

Benha university
Faculty of department
Botany department
4th :biothechnology

General microbiology

Answer question:

(1)The missing words

- 1- Mineral matter , water , air , organic matter and living organisms .
- 2- Humus , microflora .
- 3- Heterogenous group of substances .
- 4- Mycorrhizal fungus .
- 5- Bacteria . actinomycetes , fungi,algae and protozoa .
- 6- Organic matter .
- 7- Photoautotrophic .
- 8- Carbon , 40-50% .
- 9- CO_2 .
- 10- Nitrogen mineralization .
- 11- Microbial immobilization .
- 12- Denitrification .

Answer questions 2 (short notes)

A) Enviromental conditions influencing soil bacteria :

- 1- Moisture :The maximum bacterial density is found in regions of high moisture content (50-70%)

2- Water-logging : The change from aerobic to a anaerobic is affected by the disappear - once of free O₂ .

3- Temperature :There are 3 kind of temperature :

1- Psychrophilic :Ranges from 0-20 C .

2 Mesophilic :Ragnes from 25-35 C .

3- Thermophilic :Ranges from 45-65 C .

4- Highly acid of alkoline

1	7	14
acidity	neutral	alkaline

5- organic carbon and plowing and tillage causes marked bacteriaallogical alternation .

B) Activity and function of fungi

1- Formation of humus from fresh organic residues .

2- Fungi not contain chlorophyll ,must obtain from organic molecule .

3- Some species are requiring B vitamins ,amino acid .

4- Certain fungi Dependence plants in their nutrition .

5- The uptake of N₂ ,S,Zn is promoted by mycorrhizal fungus in many plant speices .