****

**Subject: Soil Microbiology**

**Class: Second stage**

**Time: 2 hours**

**Question Banks**

**Salahaddin University - Erbil**

**College of Science**

**Environmental Science and Health Department**

**Soil microbiology**

**Q1/ Enumerate main kinds of botulism? Then explain them.**

# 2/ How can bacteria promote plant growth ? Explain with example.

# 3- Actinomycetes in soil environment are similar to fungi, How?

# 4-Actinomycetes in soil environment are similar to bacteria, How?

# 5- What are the Gas gangrene treatment options?

# 6- What are the disadvantages of yeasts?

# 7- What are the advantages of yeasts?

# 8- Bacterial populations in soil affected by two points? What are they?

# 9- What are the importance of organic matter?

# 10- What are the groups of mycorrhizas fungi? define them?

# 11- Soil moisture useful to the microorganisms in two ways, what are they?

# 12- Soil bacteria based on shapes classified into 3 types? explain?

**13/ Explain the roll of mycorrhizal fungi in soil?**

**14- Sign and symptoms of botulinium**

**15- botulinium Treatments includes the following?**

**16- What are soils groups according to size?**

**17- what are Bacteria Functions in soil**

**18- what are gass gangareen Source ?**

**-----------------------------------------------------------------------------------------**

**Q19) Fill the following blanks with suitable answers: -**

# 1- -------- bacterial colonies cleanup and degradation oil spills in the ocean, known as one of the ---------

# 2- If soil particle size between (0.05 – 2 mm) it's called -----------.

# 3- Clostridium tetani produces a biological toxin called---------- causative agent of --------- disease.

# 4- Gram (-) bacteria are ---------in size and tend to be --------to water stress.

# 5-Anthrax is a zoonotic disease caused by bacteria of the species --------- .

# 6- Mainly Yeasts fungi reproduce asexually by ------------ and ------------ .

**7- Clostridium tetani produces a potent biological toxin called**

**---------------- causative agent of --------------- disease.**

**8- The causative agent of gas gangrene is bacterium ------------ .**

**9- Populations of soil bacteria change rapidly depending on ---------------**

**and ---------------.**

**10-There are two mycorrhizal groups: ----------------- and ----------------.**

**11-Gram(+)bacteria are ---------in size and tend to be --------- to water stress.**

**12-Yeasts of the** [**Candida**](http://en.wikipedia.org/wiki/Candida_(genus)) **genus causes** [**oral**](http://en.wikipedia.org/wiki/Oral_candidiasis) **and** [**sexual infections**](http://en.wikipedia.org/wiki/Vaginal_infection) **in humans, known as ----------------.**

**13-Botulism disease caused by bacterium ----------- and** **has ability to produce the neurotoxin -------------.**

**Q/ 20 Write true or false for the following: -**

**1- Endomycorrhizas fungi live inside the cortical cells of the roots and also grow intercellularly.**

**2- Fungi thrive in acidic environments, while bacteria and actinomycetes cannot survive in acid.**

**3- Organic matter ratio according to total volume of soil about 45% .**

**4- Sphere shaped bacteria are called bacilli.**

**5- Subsoil is the darkest of all layers due to the presence of humus which makes the soil fertile**

**With my best wishes**

**Dr. Lubna Ahmed**