# ST. ALOYSIUS' COLLEGE

## AUTONOMOUS

## JABALPUR- 482001

## MADHYA PRADESH, INDIA

# CRITERION-7

# INSTITUTIONAL VALUES AND BEST PRACTICES

## Key Indicator – 7.1

## Institutional Values and Social Responsibilities


## Metric No.: 7.1.4

## Environment Consciousness and Sustainability

## Document Name

## Campus Water Quality Testing Report

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# Environmental Consciousness and Sustainability

## 7.1.4 Water conservation facilities available in the institution

### Campus Water quality testing report

The Department of Botany and Department of Chemistry at Aloysius College annually performs water quality analysis of various campus sources. This assessment checks for health and safety standards, examining pH levels, hardness, and contaminants. The results inform actions to ensure clean, safe drinking water for the campus community. The 2023-24 water analysis report reflects the college's commitment to environmental sustainability and member well-being.

Contaminated water and poor sanitation can lead to diseases like cholera, diarrhea, dysentery, hepatitis A, typhoid, and polio. To prevent health risks, the departments regularly analyze campus drinking water's microbial quality, emphasizing the right to pure, clean, and safe water.

Microbial water quality directly impacts health. The presence of intestinal pathogens can compromise water clarity and quality. Institutional-level regular testing ensures drinking water safety. Microbiological testing mainly uses fecal indicator bacteria, particularly Escherichia coli, a significant bio-indicator of water pollution due to its link to fecal contamination. Testing focuses on detecting this bacterium rather than identifying pathogens directly.

The institution conducts thorough physical, chemical, and biological analyses of drinking water in the laboratory using standard procedures for consistent results. Below are the findings from the institutional drinking water assessment.

| S.No | Season | Sample | Method | Observation | | Water quality |
|---|---|---|---|---|---|---|
| | | | | MPN [1] index/100 ml and BOD[2](ppm[3]) | Inference | |
| 1. | Autumn | Drinking water from institutions water supply | MPN technique [Presumptive test Complete test Confirm test] DO - BOD | 3.5 cfu[4]/100 ml<br>0.29 ppm | *E.coli* not found | Good<br>Clean |
| 2. | Winter | Drinking water from institutions water supply | MPN technique [Presumptive test Complete test Confirm test] DO - BOD | 6 cfu/100 ml<br>0.78 ppm | *E.coli* not found | Good<br>Clean |
| 3. | Summer | Drinking water from institutions water supply | MPN technique [Presumptive test Complete test Confirm test] DO - BOD | 5 cfu/100 ml<br>0.63 ppm | *E.coli* not found | Good<br>Clean |
| 4. | Rain | Drinking water from institutions water supply | MPN technique [Presumptive test Complete test Confirm test] DO - BOD | 5 cfu/100 ml<br>1.0 ppm | *E.coli* not found | Good<br>Clean |

[1]MPN: Most Probable Number Test [ As per ISI, 1-10 cfu/100ml is acceptable for drinking water).

[2]BOD: Biological Oxygen Demand

[3]Ppm: Part per million

[4]CFU: Colony forming unit

**Reference/Source:** (Standard methods for the examinations of water and waste water, APHA, New York, 1998)

# Quantitative Water Analysis Report

**College Ground Water Analysis( Near Library )**

Total Hardness- 2000 ppm

Permanent Hardness- 1500 ppm

Temporary Hardness—500ppm

pH- 7

Fluoride Content- Negligible

**College Ground Water Analysis( Near College Main Gate )**

Total Hardness- 2010 ppm

Permanent Hardness- 575 ppm

Temporary Hardness—1525ppm

pH- 7.35

Fluoride Content- Negligible

**College Ground Water Analysis( Church Campus)**

Total Hardness- 700 ppm

Permanent Hardness- 160 ppm

Temporary Hardness—595ppm

pH- 7.42

Fluoride Content- 0.35

Reference Range for Hardness (**WHO)**

- Below 75 ppm -Soft
- 76-150 ppm- Moderately Hard
- 151- 300 ppm - Hard
- More than 300 ppm - very hard

**Permissible Limit for Fluoride Ion Concentration (WHO)**

- 1.5 ppm