AIPMT 2010

1. An element playing important role in nitrogen fixation is:
2. Molybdenum
3. Copper
4. Manganese
5. Zinc

Answer- a. Molybdenum

The enzyme nitrogenase which catalyses the conversion of atmospheric nitrogen to ammonia (the first stable product of nitrogen fixation) is a Mo-Fe protein.

Refer page 202; Section 12.6.2 [NCERT 2021-22]

1. The free-living anaerobic nitrogen fixer is:
2. Beijerinckia
3. Rhosospirillum
4. Rhizobium
5. Azotobacter

Answer- b. Rhosospirillum

Free-living nitrogen-fixing aerobic microbes are Azotobacter and Beijerinckia while Rhodospirillum is anaerobic and free-living.

Refer page 202; Section 12.6.2 [NCERT 2021-22]

1. Which one of the following is not a micronutrient?
2. Molybdenum
3. Magnesium
4. Zinc
5. Boron

Answer- b. Magnesium

|  |  |
| --- | --- |
| **Macronutrients** | **Micronutrients** |
| Carbon | Iron |
| Hydrogen | Manganese |
| Oxygen | Copper |
| Nitrogen | Molybdenum |
| Phosphorous | Zinc |
| Sulphur | Boron |
| Potassium | Chlorine |
| Calcium | Nickel |
| Magnesium |  |

Refer page 196; Section 12.2.1 [NCERT 2021-22]

AIPMT 2009

1. Which of the following is a symbiotic nitrogen fixer?
2. Glomus
3. Azotobacter
4. Frankia
5. Azolla

Answer- c. Frankia

Both Rhizobium and Frankia are free- living in soil, but as symbionts, can fix atmospheric nitrogen.

Refer page 202; Section 12.6.2 [NCERT 2021-22]

1. Manganese is required in:
2. Nucleic acid synthesis
3. Plant cell wall formation
4. Photolysis of water during photosynthesis
5. Chlorophyll synthesis

Answer- c. Photolysis of water during photosynthesis

The best defined function of manganese is in the splitting of water to liberate oxygen during photosynthesis.

Refer page 198; Section 12.2.2 [NCERT 2021-22]