BIOLOGY

BOOKS - MBD BIOLOGY (ODIA ENGLISH)

MINERAL NUTRITION

Question Bank

1. Nitrite is converted to nitrate by:

A. Nitrosomonas

B. Nitrobacter

C. Pseudomonas

D. Clostridium

Answer: B

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2. Zn, Mo, Fe, Cu are:

A. Trace elements

B. Non-essential elements

C. Macro nutrients

D. None of these

Answer: A

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3. Nitrifying bacteria are able to:

A. Convert atmospheric nitrogen into soluble forms

B. Convert ammonia to nitrate

C. Nitrate to nitrogen

D. None of these

Answer: B

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4. An essential element is that-which:

A. Improve health of the plant

B. Is irreplaceable and indispensable for growth of plants

C. Is found in plant ash

D. Is available in the soil

Answer: B

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5. A plant requires magnesium for:

A. Protein synthesis

B. Chlorophyll synthesis

C. Cell wall development

D. Holding cells together

Answer: B

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

A. Zn

B. Cu

C. Ca

D. Mn

Answer: C

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7. Which one of the following is not a micronutrient for plant growth?

A. Cu

B. B

C. Zn

D. Cr

Answer: D

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8. Which of the following is a microelement ?

A. Potassium

B. Phosphorus

C.

D. Magnesium

Answer: C

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9. An anaerobic bacteria capable of atmospheric N_2 fixation is:

A. Chlorobium

B. Azotobacter

C. Rhodospirillum

D. Clostridium

Answer: D

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10. Maximum absorption of mineral salts takes place in:

A. Root hair region

B. Meristematicregion

C. Root cap region

D. Maturation region

Answer: A

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11. The slow rate of decomposition of fallen logs in nature is due to their:

A. anaerobic environment around them

B. low cellulose content

C. low moisture content

D. poor nitrogen content

Answer: D

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12. Which of the following is widely used as a successful biofertiliser in Indian rice field ?

A. Rhizobium

B. Acacia arabica

C. Acalypha indica

D. Azolla pinnata

Answer: D

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13. Which of the following is essential for chlorophyll synthesis ?

A. Mn

B. Mg

C. Cu

D. Fe

Answer: B

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14. Find out odd one from the following options by considering its role in nitrogen cycle.

A. Clostridium

B. Nostoc

C. Pseudomonas

D. Rhizobium

Answer: C

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15. Which of the following is not an essential element for Plants ?

A. Iron (Fe)

B. Manganese (Mn)

C. Zinc (Zn)

D. Iodine (I)

Answer: D

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16. In root nodules of legumes, leg-haemoglobin is important because:

A. It transports oxygen to the root nodule

B. It acts as an oxygen scavenger

C. It provides energy'to the nitrogen fixing bacterium

D. It acts as a catalyst in transamination

Answer: B

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17. Necrosis, or death of tissue particularly leaf tissue is due to the deficiency of:

A. N, K, S

B. N, K, Mg and Fe

C. Mn, Zn and Mo

D. Ca, Mg, Cu and K

Answer: D

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18. Which one of thefollowing is a denitrifying bacterium?

A. Nitrobacter

B. Nitrosomonas

C. Pseudomonas

D. E.coli

Answer: C

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19. Which of the following is the function of nitrifying bacteria ?

A. Oxidize NH_3 ' $\rightarrow$ NO_3^-`

B. Converts NO_3^- to NH_3

C. Oxidize NH_3 to NH_4

D. Converts NO_3^- to N_2

Answer: A

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20. Which of the following is a free living nitrogen fixing bacteria ?

A. Rhizobium

B. Azotobacter

C. Frankia

D. Anabaena

Answer: B

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

A. Iron

B. Manganese

C. Cadruium

D. Phosphorus

Answer: C

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22. Free living bacteria that can fix N_2 from soil is:

A. Clostridium

B. Azotobacter

C. Beijerinckia

D. All of these

Answer: D

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23. Micronutrients are:

A. Mn, Ni, Zn

B. O, Cu, B

C. Mg, Mn, Mo

D. Ca, S, Fe

Answer: A

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24. An example of symbiotic nitrogen fixing bacterium is_____.

A. Azotobacter

B. Rhizobium

C. Methanobacterium

D. Clostridium

Answer: B

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25. The root nodules formed by leguminous plants have a red pigment called_____.

A. Haemoglobin

B. Phycocanin

C. Leghaemoglobin

D. Anthocyanin

Answer: C

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26. Which of the following is a model metal hyper-accumulator plant?

A. Nicotiana tabacum

B. Arabidopsis

C. Thalapsi goesinigense

D. Daucos carota

Answer: B

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27. 'Exanthema' in citrus trees is as a result of the deficiency of:

A. Boron

B. Copper

C. Calcium

D. Molybdenum

Answer: A

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28. Drought spot of apples is caused by the deficiency of_____.

A. Copper

B. Nitrogen

C. Boron

D. Magnesium

Answer: C

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29. In nitrate assimilation, reduction of nitrate to ammonia is mediated by:

A. Nitrate reductase

B. Nitrite reductase

C. Both (a) and (b)

D. None of these

Answer: C

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30. Roots can absorb minerals from the soil when they are in:

A. Solid state

B. Liquid state

C. Ionic state

D. Gaseous state

Answer: C

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31. Which of thefollowing convert the ammonia to nitrites ?

