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Introduction

Currently water pollution is major problem faced by everyone all over the globe [1]. It is now pushing the government, industrialist, scientists and research scholar to develop new wastewater technologies with viable cost and more e ective to treat di erent types of wastewater adequately before discharge into land and/or water bodies. e rapid industrialization has resulted in the rise of pollution [2]. Biotech industries are playing a vital role in economic growth of nations and also have high impact on environment with respective of water consumption and wastewater generation with high concentration of pollutants. e level of wastewater pollution varies from industry to industry depending on the type of process and size of industry. e pollution of water bodies by toxic materials from industrial e uent a ects humans both directly and indirectly [3]. Wastewater comes from di erent processes takes place in same industry and poses di erent characteristics of wastewater depending upon process in day to day. Adaption of speci c treatment for each process unit of wastewater is highly expensive. So common treatment system is required to treat total generation of wastewater from industries in order to reduce cost of treatment.

Nowadays advanced oxidation technologies (AOTs) are successfully adapting with coagulation and/ or biological treatment to treat various types of wastewater. ese integrated treatments have received great attention in research and development of wastewater treatment technologies in the recent years. Advanced oxidation processes (AOPs) are used to oxidize complex organic constituents found in wastewater that are di cult to degrade biologically into simpler end products [4]. Which are facilitating the conversion of pollutants to less harmful and more biodegradable compounds [5]. AOPs may be coupled with other physical and chemical methods, and biological for mineralisation [6]. Several studies have been reported on the examination of coagulation,

ere are varies technologies available to produ the reactive hydroxyl free radicals (OH) in aqueous phase and oxidation power of varies oxidizing agents are presented in Tables 1 and 2 respectively [4].

of pH was 8.0. Five beakers were lled with 500 ml of wastewater. To this 0.4 ml of NAXXALL liquid was dosed to each beaker and stirred it at 100 rpm for 2 minutes and allowed for 30 minutes of oxidation

Total dissolved solids of wastewater and treated wastewater shown in Figure 3 and Table 3. e e ciency of laboratory experiment was 54% in removal of total dissolved solids.

Chlorides

Chlorides are major inorganic anions in water and wastewater. Discharges of chloride content beyond maximum permissible limit (250 mg/L) can result in contamination of both surface water and groundwater and corrode the metals. e salty taste produces by chloride depends on the chemical composition of water. Chloride TotFigure 3:829WTrCmFigure 4:treatwd8wastewatwa.

Total dissolved solids

Excess amount of dissolved substances are undesirable in water and wastewater. Dissolved minerals, gases, and organic constituents may produce aesthetically displeasing colour, tastes, and odour. Total dissolved solids are mainly inorganic matters. ere are a large variety of salts such as chlorides, carbonates, bicarbonates, nitrates, phosphates and sulphates of calcium, magnesium, sodium, potassium, iron etc which import certain taste to water. If any one of these becomes in excess, the water is un t for drinking and on long range use in irrigation causes salinity of soil. On evaporation of such waters, the salts are le behind on soil surface in form of thin crust. e high level of total dissolved solids will interfere biological treatment process, and soil contamination. It is important that total dissolved solids should be brought down to required level before passes into biological treatment, and treated wastewater discharged on land and/or water bodies.

Oil and grease in wastewater and treated wastewater shown in Figure 8 and Table 3. e e ciency of laboratory experiment was 85% in removal of oil and grease.

Phenols as phenolic compounds (C6H5OH)

Phenols, de ned as hydroxyl derivatives of benzene and its condensed nuclei, may occur in industrial wastewater. It may be toxic to phyto and zoo-plankton beyond certain level. A total of 1.5 g may be fatal. Ozone is used e ectively to reduce the concentration of phenols in the wastewater [17]. Commonly used methods for the treatment of phenol bearing wastewater include solvent extraction, physical absorption, chemical oxidation and aerobic biological prpa9(n4.1(