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**Bio 102 Assignment**

1. **The system was based on dividing the plant kingdom into those plants with concealed reproductive organs (non- floral), the Crytogamae and those with visible reproductive organs (floral), the Phanerogamae.**
2. **Algae are important to man because they can be used for the following;**
   * **It serves as food for people and livestock.**
   * **It serves as drugs to ward off diseases.**
   * **Algae have high iodine content that help to prevent goitre.**
   * **Algae are considered nutritious because of their high protein content.**
   * **Algae are used in textile and cosmetics industries.**
3. **Chlamydomonas is a unicellular form of an algae. It has a flagella foe mobility. It is found in stagnant water usually along with other forms. It is oval shaped, and is about 10cm in size. It has a stigma (eyespot) for photoreception. The nucleus carries the genetic programme of the cell. The mitochondria mediate the elaboration of energy molecules. The pyrenoid converts the manufactured sugar to starch.**
4. **Reproduction in Chlamydomonas can either be vegetative (asexual) or sexual.**
   * **Vegetative reproduction: In Chlamydomonas, a cell about to divide loses its flagella. The cell undergoes mitotic division leading to two nuclei, cell walls are elaborated which delimit cytoplasm around each nucleus i.e two daughter cells (zoospores) are released. Increase in the population of cells in a colony is achieved by repeated mitotic division.**
   * **Sexual reproduction: In Chlamydomonas, aggregation of cells (clumping) in a colony occurs under favourable conditions. These cells pair by their posterior (flagellated) ends. This pairing is said to be isogamous because the pairing cell (gametes) are morphologically identical. The cytoplasm of the paired cells fuses (plasmogamy) and the flagella are lost. The two nuclei fuse (karyogamy); this situation is essential in fertilization process so that a zygote is formed. The zygote secretes a thick cell wall called a zygospore and may remain dormant in that state for sometimes. After karyogamy sometimes, the zygote undergoes two successive cell division the first division restores the haploid condition by Aldi the nuclei materials in the resulting nuclei ( reduction division) while in the second division each haploid nucleus undergoes a normal mitotic division. These two divisions which end up with four cells and with n quantity of nuclear materials are together known as meiosis. The four product of meiosis are released as haploid zoospores.**
5. **Pandoria. Volvox**
   * **The colony consist of only 16 cells. The colony may consist of**

**Thousands of cells.**

* + **The cells are attached to one another. The cells are connected with**

**cytoplasm strands to one**

**another.**

* + **It is less complex than Volvox. It is more complex than**

**Pandoria.**

* + **Sexual reproduction is anisogamous. Sexual reproduction is**

**oogamous.**

1. **Fucus is a complex form of algae. It is a genus of brown algae whose species are often found on rocks in the intertidal zones of the sea shores. The plant body is flattened, dichotomously- branched thallus with a mid rib, a vegetable apex, a reproductive apex, at maturity and a multicellular disk with which plant is attached to rock surface. The plant body also has air ladders which is believed to aid plant to float on the water.**