Best Practice 1

Integrating Innovation, Skill and Community

The Objective:

The institution decided to initiate practices which will enhance skill, innovative activities, and awareness amongst students by organizing programs that would include their classroom knowledge into practical use for the benefit of the society. Keeping this in mind Dr Mrs. Harsha Sharma, Department of Chemistry, volunteered to take up the project of conducting free drinking water analysis and preparation of Sanitizer during the pandemic for distributing it among the weaker section of society.

The Context:

Due to the increasing pollution in the environment, water Pollution has become the major pollution in addition to the other type of pollutions. Humans are the major cause of water Pollution, which triggered in many ways, by dumping of industrial waste, due to temperature rise that causes the alternation of water by reducing the Oxygen and its composition, or due to the deforestation, which causes bacteria and sediments to appear under the soil and therefore contaminate ground water, and pesticides used in agriculture is also create Water Pollution. Due to Water Pollution, there is a disappearance of biodiversity and aquatic ecosystem. Also, humans are harmed by the alternation of the food chain and by contracting illness when drinking or using contaminated water. Although there is a water treatment processes such as drinking water treatment or desalination that facilitate its treatment, use and consumption and to avoid its contamination. Water treatment and its quality depends upon various chemical parameters such as COD, BOD pH, temperature, electrical conductivity (EC), total solid (TS), total dissolved solids (TDS), total suspended solids (TSS), total hardness, calcium hardness, magnesium hardness, nitrates, phosphates, sulphates, chlorides, DO, etc. Biological parameters include antimicrobial

analysis which is used to describe the presence of microbiological organisms and water borne pathogens.

During this Pandemic Period of COVID-19 which reached India on 30th January 2020 and on this day the first COVID-19 case was reported. Various routes have been used by Indian Government, WHO, the Ministry of Ayush to decrease the effect of this novel Corona Virus, like maintaining social distance, washing hands for 20 seconds, using masks and gloves and using hand Sanitizers. Hand Sanitizer is used as a disinfectant. In most healthcare setting, alcohol-based hand sanitizer is preferable for hand washing, reason include it being better tolerated and are more effective at reducing bacteria. Hand washing with soap and water, however, should be carried out if contamination can be seen or following the use of toilet. Non-alcohol-based hand sanitizers has no recommendations Looking to the pandemic and non-availability of the sanitizer in the market the Chemical Association of the college on March 2019-20 has taken the responsibility to prepare Homemade Herbal and Chemical Sanitizer to serve the society and to bring chemistry into practical use. Dr. Harsha Sharma of the department decided to make sanitizer in the chemistry lab.

The Practice:

Keeping all the above things in mind and due to the increasing Water Pollution in different regions of Bilaspur, the Chemistry Department of the college has taken the responsibility to analyze the water samples free of cost from different regions of Bilaspur district to check its properties on October-2019. The staff of the Chemistry department had visited PHE lab along with the students of M.Sc. (Chemistry) to learn different water analysis techniques in October 2019 and this industrial visit has proved greatly beneficial and it helped a lot in water analysis. For this project 512 water samples were collected by residents from different regions of Bilaspur and these samples were analyzed for different parameters. Along with the samples the information was also collected from the different regions to which the water sample belongs for its accurate determination and analysis. People living in different areas of Bilaspur, and people of related and nearby areas brought their water samples (Ground water, bore water, tap water

etc.) to Chemical lab of C.M. Dubey Post College for its complete analysis. After the collection, the water samples were analyzed in the chemical lab for pH, turbidity, conductivity, hardness, antimicrobial effect after 24 and 48 hours with the help of all the members of Chemistry Department. This whole project was done under the supervision of Dr Mrs. Harsha Sharma and Ms.Varsha Burman, Pooja Mahobia, Ankita Singh, Preeti Patel, Damini Kaushik, Sanjeeda Khan, Pramod Painkra and Lab technician Moolchand Soni.

