



BIOLOGY

BOOKS - LAKHMIR SINGH & MANJIT KAUR

NUTRITION IN PLANTS

Exercise

1. Name the pores through which leaves exchange gases.



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2. Name the porcess by which plants make food.



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3. What is photosynthesis ?



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4. State whether the following statements are true or false:

Carbon dioxide is released during photosynthesis.



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5. State whether the following statements are true or false:

Solar energy is converted into chemical energy during photosynthesis.





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6. State whether the following statements are true or false:

The product of photosynthesis is not a protein.



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7. State whether the following statements are true or false:

A plant having red leaves cannot do photosynthesis.



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8. State whether the following statements are true or false:

Plants which synthesise their food themselves are called saprotrophs.



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9. Name any one plant which has nitrogen-fixing Rhizobium bacteria in its roots.



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10. What do the patches of green layer floating on the surface of stagnant water bodies like ponds and lakes consist of?



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11. Why are algae green ?



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12. Name a gas used in photosynthesis.



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13. Name a gas produced in photosynthesis?



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14. What name is given to those organisms :

Which can make their own food ?



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15. What name is given to those organisms :

Which depends on other organisms for food?



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16. Rhizobium bacteria and leguminous plant help each other in survival. What is this relationship known as?



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17. What name is given to the relationship between an alga and fungus in lichens ?



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18. Where does the synthesis of food in a plant usually takes place ?



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19. Why are the leaves of a plant usually green ?



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20. Name the green pigment present in the leaves of a plant



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21. Name three plant nutrients commonly present in fertilisers and manures



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22. Name the bacteria which converts nitrogen gas of air into nitrogen compounds



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23. Name type of plants have Rhizobium bacteria in their roots nodules ?



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24. Name any two leguminous plants



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25. Name one autotrophic plant and one heterotrophic plant.



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26. Name the following:

A parasitic plant with yellow, slender and tubular stem.



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27. Name a plant which has both autotrophic as well as heterotrophic modes of nutrition.



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28. Name one plant in which photosynthesis occurs in plant part other than leaves. Name the plant part.



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29. Name four foods made by plants which are an important part of our diet



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30. The heterotrophic plants can be divided into two groups on the basis of their mode of nutrition. Name two groups



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31. Fill in the following blanks with suitable words :

Fungi like and are useful.



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32. Fill in the following blanks with suitable words :

saprotrophs secrete digestive juices on dead and decaying matter and convert it into a





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33. Fill in the following blanks with suitable words :

The tiny spores of fungus plants are always present in



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34. Fill in the following blanks with suitable words :

In lichens, the chlorophyll containing partner is an



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35. Fill in the following blanks with suitable words :

The leather objects that are left in hot and humid weather for long time are spoiled due to the growth of



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36. Fill in the following blanks with suitable words :

The food synthesised by plants is stored as



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37. Fill in the following blanks with suitable words :

In photosynthesis, solar energy is captured by the pigment called



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38. Fill in the following blanks with suitable words :

During photosynthesis, plants take in
and release



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39. Fill in the following blanks with suitable words :

The gas produced during photosynthesis

which is essential for the survival of all organisms is



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40. Fill in the following blanks with suitable words :

The simplest carbohydrate made as food by photosynthesis is



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41. Fill in the following blanks with suitable words :

Crop plants require a lot of nitrogen to make



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42. Fill in the following blanks with suitable words :

The bodies of living organisms are made up of tiny units called





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43. Match the items given in column I with those in column II :

| Column I | Column II |
|----------------------|-------------------------------|
| (i) Chlorophyll | (a) <i>Rhizobium</i> bacteria |
| (ii) Nitrogen | (b) Heterotrophs |
| (iii) <i>Amarbel</i> | (c) Pitcher plant |
| (iv) Animals | (d) Leaf |
| (v) Insects | (e) Parasite |



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44. How would you test the presence of starch in leaves ?



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45. What is special about the leaves that they can synthesise food but other parts of a plant cannot ?



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46. In addition to carbon dioxide and water, state two other conditions necessary for the process of photosynthesis to take place.



