BIOLOGY

BOOKS - SARAS PUBLICATION

MINERAL NUTRITION

Exercise

1. If a plant is provided with all mineral nutrients but, Mn concentration is increased, what will be the deficiency?

A. Mn prevent the uptake of Fe, Mg but not Ca

B. Mn increase the uptake of Fe, Mg and Ca

C. Only increase the uptake of Ca

D. Prevent the uptake Fe, Mg and Ca

Answer:

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2. The element which is not remobilized?

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3. Identify the correct statement

(i) sulphur is essential for amino acids cystine and methionine

(ii) low level of N , K ,S and Mo affect the cell division

(iii) Non -leguminous plant Alnus which contain bacterium frankia

(iv) Denitrification carrird out by nitrosomonas and nitrobacter .

A. I,II are correct

B. I, II, III are correct

C. I only correct

D. All are correct

Answer:

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4. The criteria required for essential minerals was given by

A. William Frederick Goerick

B. Arnon and Stout

C. Van Helmont

D. Liebig

Answer:

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5. Skeletal element are

A. Iron, manganese, copper, zinc

B. Carbon, hydrogen, oxygen

C. Nitrogen, phosphorus, potassium, magnesium

D. Calcium, potassium, phosphorus, molybdemum

Answer:

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6. Essential minerlas which are requried in higher concentration are called_____

A. Micronutrients

B. Essential elements

C. Macronutrients

D. Mobile minerals

Answer:

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7. Essential minerals which are required in less cocnentration are called_____

A. Essential elements

B. Macronutrients

C. Micronutrients

D. Immobile minerals

Answer:

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8. Law of minimum was proposed by

A. Liebig

B. Julius Von Sachs

C. Van Helmont

D. Warburg

Answer:

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9. _____ made first observation of mineral nutrition.

A. Wood word

B. Liebig

C. Van Helmont

D. William

Answer:

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10. "Soil provides mineral nutrients required for their growth". Explained by

A. Wood word

B. De Saussure

C. Liebig

D. Julius Von Sachs

Answer:

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11. Plants naturallly obtain nutrients from

A. Atmosphere

B. Water

C. Soil

D. All of these

Answer:

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12. The minerals placed under the list of unclassified minerlas are

A. Carbon, hydrogen, oxygen

B. Sodium, silicon, cobalt, selenium

C. Copper, iron, cadmium, selenium

D. Magnesium sulphur, manganese.

Answer:

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13. If you observe where the deficiency symptoms appear first, you can notice differences in old and younger leaves. It is mainly due to _____ of minerals.

A. Mobility

B. Immobility

C. Concentration

D. None of these.

Answer:

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14. Give examples of actively mobile minerals.

A. Calcium, sulphur, iron

B. Nitrogen, phosphorus, potassium

C. Carbon, hydrogen, oxygen

D. Sodium, silicon, cobalt

Answer:

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15. Relatively immobile minerals

A. Calcium, sulphur, iron

B. Nitrogen, phosphorus, potassium

C. Carbon, hydrogen, oxygen

D. Sodium, silicon, cobalt

Answer:

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16. Deficiency symptoms first appear on old senescent leaves due to

A. Mobility

B. Immobility

C. Actively mobile minerals

D. Relatively immobile minerals

Answer:

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17. Deficiency symptoms first appear on young leaves due to

A. Mobility

B. Immobility

C. Actively mobile minerals

D. Relatively immobile minerals

Answer: Energy components

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18. Non - essential element in plant is

A. Magnesium

B. Barium

C. Potassium

D. Calcium

Answer:

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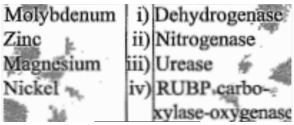
19. Match the following



Molybdenum	i)	Dehydrogenase
Zinc	ii)	Nitrogenase
Magnesium	iii)	Urease
Nickel	iv)	RUBP carbo-xylase-oxygenase

A. A-(iv), B-(iii), C-(ii) D-(i)

B. A-(ii), B-(i), C-(iv), D-(iii)

C. A-(i), B-(iv) C-(iii), D-(ii)

D. A-(iii), B - (ii) C - (i) D - (iv)

Answer:

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20. _____is essential for pest resistance, prevent water lodging and aids cellwall formation in Equisetaceae, Cyperaceae and Gramineae

A. Calcium, sulphur, iron

B. Potassium

C. Silicon

D. Zinc

Answer:

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21. Which of the following mineral is essential for nitrogenaseenzyme during reduction of atmospheric nitrogen into ammonia?

