

جامعة طنطا - كلية الطب - قسم الميكروبيولوجيا الطبية والمناعة

امتحان الورقة الثانية ماجستير الميكروبيولوجيا الطبية والمناعة

الزمن: ثلاث ساعات الدرجة: ١٠٠ التاريخ: ١٦ - ٤ - ٢٠١٦ أجب عن جميع الأسئلة التالية

**I. Systemic bacteriology: (50 marks)**

- a-Enumerates virulence factors of CNS & its role in pathogenesis. (5 marks)  
b-Vi-antibodies are elevated in healthy individuals in typhoid endemic areas, what is the new serological test for diagnosis of typhoid carriers?(5 m.)  
c-19 yrs old woman with pelvic inflammatory disease & has +ve DNA probe assay for *C.trachomatis* ; illustrate its life cycle & How you cultivate & treat it ? (10 marks)  
d- A 48 yrs old man has diffuse gastritis and a gastric ulcer on endoscopic examination .

- 1-What is the most probable organism ? (2 marks )  
2- Enumerates 3 modes of transmission of this organism. (3 marks )  
3-Mention the virulence factor that increase the risk of carcinogenesis by this organism & explain its role . (7 marks )  
4-Mention the available & reliable test used for diagnosis & follow up of this case . (3 marks )

e-A 50 yrs old man presents with a chronic bloody sputum , weight loss & a cavitory lesion on chest X ray.

- 1- What is the most probable organism ? (2 marks)  
2-Gram stain findings of sputum sample . (2 marks )  
3- 2 disadvantages of diagnosis of this organism by PCR or Probe(4 marks)  
4-What are the MDR & XDR of this organism . (4 marks)  
5-Mention 2 methods used for detecting antibiotic sensitivity for this org.(3 m.)

**II. Systemic virology : (30 marks)**

a-Different outbreaks of Zika virus disease have been recorded in Africa , Americas, Asia & the Pacific . Mention its structure , modes of transmission , diagnosis & prevention (8 marks)

b-Rota viruses account for 50% of cases of acute gastroenteritis of hospitalized children. Discuss its structure , diagnosis & vaccines. (7 marks)

- c-Enumerates HBV markers & explain the significance of each. (7 marks)  
d-DAAs are new direct acting antivirals for HCV e.g Olysio , Sovaldi & Harvoni . What is the mechanism of action of each & mention if these drugs replace the old ones or used with it & WHY? (8 marks)

**III. Systemic mycology: (10 marks)** -Comment on Aspergillosis ; species, pathogenesis , clinical findings, diagnostic laboratory tests and treatment .

**IV. Infection control: (10 marks)** (5 marks each )

- a-Classify instruments & patient care items according to the risk of infection when used & the recommended methods of decontamination.  
b-Enumerates general rules for use of disinfectant.

امتحان الشفوي يوم الأربعاء ٢٠ - ٤ - ٢٠١٦ الساعة العاشرة صباحا بالقسم (١٠٠ درجة)

امتحان العملي أيام (٢٣-٢٦) - ٤ - ٢٠١٦ الساعة الثامنة صباحا بالقسم (١٠٠ درجة)

رئيس القسم الأستاذ الدكتور: محمد اسماعيل  
الأستاذة الدكتورة: محمد اسماعيل  
رئيس قسم الميكروبيولوجيا الطبية والمناعة  
كلية طب طنطا

جامعة طنطا - كلية الطب - قسم الميكروبيولوجيا الطبية والمناعة

امتحان الورقة الأولى لماجستير الميكروبيولوجيا الطبية والمناعة

الزمن: ثلاث ساعات الدرجة: ١٠٠ التاريخ: ٩-٤-٢٠١٦ أجب عن جميع الأسئلة التالية

**I\*General bacteriology: (20 marks)**

- a-Mechanisms of action of G-ve endotoxins (6 marks)  
b-Short account on bacterial glycoalyx (4 marks)  
c- Discuss shortly bacterial biofilm & its role in the pathogenesis (5 marks)  
d-Short account on microbial fuel cell (MFC) (5 marks)

**II\*Immunology: ( 35 marks)**

- a-Enumerates 4 explanations for immunologic tolerance to foetus. (8 marks)  
b-What is Bare lymphocyte syndrome? (5 marks)  
c- Compare between NK & CTLs cells . (8 marks)  
d-Enumerates pro-inflammatory cytokines & its roles in immunity. (8 marks)  
e-Comment on Tregs. cells role & its immunosuppressive cytokines. (6 marks)

**III\* Bacterial Genetics :(10 marks)Write short notes on :(5 marks each )**

- a- Pathogenicity islands.  
b- In Situ hybridization

**IV\* General virology:(15 marks) Discus the following :**

- a-Phenotypic changes resulting from viral mutations. (10 marks)  
b-Compare between different types of RT inhibitors and their application in viral treatment . (5 marks)

**V\* General mycology :(10 marks)Discuss the following :\_(5 marks each )**

- a- Mycotoxicosis  
b- Antifungal therapy

**VI\*Diagnostic microbiology : (10 marks)(5 marks each )**

- a-Enumerates methods used to detect Ag. By IF, which prefer & why ?  
b-Principle of immunoblots technique .