The other initiation of the program initiated by the Department of Chemistry by Dr Mrs Harsha Sharma, was making soaps and sanitizer which later proved to be of great use during the pandemic where the skills were utilized in preparing sanitizers along with the assistance of Pt. Sanjay Dubey, Chairman Governing Body, and Principal, Dr Sanjay Singh. Using the required ingredients, the Homemade Herbal and Chemical Sanitizer were prepared in the Chemistry lab. The Alcohol used here in both the sanitizers are typically a combination of isopropyl alcohol, ethanol (ethyl alcohol) or n-propanol with version containing 60 to 95% of alcohol and it is proved to be more effective. Care should be taken, or they may be inflammable. Alcohol based hand sanitizers worked against various microorganisms. Compounds such as Glycerin is added to prevent the drying of the skin. Vitamin-E is used to reduce bacteria on skin and reduces skin itching. Lavender and sandalwood oil were used to kill number of germs responsible for cold, flu and other illness. Aloe vera contain some agents which is used to inhibit fungi, bacteria, and virus. Chloroxylenol is an antimicrobial ingredient that is frequently used as an antiseptic/disinfectant for skin.

The sanitizer prepared was distributed by the volunteers of the department, college and office staff in slums and neighborhood areas of the weaker sections of the society. Masks were also distributed, and the College provided economic assistance for the same.

Evidence of Success:

1. The photographs and media report of both the activities which are enclosed.
2. The record of water analysis done of people from different part of the city.
3. Satisfaction expressed by the beneficiaries.
4. Sanitizer distribution to the needy was appreciated by the public.
5. Skill learnt by the stakeholders for their future ability.
6. The students gained confidence and learnt Social responsibility.
7. The students learnt the practical and fruitful purpose of studies of the subject and its application in real life.

(ESTD.1956)

OFFICE OF THE PRINCIPAL
C.M.DUBEY POST GRADUATE COLLEGE
BILASPUR (C.G.)
(Accredited "A" by NAAC &The College with "Potential for Excellence")
An Affiliated College of Atal Bihari Vajpayee Vishwavidyalaya, Bilaspur (C.G.)

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S.No.: CMD/ /20

Date 18/11/2019

REPORT ON FREE DRINKING WATER ANALYSIS BY DEPARTMENT OF CHEMISTRY

(SESSION- 2019-20)

TITLE OF THE PROJECT -- ANALYSIS OF DRINKING WATER

DESCRIPTION: - In the month of November-2019 the Chemistry Department of C.M. Dubey Post Graduate College, Bilaspur (C.G), has done the Project of Water Analysis from different regions of Bilaspur (C.G).

OBJECTIVES OF THE PROJECT: -

1.To obtain quantitative information on the physical, chemical and biological characteristics of water.

2. To learn about the quality of supplied water by municipal or well water and underground water.

3. To check the quality of drinking water to avoid waterborne disease and improve health.

4. The most common standards used to assess water quality, relate to health of ecosystem, safety of humans and safety of drinking water.

5. To protect and maintain aquatic ecosystem and to accomplish this in an economically and socially sound manner.

6. To assess the quality of the water supplied by the supply agency.

7. To involve students in this activities.

PROJECT BACKGROUND – We all know that Water is the basic requirement of life that guarantees the life of all the living beings on earth. So, it is our responsibility to keep it clean and Pollution free.Water is a polar inorganic, odorless, tasteless, colorless transparent chemical substance which is the main constituent of earths hydrosphere and the fluids of all known living organisms. It is vital for all forms of life, even though it provides no calories no organic nutrients. Its chemical formula is H2O. Water covers nearly 71% of earth surface mostly in sea and ocean. It is described as the universal solvent for its ability to dissolve everything.

Due to the increasing pollution in the environment, water Pollution has become the Major Pollution in addition to the other type of Pollutions. Humans are the major cause of water Pollution, which triggered in many ways, by dumping of industrial waste, due to temperature rise that causes the alternation of water by reducing the Oxygen and its composition, or due to the deforestation, which causes bacteria and sediments to appear under the soil and therefore contaminate ground water, and pesticides used in agriculture is also create Water Pollution. Due to Water Pollution first there is a disappearance of biodiversity and aquatic ecosystem. Also, humans are harmed by the alternation of the food chain and by contracting illness when drinking or using contaminated water.

