General Summery and Conclusions

The living freshwater bivalve molluscan fauna is represented (According to classification, Vokes, 1980), primarily by three super families, the Unionaceae, Corbiculaceae, and Dreissenaceae. The Unionaceae (In freshwater mussels belong) is dominated by the families Margaritiferidae and Unionidae. The Unionidae includes a large no genera and species of bivalve shell fish among their freshwater bivalve (The Unionids genera) occurs. In Maharashtra state Lamellidens, Parreysia, Corbicula and Indonaia. In the genera Lemellidens marginalis is a common species and abundantly found in the Marathwada region.

Molluscs are play an important role in Indian human civilization through highly commercial and traditional valves where as India has extensive
freshwater habitats for bivalve molluscs and about one lack species of molluscs are of economically important. A few freshwater and majority of marine bivalve species are considered as main food stuff. The shell of these molluscs is widely used for preparing lime, in the paint industries, and in cement factories. By the local people, due to its nutritive value with higher amount of protein. The shell of both the fresh water and marine species are widely used in ornamentation and decorative purpose since ancient days.

The determination of physic-chemical characters of water of *Lamellidens marginalis*, and *Parreysia corrugate* the habitat of Peerkalyan dam, Peerkalyan at district Jalna (M.S) as well as tap water used in laboratory through out the study period show that Temperature fluctuated with in a small ranged. The maximum and water temperature recorded in summer season (May) FM 29.0 °C. and minimum in winter season (Dec) FM 18.75 °C. it may due to temperature This change in temperature may be related to the photoperiod..

pH was recorded 8.3 on summer season (May)FM and minimum 7.0 was recorded in monsoon season (July)FM. The high range of pH may be due to the biological activity and temperature changes. Significant changes in pH also occur due to disposal of drainages, seasonal variation may be due
to variation in the photosynthetic activity which increases pH due to consumption of carbon dioxide in the photosynthetic process.

The dissolve oxygen content was maximum during winter season December (FM) 8.15 mg/l and minimum during summer season (May) 3.65 mg/l. In the present investigation it was observed that dissolved oxygen is maximum in winter season and minimum in summer season, due to variation in Air temperature. The total alkalinity were observed in May FM (177.5) and minimum on July FM (105.5), In the present investigation results show that the total alkalinity was low in rainy season and high in summer due to evaporation of water and increase in biological activity.

The chlorides content was (127 to 56 mg/l), giving a minimum values on January (56 mg/l) the maximum values of chloride were recorded during summer May season because of scanty rain and high rate of evaporation. It has significant positive correlation with water temperature and electrical conductance. It was also observed that high level of chloride is an indication of higher degree of pollution and low level chloride content indicates absence of any substantial pollution. The phosphate content was high on mansoon season (August) NM 33.27 while the lowest value was on summer season (May) FM (24.5).
The maximum sulphate content was in summer season (May) FM 18.75 also compared to these observed in rest of the period. The content reached minimum on monsoon season August (NM) 12.75. In the present investigation higher values of sulphate are recorded in summer and lower values are recorded in rainy season. The sulphate is used as source of oxygen by bacteria under an anaerobic condition.

The hardness of the water was maximum during monsoon season JulyFM (196 mg/l) and minimum value is observed in winter season in January NM (106 mg/l) In the present study it was found that low values of hardness were during rainy and winter season and higher values were observed during summer season. The total hardness is a contribution of calcium and magnesium salts dissolved in water. Normally these ions are not problematic but at higher concentration increases hardness. The high value of hardness in summer and low value in monsoon show that the water may be suitable for the growth of the molluscs.