A. Magnesium

B. Zinc

C. Selenium

D. Molybdnium

Answer:

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22. What is the name of the mineral playting a key role in osmotic potential maintenance ?

A. Potassium

B. Calcium

C. Sodium

D. Zinc

Answer:

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23. Constituent of cell membrane, proteins, nucleic acid, ATP, NADP, Phytin and sugar phosphate.

A. Nitrogen

B. Phosphorus

C. Potassium

D. Calcium

Answer:

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24. Match the following

Black heart of celery	i) Sulphur
Inter venial chlorosis	ii) Calcium
Affect root growth and fruit ripening	iii)Magnesium
Reduced nodulation in legumes	iv)Phosphorus

A. A-(iv), B-(ii), C(i), D-(iii)

B. A-(i), B-(iii), C(ii) D-(iv)

C. A-(iv), B-(i), C(iii), D-(ii)

D. A-(ii), B-(iii), C(iv) D, (i)

Answer:

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25. Which of the following biological chelating agent?

A. Siderophores

B. EDTA

C. Ethylene diamine

D. Iron

Answer:

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26. _____ is essential for translocation of sugar.

A. Zinc

B. Iron

C. Molybdenum

D. Boron

Answer:

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27. Identify the correct statement (i) Iron is an essential element for the sythesis of clorophyll and carotenoids (ii) Magnesium is essential for binding of ribosomal sub units (iii) Phosphorus is required by the plants in greatest amount (iv) Calcium maintains turgidity and osmotic potential of the cell

A. I,II are correct

B. iii,iv are correct

C. I only correct

D. All are correct

Answer:

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28. _____involved in splititng of water to liberate oxygen (phyotolysis).

A. Iron

B. Manganse

C. Copper

D. All of these

Answer:

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29. Brown heart of beet rot is caused by

A. deficiency of zinc

B. deficiency of chlorine

C. deficiency of nickel

D. deficiency of boron

Answer:

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30. _____ is a Ca^{2+} modulating protein in eukaryotic cells.

A. Chlorophyll

B. Calmodulin

C. Auxin

D. None of these.

Answer:

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31. Minerl nutrients lesser than critical concentration cause_____

A. Deficiency symptoms

B. Toxicity

C. Growth

D. Translocation.

Answer:

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32. A concentration, at which _____ of the dry weight of tissue is reduced, is considered as toxic

A. 0.2

B. 0.3

C. 0.1

D. 0.9

Answer:

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33. Which of the following toxicity cause precipation of nucleic acid.

A. Manganese toxicity

B. Aluminium toxicity

C. Iron toxicity

D. Chromium toxicity

Answer:

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34. Who introduced commerical teachniques for hydrophonics?

A. Soifer Hillel and David Durger

B. Goerick

C. Van gelmont

D.

Answer:

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35. Aeroponics tehcnique was developed by

A. Goerick

B. Van Helmont

C. Soifer Hillel and David Durger

D. Wood Word

Answer:

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36. _____ bacterium is found in leguminous plants and fix atmospheric nitrogen

A. Nostoc

B. Clostridium

C. Oscillatoria

D. Rhizobium

Answer:

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37. Example for non-symbiotic bacterium

A. Nostoc

B. Clostridium

C. Rhizobium

D. Oscillatoria

Answer:

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38. Which of the following promotes cell division?

A. Ammonia

B. ATP

C. Cytokinin

D. Leghaemoglobin

Answer:

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39. Alnus and Casuarina contain the baterium_____

A. Klebsiella

B. Frankia

C. Clostridium

D. Rhizobium

Answer:

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40. Which of the non-legume plant contians the bacterium Frankia.

A. Anthoceros

B. Casuarina

C. Pisum sativum

D. Psychotria

Answer:

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41. Match the following

A) Lichens	*- (i) Nostoc*
B) Anthoceros-	*(ii) Anabaena and Nostoc*
C) Azolla	*- (iii) Cell division*
D) Cytokinin	*-(iv) Anabaena azollae*

A. A-(iv), B-(ii), C-(iii), D-(i)

B. A-(iii),B-(ii),C-(i),D-(iv)

C. A-(i),B-(iv),C-(iii),D-(ii)

D. A-(ii),B-(i), C-(iv), D-(iii)

Answer:

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42. Which enzyme is active only in an anaerobic condition

A. Transaminase

B. Nitrogenase

C. Amylase

D. None of these.

Answer:

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43. Which pigment is essential for nitrogen fixation by leguminous plants?

