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ALGAE (Division) – Classified into 11 classes by Fritch

1. **Cyanophyceae** - prokaryotes and placed in kingdom **MONERA**

2. Euglenophyceae - eukaryotes and placed in kingdom **PROTISTA**
3. Dinophyceae - eukaryotes and placed in kingdom **PROTISTA**
4. Bacilariophyceae / chrysophyceae - eukaryotes and placed in kingdom **PROTISTA**

5. Chlorophyceae - eukaryotes and placed in kingdom **PLANTAE**
6. Phaeophyceae - eukaryotes and placed in kingdom **PLANTAE**
7. Rhodophyceae - eukaryotes and placed in kingdom **PLANTAE**
8. Xanthophyceae - eukaryotes and placed in kingdom **PLANTAE**
9.
10.
11.

CHLOPHYCEAE	PHEOPHYCEAE	RHODOPHYCEAE
Mostly fresh water- 90% 10% marine (brackish water, salt water)	Exclusively marine, lithophytes in tidal region in **colder water** except • *Sargassum (gulf weed)* • *Fucus, Dictyota*	Mostly marine lithophytes in **warmer water** Some fresh water- ***Batrochospermum***
Generally microscopic	Large sized called **Kelps**- 100 meters Called **Sea weeds** Holdfast =root like Stipe = stem like Lamina/blade = leaf	Microscopic- ½ meter **Complex body organisation.**
	No • unicellular • colonial forms **Parenchymatous body** Eg- *Sargassum* *Fucus* *Laminaria*	**Parenchymatous body** – *Porphyra, Batrochospermum, Polysiphonia*

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	Filamentous -*Ectocarpus*	
Chlorophyll a , b carotenoids	**Chlorophyll a , c** **Carotenoids**	**Chlorophyll a , d** **Phycobilins-** • phycocyanins(blue green) • phycoerythrins(red)
Cell wall Inner layer of **cellulose** and an outer layer of **pectose.**	Cellulosic wall usually covered on the outside by a gelatinous coating of **algin** Phycocolloids (mucopolysaccharides) Prevent dessication	Sulphated phycocolloids Eg- **Agar agar –** *Gelidium Gracilaria* **Carrageenin-** *Chondrus crispus* Blood coagulant
Reserve food **Starch**	**Laminarin** **Mannitol** **Sorbitol**	**Floridean starch**
Flagella 2 or 4 or 8, apical, isokont, equal	2 , lateral , heterokont, unequal	No flagella
Asexual reproduction Zoospores, aplanospore,hypnospores,	Zoospores,	Fragmentation,
Sexual reproduction **Isogamy**- *Chlamydomonas, Spirogyra* **Anisogamy**- *Chlamydomonas* **Oogamy**- *Volvox*	**Isogamy**- **Anisogamy**- **Oogamy**- *Fucus.*	**Only Oogamy**
Chlorella **and** ***Spirullina*** are unicellular algae, rich in proteins	***Porphyra, Laminaria*** **and** ***Sargassum*** used as food	**Post fertilisation changes**