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47. Consider the following organisms :

Lichen, Mushroom, Cuscuta, Grass, Pitcher
plant

out of these, which one is : a) an autotroph ?

b) a saprophyte ? c) symbiotic plant ? D) a

partial heterotroph ? E) a parasite ?



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48. Why do organisms need to take food ?

What are the two main modes of nutrition in organisms ?



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49. What is meant by an autotroph ? Name one autotroph



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50. what is meant by a heterotroph ? Give one example of a heterotroph



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51. Explain why we cannot make food ourselves by photosynthesis like the plants do?



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52. What are insectivorous plants ? Name an insectivorous plant.



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53. Why do farmers spread fertilisers and manures in the fields ?



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54. What are plant parasites ? Name one plant which is a parasite



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55. What are saprophytes ? Name one saprophyte.



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56. Proteins are nitrogenous (nitrogen-containing) foods. How do plants get nitrogen for making proteins ?



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57. Name the large, spherical structure usually located in the center of a cell.



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58. The nucleus in a cell is surrounded by a jelly-like material. Name this material.



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59. Name the thin, outer covering which encloses a cell.



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60. Name any two parts which are present in plant cells but not in animal cells



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61. Give a brief description of the process of synthesis of food in green plants. What is chlorophyll ? What is the role of chlorophyll in photosynthesis ?



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62. How do plants get carbon dioxide for making food by photosynthesis ?



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63. Explain how water and minerals are transported to the leaves of a plant to be used in food making by photosynthesis?



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64. Describe briefly how nutrients are replenished in the soil ? How is the growing of a leguminous crop in the fields beneficial to the farmer ?



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65. A person observes that some plants have deep red, violet and brown coloured leaves. Can these leaves carry out photosynthesis ? Give reason for your answer.





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66. Describe the importance of photosynthesis for the existence of life on the earth.



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67. What are the various modes of nutrition in plants ? Give one example of each.



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68. What do you understand by symbiosis ?

Explain with an example



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69. Which part of the plant gets carbon dioxide from air in photosynthesis ?

A. root hair

B. stomata

C. leaf veins

D. sepals

Answer: B



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70. Plants take carbon dioxide from the atmosphere mainly through their :

A. roots

B. stems

C. flowers

D. leaves

Answer: D



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71. Cuscuta (Amarbel) is an example of :

A. autotrophy

B. parasite

C. saprotroph

D. host

Answer: B



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72. The plant which traps and feeds on insects

is :

A. cuscuta plant

B. china rose plant

C. pitcher plant

D. rose plant

Answer: C



73. When dilute iodine solution is poured over a decolourised green leaf, a blue-black colour is produced. This shows that the green leaf contains :

A. glucose

B. cellulose

C. starch

D. sucrose

Answer: C



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74. The stem of one of the following plants can do photosynthesis. This plant is :

A. mushroom

B. croton

C. cuscuta

D. cactus

Answer: D



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75. Which of the following plant has a heterotrophic mode of nutrition ?

- A. money plant
- B. croton plant
- C. cuscuta plant
- D. algae

Answer: C



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76. Which of the following is not a parasite?

A. lice

B. leech

C. algae

D. cuscuta

Answer: C



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77. One of the following are not present in an animal cell ?

- A. MITOCHONDRIA B.CYTOPLASM
C.CHLOROPLAST D.LARGE VACUOLE

A. A and B

B. B and c

C. A and C

D. C and D

Answer: D



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78. Which of the following can make its own food ?

A. giraffe

B. goat

C. grass

D. gorilla

Answer: C



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79. One of the following is an autotroph. This one is :

A. alligator

B. algae

C. antelope

D. ant

Answer: B



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80. The process of photosynthesis converts solar energy into :

- A. kinetic energy
- B. chemical energy
- C. potential energy
- D. nuclear energy

Answer: B



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81. Which of the following plants is an example of autotroph ?

A. mushroom

B. yeast

C. bread mould

D. mimosa

Answer: D



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82. Which one of the following is a heterotroph ?

A. mimosa

B. mushroom

C. mango

D. mangrove

Answer: B



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83. Which of the following are saprophytes ?

