**Q1/ Fill the following blanks with correct words: (9M)**

1. Cells of Zygnema contain a pair of …………… Chloroplast, each one having a single central……………..
2. Cell movement is effected by the direction and intensity of ………………….. .
3. Dinophytaare comes from the Greek word pyrrh which means……………, more of them are responsible the phenomena of …………… in the sea is due to in these organisms.
4. Both cyanobacteria and bacteria are…………………. .
5. Agar is used extensively in laboratory research as a …………… for growing bacteria.
6. ……………………. is the type of sexual reproduction occurs between some filamentous algae.
7. Desmids are divided into two semi-cells by a………………

**Q2/ In each of the following, determine whether the statement is True or False with correction the false: (10M)**

1. The name Desmid comes from the fact that early researchers thought that they were made up of two cells joined together.
2. The transverse flagellum in Rhodophyta provides backward motion.
3. The zygote of spirogyra forms outside the conjugation tube.
4. Cells of Zygnema contain a pair of spiral shape chloroplast.
5. Algae can be found in almost every environment on earth even in volcano.

**Q3/ Define only 4 of the following:** (**12 M)**

1-Akinet 2-Alginates 3-Thallus

4-Biolumesence 5- Sporangia

**Q4/A/ Enumerate only 3 of the following: (9M)**

1. Basis of classification in algae
2. In algae the nitrogen fixation occurs by means of
3. Types of sexual reproduction in Algae.
4. Dinoflagellate play an important part in the biology of coral reefs

B / **Answer the following** **statements: (10M)**

1. Range of thallus structure in Algae (diagram)
2. Sexual reproduction in spirogyra (drawing)