

## **Water analysis (2018–19)**

### **Organised by the Department of Chemistry**

The quality of water is very important in both environmental and economic aspects. Also, periodic 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. Unfortunately, the year 2018–19 was a devastating year for our water analysis unit as we witnessed torrential rain and heavy floods that collapsed all our activities, especially water analysis. The water analyzer instruments, analysing kits, and all other related glassware were submerged in water for four days. This year, we were able to analyse only 5 water samples before the flood (15<sup>th</sup> August, 2018). Our water analysis register, computer and allied records were completely destroyed in the flood. Our students were not able to be trained properly this year due to the devastating flood in Kerala and that affected our college very badly.

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 using 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

37 Final year B.Sc chemistry students participated in this analysis and only 5 water samples were analysed during this year. The list of students has volunteered in this activity is given below

No	Name
1.	AdullyaPankajan
2.	Akhila joy
3.	Amurtha K A
4.	Anjali N
5.	AnnmaryAnto
6.	AyillyaDeraraj
7.	ChangelAnto
8.	Daliya Bernard
9.	Delma Wilson
10.	Divega P S
11.	Edjiya Varghese
12.	Feji Joseph K
13.	Henna Anto
14.	JibithaAnto
15.	Mariya K Grace
16.	Meenu Varghese
17.	Merin Baby
18.	Pournami V P
19.	Rosemol Mattathy
20.	Sandra Mathew
21.	Sandra P S

22.	Sivaganga S R
23.	Sreelakshmyi Raveendran
24.	Akhila K A
25.	Akshaya P S
26.	Ashana K Moideen
27.	Dheena Mary Francis
28.	Hemalatha K H
29.	Jasmin Jose
30.	Jesny Joy
31.	Melvina Mathew
32.	Praise Mary Jacob
33.	Renjisha K R
34.	Revathy M
35.	Shafna Ashmi V M
36.	Shima Surendran
37.	Sreeji A.H

**Image- students doing 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	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		-
17	Ecoli/colifrm bacteria				present

LUY

Technician/in-charge