MINERAL NUTRITION & NITROGEN METABOLISM

1. Gray spots of oats are caused by deficiency of 2003

   1. Cu 2. Zn **3. Mn** 4. Fe

2. In which one of the following is nitrogen *not* a constituent 2003

   1. Idioblasts 2. Bacteriochlorophyll 3. Invertase 4. Pepsin

3. The major portion of the dry weight of plant comprises of` 2003

   1. Nitrogen, phosphorus and potassium 2. Calcium, magnesium and sulphur

   3. Carbon, nitrogen and hydrogen 4. **Carbon, hydrogen and oxygen**

4. If by radiation all nitrogenase enzymes are inactivated, then there will be no 2004

   1. Fixation of nitrogen in legumes. **2. Fixation of atmospheric nitrogen**

   3. Conversion of nitrates to nitrites in legumes 4. Conversion from ammonia to nitrate in soil

5. All of the following statements concerning actinomycetous filamentous soil bacterium *Frankia* are correct except that *Frankia* : 2005

   1. Can induce root nodules on many plant species

   2. Cannot fix nitrogen in free-living state

   3. Like *Rhizobium* , it usually infects its host plant through root hair deformation and stimulates cell proliferation in the host's cortex.

   4. Forma specialized vesicles in which the nitrogenase is protected from oxygen by a chemical barrier involving triterpene haponoids.

6. Prolonged liberal irrigation of agricultural fields is likely to create the problem of 2005

   1. Acidity 2. Aridity 3. Matal toxicity **4. Salinity**

7. The ability of the Venus flytrap to capture insects is due to 2005

   1. Chemical stimulation by the prey

   2. A passive process requiring no special ability on the part of the plant

   3. Specialized 'muscle-like' cells

   4. Rapid turgor pressure changes.

8. Sulphur is an important nutrient for optimum growth and productivity in 2006

1. Oilseed crops 2. Pulse crops 3. Cereals 4. Fibre crops

9. Farmers in a particular region were concerned that pre mature yellowing of leaves of a pulse crop Might caue decrease in the yield. Which treatment could be the most beneficial to obtain maximum seed yield. 2006

1. Application of iron and magnesium to promote synthesis of chlorophyll

2. Frequent irrigation of the crop

3. Treatment of the plants with cytokinins along with a small dose of nitrogenous fertilizer

4. Removal of all the yellow leaves and spraying the remaining green leaves with 2,4,5 trichlorophenoxy acetic acid

10. A plant requires magnesium for 2007

1. Protein synthesis **2. Chlorophyll synthesis**

3. Cell wall development 4. Holding cells together

11. Which one of the following elements is not an essential micronutrient for plant growth? 2007

1. Zn 2. Cu **3. Ca** 4. Mn

12. Which one the following is a flowering plant with nodules containing filamentous nitrogen-fixing microorganism? 2007

1. *Crotolaria juncea* 2. *Cycas revolute* 3. *Cicer arietinum* **4. *Casuarina equisitifolia***

13. Which of the following statement is correct? 2007

1. Both Azatobacter and Rhizobium fix atmospheric nitrogen in root nodules of the plant.

2. Cyanobacteria such as Anabaena and Nostoc are important mobilizers of phosphates and potassium for plant nutrition in soil.

3. At present it is not possible to grow maize without chemical fertilizers.

4.Extensive use of chemical fertilizers may lead to eutrophication of nearby water bodies

14. Which one of the following mineral element plays an important role in biological nitrogen fixation?

1. Copper 2. Manganese 3. Zinc **4. Molybdenum**

15. Manganese is required in 2009

1. Photolysis of water during photosynthesis 2. Chlorophyll synthesis

3. Nucleic synthesis 4. Plant cell wall formation