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امتحان العملي أيام (٢٦-٢٣) - ٤ - ٢٠١٦ الساعة الثامنة صباحا بالقسم (١٠٠ درجة)

رئيس القسم

الأستاذ الدكتور محمد اسماعيل





Second Part Master Degree  
April 18<sup>th</sup>, 2016

Total Marks: 80

Time allowed: 3 Hours

Tanta University  
Faculty of Medicine

Ophthalmology Department

Ocular Pathology & Microbiology Exam

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Write on the Following Items:

- I. Microbiology & pathological features of Adenoviral eye infection.  
(10 Marks)
- II. Discuss the immunology and pathology of ocular sarcoidosis.  
(10 Marks)
- III. Discuss the pathological changes occurring in the posterior segment after blunt ocular trauma.  
(15 Marks)
- IV. Pathological differential diagnosis of malignant pigmented conjunctival lesions.  
(15 Marks)
- V. Give an account on the Pathological Features Of:
  - a. Terrien's marginal degeneration (10 Marks)
  - b. Choroidal nevus. (10 Marks)
  - c. Siderosis bulbi (10 Marks)

(END OF EXAM)

(GOOD LUCK FOR ALL)



Tanta University  
Faculty of Medicine  
Department of Parasitology

Course Title: Parasitology examination for Master Degree of Microbiology

Date: 9-4-2016 Time allowed: 3 hours Total assessment marks: 100 Marks

Chairman of Department

Prof Dr. Samy El-Kowrany

The following seven questions must be answered:

(Draw whenever possible)

- I) Mention four different methods for laboratory diagnosis of intestinal parasites. Explain one of these methods. Illustrate with diagrams the translucent eggs that may be detected in the stool.

[20 marks]

- II) Give an account on:

[20 marks]

- Laboratory diagnosis of *Wuchereria bancrofti* infection.
- Immune response in schistosomal infections.
- Myiasis (clinical aspects and diagnosis).
- Life cycle of *Clonorchis sinensis*.

- III) Give the reason(s) for the following medical conditions: [15 marks]

- Coma in *Plasmodium falciparum* infection.
- Septic shock in strongyloidiasis.
- Megasyndromes in Chagas' disease.

- IV) Name only two parasites which can be:

[5 marks]

- Diagnosed by Entero-Test.
- Detected in cerebrospinal fluid.
- Complicated with thrombocytopenia.
- Diagnosed by skin biopsy.
- Presented with myalgia.

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V) Compare between the followings: [15 marks]

- a) The trophozoites of *Giardia lamblia* and *Trichomonas vaginalis* in fresh samples.
- b) *Cysticercus cellulosae* and unilocular hydatid cyst (common sites and morphology).
- c) Eggs of hookworms and *Trichostrongylus colubriformis*.

VI) Read the following and answer the related questions: [15 marks]

A four-year-old Egyptian child presented with pyrexia of unknown origin. Available clinical data included hepatomegaly, mild splenomegaly, and recurrent abdominal pains. Blood examination revealed eosinophilia (34%) and anaemia. Repeated stool examinations were negative for parasites.

- 1) What is the possible diagnosis of this case?
- 2) How would you confirm this diagnosis?
- 3) Discuss the measures to prevent re-infection.
- 4) Enumerate other three parasites that may cause hepatomegaly.

VII) Choose the correct answer: [10 marks]

1- Mosquitoes are vectors for the following pathogen:

- |                                   |                            |
|-----------------------------------|----------------------------|
| (A) <i>Salmonella typhi</i>       | (B) <i>Babesia microti</i> |
| (C) <i>Dracunculus medinensis</i> | (D) Yellow fever virus     |

2- Autoinfection is common in infection with the following parasites except:

- |                                   |                                      |
|-----------------------------------|--------------------------------------|
| (A) <i>Diphyllobothrium latum</i> | (B) <i>Strongyloides stercoralis</i> |
| (C) <i>Cryptosporidium parvum</i> | (D) <i>Hymenolepis nana</i>          |

3- Ivermectin is useful in the treatment of:

- |                              |                                 |
|------------------------------|---------------------------------|
| (A) Hepatic amoebiasis       | (B) Strongyloidiasis            |
| (C) Alveolar hydatid disease | (D) Schistosomiasis haematobium |

4- Which of the following protozoa lack a cystic stage?

