Programme: Bachelor of Science

Subject: Botany

Paper Code: BOC-101

Paper Title: Biodiversity I (Microbes, Algae, Fungi and Bryophytes)

Unit: II

Module Name: Reproduction of Algae (Vegetative and Asexual methods)

Module No: 21

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Types of vegetative reproduction in Algae:

1. **Cell Division-** Also called Fission. Simplest method of vegetative reproduction. Here, the vegetative cell divides mitotically into two daughter cells, those finally behave as new individual

2. **Fragmentation-** In this form of vegetative reproduction**,** multicellular filamentous thallus breaks into many-celled fragments, each of which gives rise to a new individual.

3. **Hormogonia Formation-** The trichomes of blue-green algae break up within the sheath into many-celled segments called hormogonia or hormogones.

4. **Hormospores Or Hormocysts-** Thick walled spores

5. **Adventitious Thalli-** Adventitious branches are formed in different large thalloid algae, which, when detached from the plant body, develop into new individuals

6. **Primary Secondary Protonema-** thread like vegetative structures formed in algae like *Chara.*

7. **Tubers-** More or less Globular structures, rich in starch, usually develop at the nodes. Once detached from parent plant, are capable of giving rise to a new plant.

8. **Amylum Stars-** Star shaped starch filled bodies. capable of giving rise to a new plant.

9. **Bulbils-** small structures developed due to storage of food at the tip of rhizoids

Types of Asexual reproduction in Algae:

1. **Akinetes-** Thick walled spores with food reserves. Can tolerate adverse or unfavourable conditions.

2. **Zoospores-** Motile spores. May be bi, quadri or multiflagellate.

3. **Palmella stage-** Unreleased zoospores, develop a wall around. This stage may be referred to as Palmella stage

4. **Aplanospores-** Non motile spores, rich in food reserves, produced during unfavourable conditions.

5. **Hypnospores-** Thick walled Non motile spores, abundant food reserves, produced during unfavourable conditions.

6. **Autospores-** Most of the development of these spores happens before the release. At the time of release, these spores are morphologically very identical to the parent plant.

7. **Endopsores-** May also be called conidia. These are small spores formed by the divisions of the mother protoplast.

8. **Auxospores-** These vegetative spores are commonly found in members of Baccilariophyceae

9. **Carpospores-** Diploid spore produced in carposporophyte by members of Rhodophyta.

10. **Monospores-** single spores produced in monosporangia.

11. **Daughter colonies-** Formed by the parent colony/ coenobium. Common in green algae like *Volvox*

12. **Statospores-** Spores produced with frustules, commonly in diatoms.

13. **Gongrosira-** thick walled spores. Structure resembles a genus called gongrosira.