

**SCHOOL: MODEL "HIS & HERS" COLLEGE**

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**CLASS: J.S.S III**

**ESSAY TOPIC: IF I COULD INVENT SOMETHING NEW**

**INVENTION OF WATER PURIFICATION SYSTEM**

INTRODUCTION : Clean water is essential for human survival and access to it, is a fundamental human rights. Yet ,the global water crisis persists with millions of people worldwide lacking access to safe and reliable clean drinking water. Water borne diseases like typhoid, malaria, cholera, diarrhea and many more are rampant causing millions of deaths of annually especially among children and MARGINALIZED COMMUNITIES, Moreover, water scarcity and pollution have severe economic, social and environmental implications, including stunted economic growth degradation. The global water crisis is EXACERBATED by factors like climate change, population growth and inadequate infrastructure, making it a pressing issue that requires urgent attention and collective action to ensure universal access to CLEAN WATER AND SANITATION. WHAT WATER PURIFICATION SYSTEM ARE AND THEIR PURPOSES. Water purification system are technologies and processes designed to remove contaminants and pollutants from raw water sources, making water safe for drinking, industrial use, and recreational purposes. These systems aim to eliminate harmful substances like bacteria, viruses, heavy metals, and other impurities that can cause water borne diseases and health problems. The primary purposes of water purification system are to .

1. Improve water quality.
2. Reduce water borne diseases.
3. Increase access to clean water.
4. Support economic development at environmental sustainability. By effectively removing contaminants and pollutants, water purification system plays a vital role to people, health, communities, and even (ECOSYSTEMS WORLDWIDE).

**TYPES OF WATER PURIFICATION SYSTEMS.**

1. Filtration Systems: Use physical barriers to remove impurities, such as Ultraviolet (UV) Filters ( kill bacteria, viruses etc.
2. Distillation systems
3. Chemical Disinfection systems-chlorination, indication, ozonation.
4. Ultraviolet (UV) LIGHT SYSTEMS.
5. NANOFILTRATION (NF)ULTRAFILTRATION(UF)SYSTEMS.AND MANY MORE.

## **HOW TO INVENT A WATER PURIFICATION SYSTEM.**

- DEFINE THE PROBLEM.
- RESEARCH EXISTING SOLUTIONS
- DETERMINE THE GOALS
- CHOOSE A TREATMENT APPROACH
- DESIGN THE SYSTEM.
- TEST AND REFINE .CONSIDER SCALABILITY.
- SEEK EXPERTISE.
- PROTECT YOUR INNOVATION.

## **IMPLEMENT AND SHARE. HOW TO OVERCOME CHALLENGES IN PURIFICATIONS.**

1.Pretreatment. 2.Coagulation and flocculation. 3.Sedimentation.4. Filtration.

### **BENEFITS INCLUDE:**

- 1.Improved health.
- 2.Costs savings.
- 3.Improved water quality.
- 4.Reduced water borne diseases.
5. Improved appearance.
6. Protection of appliances.

### **CHALLENGES FACED:**

- 1.Maintenance and repair.
- 2.Cost.
- 3.Power outages.
- 4.Public acceptance.
5. Water quality variation and so on.

### **HOW TO FACE THEM:**

1. Backup Power sources.
2. Financial planning.
- 3.Training and building program.
- 4.Regular maintenance and so on.

In summary, water purification systems are essential for providing clean drinking water, especially in areas where access to safe water with clean access can be beneficial to all humans, animals, plants and many more. my reiteration for the revolutionary device for clean water access is by providing clean water which helps to save lives, improve health and many more. my final thoughts states that access to clean water is a basic human right and water

purification are vital solutions to people and basic needs. together we can make clean water a reality for all.