Although there is a water treatment processes such as drinking water treatment or desalination that facilitate its treatment, use and consumption and to avoid its contamination. Water treatment and its quality depends upon various chemical parameters such as COD, BOD pH, temperature, electrical conductivity (EC), total solid (TS), total dissolved solids (TDS), total suspended solids (TSS), total hardness, calcium hardness, magnesium hardness, nitrates, phosphates, sulphates, chlorides, DO, etc. Biological parameters include antimicrobial analysis which is used to describe the presence of microbiological organisms and water borne pathogens.

Keeping all the above things in mind and also due to the increasing Water Pollution in different regions of Bilaspur and the Chemistry Department of C.M. Dubey Post Graduate College, Bilaspur, Chhattisgarh has taken the responsibility to analyze the water samples free of cost from different regions of Bilaspur district for its properties on October-2019.

The staff of the Chemistry department had visited PHE lab along with the students of M.Sc. (Chemistry) to learn different water analysis techniques on October 2019 & this industrial visit has proved very beneficial and it helped a lot in Water analysis. For this project 512 water samples were collected by residents from different regions of Bilaspur and these samples were analyzed for different parameters. Along with the samples the information was also collected

from the different regions to which the water sample belongs for its accurate determination and analysis.

Also, peoples living in different areas of Bilaspur, and also peoples of related and nearby areas brought their water samples (Ground water, bore water, tap water etc.) to Chemical lab of C.M. Dubey Post College for its complete analysis. After the collection the whole water sample were analyzed in the chemical lab of Chemistry department in which different were tested like pH, turbidity, conductivity, hardness, antimicrobial effect after 24 and 48 hours with the help of all the members of Chemistry Department. This whole project was done under the supervision of Dr. (Smt). Harsha Sharma (Asst. Professor of Chemistry Department, C.M. Dubey Post Graduate College, Bilaspur (C.G) and Varsha Burman, Pooja Mahobia, Ankita Singh, Preeti Patel, Damini Kaushik, Sanjeeda Khan ,Pramod Painkra and Lab technician Moolchand Soni.

This whole water project was done under the guidance and support of Shri. Sanjay Dubey Sir (Chairman, C.M. Dubey Post Graduate College, Bilaspur (C.G)), and Dr. Sanjay Singh Sir (Principal, C.M. Dubey Post Graduate College, Bilaspur (C.G)). The Whole Chemistry Department is hearty thankful to both of them.

At the end, very successfully this project was accomplished by the chemistry Department and the people were completely satisfied by their reports.

HSharma

PROJECT COORDINATOR:

DR. (SMT). HARSHA SHARMA

DEPARTMENT OF CHEMISTRY

C.M. DUBEY POST GRADUATE COLLEGE,

BILASPUR (C.G)

In-Charge Principal

Incharge Principal
C.M. Dubey P.G. College
Bilaspur (C.G.)

CMD Dubey Post Graduate College

Bilaspur (C.G.)

FREE

DRINKING WATER ANALYSIS

C M DUBEY P G College , Lab Report

बिलासपुर भास्कर

आप जो पानी पी रहे वह साफ है या नहीं, मुफ्त में करा सकेंगे सीएमडी कॉलेज में जांच

स्वास्थ्य विभाग के छात्र करेंगे जांच

अकेले की चाह ने लोगों को भुगतान

List of Beneficiaries

SESSION – 2019 – 2020

S.NO	NAME	MOBILE NO.	ADDRESS	SOURCE	DATE	ID	ANALYSIS
1.	Ankush kumar Singh & Pramod Jha	9340257749	Aadarsh Colony Bilaspur (C.G)	Tap water	18/11/19	1/11/2019	T-394 pH-7.4 Iron-0.97 Hardness-520 - 3.3 Alkalinity-360 Conductivity-.67
		Neg					
2.	Ramesh kumar Sahu	7987712456	Tikrapara, Pandri High court	Bore water	18/11/19	2/11/2019	T-431 pH-7.3 5 mol
		P					
3.	Sunny Pandey	8234950007	Rajendra nagar (Bilaspur)	Tap water	18/11/19	3/11/2019	T-332 pH-7.3 4 mol
		PP					
4.	Santosh kalsonkar	9584387994	Manu chowk (Tikrapara)	Tap water	18/11/19	4/11/2019	T-420 pH=7.2 4.1
		Neg					
5.	R. Shrivastava	9893685911	Tikrapara	Bore water	18/11/19	5/11/2019	T-436 pH-7.0 4.7 Tap water T-426 pH-6.9 4.3
		P					
6.	Vijay yadav	7987753319	Mopka	Bore water	18/11/19	6/11/2019	T-273 pH-7.4
		Neg					
7.	Vishal yadav	7987753319	Lingade chowk	Bore water	18/11/19	7/11/2019	T-498 pH=6.9 5.5
		Neg					

