

MINERAL NUTRITION

1. Whiptall disease of crucifers is caused due to
(a) Abundance of Mo (b) Deficiency of Mo
(c) Deficiency of Zn (d) Deficiency of Mn
2. Zn is required for the synthesis of
(a) Tryptophan (b) Proline
(c) Methionine (d) Isoleucine
3. The development of anthocyanin is controlled by
(a) Phosphorus (b) Potassium
(c) sodium (d) nitrogen
4. The permeability of the membranes is controlled by
(a) Fe (b) Mn
(c) Cu (d) Ca
5. Sulphur is observed by the plants as
(a) SO_4^{2-} (b) SO_2
(c) SO_3 (d) H_2SO_4
6. Usable form of N_2 for the plants is
(a) N_2 (b) NO_3^-
(c) NO_2^- (d) NH_4^+
7. Absorbable form of N_2 for the plants is
(a) N_2 (b) NO_3^-
(c) NO_2^- (d) NH_4^+
8. The amino acids formed in the root nodules of leguminous plants is transported through
(a) Cortical cells (b) Xylem
(c) Phloem (d) both b and c
9. The structure meant for carbon fixation in blue green algae is
(a) Vegetative cell
(b) Rhizoidal cell
(c) Heterocystous cell
(d) all
10. In leguminous plants, the mechanism to prevent the N_2 fixing enzyme from the exposure of oxygen is
(a) Presence of hemoglobin
(b) Presence of leghemoglobin
(c) Presence of thick membrane of nodule
(d) impermeability of the membrane from oxygen
11. Chlorosis in leaves can be prevented by spraying
(a) IAA (b) ABA
(c) Cytokinins (d) gibberellins
12. Nitrate reductase is located in
(a) Chloroplast (b) Mitochondria
(c) Cytoplasm (d) All of these
13. For the reduction process which is required
(a) Ferredoxin
(b) Perchloric acid
(c) Zn
(d) Mg
14. Anabaena lives in symbiotic association in fronds of
(a) Azolla (b) Cycas
(c) Pinus (d) All of these
15. The carrier proteins in the membranes are called as
(a) Proteases (b) Permeases
(c) Pinosomes (d) All of these
16. Deficiency of copper causes
(a) Die back disease
(b) Exanthema
(c) Reclamation of crop. Plants
(d) All the above

17. Characteristic function of phosphorus is
 (a) Immediate stoppage of activity of phosphatase enz
 (b) Slow the activity of phosphatase
 (c) slow increase in the activity of phosphatase
 (d) Tremendous increase in the activity of phosphatase
18. Phosphorus is accumulated in
 (a) Older regions
 (b) Older roots
 (c) Meristematic regions
 (d) Only at leaf base
19. Potassium deficiency first appears in older leaves & than younger leaves This infers that
 (a) K^+ is immobile
 (b) K^+ is mobile
 (c) Either A and B
 (d) Deficiency symptoms does not depend upon the mobility
20. By ashing the organic matter
 (a) Remains in the ash
 (b) Gets completely oxidized
 (c) get incompletely oxidized
 (d) Get reduced
21. Criterion for the essentiality of elements was given by
 (a) Sachs
 (b) Amon
 (c) Stout
 (d) Both B and C
22. Ammonification is defined as
 (a) Conversion of atm N_2 into NH_4
 (b) Conversion of amino acids into atm N_2
 (c) Breakdown of amino acids to ammonia
 (d) conversion of NO_3^- to ammonia
23. The formation of leghemoglobin in leguminous plants is controlled by
 (a) Host cytoplasm
 (b) Bacterial cytoplasm
 (c) Soil
 (d) both (b) and (c)
24. Photosynthetic N_2 fixing free living bacteria is
 (a) *Phodopseudomonas*
 (b) *Rhodo spirillum*
 (c) *Anabaena*
 (d) All the above
25. Which of the following organism (Plant) absorb ammonia directly?
 (a) *Oxalis*
 (b) *Begonia*
 (c) Both A and B
 (d) No plant can absorb ammonia
26. Which of the following is a molybdoflavoprotein
 (a) Nitrate reductase
 (b) Nitrite reductase
 (c) Nitrogenase
 (d) None
27. The critical elements for the growth of plants are
 (a) P (b) K
 (c) N (d) All of these
28. The organism that can carry out both steps of Nitrification is
 (a) *Begonia* (b) *Aspergillus flavus*
 (c) *Nitrobacter* (d) *Penicillium*
29. Which BGA is used in rice fields
 (a) *Cylindrospermum*
 (b) *Nostoc*
 (c) *Anabaena*
 (d) *Aulosira fertilissima*