- |                                 |                                 |
|---------------------------------|---------------------------------|
| (A) <i>Giardia lamblia</i>      | (B) <i>Dientamoeba fragilis</i> |
| (C) <i>Blastocystis hominis</i> | (D) <i>Acanthamoeba</i> spp.    |

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Tanta University  
Faculty of Medicine  
Department of Parasitology

Course Title: Parasitology examination for Master Degree of Microbiology

Chairman of Department

Prof Dr. Samy El-Kowrany

أ.د. سامي الكوراني

- 5- Copro-antigen detection is used for diagnosis of the following except:  
(A) *Cryptosporidium* spp. (B) *Entamoeba histolytica*  
(C) *Taenia saginata* (D) *Trypanosoma cruzi*
- 6- Infection with the following occurs by fish consumption:  
(A) *Anisakis simplex* (B) *Wuchereria bancrofti*  
(C) *Sarcocystis lendemanni* (D) *Necator americanus*
- 7- Hypergammaglobulinaemia occurs in infection with:  
(A) *Echinococcus granulosus* (B) *Leishmania donovani*  
(C) *Cryptosporidium* spp. (D) *Entamoeba histolytica*
- 8- Buffy coat examination is useful for diagnosis of infection with:  
(A) *Isopora belli* (B) *Naegleria fowleri*  
(C) *Plasmodium vivax* (D) *Dracunculus medinensis*
- 9- The following parasites could cause ectopic lesions except:  
(A) *Fasciola hepatica* (B) *Trichuris trichiura*  
(C) *Heterophyes heterophyes* (D) *Paragonimus westermani*
- 10- Malignancy may complicate infection with:  
(A) *Trichuris trichiura* (B) *Plasmodium ovale*  
(C) *Schistosoma mansoni* (D) *Opisthorchis viverrini*

# Best wishes

سيتم تحديد مواعيد الإمتحانات الشفوى و العملى بمعرفة القسم

Final Examination For Master Degree of Microbiology  
Course Title: Medical Parasitology  
Date: 4-4-2016  
Time Allowed: 3 hours  
Total Assessment Marks: 90 MARKS



Tanta University  
Faculty of Medicine  
Department of  
Parasitology

The following questions must be answered: (Draw whenever possible)

**I. Give an account on:** (19 marks)

- 1) Techniques of stool examination for parasites (Enumerate and give short notes on one of these techniques).
- 2) Pathogenic mites (enumeration and diagnosis).
- 3) Advantages and disadvantages of antibody detection in clinical parasitological diagnosis.

**II. How can you confirm the diagnosis of the following parasitological cases:** (20 marks)

- 1) A 4-year-old child suffering from intermittent fever, abdominal pain, hepatomegaly, and eosinophilia (27%).
- 2) An AIDS patient presenting with chronic watery diarrhoea and wasting.
- 3) An Egyptian farmer presenting by painless firm swelling of both lower limbs with a previous history of recurrent fevers.
- 4) A 20-year-old Indian patient presenting with irregular fever, splenomegaly, asthenia, lymphadenopathy, and pallor.

**III. Give the reason(s) for:** (12 marks)

- 1) Blindness in onchocerciasis.
- 2) *Plasmodium falciparum* infection is a medical emergency.
- 3) The parasites can frequently establish chronic or persistent infections in their hosts.
- 4) Antibody detection is not sufficient to differentiate recent from past infection with *Toxoplasma gondii*.

**IV. Compare between the followings:** (12 marks)

- 1) Microfilariae of *Wuchereria bancrofti* and *Loa loa*.
- 2) *Cysticercus cellulosae* and unilocular hydatid (sites, morphology).
- 3) Mechanical and biological transmission of *Plasmodium vivax*.
- 4) Casoni and Montenegro (leishmanin) tests.

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Chairman of Department  
Prof. Dr. Samy El Kowrany

**V. Mention the value of the usage of: (12 marks)**

1. Formalin in formol ether sedimentation technique.
2. Methyl alcohol in diagnostic parasitology.
3. Diethylcarbamazine (hetrazan) in diagnostic parasitology.
4. Warm water at 37°C in Baerman's technique.
5. Ziehl-Neelsen stain in diagnostic parasitology.
6. Fluorescent microscope in parasitology laboratory.

**VI. Choose the correct answer: (15 marks)**

1. High eosinophilia is present in:  
a- Amoebiasis  
b- Scabies  
c- Enterobiasis  
d- Visceral larva migrans
2. Morula cells may be detected in CSF of patients with infection by:  
a- *Plasmodium vivax*  
b- Hydatid cyst  
c- *Trypanosoma gambiense*  
d- *Acanthamoeba* spp.
3. The following can be diagnosed by sputum examination except:  
a- *Balantidium coli*  
b- Hydatid cyst  
c- *Strongyloides stercoralis*  
d- *Paragonimus westermani*
4. Concentration by floatation technique is useful for the diagnosis of the following except:  
a- *Hymenolepis nana*  
b- Hook worms  
c- *Entamoeba histolytica*  
d- *Fasciola gigantica*
5. The following parasites are associated with high risk of infection for lab-technicians except:  
a- *Giardia lamblia*  
b- *Enterobius vermicularis*  
c- *Toxoplasma gondii*  
d- *Ascaris lumbricoides*
6. Malabsorption may complicate the infection with the following:  
a- *Trichuris trichiura*  
b- *Enterobius vermicularis*  
c- *Ascaris lumbricoides*  
d- *Giardia lamblia*

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