

WATER ANALYSIS (2019–20)

ORGANIZED BY THE DEPARTMENT OF CHEMISTRY

Water analysis unit is one of the best practices of the department of Chemistry. Whole hearted support from the management is really a motivating factor to continue 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. The academic year 2019-20 was a revamping year for the water analysis unit. Several samples came to our laboratory for testing after the flood and related issues. We purchased a new water quality analyzer on 2nd February, 2022 when our old unit was damaged in flood on 15th August, 2018. The new instrument was purchased by utilizing the DBT- STAR College funding scheme.

We have repaired the old water analyzer instrument and 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 observed any parameter exceeding the permissible limit or presence of bacterias like E. Coli.

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

38 Final year B Sc. chemistry students actively participated in this analysis and twenty five water samples were analyzed during this year. The list of students participated in this activity is given below.

No	Name
1	Aleena Rose Jacob
2	Amritha K. S
3	Angel
4	Anju T.B
5	Anlin George P
6	Ann Mariya Shaji
7	Ann Mariya Thomas
8	Annmerlin Cheriyan
9	Ansa Antony
10	Archana S
11	Anu Santhosh
12	Dhanya George
13	Fathima Nusra T P
14	Gayathri Unnikrishnan
15	Gracy Simon
16	Harsha M S
17	Heffty Jose
18	Indhu Prasanan



19	Irene Johny
20	Jensy Joy
21	Jesmy Jose
22	Jewel M Shaji
23	Jismol M S
24	Keerthi Joseph
25	Krishna Rajesh
26	Krishna Suresh A
27	Manju S Nair
28	Neenu Maria Thankachan
29	Pooja N P
30	RighaBabu
31	Risna P R
32	Sajitha Barvin S
33	Shiya Johnson
34	Soniya Johnson
35	Sreebhavya C handran
36	Sreekutty K S
37	Viniya T V
38	Vrinda B

Demonstration of water analysis to students



Details of the water analysis conducted by the Department of Chemistry

year	Programme coordinator	No of water samples analyzed	Number of students participated
2016-2017	Dr. Santhosh Paul	18	42
2017-2018	Dr. Santhosh Paul	17	43
2018-2019	Dr. Santhosh Paul	5	37
2019-2020	Dr. Santhosh Paul	25	38

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 x 10 ⁸		-
15	Total dissolved solids	ppm	500	2000	Nil
16	Turbidity	NTU	5		-
17	Ecoli/colifirm bacteria				present

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Technician/in-charge