30. Extra respiration required during mineral absorption is called is
(a) Salt respiration (b) Ionic respiration
(c) Mobile respiration (d) none of these
31. Nitrite reductase is present in
(a) Mitochondria (b) Chloroplast
(c) Plasma membrane (d) All
32. The fungus *Aspergillus flavus* causes
(a) Denitrification (b) Nitrification
(c) Ammonification (d) Deammonification
33. Active uptake of minerals by roots mainly requires
(a) availability of O_2
(b) availability of light
(c) high temperature
(d) high O_2 concentration
34. An essential element
(a) occurs in plant ash
(b) is irreplaceable and indispensable for plant growth
(c) is absorbed by roots
(d) all the above
35. The radioactive elements used by Shout and Hoagland to prove the Xylem as the transport tissue for water & mineral
(a) Na^+ & K^+ (b) Ca^{2+} & Cl^-
(c) K^+ or P (d) Na^+ or P
36. In the die back disease
(a) root apex dies first (b) shoot apex dies first
(c) leaf apex dies first (d) none of these
37. Hydroponics was developed by
(a) Home
(b) Armon and Hoagland
(c) Home and Amon
(d) Geriche
38. The insects are attracted towards the pitcher plant by
(a) its fragrance
(b) the purple colour of pitcher
(c) the juice secreted by pitcher
(d) none of these
39. The smallest parasitic plant is
(a) *Cuscuta* (b) *Arceuthobium*
(c) *Cassytha* (d) *viscum*
40. The rootless, aquatic insectivorous plant is
(a) *Drosera* (b) *Dioneae*
(c) *Aldrovanda* (d) *Nepenthes*
41. The pitcher in *Nepenthes* is the modified
(a) Petiole (b) Lamina
(c) Leaf apex (d) none of these
42. _____ absorb nutrition from the dead organic matter
(a) Indian pipe (b) *neottia*
(c) none (d) Both a and b
43. The sandalwood grows on
(a) *Ficus elastica* (b) *Viscum*
(c) *Dalbergia sisso* (d) *Santalum*
44. *Bromelape* is
(a) total stem parasite
(b) total root parasite
(c) Partial root parasite
(d) Partial stem parasite
45. Active absorption of ions was 1st indicated by Hoagland in
(a) *Chlorella* & *Scenedesmus*
(b) *Nitella* & *Valonia*
(c) *Chlorella* & *Valonia*
(d) *Nitella* & *Scenedesmus*
46. The absorption of ions by the plant against the conc. gradient without using the energy is explained by
(a) Osmosis
(b) Active absorption
(c) Mass flow
(d) Donnan equilibrium

47. Nitrifying bacteria are
(a) Photoautotrophic (b) Chemoautotrophic
(c) Parasitic (d) Saprophytic
48. Partial parasites take_____ from host plant
(a) support
(b) water only
(c) water + mineral salts
(d) both a and c
49. Monotropa is colourless because
(a) it is partial parasite
(b) it is complete parasite
(c) it is saprophyte
(d) it is pathogenic parasite
50. Insectivorous plants grow in soil that is deficient in
(a) N₂ (b) O₂
(c) S (d) C