A. Leghaemoglobin

B. Anthocyanin

C. Phycocyanin

D. Phycoerythrin

Answer:

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44. In nitrogen cycle nitrite is converted into nitrate by

A. Azotobacter

B. Rhizobium

C. Nitrosomonas

D. Nitrobacter

Answer:

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45. The process of conversion of ammonia into nitrate is called

A. Nitrifiction

B. Ammonification

C. Nitrate assimilation

D. Putrefaction

Answer:

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46. Plants obtain their nitrogen from the soil in the form of

A. Nitric acid

B. Nitrogen gas

C. Nitrate

D. Nitrogen oxide

Answer:

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47. Which is the main amino acid from which other amino acids are synthesized ?

A. Cystine

B. Asparic acid

C. Glutamic acid

D. All the above

Answer:

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48. Which of the following is made up of dead cells ?

A. Saprophytes

B. Autotrophs

C. Heterotrophs

D. Parasites

Answer:

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49. _____ are called bird's nest orchid

A. Rafflesia

B. Neottia

C. Cuscuta

D. Orobanche

Answer:

Watch Video Solution

50. Which of the following is called Indian pipe?

A. Loranthus

B. Cuscuta

C. Monotropa

D. Neottia

Answer:

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51. Santalum album is a

Obligate or total parasite ,Total root parasitem (iii) Partial stem parasite Partial root parasite

A. (i), (ii) are correct

B. (i), (ii), are correct

C. (iv), only corrct

D. All are correct

Answer:

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52. _____ are indicators of SO_2 pollution.

A. Lichens

B. Mycorrhizae

C. Anthosceros

D. Nostoc

Answer:

Watch Video Solution

53. _____ are a pioneer species in xeric succession.

A. Rhizobium

B. Nitrosomonas

C. Nitrobacter

D. Lichens

Answer:

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54. Obligate parasite completely depends on host for their survival and produces_____

A. Roots

B. Thallus

C. Haustroia

D. (a) and (b)

Answer:

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55. Cuscuta is an example of _____

A. Obligate stem parasite

B. Parital stem parasite

C. Saprophyte

D. Autotrophs

Answer:

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56. _____ is a total root parasites

A. Orobanche

B. Neottia

C. Cuscutta

D. Rafflesia

Answer:

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57. Viscum is a _____

A. Partial stem parasite

B. Parasites

C. Obligate stem parasite

D. Heterotrophs

Answer:

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58. _____ grows on fig and mango trees and absorb water and minerals from xylem

A. Cuscuta

B. Loranthus

C. Rafflesia

D. Neottia

Answer:

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59. _____ is a mutual association of Algae and Fungi

A. Mycorrhizae

B. Saprophytic

C. Lichen

D. Parasites

Answer:

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60. Fungi associated with roots of higher plants are called_____

A. Mycoorhizae

B. Lichen

C. Saprophytic

D. Parasitic

Answer:

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61. Nepenthes is an_____

A. Sundew

B. Insectivorus plant

C. Bladderwort

D. Venus flytrap

Answer:

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62. In Nepenthes the leaves are modified into_____

A. Cladode

B. Phylloclad

C. Pitchers

D. Spine

Answer:

Watch Video Solution

63. Drosera consists of long club shaped structures called_____

A. Pitchers

B. Tentacles

C. Colourful trap

D. Bladder

Answer:

Watch Video Solution

64. Utricularia is also known as_____

A. Pitcher plant

B. Sundew

C. Bladderwort

D. Venus flytrap

Answer:

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65. When inset is trapped, _____ will digest the insect

A. Proteolytic enzymes

B. Nectar

C. Digestive fluid

D. None of these.

Answer:

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66. FTW works on the principle of _____

A. Aeroponics

B. Critical concentration

C. Manganese toxicity

D. Hydroponics

Answer:

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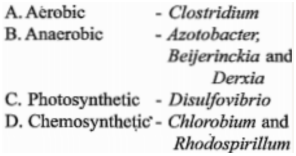
67. Match the following



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68. What are the criteria required for essential minerals?

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69. What are micronutrients?

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70. What are macronutrients?

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71. Name the two types of minerals based on the mobility

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72. What are the deficiency symptoms of nitrogen?

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73. List out the structural component minerals.

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74. List out the energy component minerals

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75. What is the role of potassium on osmotic potential of the cell?

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76. What are the deficiency symptoms of phosphorus?

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77. What are the functions of potassium in plant?

