

Examination for Master Degree in: Biochemistry
Course title: Medical Microbiology & Immunology
Date: 15 /10 / 2017
Term: October 2017
Time allowed: 3hours
Total assessment marks: 100 marks



Tanta University
Faculty of Medicine
Microbiology Department

All questions to be answered :

1-What is the mechanism of the bacterial resistance for the following drugs to affect bacteria. (10 marks)

- a-Cephalosporins. (2.5 marks)
- b-Aminoglycosides. (2.5 marks)
- c-Tetracyclin. (2.5 marks)
- d-Sulfonamides. (2.5 marks)

2-Explain the mechanisms of : (10 marks)

- a- Type 3 hypersensitivity. (5 marks)
- b- Graft rejection. (5 marks)

3- Compare between :(10 marks)

- a-T-cytotoxic (Tc) and Natural killer(NK) cells
- b- Class I and Class II MHC (5 marks)

4—Discuss the following : (10 marks)

- a- Standard precautions in hospitals.(2.5 marks)
- b- Virulence factors of bacteria (5 marks)
- c- Bacterial toxins.(2.5 marks)

5- Mention the causative agents and mode of transmission of the following diseases: (10 marks)

- a- Q fever (2.5 mark)
- b- Subacute bacterial endocarditis (2.5 mark)
- c- Botulism (2.5 mark)
- d- Enteric fever (2.5 mark)

6-Discuss the causative agent(s) mode of infection, clinical manifestations and lab. diagnosis of *Brucellosis*. (10 marks)

7- A nurse was walking out of the patient's room with a used syringe and needle in an injection tray, after having given an intramuscular injection when she bumped into another nurse in a hurry. The syringe with its needle fell from the tray on the nurse's hand and she got a prick. The nurse thinks she had 3 doses of hepatitis B vaccine in the past but has no documentation of receiving those doses. **(5 marks)**

a- What are the most important blood borne pathogens that could be transmitted to such nurse. (2 marks)

b- Discuss post exposure management needed for this nurse regarding *Hepatitis B* virus. (3 marks)

8- 25 year old woman presents for the evaluation of pelvic pain. The pain progressively worsened over the past week. She also has burning urination and vaginal discharge. She is sexually active. **(5 marks)**

A gram stain of cervical discharge reveals only polymorphonuclear leukocytes.

A direct DNA probe test subsequently comes back positive for *chlamydia trachomatis*

a-Discuss the methods of lab.diagnosis of chlamydia? (4 mark)

b-What is the drug of choice for proper treatment ? (1 mark)

9-Describe the morphology ,culture characters and antibiotic resistant mechanisms of *Acinetobacters*? **(5 marks)**

10- Give account on the pathogenesis , lab. Diagnosis and treatment and prevention of *cryptococcus neoformans* : **(10 marks)**

11-Discuss different theories of virus/cancer relationship. **(5 marks)**

12- Explain mode of infection , lab. diagnosis and prevention of yellow fever . **(10 marks)**

Oral exam: Monday 16/10/2017

Practical exams: Start on Monday 23/10/2017

At 8 am in Microbiology & Immunology Department

GOOD LUCK

