

# **JMJ College for Women (A), Tenali**

## **Water Usage and Conservation Policy**

### **1. Purpose**

This policy aims to ensure the optimal utilization of water resources at MJM College for Women (A), Tenali, by promoting water conservation practices, reducing wastage, and implementing sustainable water management strategies.

### **2. Scope**

This policy applies to all students, faculty, staff, and visitors within the college premises, including academic buildings, hostels, laboratories, canteens, and gardens.

### **3. Objectives**

- Ensure efficient water usage across all campus facilities.
- Minimize water wastage and promote water recycling.
- Implement rainwater harvesting and groundwater recharge systems.
- Educate and encourage stakeholders to adopt water conservation practices.
- Maintain and upgrade water infrastructure to enhance efficiency.

### **4. Water Sources & Usage**

The primary sources of water for the college include groundwater (bore wells) and municipal water supply. Water is utilized for the following purposes:

- Drinking (processed through RO plant)
- Domestic use (restrooms, hostels, canteen, etc.)
- Laboratories
- Gardening and irrigation
- Cleaning and maintenance

### **5. Water Conservation Measures**

#### **5.1 Infrastructure Improvements**

- Install water-efficient faucets and taps with aerators to reduce consumption.
- Implement dual-flush systems in all toilets.
- Maintain pipelines, tanks, and fixtures to prevent leaks.
- Ensure that all new buildings incorporate water-efficient design and technology.

#### **5.2 Rainwater Harvesting**

- Utilize rooftop rainwater harvesting to recharge groundwater.
- Construct percolation pits to maximize water infiltration.
- Channel rainwater to sumps and fountains for non-potable use.

### **5.3 Wastewater Management**

- Reuse wastewater from RO plants for gardening and sanitation.
- Encourage wastewater recycling where feasible.

### **6. Awareness & Training**

- Conduct periodic training and workshops for students and staff on water conservation.
- Place informative signage at water stations and washrooms to promote responsible usage.
- Introduce water conservation topics in student orientation programs.

### **7. Monitoring & Compliance**

- Establish a Water Management Committee to oversee implementation and compliance.
- Conduct periodic water audits to assess consumption patterns and identify improvement areas.
- Implement reporting mechanisms for leaks or excessive usage.

### **8. Accountability**

- All departments and hostel authorities must ensure adherence to the policy.
- Faculty, staff, and students should actively participate in water-saving initiatives.
- The administration will allocate resources to maintain and upgrade water infrastructure.

### **9. Review & Amendments**

This policy will be reviewed annually by the Water Management Committee, and necessary amendments will be made to enhance water conservation efforts.

# Water - Source, Usage, Management & Conservation

Water is a crucial resource, and its efficient use is essential for sustainability. This document outlines water sources, usage, management, conservation efforts, and recommendations for improved efficiency through water audits and conservation practices.

## Sources of Water

The primary sources of water for the institution are groundwater from bore wells and municipal water supply. Water is extracted using submersible pumps and is directed to raw water tanks. Drinking water is processed through a Reverse Osmosis (RO) plant to ensure quality and safety. The college operates an RO plant to cater to the drinking water needs of the entire campus.

## Water Usage

The water supply system involves pumping groundwater and municipal water into overhead tanks (OHT) for distribution across different areas of the college. Water is utilized for various purposes, including:

- Domestic consumption
- Laboratory activities
- Drinking
- Gardening and tree maintenance

On average, the college consumes approximately 10,000 liters of water per day, with 3,000 to 3,500 liters dedicated to drinking and the rest allocated for sanitation, domestic needs, and gardening.

## Water Management & Conservation

Efficient water management and conservation strategies are crucial for long-term sustainability. The college implements small to medium-scale water reuse and recycling initiatives. Key conservation methods include:

### Rainwater Harvesting

Rainwater harvesting is a well-established practice that helps recharge groundwater and ensures sustainable water use. The college, with its extensive rooftop areas, has the potential to collect and channel rainwater through designated pipelines and percolation pits. Based on an average annual rainfall of 750mm, the estimated amount of rainwater that can be harvested is about 900 KL per year. This water can be redirected to sumps or fountains for reuse.

### Water Conservation Opportunities in Washrooms

#### Faucets

Water-efficient faucets can significantly reduce water consumption in washrooms. The current faucets in the college have a flow rate of 5 liters per minute (LPM). By installing

aerators or flow regulators, water usage can be reduced by 40-50% without compromising functionality. These devices are cost-effective, easy to install, and require minimal maintenance.

### **Toilets**

Replacing single-flush toilets with dual-flush systems can substantially reduce water wastage. Dual-flush toilets use six liters for a full flush and three liters for a half flush. A campus-wide audit recommended the installation of dual-flush systems, which will lead to significant water savings. Cost-effective solutions include replacing only the toilet trim system rather than the entire unit.

### **Awareness on Water Conservation**

The college accommodates approximately 1,600 individuals, including students, faculty, and staff. Given the high water consumption, awareness and training on water conservation are essential. It is recommended to:

- Organize periodic awareness programs for students and staff.
- Display water-saving labels and posters at key locations such as washrooms, drinking water stations, and display boards.
- Promote good housekeeping practices to instill a sense of responsibility towards water conservation.

By implementing these measures, the institution can significantly reduce water consumption, enhance sustainability, and contribute to environmental conservation.