8.	M. k Naidu,	9406193674 9406193674 Neg	Rajiv vihar Gali no-(3)	Bore	water	18/11/2019	8/11/2019	T-383	pH-6.8 4 ml
9.	Shailu yadav	7489609466 Neg	Gokul nagar Ward no. (1), Durg	Bore	water	18/11/2019	9/11/2019	T-459	pH-7.2 5.3
10	Shiv kumar Singh Thakur	9926127285 Neg	Maya Sankand, Bacha para, Gali no. (4)	Tube (self)	well	18/11/2019	10/11/2019	T-352	pH-7.4 3.5
11.	Ramana Murty	9109919002 Neg.	Hemu Nagar, Mima, bhatta	Aqua	guard Colo.	18/11/2019	11/11/2019	T-45 pH-6.8	1.4
12	Ramana Murty	9109919002 Neg	—"—	Bore	water	18/11/2019	12/11/2019	T-481 pH-8.0	5.2 (4.8)
13.	Basant Jaiswal	7002560 88 9926624688 Neg	Anand nagar Bhandari colony Bandhwa para, Sankand, Bsp	Bore	water	18/11/2019	13/11/2019	T-234 pH-7.1	3.7

14.	Dr. Preeti mittal	9826199663	Hush heaven, Ashok nagar, Sarkanda	Bore water	18/11/2019	14/11/2019 T-273 pH - 7.1 4.5 ml
		Neg				
15.	Dr. Vibha Gupta	8827788905	Vinoba Nagar L-10	Bore water, tap water, RO water	18/11/19	15/11/2019 T-420 pH - 7.9 T-443 (Tap water) - 7.7 T-25 pH - 7.2
		Neg				
16.	Sanjay Mishra	9399188987 9826805300	Ajit Apartment Karbala Road Near old high Court, Bilaspur	RO, Bore Water	18/11/19	16/11/2019 T-31 1.2 T-361 4.3 pH - 6.5 (R.O) pH - 7.2 (Bore water)
		Neg				
17	Rajesh Jadhav	6265817690	Sarkanda - Jabdapara	① Gov. Bore ② Shop - tap water	18/11/19	17/11/2019 T-5 pH - 7.3 3.8 T-405 pH - 7.2 4.5
		P				
18.	Balram Gupta	9300795106	Vinoba Nagar	① Tap ② RO	18/11/19	18/11/2019 T-465 pH = 7.4 (6.6) 4.3 T-49 pH = 6.9
		P				
19.	Mukesh Rajput	8889447930	Bilha, Usari	Pond (नल) पानी	18/11/19	19/11/2019 T-186 pH - 6.9 , 2.3
		PP				
20.	Narayan Patel	8982230431	Lodhi para, Sarkanda	Bore H_2O	18/11/19	20/11/2019 T-338 pH - 6.9 3.5
		Neg				
21.	Nandita Yadav	8770841546	Gard Para, BSP	Tap Bore H_2O	18/11/19	21/11/2019 T-239 pH - 7.5 3.5
		PPP				

