

2i As a Source of Vitamins

ii As a Source of Jgtr

iii Medicine and Minerals

iv Manufacture of Iodine

v Alginate acids, Alginate and Mannitol: The alginate acid is manufactured from the cell wall of phaeophyceae. It is insoluble in water and hard when dry. Sodium alginate is used in Sizing materials for water proof material, Sues, buttons, handles, Combs and many of such things. This is also used as a Sterilizer in dairy use.

vi Manufacture of Soaps and Plams: By burning Sea-weeds on the Sea Coast, the alkalis are prepared from Sea-weed ash. These alkalis are employed in the Manufacture of Soaps and Plams.

vii As a fodder for hays and Milk Cattle

viii Manufacture of potash: Species of Macrocystis and Nereocystis (Phaeophyceae) possess 50% of potash in their dry weight.

- Used as fertilizers

- Manufacture of paper

- Reclamation of alkaline water soils by blue-green algae (Cyanobacteria)

- Sulfonin earth

2) Diatoms, Unicellular algae that have Siliceous Cell walls. They are the most abundant form of algae in the Ocean, although they can be found in fresh water as well. They account for about 40% of the world's primary Marine production, and produce about 25% of the world's Oxygen.

In general, algae can be referred to as plant-like organisms that are usually photosynthetic.

Unicellular Organisms of the Kingdom protista, characterized by a Siliceous Shell of often intricate and beautiful Sculpturing. Most diatoms exist singly, although some join to form colonies. They are usually <sup>more</sup> yellowish or brownish.

Diatoms can occur in a compact form to a soft, chert-like, light weight rock, called Diatomite. Diatomite is used as an insulating material against both heat and sound in making dynamite and other explosives. Diatoms have deposited most of the earth's limestone and much petroleum is of diatom origin.

4) Diatoms may be either unicellular or colonial. The silicified cell wall forms a pillbox-like shell (frustule) composed of overlapping htf (Cephalic and hypothec) perforated by intricate and delicate patterns. Food is stored as oil droplets, and the golden-brown pigment fucoxanthin masks the chlorophyll and carotenoid pigments that are also present. Diatoms are commonly divided into two orders on the basis of symmetry and shape: the round nonmotile centric diatoms have radial markings; the elongated pennate, which move with a gliding motion, have pinnate (feather-like) markings.

During reproduction, usually by cell division, the overlapping shell htfes separate, and each secretes a crescent-shaped bottom htf. Thus, individual diatoms formed from successive bottom htfes show a progressive decrease in size with each division. In a few months there can be as much as 60 percent decrease in average size. Periodic spore formation serves to restore the diatom line to its original size.

NAME OKP URCHANA BANER

COURSE BIO 102

DEPARTMENT MBBS

MATRIC No 19/MH301/328

DATE 25/04/2020

Answer

- ① In 1883, August Wilhelm Eichler a German botanist gave a system of classification for the whole plant Kingdom.

Eichler classified the plant Kingdom into two Sub-Kingdoms. They are Cryptogamae and Phanerogamae.

The system was based on dividing the plant Kingdom into those plants with concealed reproductive organs (non-floral) (Cryptogamae = hidden reproduction) and those with visible reproductive organs (floral), the Phanerogamae = visible reproduction). Moreover, Eichler was the first taxonomist to separate the phanerogamae into Angiosperms and Gymnosperms and the former into Monocotyledons and Dicotyledons. His primary ranks were Divisions (Abtheilung), followed by Orders (Reihe).

After his death his colleague Adolf Engler (1884-1930) continued its development, and it became widely accepted.

5 The main difference between colonial and filamentous organisms is that colonial organisms form masses of similar cells while filamentous organisms form a string of organisms that resemble a filament. Moreover, colonial organisms appear as spheres while filamentous organisms appear as threads.

Colonial and filamentous organisms are unicellular or multicellular arrangements formed for mutualistic benefit. Each cell in the arrangement functions as a single unit and performs each and every target of a unicellular organism. Some colonial algae are *Porosira* and *Volvox* while some filamentous algae are *Spizogona* and *Zygnema*.

6 A billion years ago, complex green algae was evidently thriving in the tossing oceans, as deduced from fossils of this tiny but multicellular plant discovered in abundance, no less in northern China.

The green algae are a large informal grouping of algae consisting of the Chlorophyta and Charophyta + Streptophyta, which are now placed in separate divisions, together with the more basal Mesostigmaphyceae, Chlorokybophyceae and Spirotenid.