A.MANGO B.MUSHROOM C.YEAST D.YAK

A. A and B

B. B and c

C. C and D

D. A and D

Answer: B



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84. The green insectivorous plants trap insects, kill them and digest them to obtain mainly :

A. glucose

B. starch

C. nitrogen

D. oxygen

Answer: C



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85. Which of the following show symbiosis ?

A. alga and fungus

B. Alga and fish

C. Rhizobium and pea plant

D. Rhizobium and money plant

A. A and B

B. B and c

C. A and C

D. C and D

Answer: C



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86. The mineral needed by plants to make proteins is :

A. neon

B. iodine

C. nitrogen

D. calcium

Answer: C



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87. The tubes (or pipes) which transport water and dissolved minerals from the soil to the leaves of a plant

A. xylem

B. phloem

C. epidermis

D. stomata

Answer: A



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88. Which of the following is not required for photosynthesis by the green leaves of a plant ?

A. carbon dioxide

B. oxygen

C. sunlight

D. water

Answer: B



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89. The simplest food produced during photosynthesis is :

A. starch

B. cellulose

C. glucose

D. sucrose

Answer: C



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90. Which part of a plant is called its food factory ?

A. stem

B. roots

C. branches

D. leaves

Answer: D



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91. In a cactus plant, food is made by :

A. Branches

B. Roots

C. Leaves

D. stem

A. A and B

B. B and c

C. only C

D. A and D

Answer: D



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92. Which of the following gas is given out during photosynthesis ?

A. nitrogen

B. carbon dioxide

C. oxygen

D. water vapour

Answer: C



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93. The carnivorous plants usually have one of the following specialised organs to catch their prey:

A. stems

B. branches

C. leaves

D. modified roots

Answer: C



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94. The leaves of a plant combine a gas A taken from air and a liquid B taken from the soil in the presence of sunlight to make a simple food C by the process called D. some of the simple food C gets converted into a complex food E which is stored in the various parts of the plant including its leaves

What Is gas A?



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95. The leaves of a plant combine a gas A taken from air and a liquid B taken from the soil in the presence of sunlight to make a simple food C by the process called D. Some of the simple food C gets converted into a complex food E which is stored in the various parts of the plant including its leaves

What is liquid B ?



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96. The leaves of a plant combine a gas A taken from air and a liquid B taken from the soil in the presence of sunlight to make a simple food C by the process called D. Some of the simple food C gets converted into a complex food E which is stored in the various parts of the plant including its leaves

What is food C?



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97. The leaves of a plant combine a gas A taken from air and a liquid B taken from the soil in the presence of sunlight to make a simple food C by the process called D. Some of the simple food C gets converted into a complex food E which is stored in the various parts of the plant including its leaves

What is food E ?



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98. The leaves of a plant combine a gas A taken from air and a liquid B taken from the soil in the presence of sunlight to make a simple food C by the process called D. Some of the simple food C gets converted into a complex food E which is stored in the various parts of the plant including its leaves

Name the process D.



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99. The leaves of a plant combine a gas A taken from air and a liquid B taken from the soil in the presence of sunlight to make a simple food C by the process called D. Some of the simple food C gets converted into a complex food E which is stored in the various parts of the plant including its leaves

Which of the two foods, C or E, will give blue-black colour with dilute iodine solution ?



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100. The leaves of a plant combine a gas A taken from air and a liquid B taken from the soil in the presence of sunlight to make a simple food C by the process called D. Some of the simple food C gets converted into a complex food E which is stored in the various parts of the plant including its leaves

Name the pigment present in leaves which helps in carrying out the food making process

D



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101. The plant X is found in abundance in desert areas which get meagre rainfall. The modified leaves of this plant can reduce the loss of water from this plant by transpiration. This plant has long roots which go deep into the soil so as to obtain water.

What could be the plant X be ?



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102. The plant X is found in abundance in desert areas which get meagre rainfall. The

modified leaves of this plant can reduce the loss of water from this plant by transpiration.

This plant has long roots which go deep into the soil so as to obtain water.

Which part/parts of this plants take part in photosynthesis ?



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103. The plant X is found in abundance in desert areas which get meagre rainfall. The modified leaves of this plant can reduce the

loss of water from this plant by transpiration.

