Water Analysis (2017–2018)

Organized by the Department of Chemistry

Extension Activities aims at enabling our student volunteers to develop social responsibility and learning by doing. Service attitude is essential for any professional to flourish in his/her job. Water analysis unit is one of the best extension activities of the department of Chemistry. We have started the water analysis unit with the intention of helping the nearby society. We have overwhelming responses from the various sections of the society. 17 water samples were tested in the academic year 2017-18. We had given a subsidized rate for nearby schools as it was compulsory to test their well water before using it for making food for the school students.

Our students were trained to analyse water samples and so they are getting good exposure to analyse the different water samples. By this way they are able to understand the quality of water as well as different water quality parameters too. The students are getting a good idea about how to handle and use a water analyzer unit. It is also an excellent experimental technique to improve their ability to quality check the water samples.

We are using a micro controller based SYSTRONICS brand water analyser unit. The main advantage of this instrument is its portability and carry anywhere for spot analysis of water samples. We are able to analyse 8 various water quality parameters using this instrument. It includes pH, conductivity, TDS, salinity, dissolved oxygen, temperature, color and turbidity. It also gives us an advantage to carry out students' UG and PG projects of various water samples before and after the purification process. Water quality testing kits (NICE Chemicals brand) as well as titration methods are also used to check the

purity of water including E. Coli. bacteria. We normally test 17 general water quality parameters, which are sufficient to understand the purity of that water sample. We used to make remarks when we observe any parameter that exceeds the permissible limit or presence of bacterias like E. Coli.

Coordinator of the programme: Dr. Santhosh Paul, Assistant Professor, Department of Chemistry

43 final year B Sc. Chemistry students actively participated in this analysis. The list of students who have volunteered in this activity is given below.

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Sl No	Name
1.	Aleena M A
2.	Anagha N A
3.	Arathy Chandrasenan
4.	Arsha Asokan
5.	Aryamol P R
6.	Arya Shaju
7.	Aswathy Asokan
8.	Bismi Paul
9.	Haritha K K
10.	Mariya K J
11.	Megha Rose K S
12.	Merin Benny
13.	Nimisha Babu
14.	Rosemol George

15.	Sandra K C
16.	Smrithy Sudhan
17.	Thansi Kabeer
18.	Vineetha Sanal N
19.	Akshara Subran
20.	Aleena PA
21.	Alphy Martin
22.	Angel Johny
23.	Anju K V
24.	Anna Johnson
25.	Annie George
26.	Arpana C N
27.	Athira K S
28.	Athira K S
29.	Celin Thomas
30.	Divya Joy
31.	Doliya Joseph
32.	Gadha P B
33.	Gifty Tony
34.	Gopika P J
35.	Hilda Jojo
36.	Jesmi John
37.	KripaMariya Johnson
38.	Midhila K P
39.	RajiRaju

40.	Shameena Shakeerhusain
41.	Sumayyah M M
42.	Vandhana Unnikrishnan
43.	Neenu P S

Image – Dr. Santhosh Paul demonstrating the water analysis

Sample certificate is given below

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Water Quality Analysis

Date of Collection:10/07/2017 **Date of testing:10/07/2017**
Name:
Source:well water
Ref: IS: 10500

No.	Parameters	Unit	Desirable limit	Permissible limit	Observed value
1	Ammonium	ppm	0.2	0.5	0.5
2	P^H		6.5–8.5		5.64
3	Alkalinity (Total)	ppm	200	600	30
4	Calcium Hardness	ppm	75	200	35
5	Total hardness (in terms of $CaCO_3$)	ppm	300 - 600		470
6	Chloride	ppm	250	1000	40
7	Fluoride	ppm	1	1.5	Nil
8	Iron	ppm	0.3	1	Nil
9	Residual chlorine	ppm	0.2	1	Nil
10	Nitrate	ppm	45		5
11	Nitrite	ppm	0.5	1	0.5
12	Phosphate	ppm	5	5	Nil
13	Conductivity	µS	2500 µS		227
14	Salinity	ppt	1×10^3		-
15	Total dissolved solids	ppm	500	2000	Nil
16	Turbidity	NTU	5	10	-
17	Ecoli/colifrm bacteria				present

Technician/in-charge