LITERATURE REVIEW:

Physicochemical factors are very important for estimating the constituents of water and concentration of pollutant or contaminant. The chemical and biological factors include water movement, light, temperature, turbidity and suspended solids. The chemical factors include pH, carbonates, bicarbonates, oxygen, carbon-dioxide, cations, and anions and dissolved organic materials. The main objects of the physicochemical analysis of water are to determine the status of different chemical constituents, which are present in the natural and disturbed aquatic ecosystem. Anthropogenic activities like disposal of sewage, industrial effluents, excess use of chemical fertilization and pesticides has threatened environmental health of all water habitat, so it become necessary that the quality of drinking water should be assessed at regular time interval because changed water quality ultimately reflect on health of biological components. Variations in physic-chemical parameter also have a direct bearing on the structure and functions of various organs Thelkade, et al.,(2012). The quality of water may be affected in various ways due to pollution. The problem of aquatic pollution is further aggravated by the direct discharge of domestic sewage in the water bodies. In many developing countries government are having difficulties with fecal contamination and drinking water, the degradation of freshwater resources and hazardous waste pollution. Several investigator contributed their efforts in studies of various physiochemical conditions of water, Dhamji and Jain, (1994); Kumar, (2007); Bobdey and Sonawane, (2011).

Lentic ecosystem is one of the most productive ecosystems in the biosphere and plays a significant role in the ecological sustainability of the region. It serves many vital functions such as recycling of nutrients, restoration of ground water, purification of water, augmentation and maintenance of stream flow and habitat provision for wide variety of flora and fauna along with their recreational values. However, continuous inputs of various forms of pollution from a variety of human activities have seriously deteriorated the health status of Lake Ecosystem. If this trend continues, it may lead to
the collapse of Lake Ecosystem Constanza et al, (1997); Rapport et al., (1998). Rivers are vital and vulnerable freshwater ecosystems that are critical for the sustenance of all life. However, the declining water quality of these ecological systems threatens their sustainability and is therefore a matter of serious concern. Rivers are waterways of strategic importance across the world, providing main water resources for domestic, industrial and agricultural purposes Jain, (2009). Untreated discharge of pollutants to a water resource system from domestic sewers, storm water discharges, industrial wastewaters, agricultural runoff and other sources, all can have short term and long term significant effects on the quality of a river system. Akhtar et al, (2007) Tayyab A. et al, (2011) stated that, turbidity caused by agricultural, irrigation and surface run off and soil erosion severely affect the production of plankton. Studied effect of mercuric chloride on enzyme activities of freshwater fish L. rohita and stated that, heavy metals may act as activator or inhibitor.

Organic manure, municipal waste and some fungicides often contains fairly high concentration of heavy metals. Soils receiving repeated applications or organic manures, fungicides and pesticides have exhibited high concentration of extractable heavy metals and that thereby increase their concentration in runoff Moore et al., (1998). Due to urbanization and industrialization increases levels of heavy metals in water. Most heavy metals like cadmium, chromium, mercury, copper and lead are highly toxic to living biota. Numbers of studies have been elaborated the effect of heavy metals and plants, animals and human health Chist, 2004; Unger and Roesijiadi, (1996). Addition of sewage and immersion of idols increases heavy metal pollution in lakes. Heavy metals are toxic to algae. Many studies have been carried out by various investigators on effect of heavy metals on algae Sultan and Fatima, (1999).

In India many researchers have worked on physic-chemical and biological characteristics of reservoirs and rivers Kodarkar, (1992); Patil et al., (2003). The discharge of industrial effluents in the reservoir water containing oxidisable organic matter reduces the dissolved oxygen content. The reduction of oxygen initially results in
the pollution due to load of organic matter, but oxygen content is restored by re-aeration further downstream. In a health reservoir sufficient oxygen for microbial degradation of organic matter is essential to sustain its water quality. Less oxygen availability will lead to anaerobic break down of organic matter producing foul smell and consequent impact on water quality and bio-diversity. Dissolved oxygen level influenced the density of all bird groups. Valuable information about biological and biochemical reaction which is going on water is provided in the entire biotic factor in fresh water life. Patil et al., (2001) stated that dissolved oxygen is of great limnological significance as it regulates metabolic process of aquatic organisms and indicates the status of water. TDS indicates the general nature of salinity of water Gupta et al., (2006). Direct discharge of industrial effluents and runoff comprising versatile chemicals exert their toxic effect on living beings, depleting the dissolved oxygen, altering pH, changing CO2 content and finally affecting the life cycle of the animals. Dehadri, (1990). Seasonal variation in pH of regular occurrence Aroha et al., (2007); Yadav, 2008; Gangwar, (2012). Jayalaxmi et al., (2011) observed substantial variations in the pH level in all seasons around Vijaywada. Aquatic animals have to pass large quantities of water over their respiratory surface and are subjected to relatively great risk of exposure to the toxic substances. Contamination of aquatic ecosystem by pesticide can cause acute and chronic poisoning of fish and other organism. The pesticides are found to damage vital organs of fish Omitoyin, et al., (2006); Velmurugan, et al., (2007); Desai et al., (2011) reported histopathological alterations to gonads due to sub lethal concentration of organ phosphorus pesticide, dimithoate in *Orriochromis mossambicus*. Histological abnormalities in ovaries may be caused by several factors viz, ionizing radiation, electric current, parasitic infection, mechanical injuries, xenobiotic toxicity Sarojini and Victor, (1985) and by verity of effluents and aquatic pollutants, Johnson, et al., (1988); Kumar et al., (2007). The hazardous chemicals and pesticides are not only harmful to aquatic animal too. Kamble and Mane (2012) stated that organ phosphorus pesticides like phorate, monocrotrophos, quinolphos, asataf, malathion etc pesticides were used in drought prone area will cause neurological disorders among the farmers. use of The world’s water resources are under
pressure and must be managed for human survival. It is therefore, necessary to have most relevant information for arriving at rational decisions that will result in the maximum benefit to most people. Accurate and reliable information on the water resource system can, therefore, be a vital aid to strategic management of the resources Gupta and Deshpande, (2004). During last fifty years the numbers of the industries in India has grown rapidly but water pollution is concentrated within few sectors mainly in the form of toxic wastes and organic pollutants. Textile industries contributed major source of pollution of some cities of India.