22.	Vinod singh Khatri	9827185542	Shubham vihar, Mangla Bilaspur	Borewell self	18.11.19	22/11/19	T-305 pH = 7.2 5.2
		Neg					
23/	Robinson	9753788322	Mayapara Bilaspur	① R.O. ② Nigam ③ Borewell	18.11.19	23/11/19	T-57 1.6 T-345 pH - 7.1 8 ml T-420 pH - 6.7
		Neg					
24.	Avinash Patel	9713297155	Chandrik Bilaspur	① Bore self	18.11.19	24/11/19	T-292 2.2 ml pH - 7.8
		Neg					
25/	Nishu Gadhi	9589206266	Dayalband Pagli Chg	Bore self	18-11-19	25/11/19	T-394 pH - 7.5 5 ml
		P					
26	Ram mishra	8889592250	Durgamandir Chow Muhamad Bd	—"—	18-11-19	26/11/19	T-465 pH - 7.0 5 ml
		Neg					
27	Ram Pratap Mishra	9340506458	—"—	—"—	18-11-19	27/11/19	TDS-470 pH - 6.9 4.3
		P					
28	A.K. Mitra	9424143155	Gupta Gali Tikra Para Bd	—"—	18-11-19	28/11/19	TDS-420 4.5 ml pH - 7.2 —"—
		Neg.					
29/	Yogesh Yadav	9691209531	Subham Vihar Uslapur Bd.	—"—	18-11-19	29/11/19	T-317 pH - 7.6 3 ml
		P					
30/	Abhishek Yadav	7869232098	Birkona	—"—	18-11-19	30/11/19	T-237 pH = 7.4 2.7
		Neg					
31/	Arun Sharma		Tikrapara	Nagal Nigam	18-11-19	31/11/19	T-410 (410) pH - 7.3 1.58
		Neg					
32/	Kishor Rajak	8770132798	Police Line PVT.W.	Pvt water Police Line Borewell.	18-11-19	32/11/19	T-318 pH - 7.3 3.1 ml
		Neg					

					Date	ID		PH	
33	Kishor Rajput	8770132798 Neg	Police Line	PVT Water Police line Borewell	19-11-19	33-11-19	T-322	7.6	3.2
34	Ashutosh Chowdhary	8269942633 Neg	Sukanda Bef	Bore Water	19-11-19	34-11-19	T-415	pH - 7.1	4.5
35	Guddu Singh	9827408760 Neg	—"—	—"—	19-11-19	35-11-19	T-65	pH - 6.4	1.7
36	Soft Computer	6260004951 Neg	C.M.D. Chowk Jar Water	Jar water	19-11-19	36-11-19	T-377	pH - 7.7	
37	Manish Jain	9826118003 PP	—"—	Mineral water Home	19-11-19	37-11-19	T-170	pH - 7.6	1.8
38	Suraj Kumar Kalyal	8435627156 Neg	Yadav Nagar Tifin		19-11-19	38-11-19	T-405	pH - 7.1	4.3
39	Jairam Mohan	9589484415 P	Homu Nagar	Tap Water	19-11-19	39-11-19	T-465	pH - 6.8	4.1
40	Chaturbhuj Kumar	9340274923 P Neg	B.O.C. City Mangla	Tap water RO Water	20-11-19	40-11-19	T-219	pH - 7.3	1.5
41	Chaturbhuj	—"— Neg	—"—	—"—	—"—	41-11-19	T-276 (69)	pH - 9.5	5 mS
42	Aksiti Pawar	7879852790 P	Raj Kishor Nagar	RO water I Tap water II	T-D3-28 20-11-19 TDS-431	42-11-19	I-28 II-431	pH - 6.7 pH - 7.2	2.7 4.5
43	K. Chakravarty	94241-54379 PPP	Mahila Thana Link Marajganj	Tap water I Bore water II	20-11-19	43-11-19	T-371 T-(361)	pH = 6.9 pH - 7.1	3.1 4 mS

44	Park Highlands पार्क टाउन	9349781227 Neg	Appa Rao Lingiadih BSP	Bore water I —II— II	19-11-19	44-11-19	II - TDS 007 pH - 7.1 4.7 I - TDS - 361 pH - 7.1 4.5 ml	
45	Prashant Kumar Kalo	8224024962 Neg.	Nirala Nagar Old Bastion BSP	Bore Water	20-11-19	45-11-19	TDS 383 pH - 7.1, 5.2	
46	Rishabh Adwani	8516909236 Neg	Green Park Colony BSP	Bore water	20-11-19	46-11-19	TDS - 426 6 ml pH - 6.9	
47	Gangadhar Rao	8718960222 Neg	Kududand		20-11-19	47-11-19	TDS 271 2.8 pH - 7.6	
48	Shri Jay*	[redacted]						
48	Arun Kaivalya	9993850878 Neg	Sarkanda	Bore. Tap water	20-11-19	48-11-19	pH - 7.6 3.5 ml TDS - 256	
49	R.B. Lal	9755484721 Neg	Hemu Nagar	Bore water	21-11-19	49-11-19	TDS 428 pH = 7.0 5 ml	
50	Varsha Yadav	9691845242 Neg	Vidya Nagar	Tap water Nagar Nigam	21-11-19	50-11-19	TDS 389 pH = 7.5	
51	Khirodini Patel	9617624725 Neg	Punjabi Colony Dagalband	Bore water	21-11-19	51-11-19	TDS 448 pH = 6.5	
52	Shamim Ahmad	9907934179 Neg	Kalandi Kunj Rajkand No 2	I - Filter II - Pump III - Tunky	21-11-19	52-11-19	TDS 45 pH - 7.1 1.2 TDS 295 pH - 7.7 - 5.7 TDS - 306 pH - 7.2 4.5	
53	Hemlal	7489334033 Neg	(Simti)	Bore water	21-11-19	53-11-19	TDS - 420 pH - 6.8	
54	M.S. Alam	9399409140 Neg	Deori Khurd BSP	Bore water	21-11-19	54-11-19	TDS - 335 pH - 7.1	

