DPP
DAILY PRACTICE PROBLEMS

Class : XIth
Date :

Solutions

Subject : BIOLOGY
DPP No. : 3

Topic :- Mineral Nutrition

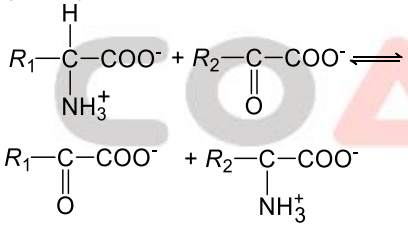
1 **(b)**

Column I	Column II	Column III
Calcium	Required for synthesis of mitotic spindle	Young root tip begin to die
Boron	Required for absorption of calcium	Fruit size diminishes
Phosphor-ous	Essential for constitution of nucleic acid	Red blots on leaves
Chlorine	Required for ionic balance	Fruit yield decreases
Mangane-se	Required to activate respiratory enzyme	Grey blot on leaves

2 **(c)**

Once the glutamic acid is synthesised by reductive amination, other amino acids are synthesised by the transfer of its amino group to other carbon skeletons. Therefore, glutamic acid is used as a starting material for the synthesis of other amino acids.

Such a transfer of amino group ($-NH_2$) from an amino donor compound to the carbonyl position ($= CO$) of an amino acceptor compound is called transamination



3 **(a)**

Chelating agent is used to chelate metals like iron

4 **(b)**

The term outer space represents intercellular space and cell wall, while inner space represents cytoplasm and vacuole with reference to absorption of minerals

5 **(c)**

As hydroponic tomatoes are picked too soon, therefore, they may not taste so fresh

6 **(a)**

EDTA is used to chelate metal ions. It is ethyldiamenetetracetic acid

8 **(a)**

Sulphur is constituent of certain amino acids. The amino acids form the protein by polymerization. The pulses are rich in protein.

9 **(b)**

The atmosphere has about 78% of nitrogen. It is used by organisms in the synthesis of proteins, nucleic acid and other nitrogenous compounds. Basic source and the great reservoir of phosphorus are rocks or other deposits, which have been formed in the past geological ages.

10 **(a)**

Haustoria is found in *Viscum* that absorbs nutrient

11 **(a)**

Insectivorous plants grows in the soil, which have poor amount of nitrogen contents (nitrate). Nitrogen is very essential for metabolism. To solve this problem, these plants kill and digest insects for their nitrogen contents, *e.g., Nepenthes*.

12 **(d)**

Humus is the dark-colored amorphous colloidal material that constitutes the organic component of soil. It is formed by the decomposition of plant and animal remains and excrement and has a complex and variable chemical composition. Being a colloid, it can hold water therefore improves the water retaining properties of soil. It also enhance soil fertility and workability.

13 **(b)**

Iron (Fe).

Functions of Fe It is involved in the transfer of electrons like ferredoxin and cytochromes. It is reversibly oxidised from Fe^{2+} to Fe^{3+}during electron transfer. It activates catalase enzymes and is essential for the formation of chlorophyll

14 **(c)**

The ultimate source of nitrogen is atmosphere. It is fixed in usable forms by several biological and non-biological agencies. Nitrogen is also present in the soil in the form of nitrates and ammonical salts

16 **(a)**

Copper, magnesium and iron affect photosynthetic and mitochondrial electron transport path.

17 **(c)**

Nitrate or death of issue, particularly leaf tissue, occurs due to deficiency of Ca, Mg, Cu, K.

18 **(c)**

Through trace elements are required for various functions, most of these have a significant role in enzyme activities (e.g., zinc activities carboxylases, carbonic anhydrase and various dehydrogenases).

19 **(b)**

Phosphorus.

Essential elements can be grouped into four broad categories on the basis of their diverse functions

(i) Essential elements that acts as a components of biomolecules and hence, structural elements of cells (*e*. *g*., carbon, hydrogen, oxygen and nitrogen)

(ii) Essential elements that are components of energy-related chemical compounds in plants

(iii) Essential elements that activates or inhibits enzymes

(iv) Some essential elements can alter the osmotic potential of a cell

20 **(b)**

Hydroponics is a technique of growing plants in a nutrient solution and this technique also helps in determination of mineral nutrients essential for the growth of blank

ANSWER-KEY										
Q.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
A.	**B**	**C**	**A**	**B**	**C**	**A**	**B**	**A**	**B**	**A**
Q.	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
A.	**A**	**D**	**B**	**C**	**A**	**A**	**C**	**C**	**B**	**B**