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Course : Bio102

1.
  - Division Bryophyta
  - Division Thallophyta
  - Division Pteridophyta
  - Division Spermatophyta
  
2.
  - They are used as food for fishes , livestocks and man.
  - They are used in pharmaceutical, textile and ice- cream industries.
  - Brown algae yields an acid called alginic acid which is used to stabilize emulsion and suspension.
  - Seaweeds are a source of 3 chemical extracts used extensively in the food , cosmetic and pharmaceutical industries.
  - Red algae is used in producing agar (nutrition medium) used for experiments in the laboratory .
  
3. Chlamydomonas is a unicellular and motile algae form of green algae. It is found in stagnant water. It posses two flagella structures for mobility. The cell is bounded by a cellulose cell wall ; contains organelles e.g nucleus, mitochondria , cup-shaped chloroplast e.t.c. The stigma (eyespot) is for photoreception . The nucleus houses the genetic materials. The mitochondria mediates the elaboration of energy molecules . Sugar is processed into starch in the pyrenoid.
  
4. The reproduction in chlamydomonas can either be sexual or vegetative.
  - vegetative reproduction: This type of reproduction results in the quantity and quality of genetic materials in the nucleus of the mother and daughter cell being the same. The chlamydomonas looses its flagella before division (mitosis). The nucleus is divided into two nuclei , then the cytoplasm divides and encircles each nucleus resulting in 2 daughter cells called zoospores. The zoospores mature into chlamydomonas.
  - Sexual reproduction : This occurs when the condition is unfavorable. Instead of spores the daughter cells form gametes of two different strains. The two opposite mating strains fuse together in a process called isogamy to form a diploid zygote. The cytoplasm of the pairing cells fuse (plasmogamy) and flagella are lost. The two nuclei fuse (karyogamy) and results in the production of a diploid zygote. The zygote thick cell wall called a zygospor and may remain dormant until a favorable condition arises. The zygospor then undergoes meiosis to produce 4 daughter cells called zoospores.
  
5.
  - Volvox is evolutionarily more advanced than pandorina
  - Volvox has more cells than pandorina which has 16 cells.
  - Not all cells in volvox forms new colonies , while all cells in pandorina forms new colonies.
  - Sexual reproduction in pandorina is anisogamous , while sexual reproduction inn volvox is oogamous.
  
6. Fucus

Fucus is a genus of brown algae often found on rocks in the intertidal zones of the shores . The plant body is flattened, dichotomously-branched thallus with amid rib. It has a multicellular disk (holdfast) , which enables the plant to attach itself to a rock. It has air bladder which enables it float on the surface of water. It has various species, vary in size and

also vary in terms of whether the sex cells are found in the same sexual chambers on different plant bodies. They have their reproductive structures in different compartments called conceptacles.