A. Nitrosomonas

B. Nitrococcus

C. Nitrobacter

D. Both: (a) & (b)

Answer: D

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32. Which is required for nitrogen fixation ?

A. Mo

B. Zn

C. Mn

D. Mg

Answer: A

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33. An essential element:

A. occurs in plant ash

B. Is irreplaceable and indispensable for plant growth

C. is absorbed by root

D. All of the above

Answer: B

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34. Which of the following is widely used as a successful biofertiliser in Indian rice field ?

A. Nostoc

B. Azolla

C. Trifolium

D. All of these

Answer: D

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35. Function of Mg and Fe is:

A. Synthesis of chlorophyll

B. Synthesis of proteins

C. Synthesis of fats

D. Synthesis of organic acids

Answer: A

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36. Which of the following is macro nutrient?

A. Ca

B. Mn

C. Zn

D. Cu

Answer: A

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37. Which of the following is trace element ?

A. Zn

B. Ca

C. P

D. Mg

Answer: A

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38. Which of the following are all micronutrients?

A. Cu, Mn, Mo and B

B. Cu, Zn, Mg and B

C. Cu,Ca, Mn and B

D. Cu, Mg, P and B

Answer: A

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39. The set of three elements included fully in micro nutrients:

A. Na, Cu, Mg

B. Fe, Zn, Cu

C. Fe, K, Ca

D. Mn, O, P

Answer: B

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40. The central atom of the porphyrin like ring of chlorophyll is:

A. Iron

B. Magnesium

C. Manganese

D. Molybdenum

Answer: B

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41. Which is essential for root hair growth ?

A. Zn

B. Ca

C. Mo

D. S

Answer: C

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42. The deficiencies of micronutrients not only affect growth of plants but also vital functions, Which group of three elemeµts shall affect most, both photosynthetic and mitochondrial electron transport ?

A. Co, Ni, Mo

B. Ca, K, Na

C. Mn, Co, Ca

D. Cu, Mn, Fe

Answer: D

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43. Nitrogen fixation is

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44. The components of nitrogenase and nitrate reductase is:

A. Mo

B. Mg

C. Mn

D. Fe

Answer: A

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45. Farmers in a particular region were concerned that pre-mature yellowing of leaves of a pulse crop might cause decrease in the yield. Which treatment could be most beneficial to obtain maximum seed yield ?

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

B. Frequent irrigation of the crop.

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

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

Answer: A

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46. Which of the following is a microelement ?

A. Zn

B. Mo

C. Mn

D. Ca

Answer: D

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47. The function of leghaemoglobin during biological nitrogen fixation in root nodules of legumes is to:

A. Convert atmospheric N_2 to NH_3

B. Convert ammonia to nitrite

C. Transport oxygen for activity of nitrogenase

D. Protect nitrogenase from oxygen

Answer: D

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48. Deficiency of which of the following can cause yellowing of intravenous region of leaves?

A. Calcium

B. Potassium

C. Copper

D. Phosphorus

Answer: B

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49. If the size of fruits diminishes in plants, which mineral ion should be added to soil ?

A. Calcium

B. Boron

C. Chlorine

D. Copper

Answer: C

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50. Which is a carrier for mineral nutrients ?

A. Leucine

B. Lecithin

C. Choline

D. Tubulin

Answer: B

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51. Which theory explains active absorption of minerals ?

A. Mass flow

B. Ion exchange

C. Cytochrome pump

D. Facilitated diffusion

Answer: C

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52. The deficiency of magnesium results in_____ of the plants.

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53. The deficiency of____causes the death of the stem and root apices.

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54. The deficiency of copper in Citrus results in disease known as _____.

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55. Drought spot of apples is caused by the deficiency of_____.

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56. The technique of culturing plants in nutrient solutions is known as _____.

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57. Abbreviation NPK means_____.

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58. The conversion of ammonia to nitrates is called_____.

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59. Elements which are required by the plants in minute quantities are called _____.

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60. Carbon is absorbed by the plant as_____from the air.

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61. Elements which are required in large quantities by the plants are called_____.

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62. Oxygen is absorbed-in the molecular form the_____by the plant.

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63. The common symptom of nitrogen deficiency is____in plants.

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64. The deficiency of potassium produces____growth in plants.

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65. The components of nitrogenase and nitrate reductase is:

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66. Excessive nitrogen supply to the plants reduces the stem strength.

A. True

B. False

C.

D.

Answer: Root

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67. What is the term used for the large specialized cell present in Cyanobacteria which is responsible for nitrogen fixation ?

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68. The enzyme responsible for biological nitrogen fixation is_____.

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69. The pigment that helps nitrogen fixation in root nodules of leguminous plants is_____.

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70. Conversion of nitrate ion into ammomum ion by soil bacteria is called

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71. WRITE SHORT NOTES ON: Trace elements

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72. WRITE SHORT NOTES ON: Biological nitrogen fixation

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73. WRITE SHORT NOTES ON: Symbiotic nitrogen fixation

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74. DISTINGUISH BETWEEN: Macronutrients and micronutrients

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75. DISTINGUISH BETWEEN: Symbiotic and asymbiotic N_2 - fixation.

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