55	Dr. H.L. Agrawal	Neg	C.m.D	A –	21-11-19	55-11-19	~~TDS-385~~ pH → 7.8
				N –			TDS 377 pH → 7.9
56	D. Nath	9752440879 Neg	J.P. Park Tarun Bsp	Bore water			(Log interrupted)
					21-11-19	56-11-19	TDS-503, pH = 6.4, 6.5 mV
57	Pro-Pal. Bhojcaha Rly	— Neg	MDTC Bsp S.E.C Rly	—	21-11-19	57-11-19	TDS-498 5.8
58	Dipika Patel	7974159315 Neg	Im Wlpara	—	21-11-19	58-11-19	TDS-338 3.2 pH. 6.6
59	Pawan Patel	9007954342 PPP	Karbala Road.	—	21-11-19	59-11-19	TDS-318
60	Meena Bai	Neg	Dilipara	Tapwater	21-11-19	60-11-19	TDS-479 pH = 6.9
61	Janlul Patel	9907977427 Neg	Tikrapara	R.O	22/11/19	61/11/19	TDS-325 pH = 6.4
62	Awdesh Kaushik	9977141061 Neg	Rajendra Nagar,	Tap Water	22/11/19	62/11/19	~~TDS-308~~ pH = 7.4
63	A.K. Dwivedi	94255 44486 Neg	Agra Nagar	R.O water	22/11/19	63/11/19	TDS-25 pH = 7.3
64	Prain Kumar	Neg	C.m.D	I Borewater Tapwater II	23-11-19	64/11/19	I – TDS-298 pH = 7.0 II – TDS-317
65	Rashid Ali	9926137458 Neg	—	Bore water	23-11-19	65/11/19	TDS-287. pH = 7.3

66	M. Sami Imlipara	9981048186 NEG	CMD	R.O. Water
67	P.A. to Principal. Banjarbhum Bass	PPP	C'MD	

Page No.
Date :

2019-20.

List of Water Analysis.

Water Analysis Process

Sl.	Name	Type of Sample water	Colour	Odour	Turbidity	pH	Conductivity	Total Alkalinity	TDS	Total Hardness	Iron	Bacteria	Remark
1.	Ankush Singh Adarsh Colony 8P 9340257749		2.3	odourless	2.62	7.4	.67	360	394	253	.27	+ve	
2.	Ramesh Sahu Tikra Pa 4 7987712456	Ground W	2.29	odourless	2.37	7.3	.42	342	431	384.6	.29	+ve	
3.	Sunny Pandey Rajendra Nagar 8234950007	Tap water	2.22	odourless	1.92	7.3	.88	353	332	307.6	.35	++	
4.	Santosh Sankar Manoj Shaw Tikra 9584387949	Tap water	2.59	—"—	2.23	7.2	.37	392	420	315.3	.23	-ve	
5.	R. Shrivastava Tikrapara Tikra 9893635911	Ground W	2.31 2.29	—"— —"—	2.89 2.31	7.0 6.9	.41 .39	402 398	436 426	361.5 330.7	.21 .23	+ve	
6	Vijay Yadav Mopka 7987753319	Ground W	1.9	—"—	1.72	7.4	.31	228	273	380	.21	-ve	
7	Vishal Yadav Mopka Lingiyadih Shaul 7987753319	Ground W	2.7	—"—	3.10	6.9	4.3	418	498	423.07	.23	-ve	
8	M.K. Naidu Rajiv Vihar 9406193671	Ground W	2.52	—"—	2.58	6.8	.33	354	387	307.6	2.3	-ve	