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78. What are NPK fertilizers ?

Watch Video Solution

79. Write notes on siderophores.

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80. What are the deficiency symptoms of copper?

Watch Video Solution

81. List out the functions fo chlorine.

Watch Video Solution

82. Distinguish between hydroponics and aeroponics.

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83. What are the commonly used nutrient solutions?

Watch Video Solution

84. What is nitrogen fixation.

Watch Video Solution

85. Write a short note on fixation of nitrogen.

Watch Video Solution

86. Define bacteroid.

Watch Video Solution

87. What is nitrification?

Watch Video Solution

88. Write notes on nitrate assimilation.

Watch Video Solution

89. Define ammonifiction.

Watch Video Solution

90. Define Denitrification .

Watch Video Solution

91. Dfine nutrition and its type.

Watch Video Solution

92. What is calmodulin ?

Watch Video Solution

93. Write short noes on non-bilogical nitrogen fixation.

Watch Video Solution

94. What is nitrogen fixation.

Watch Video Solution

95. Write notes on symbiotic N_2 fixation.

Watch Video Solution

96. List out the plants and prokaryotes

Watch Video Solution

97. Make a flow chart to show the types of nitrogen fixation.

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98. Give an account of non-symbiotic N_2 fixation.

Watch Video Solution

99. Mention the role of Sulphur in plants.

Watch Video Solution

100. Write a brief note on Manganese toxicity.

Watch Video Solution

101. Explain stages of root nodule formation.

Watch Video Solution

102. What is nitrogen metabolism? What are the stages of ammonium assimilation?

Watch Video Solution

103. Explain reductive amination.

Watch Video Solution

104. Transamination - Write a note.

Watch Video Solution

105. Describe catalytic amination.

Watch Video Solution

106. What are parasites? List out types of parasites.

Watch Video Solution

107. Give an account of obligate parasites.

Watch Video Solution

108. What are called partial parasites?

Watch Video Solution

109. What is symbiosis? List out exampels of symbiosis.

Watch Video Solution

110. Write short notes on lichens.

Watch Video Solution

111. Write notes on Mycorrhizae.

Watch Video Solution

112. What is the association between Rhizobium and leguminous plant. Explain.

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113. Write notes on the association between cyanobacteria and coralloid root.

Watch Video Solution

114. Write about critical concentration.

Watch Video Solution

115. Write short notes on soilless culture.

Watch Video Solution

116. Write short notes on aeroponics.

Watch Video Solution

117. Describe the various stages of nirogen cycle.

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118. If a plant is provided with all mineral nutrients but, Mn concentration is increased, what will be the deficiency?

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B. Mn increase the uptake of Fe, Mg and Ca

C. Only increase the uptake of Ca

D. Prevent the uptake of Fe, Mg, and Ca

Answer:

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119. The element which is not remobilized?

A. Phosphorus

B. Potassium

C. Calcium

D. Nitrogen

Answer:

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120. Law of minimum was proposed by

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B. Julius Von Sachs

C. Van Helmont

D. Warburg

Answer:

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121. Which of the following is called Indian pipe?

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B. Cuscuta

C. Monotropa

D. Neottia

Answer:

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122. Plant A in a nutrient medium shows whiptail disease. Plant B in a nutrient medium shows a Little leaf disease. Identify mineral deficiency of plant A and B ?

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123. The nitrogen is present in the atmosphere in huge amount but plants fail to utilize it . Why ?

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124. Distinguish between hydroponics and aeroponics.

Watch Video Solution

125. What are the deficiency symptoms of nitrogen?

Watch Video Solution

126. Define calmodulin.

Watch Video Solution

127. What are macronutrients?

Watch Video Solution

128. Why is that in certain plants deficiency symptoms appear first in parts of the plants while in others, they do so in mature organs?

Watch Video Solution

129. Explain stages of root nodule formation.

Watch Video Solution

130. Write note on partial parasite

Watch Video Solution

131. Write the role of nitrogenase enzyme in nitrogen fixation?

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132. Write short notes on aeroponics.

Watch Video Solution

133. What is symbiosis? List out exampels of symbiosis.

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134. What is symbiosis? List out exampels of symbiosis.

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135. Write short notes on lichens.

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136. Explain the insectivorous mode of nutrition in angiosperms?

Watch Video Solution

Example

1. Plant A in a nutrient medium shows whiptail disease. Plant B in a nutrient medium shows a Little leaf disease. Identify mineral deficiency of plant A and B ?

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