1. PREFACE
Hydrobiology is the study of water populations, their interrelations with habitat and significations for the transformation of energy and matter, and the biological productivity of ocean, seas and inland waters. It also studies the role of living phenomena in the context of the aggregate of interdependent processes of the aquatic medium. It is greatly concerned with establishing a scientific basis for the rational exploitation of biological resources of the water.

The hydrobiology involves a great deal of detailed field and laboratory studies to understand the structural and functional aspects of the fresh water environment. The hydrobiology includes the biochemical and geological characteristics of water the organisms found in it. The fresh water gives special importance of the interrelationship between organism and environment. The source of nature of fresh water, its motion and changing conditions as it flows to the sea and the life is support along the way are now the subject of limnology, the science of fresh water and science of aquatic life.

The solution of number of hydrobiological problems often requires research at the most varied level from the molecular, cellular and organisms to the population and biogenetic. for ex. to determine the causes of excessive development of phytoplankton( water-bloom), it is necessary to take into account both the interaction of different algal and microbial species through specific metabolites excreted into the water and the cycle of biogenic elements ( for ex. Nitrogen and Phosphorus).

The Chaphal reservoir is one of the minor projects. It is located in Satara district of Maharashtra. It is constructed on Barnala river near Chaphal village, hence the name "Chaphal reservoir". The constructed dam of Chaphal reservoir is located near the National highway No. 4. It is nearly 15 km. away from
Umbraj. The reservoir is about 13 km away from Patan and about 50 km away from Satara.

Most of the studies were carried out in the lakes, tanks and reservoirs in this region. But no hydrobiological studies have been carried out in this benthic region ecosystem. Thus there is lack of basic data of overall hydrobiological characteristics of this water body.

Humans are affecting the quality of lake and river water in ways quite apart from our increasing local and global impact on the hydrological cycle. Rapid growth in agricultural and industrial activities, particularly in the economically less developed regions of the world, plus an enormous increase there in the amount of wastewater produced by a rapidly growing human populations and its livestock, are placing tremendous demand on the water resources available, is drawing limnology, once largely as academic science, into research linked to water pollution and multipurpose management of lakes, rivers and wetlands.

Since last hundred years the ecologists are monitoring the aquatic resources. Due to industrialization and even increasing urbanization so many problems are created. Such as water pollution, flood, drought etc. which directly affect the human life and ecosystem.

Limnology is an interdisciplinary science which involves a great deal of detailed field as well as laboratory studies to understand the structural and functional aspects and problems associated with the fresh water environment, from a holistic point of view.

**Introduction**
This topic deals with the general information about hydrobiology, morphometry of ‘Chaphal Reservoir’, information of parameters viz. physical, chemical and biological parameters, investigation on hydrobiology, aim of present investigation and plan of the proposed work.

**Materials and Methods**

This topic includes the experimental schedule and methodology used for the carried experimental work. It also includes information about sampling sites of the study area and the methods used to study the morphometry and ecological parameters of ‘Chaphal Reservoir’.

**Results and Discussion**

This topic deals with the result of morphometry and physical, chemical and biological parameters of ‘Chaphal Reservoir’. It also contains the interpretation of results and parallel research work done on the different water bodies of India.

**Summary and Conclusion**

This topic contains the review of present research work, including remarks and plans of the future work.

**Bibliography**

This topic contains the list of references.