



PARISHRAMA NEET ACADEMY

TARGET NEET - 2022

BIOLOGY

TOPIC: MINERAL NUTRITION

41. (2)

A prokaryotic autotrophic nitrogen fixing symbiont is found in *Cycas*.

All known cycads form mutualistic, facultative symbioses with nitrogen fixing cyanobacteria (formerly known as the blue-green algae). Cycads provide fixed carbon and a stable environment to the cyanobacteria in exchange for fixed nitrogen. These cyanobacteria are endosymbionts, living within the roots of Cycads.

42. (1)

The nitrifying bacteria bring about transformations of ammonia to nitrite and of nitrite to nitrate.

43. (2)

Leghaemoglobin is the haemoglobin like red pigment found in root nodules of legumes and reported to function as an oxygen-carrying pigment in symbiotic nitrogen fixation.

44. (1)

Molybdenum is a micronutrient that plays an important role in nitrogen fixation. It is a part of nitrate reductase enzyme that helps in nitrogen fixation.

45. (2)

Rhodospirillum is a free-living, anaerobic nitrogen fixer bacteria. It can synthesize its food in presence of light under anaerobic conditions.

Beijernickia and *Azotobacter* are free living aerobic nitrogen fixing bacteria. *Rhizobium* is a symbiotic nitrogen fixing bacteria.

46. (2)

Frankia is a symbiotic nitrogen fixer in root nodules of several non-legume plants like *Casuarina* and *Alnus*.

47. (3)

Nitrogen fixation in root nodules of *Alnus* is brought about by *Frankia*. It is a symbiotic nitrogen fixing bacteria in root nodules of several non-legume plants like *Casuarina* (Australian Pine), *Myrica* and *Alnus* (Alder).

48. (4)

The fresh water fern *Azolla* harbours *Anabaena* (a blue green alga) in its leaf cavities. *Chlorella* is simply a green alga. *Nostoc* is a free living cyanobacteria involved in N_2 fixation and so is *Tolypothrix*.

49. (1)

Molybdenum is a component of nitrogenase and nitrate reductase involved during N_2 fixation. Copper is essential for photosynthesis and respiration. Zinc is involved in synthesis of auxin. Manganese is an activator of enzymes involved in nitrogen metabolism.

50. (1)

Azolla performs nitrogen fixation through its colonies of *Anabaena azollae*, which have the capacity to fix atmospheric nitrogen.



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