is the most likely diagnosis?
2. Discuss the mechanism of anaemia in this case.
3. Discuss the management of this case.
4. Enumerate other three parasites causing anaemia.



VI- Mention the taxonomy of the following parasites and describe the

life cycle of ONE of them:

{20 marks}

1. *Dirofilaria immitis*.
2. *Giardia lamblia*.
3. *Babesia microti*.

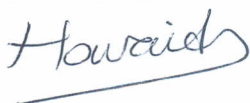
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VII. Choose the correct answer:

{10 marks}

- [1] Which of the following is involved in the pathology of *Fasciola* infection?
- Arginine
 - Glycine
 - Proline
 - γ -glutamyl transferase
- [2] A patient who recently returned from a trip to Scandinavia was presented to the clinic complaining of abdominal pain. He gave a history of ingestion of raw fish. Which of the following diagnostic stages could be detected in his stool?
- Small sized mature eggs
 - Medium sized immature eggs
 - Larvae with Y-shaped lateral cords
 - Larvae with dome-shaped lateral cords
- [3] Raccoon is a reservoir host for the following parasites **EXCEPT**:
- Gnathostoma spinigirum*
 - Trichinella britovi*
 - Baylisascaris procyonis*
 - Trypanosoma gambiense*
- [4] Which of the following parasites can be presented by migratory cutaneous swelling?
- Onchocerca volvulus* and *Loa loa*
 - Gnathostoma spinigirum* and *Leishmania major*
 - Leishmania tropica* and *Onchocerca volvulus*
 - Gnathostoma spinigirum* and *Loa loa*
- [5] On chest radiography, the presence of floating water lily sign in cystic pulmonary lesion indicates which of the following?
- Multiple pulmonary cysts.
 - Intact hydatid cysts
 - Ruptured hydatid cyst
 - Calcified hydatid cysts



- [6] Which of the following is NOT true as regards leishmaniasis recidivans?
- It clinically resembles lupus vulgaris.
 - It is a non-healing type of *Leishmania tropica* infection.
 - It is common on the face.
 - It is due to hyporesponsiveness of the host.
- [7] A 20-year-old man complained of fever, abdominal pain and diarrhea after consumption raw freshwater fish. Which one of the following is likely to be the etiologic agent?
- Echinostoma ilocanum*
 - Clinostomum marginatum*
 - Opisthorchis viverrini*
 - Dicrocoelium dendriticum*
- [8] Yomesan is risky in the treatment of which of the following parasites?
- Diphyllobothrium latum*
 - Hymenolepis nana*
 - Taenia saginata*
 - Taenia solium*
- [9] Zinc sulphate concentration technique allow the detection of the following EXCEPT:
- Giardia lamblia* cyst
 - Trichuris trichura* eggs
 - Strongyloides stercoralis* rhabditiform larvae
 - Ascaris lumbricoides* infertile eggs
- [10] Which of the following statements is relevant to *Trichinella nativa*?
- It is a non-encapsulated species.
 - It has low resistance to freezing.
 - Human cases are acquired by eating flesh of bears.
 - It is cosmopolitan in distribution.

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