

General microbiology

Answer the following questions:

1) Complete the missing words

- 1- The soil composed of five matter components
- 2) The organic fraction of soil often termed is a product of the synthetic and decomposing activities of the
- 3) Humans should be considered as a portion of the soil that composed of
- 4) The uptake of N₂,s,zn and other essential elements is promoted by the in many plant species .
- 5) Soil contain five major microorganisms such as.....
- 6) The number of filamentous fungi in soil vary with the content of utilizable
- 7) Carbon dioxide is converted to organic carbon by the action of.....
- 8) Plant tissues and microbial cells contain large amount of approximately of dry weight.
- 9) From the final decomposition of humus..... produced and the cycle is completed .
- 10) In organic complexes is converted to inorganic ions (ammonium and nitrate).
- 11)leads to the biosynthesis of complex molecules of microbial protoplasm from ammonium and nitrate .
- 12) is process carried by certain microorganisms by which nitrate are converted to N₂ gas .

2) Give short notes on the following.

- a) Activity and function of fungi.
- b) Activity and function of actinomycetes

3) Define the following words:

- a) Nitrogen mineralization.
- b) Denitrification .

With Best wishes.

Model Answer

Answer the questions:

Q1:

- 1) Mineral matter ,water ,air , organic matter , living organisms .
- 2) Humus ,microflora.
- 3) Heterogenous group of substances .
- 4) Myconnhizal fungi.
- 5) Bacteria ,actinomycetes , fungi ,agae and protozoa .
- 6) Organic mater .
- 7) Photoautotrophic.
- 8) Carbon ,40-50%
- 9) Co2
- 10) Nitrogen mineralization .
- 11) Microbial immobilization .
- 12) Denitrification .

Q2:

a) Activity and function of fungi :

- 1- Fungi obtain carbon for cell synthesis from performed organic molecule .
- 2- Fungi participate in formation of humus .
- 3- The uptake of N₂ ,S,Zn and other essential elements is promoted by mycorrhizal fungus in many plant species .

b) Activity and function of actinomycetes

- 1- decomposition of carbon aceous material .
- 2- formation of humus .
- 3- Nocardia asteroides causes infections of human and animals .
- 4-actinomycetes acts as antagonisms.

Q3:

a- Nitrogen mineralization : organic complexes is converted to inorganic ions ammonium and nitrate .

b- Denitrification : by certain microorganisms , nitrates are converted to N₂,gas which escapes to the atmosphere .