International Journal of Science and Research (IJSR)
ISSN: 2319-7064
SJIF (2022): 7.942

# Physico Chemical Parameter of Waterlocal Pond Sanchore, Jalore, Rajasthan

**Om Prakash Sharma[1], Balwant Kumar[2], Govin Kumar[3]**

[1]Assistant Professor, Department of Zoology, Gayatri Mahavidyalaya Sanchore, Jalore, Rajasthan, India
Email: *omsshalini[at]gmail.com*

[2]Principal, Shekhawati College Gadakhera, Buhana, Jhunjhunu, Rajasthan, India
Corresponding Author Email: *aruns15780[at]gmail.com*

[3]M. Sc. Final Zoology (Student), Gayatri Mahavidyalaya Sanchore, Jalore, Rajasthan, India
Email: *gkpurohit665[at]gmail.com*

**Abstract:** ***The present study is focused on the determination of physico chemical parameters such as pH, Temperature, D. O., Hardness of water sample from different sampling points of Jhardia pond sanchore. Increase of pollution concentration indicate an increase in the pollution load due to domestic and hospitals sewage and waste of ethnic work and discharge of wastes to the Jhardia pond sanchore.***

**Keywords:** Jhardia pond, sanchore, physico chemical parameter, ethnic work, sewage.

## 1. Introduction

Water is an essential component of the life on the earth. All living beings depend on it.

## 2. Materials and Methods

### 2.1 Study Area

South - west Rajasthan is an arid region and features fairly hot temperatures over the year with extreme temperatures in both summer and winter.

Rajasthan receives low and variable rainfalls and thereby is prone to droughts availability of water is less due to the absence of rivers and lakes.

So local peoples of this region made wells, ponds and other water resource for full fill their water requirement.

The Jhardia pond is made by those people who live in this area. So in the summer season cattles and other animals take water from that and no one can dies from lack of water.

To study the determination of water sample of the jhardia pond sanchore at jalore district situated 1.5 km away from sanchore tahsil.

### 2.2 Object

That study helps in provide information about the water reservoir of Jhardia pond about the water quality.

### 2.3 Site Description and Sample Collection

Surface water sample were collected from Jhardia pond located at city of sanchore. All for location comprises of many small tuning and dyeing units which drains the majority of their effluents into the pond without proper effluent treatments, because the water resource was used for animals for drinking purpose, water sample from all the different directions were collected in glass bottles, brought to the laboratory processed within 1 - 3 hours.

**Geographic Location**


**Hardness: -**
Hardness of water is an important consideration in determine the suitability of water for domestic and industrial uses. Total hardness was recorded at east site 600, west site 650, north site 670, and the south site 660 PPM.

**Dissolve oxygen**
Dissolve oxygen is important parameter for water quality test. And it reflects the physical and biological process in water. The DO values also show lateral and changes depending on industrial, human and thermal properties. In the study the value of DO ranged 2.6 mg/L in east, 2.1 mg/L in west, 2.4 mg/L in north, and 2.8 mg/L south respectively.

**Temperature**
Temperature of water may not be as important in pure water. Because of wide range of temperature tolerance in aquatic life but in polluted water temperature can have profound effects on DO and BOD. The fluctuation in pond water temperature usually depends on the season, geographic location. Sampling time and temperature of effluents entering the stream. The water temperature was found to be max.18.5$^0$c at the time of water sample 1$^{st}$.

The water sample 2 and 3 is 20$^0$c of temperature and the lowest water temperature were observed in water sample 4 is 18$^0$c.
The variations are mainly related with temperature of atmospheric and weather condition.

**pH:**
The pH value of the samples ranged from 5.0 to 6.8 where most of the water sample different locations tasted in the study were found to be in the permissible range of pH value recommended by several health and pollution control organization. The pH of pond water was showing Acidic characters throughout the study period at all four sites. The pH value ranged between 5.0 to 6.8at east pH value noticed 5.4, north 6.0, west 5.0 and south 6.8.

## 3. Observations

| Sample | Hardness in (PPM) | Dissolve oxygen (mg/L) | Temperature in $^0$C | pH | BOD In (PPM) | COD **mg/L** |
|---|---|---|---|---|---|---|
| 1 | 600 | 2.6 | $18.5^0$ | 5.4 | 14 | **80** |
| 2 | 650 | 2.1 | $20^0$ | 6.0 | 14 | **70** |
| 3 | 670 | 2.4 | $20^0$ | 5.0 | 16 | **81** |
| 4 | 660 | 2.8 | $18^0$ | 6.8 | 15 | **85** |

**Physico Chemical Analysis**

Following physico chemical properties were studied DO and BOD of water was measured by sodium Thiosulphate titration, COD was measured by titration of potassium dichromate. pH measured by pH meter and Temperature measured by thermometer.

## 4. Result & Discussion

The water samples were analyzed for physico - chemical characteristic.

The physico - chemical parameters were analyzed namely Temperature, pH, DO, BOD, COD Etc…

## References

[1] Adefemi S. O. and E. E. Awokunmi, (2010), Determination of physico - chemical parameters and heavy metals in water
samples from Itaogbolu area of Ondo - State, Nigeria, African Journal of Environmental Science and Technology, 4 (3), pp 140 - 148.

[2] Agarwal, Animesh and Manish, Saxena, (2011), Assessment of pollution by Physicochemical Water Parameters Using Regression Analysis: A Case Study of Gagan River at Moradabad - India, Advances in Applied Science Research, 2 (2), pp 180 - 190.6. APHA, (1985), St

[3] Gupta, D. P., Sunita and J. P. Saharan, (2009), Physiochemical Analysis of Ground Water of Selected Area of Kaithal City (Haryana) India, Researcher, 1 (2), pp 1 - 8.

[4] Indian Standard Specification for Drinking Water; IS: 10500: 1992. (Reaffirmed 1993)

[5] Karanth, K. R, (1987), Groundwater Assessment Development and Management Tata McGraw Hill publishing company Ltd., New Delhi, pp1, 2 and 724 - 738,

[6] Chaterjee C and Raziuddin M (2002) Determination of water quality index (WQI) of a degraded river in Asanol Industrial area, Raniganj, Burdwan, West Bengal. Nature Environment and Pollution Technology 2: 180 - 190.

[7] Yadav P, Yadav AK, Khare PK (2013). Physico - Chemical characteristics of a freshwater pond of Orai, U. P., Central India. Octa Journal of Biosciences 1: 170 - 184.3. Onwughara NI, AjiweVIE, Nnabuenyi HO (2013) Physico - chemical studies of water from selected boreholes in Umuahia North Local Government Area, in Abia State, Nigeria. International Journal of Pure & Applied Bioscience 1:

## Author Profile

**Om Prakash Sharma,** Assistant Professor, Department of Zoology, Gayatri Mahavidyalaya Sanchore, Jalore, Rajasthan. Email: *omsshalini[at]gmail.com*

**Balwant Kumar,** Principal, Shekhawati College Gadakhera, Buhana, Jhunjhunu, Rajasthan. Corresponding Author Email: *aruns15780[at]gmail.com*

**Govin Kumar**, M. Sc. Final Zoology (Student), Gayatri Mahavidyalaya, Sanchore, Jalore, Rajasthan. Email: *gkpurohit665[at]gmail.com*