The nitrites content was maximum in summer season May FM (0.650) and minimum winter season Jan NM (0.250).The calcium of the water was maximum in summer season May FM (49 mg/l) and minimum in post monsoon winter season in October (38 mg/l)NM. The desirable limits of calcium and magnesium for drinking water are 75 mg/L and 30 mg/L.
respectively (BIS, 1991). Calcium is helpful for the shell construction and bone building of aquatic organism the value of calcium is highest in summer season, lowest in monsoon season. The magnesium of the water content is maximum in monsoon season August (14.45 mg/l) NM and minimum in winter season December (5.8mg/l) FM. magnesium concentration was maximum in summer season and minimum in winter season. The magnesium concentration was within the permissible limit and helpful for the growth of fish.

Magnesium occur in all kinds of natural water with calcium but its concentration remains generally lower than calcium because dissolution of magnesium reach minerals is a slow process and calcium is more abundant in earths crust. The maximum values of CO$_2$ was recorded in the month of may is (6.95 mg/l) and minimum value is recorded in the month of December (3.0 mg/l) the free CO$_2$ concentration was minimum in winter, this might be due to high photosynthesis activity and maximum in summer which may be due to less photosynthetic activity because of low phytoplankton population.

The rate of oxygen consumption of bivalve *Lamellidens marginalis* in increased during summer and summer which shows a seasonal pattern. The oxygen as well as the reproductive activity of the animal law rate or oxygen
consumption was observed during Manson and winter which might be due to low temperature and low food availability. The male and female Lamellichens marginalis showed gametogenesis, maturation and lysis or unspawned gamets.

The rate or oxygen consumption of bivalve Parresiya corrugata in increased during early summer and summer which shows a seasonal pattern. The oxygen as well as the reproduction was observed during monsoon August and Winter which might be due to low temperature and low food availability. The males and females animal showed gametogenesis, maturation and lysis of unspawned gametes.

The respiratory rate increased during early-summer and Summer this period coincides with slow gametogenic activity high temperature and low oxygen content caused increased filtration rate to meet the increased oxygen demand for the body maintenance, metabolism. The day length gradually increased in summer and water level decreased. The seasonal study also showed weight specific oxygen consumption i.e., increased in oxygen consumption when the body weight decreased. The males and females showed spawning during this period.
The reproduction stage consists of gametogenesis maturation, spawning and recovery. Resting period was not observed the gametogenesis activities begin in April to May and follicle showed the presences or sperm morulae, spermatocytes and spermatids. In female gametogenesis starts in April more pronounced in large size. Proliferation or small oogonia took place during from August and September both male and female were in maturation phase. A partially spawning was seen in female April and May the digestive tubules in *Lamellidens maarginalis* and *parreysia corrugata* showed the various phase in different seasons such as holding, absorption, and fragmentation. The phase or digestive cycle with the change in external environment food availability. The measurement or the tubules diameter, size of the lumen and analysis in the sequence of events occurring in various phase Holding phase in digestive cells mostly appear in September, October and January in *Parresiya corrugata* holding phase showed in October and January observation phase show in *lamellidens marginalis* in July, March, April and May and June and *Parresiya corrugata* show observation phase in March, April and May.

Fragmentation phase was observed in August *lamellidens marginalis* and *Parresiya corrugata* observed in August and September. Re-origination phase in *Lamellidens marginalis* observed in December and *Parresiya*
*corrugata.* The population density of mollusks is high in summer and low population density in August. In summer season favorable atmosphere and food availability. In summer seasons, aquatic plants fast growth in winter and early summer. In soil, maximum pH was 8.3 in August and minimum in March 7.3 due to more water content and agro component and heavy metal pollution and Free organic carbon maximum in 1.80 in August and Low in March 0.92 due. During the study period, 12 species of fishes were found where cyprinidae family is dominant with 08 species due to tolerance of wide range of different water parameter and 03 species of aquatic plants were recorded in which Chara is dominant due to favorable habitat. Correspondingly similar tube type are generally found in the same clusters. Tubes in *I.caeruleus* tubes were mostly in absorption and fragmentation during monsoon season. In post monsoon season, the tube holding and absorption phase due to food availability and external environmental fluctuations.