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Sub. Biology

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### iii. Sexual Reproduction

It occurs by fusion of two gametes.

On the basis of morphology of reproductive cells, sexual reproduction is of two types

(a) Isogamy In this method, two morphologically similar gametes fuse to form a zygote, e.g., Spirogyra.

(b) Heterogamy In this process, fusion occurs between morphologically as well as physiologically different gametes. It is of two types

Anisogamy It is the fusion of structurally dissimilar gametes, which differ in size and – behaviour. Male gamete is more active and female gamete is less active and bigger in size, e.g., Some species of Chlamydomonas.

\* Oogamy In this process, the male gamete is motile, active, small and without reserve food. The female gamete is bigger, passive, non-motile and laden with food, e.g., Volvox, Fucus.

### Embryo and Life Cycle

An embryo stage is not present. Life cycle is haplontic, diplontic, diplohaplontic, haplohaplontic, etc. An alternation of generation occurs in diplohaplontic life cycle.

Economic Importance of Algae

(i) Algae are responsible for carrying out about a half of the total carbon dioxide fixation on earth by the process of photosynthesis.

(ii) Some forms of marine brown and red algae produce large amount of hydrocolloids. These are algin (brown algae) and carrageenan (red algae) which have many commercial uses.

(Hi) The algae Gelidium and Gracilaria are used to produce agar, which is used in preparation of ice creams and jellies.

(iv) Some protein rich algae, like Chlorella and Spirulina are used as food supplements by sailors and space travellers.

(v) About 70 species of marine alga are used as food, e.g., Porphyra, Laminaria and Sargassum.