

كلية العلوم الطبية التطبيقية / قسم الصحة البيئية

Environmental Microbiology/Mid-Term Examination

(الأجابات الصحيحة)

[TIME : 60 minutes / Answer 5 questions only]

Q I(20 grades): Put the space, the causative agent of the following diseases:

1-Gas gangrene,...*Clostridium ...perfringens*.....

2- Trachoma,...*Chlamydia trachomatis*.....

3- Food poisoning ,*Staphylococcus aureus* or *C.botulinum* or *salmonella spp.*.....

4- Watery diarrhea ,*Veberio cholera*.....

5- Plague, *Yersinia pestis*.....

6- botulism *Chostridium perfringens*.....

Q II: (20 grads) Nosocomial Infections, mean...Hospital cross infections

and most likely caused by:

1-.....MRSA (Methicillin Resistant *Staph. aureus*.....

2- *Pseudomonas spp.*.....

3- *Enteric bacilli*.....

Q III(20 grads) What are the main factors which make bacterial species a virulent pathogen?

1-...pillus.....

2-...R-factor.....

3- Capsule or spore surround the cell membrane

QIV:(20 grads) What are the methods used for counting coliforms numbers as indicators of fecal pollution in water.

1- Most Probable Number (MPN)

2- Membrane-Filtration

3--...Presence –Absence (A-P) Method

Q V(20 grads): Where you are a health preventive officer in KERBALA CEMENT FACTORY with about 500 workers, write what you have to do in the following case: more than 25 workers(age 25 to 46 y) been admitted to the hospital because s of symptoms usually appeared after launch meals taken in the factory restaurant who mainly provide canned foods . The symptoms include fatigue, weakness and vertigo, followed by a dry mouth and difficulty swallowing and speaking, and blurred vision. The disease can progress to weakness in the neck and arms after which respiratory muscles and muscles of the lower body become affected.

a) What is the possible causative agent of these symptoms ?

Clostridium botulinum

b) how it can be diagnosed ?

1-samples of canned food & patient feces must be cultured

2-Detection of botulinum toxins in feces or serum of the patient.

c) what are the preventive measures that should be taken ?

1- Home canned food should be boiled for 10 minutes before eating

2- Children under the age of 12 months should not fed honey or un-boiled canned food.

Q VI: (20 grads)What was the most probable number(MPN) of a water sample with the following multiple tube fermentation test results (SEE THE ATTACHED TABLE):

10 ml portions : 4 positive for acid & gas

1 ml portions : 3 positive for acid & gas

0.1 ml portions : 1 positive for acid & gas

Answer: 4, 3 , 1 results fit with column in the table showing MPN= 33