This plant has long roots which go deep into the soil so as to obtain water.

How does the photosynthesis in this desert plant differ from the those of ordinary plants found in garden ?



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104. The plant X is found in abundance in desert areas which get meagre rainfall. The modified leaves of this plant can reduce the

loss of water from this plant by transpiration.

This plant has long roots which go deep into the soil so as to obtain water.

What is the colour of the stem of this plant ?



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105. The organs A of a tree have a large number of tiny pores called B on their surface.

Each pores is surrounded by a pair of cells called C. the opening and closing of pores in A

is controlled by C. the gas D present in air

enters the organs A through pores B and utilised in food making process E. the gas F produced during process E goes out through the same pores B. what are A, B, C, D, E, and F?



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106. The lamina of the leaf of a plant P is modified into hollow tube . The leaf apex forms kind of lid which can open or close the mouth of hollow tube. When an organisms Q falls in the hollow tube, the lid closes

automatically killing the organisms. The walls of hollow tube secrete digestive juices which digest the complex substances R present in the body of the organisms to form simpler substances S. these simpler Substances are then absorbed by the walls of the hollow tube and used by the plant P

What could the plant P be ?



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107. The lamina of the leaf of a plant P is modified into hollow tube . The leaf apex forms kind of lid which can open or close the mouth of hollow tube. When an organisms Q falls in the hollow tube, the lid closes automatically killing the organisms. The walls of hollow tube secrete digestive juices which digest the complex substances R present in the body of the organisms to form simpler substances S. these simpler Substances are then absorbed by the walls of the hollow tube

and used by the plant P

Name the organism Q



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108. The lamina of the leaf of a plant P is modified into hollow tube . The leaf apex forms kind of lid which can open or close the mouth of hollow tube. When an organisms Q falls in the hollow tube, the lid closes automatically killing the organisms. The walls of hollow tube secrete digestive juices which

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What could the complex substances R be ?



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Name the simpler substances S



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110. The lamina of the leaf of a plant P is modified into hollow tube . The leaf apex forms kind of lid which can open or close the mouth of hollow tube. When an organisms Q falls in the hollow tube, the lid closes automatically killing the organisms. The walls of hollow tube secrete digestive juices which digest the complex substances R present in the body of the organisms to form simpler substances S. these simpler Substances are then absorbed by the walls of the hollow tube and used by the plant P

What is the general name of plants like P ?



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111. Two different species of plants X and Y live together as if they are parts of the same plant Z. The plant X is an autotroph whereas plant Y is a saprophyte . The plant Y holds the cells of X in its mat of web-like hyphae and supplies water and minerals to cells of plants X . the plant X makes food by photosynthesis and shares it with plant Y

What could plants X be?



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112. Two different species of plants X and Y live together as if they are parts of the same plant Z. The plant X is an autotroph whereas plant Y is a saprophyte . The plant Y holds the cells of X in its mat of web-like hyphae and supplies water and minerals to cells of plants X . the plant X makes food by photosynthesis and shares it with plant Y

What could plants Y be?



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113. Two different species of plants X and Y live together as if they are parts of the same plant Z. The plant X is an autotroph whereas plant Y is a saprophyte. The plant Y holds the cells of X in its mat of web-like hyphae and supplies water and minerals to cells of plants X. The plant X makes food by photosynthesis and shares it with plant Y.

What could plants Z be?



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114. Two different species of plants X and Y live together as if they are parts of the same plant Z. The plant X is an autotroph whereas plant Y is a saprophyte . The plant Y holds the cells of X in its mat of web-like hyphae and supplies water and minerals to cells of plants X . the plant X makes food by photosynthesis and shares it with plant Y

Which of the two plants, X or Y, is green in colour ?



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115. Two different species of plants X and Y live together as if they are parts of the same plant Z. The plant X is an autotroph whereas plant Y is a saprophyte . The plant Y holds the cells of X in its mat of web-like hyphae and supplies water and minerals to cells of plants X . the plant X makes food by photosynthesis and shares it with plant Y

What is the relationship exhibited by plants X and Y known as ?



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Give another example of this type of relationship.



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