

## **WATER ANALYSIS (2016–17)**

### **ORGANIZED BY THE DEPARTMENT OF CHEMISTRY**

Water analysis unit is one of the best extension activities of the department of Chemistry enabling our student volunteers to develop social responsibility. Whole hearted support from the management is really a motivating factor to start the water analysis unit. It is highly recommended to analyze the drinking water, water for agriculture, fish farming and all other purposes before its actual implementation/usage. Periodical testing of the purity of water samples is very much essential to confirm its quality. 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 including startup restaurants, etc. 18 water samples were tested in the academic year 2016-17.

Our students are trained to analyze water samples and so they are getting good exposure to analyze the 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 analyze 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 observed any parameter exceeding the permissible limit or presence of bacterias like E. Coli.

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

**Image- Students analyzing the water sample**



42 final year B Sc. Chemistry students actively participated in this analysis in the academic year 2016-17. The list of students who have volunteered in this activity is given below.

<b>Sl.No</b>	<b>Name</b>
1.	Aida Simethy
2.	AksaPoulose
3.	Akshaya M
4.	Alphonse Manuel
5.	Anjana E S
6.	Anjukrishna P M
7.	Anliya George
8.	Arya A R
9.	Aswathy N Suresh
10.	AthiraUnnikrishna
11.	Ayisa Varghese
12.	AyshaAbdulkarim
13.	Blessy C J
14.	Christy A L
15.	Geethukrishna
16.	MariyaPoulose
17.	Rajima C M
18.	Sini Sebastian T
19.	Surya K S
20.	ThusharaJohny
21.	Aiswarya C R
22.	Ammu P D
23.	Anila Bastian
24.	Anjana K B



25.	AnuJoju
26.	Anusree K C
27.	Athira K V
28.	Athira M C
29.	Christy M V
30.	Devika T S
31.	Eva Sneha Francis
32.	Kripa Maria Thomas
33.	Livina Salam
34.	Liya Joseph
35.	Mariya P T
36.	Muhsina K U
37.	Nivya Varghese
38.	Praveena C P
39.	Raghila Ramachandran
40.	Shini Jose
41.	Swathy Sajeevan
42.	VyshnaVinod K

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	pH		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 <sub>3</sub> )	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 x 10 <sup>8</sup>		-
15	Total dissolved solids	ppm	500	2000	Nil
16	Turbidity	NTU	5	10	-
17	Ecoli/coliform bacteria				present

LUU

Technician/in-charge