

1. MACFAST Bacteriological Water Analysis for Lab to Land (MAC B-WALL)

1. Title of the Practice : MAC B-WALL (Lab to Land : **MACFAST Bacteriological Water Analysis**)
2. Objectives of the Practice : This practice has been started with the following specific objectives
 - a) To equip the students to have scientific experience in water analysis.
 - b) To ensure the availability of safe drinking water to the students of the college.
 - c) To ensure the availability of safe drinking water to the general public in and around Tiruvalla.

3. The Context :

The state of Kerala is blessed with abundant water resources and earlier studies indicate that rural and urban drinking water exhibits alarming levels of contaminants including physical, chemical and biological contaminants. Bacteriological quality of the water sources are found to be the most severely affected and tend to remain above the accepted levels for drinking water posing a major threat to human health. The major problem encountered in the availability of safe drinking water is the mismanagement of solid and liquid wastes, open defecation and improper methods of industrial effluent disposal. The devastating Floods of 2018 that caused havoc throughout Kerala witnessed drinking water wells overflowing with flood water thereby contaminating the drinking quality of the water. The bacteriological analysis of water samples collected from the selected flooded areas is analyzed for free of cost. This practice of the college thus aims at ensuring the availability of clean drinking water to the nearby community.

4. The Practice: Water is collected from the drinking source in clean, sterile sampling bottles and labeled accordingly. The samples were then subjected to presumptive testing for coliform bacteria by the Most Probable Number (MPN) method. Water samples from all the drinking sources are checked twice a month and variations (if any) in the water quality is dealt with by periodic chlorination of water sources. Water analysis is

performed by students of the school of Biosciences under the supervision of two faculty members.

5. Evidence of success: Analysis of drinking water samples indicates the high levels of coliform bacteria (>1100 MPN) after the flooding. The results of the analysis enabled the analysts to identify the presence of bacteriological contamination in drinking water and to suggest the measures to rectify the sources of contamination. Periodic checking of the bacteriological quality of water has resulted in creating awareness about the importance of safe drinking water. This practice was adopted in the campus so as to ensure the quality of the drinking water in the campus.

6. Problems encountered and resources required:

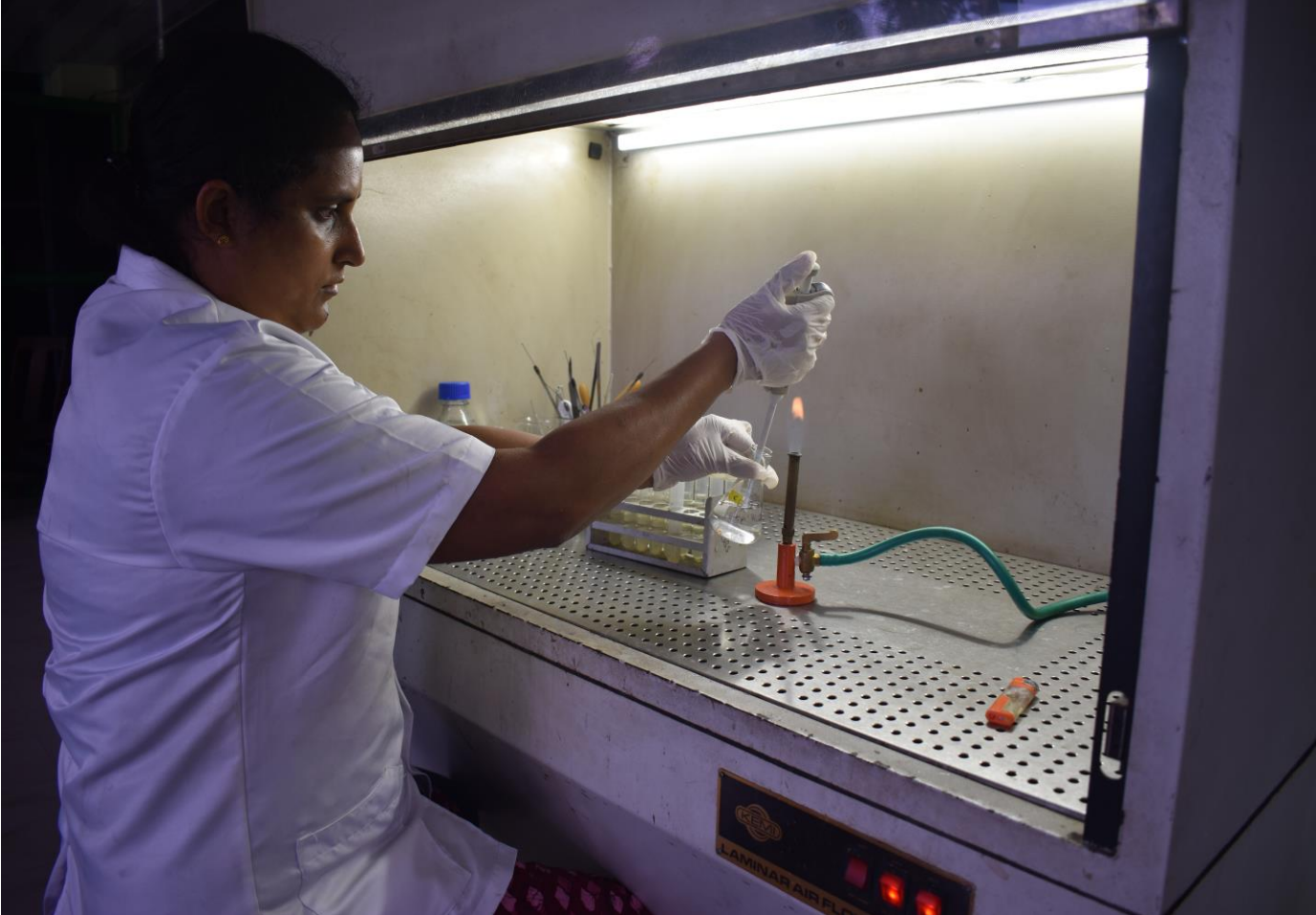
The major problem encountered includes:

- The limited lab facilities and lack of previous experience testing in large scale
- Limitations in the selection of samples

Resources required include

- Glassware and chemicals for the conduct of bacteriological analysis.





2. CYBER LAW AND SECURITY AWARENESS PROGRAMME FOR THE STUDENTS OF SCHOOLS & COLLEGES IN KERALA

Objectives of the Practice:

- To create mass Cyber Law & Security awareness among schools and colleges through appropriate awareness and training programs.
- To promote women safety & empowerment through proper ICT education.
- To promote safe Internet practices among the youth.
- To apprise the students that their sensitive data is susceptible to cyber attacks.
- To safeguard the students against the potential cyber bullying and identity theft attacks.
- To educate students about the risks associated with the online games.
- To enlighten the students with the IT Act and cyber laws.
- To promote secure and safe social media usage.
- To safeguard personal information acquired through e-commerce sites.
- To promote secure Internet and mobile banking

Context:

Kerala, the 'God's own country', has the highest literacy rate and is the first digital state in India. However, according to police records, the State of Kerala on average sees *one cybercrime every two hours* - a statistic that has alarmed the officials and society. For a state that boasts of its high literacy rates, this increased cyber crime rate is showing adverse repercussions. Among the cases registered as per the NCRB data, almost 5% is contributed by Kerala alone. The steep rise in the cybercrimes over the years demands a huge attention as well as awareness for both students and parents. While digital technologies offer significant developmental and educational benefits for children, the growing access to and use of ICT by children also increases their exposure to potential risks of online abuse and exploitation. The key step in building a secure information security is to make the users understand the risks of cyber attacks.

The Practice:

In association with Kerala police a plan for organizing the cyber safety awareness program was rolled out. The site for the awareness program was selected as schools and colleges in Kerala. Resource persons from our institution visited the colleges and schools and organized cyber awareness seminars in their premises. Road shows were conducted on this theme to generate awareness among the public. For making

the program more interesting to the students MIMÉ show on the negative impacts of Mobile Phone Usage was conducted. A website on Cyber Law And Security Awareness was launched for educating and to create awareness among the beneficiaries.

Evidence of success: Given mass awareness classes on Cyber Law & Security awareness to more than 3700 students in schools and colleges across Kerala.it helped in equipping the students with latest changes happening in the cyber world. The initiative helped in promoting safe internet practices among youth. It helped the students to be cautious about the risk associated with internet and mobile banking transactions. An increased awareness about the cyber safety will eventually results in decreasing the cybercrimes.

Problems encountered and resources required: Difficulty in getting slots in the schools and colleges for conducting the program due to tight academic schedule. Uncertainty in the date of examinations affected the schedules to a great extent.