Sr	Name	Type of Sample	Colour	Odour	Turbidity	pH	Conductivity	Total Alkalinity	TDS	Total Hardness	Iron	Bacteria	Remark
9.	Shailu Yadav	Ground	2.4	Odourless Non object	2.89	7.2	.47	190	459	330.7	.207	-ve	
10	Shiv Kumar Singh	Tubewell	2.1	-11-	~~1.72~~ 2.73	7.4	.29	210	357	269.2	.109	-ve	
11	Ramana Murty	Aquaguard	.98	-11-	1.1 ~~2.97~~	6.8	.19	185	45	107.6	.100	-ve	
12	B	Groundwater	2.5	-11-	2.97	8.0	.49	190	481	369.2	.201	-ve	
13	Basant Jaiswal	Ground water ~~Aquaguard~~	2.1	-11-	1.9	7.1	.21	180	234	284.60	2.09	-ve	
13		Groundwater											
14	Dr. Priti Mittal	Ground water	2.2	-11-	1.88	7.1	.23	181	273	346.14	~~1.7~~ .17	-ve	
15	Dr. Vibha Goyal	Ground	2.7	-11-	2.83	7.3	.41	192	420	343.3	~~2.9~~ .23	-ve	
16		Tap	2.9	-11-	2.89	7.7	.43	195	443	419.5	0.33	-ve	
17		RO	0.3	-11-	0.91	7.2	.09	190	25		~~0.9~~ .1	-ve	
18	Dr. Sanjay Mishra	RO	0.39	-11-	.83	6.5	.08	170	31	92	0.8		
19		Groundwater	2.2	-11-	2.35	7.2	.27	190	361	330.75	0.92	-ve	
20	Rajesh Jadwani	Ground	0.1	-11-	.12	7.3	.28	192	481	292	.919	+ve	
21		Tapwater	2.1	-11-	2.81	7.2	.23	190	405	346.1	~~0.99~~ .23	-ve	

S.N.	Name	Type of Sample water	Colour	Odour	Turbidity	pH	Conductivity	Total alkalinity	TDS	Total Hardness	Iron	Bactria	Remarks
22	Balram Gupta	Tap W.	2.5	Non objection	2.90	6.6	.43	175	465	330.7	.19	+ve	
23		R.O.	.94	—"—	.99	6.9	.19	154	49	69.228	.1	-ve	
24	Mukesh Rajput	Pond	8.7	Objection	4.43	6.9	1.19	178	186	176.916	.52	++ve	
25	Narayan Patel	Ground	2.6	—"—	2.9	6.9	.67	189	338	269.22	.108	-ve	
26	Nandita Yadav	Tap W	2.1	—"—	1.52	7.5	.93	250	239	215	.112	+++	
27	Vinod Singh Kshatri	Ground	2.5	—"—	2.19	7.2	.83	190	305	399.9	.109	-ve	
28													
29													
28	Robinson	R.O.	1.0	—"—	1.01	-	.13	55	57	123.07	.04		
29		Nigam	2.7	—"—	2.45	7.1	.68	172	345	65.3	.14		
30		Ground	2.59	—"—	2.82	6.7	7.23	195	420	384	.21	-ve	
31	Avinash Patel	Ground	2.0	—"—	1.79	7.8	.43	240	282	169.2	.12	-ve	
32	Nishu Gandhi	Ground	2.3	—"—	2.82	7.6	.62	250	394	384.6	.19	+ve	

SN	Name	Type of Sample water	Colour	Odour	Turbidity	pH	Conductivity	Total Alkalinity	TDS	Total Hardness	Iron	Bacteria	Remarks
33	Ram Mishra	Ground	2.6	Non objection	2.89	7.0	.43	188	465	384.6	.13	-ve	
34	Ram Pratap Mishra	Ground	2.63	-||-	2.91	6.9	.41	184	470	380.7	.2,81	+ve	
35	A.K. Mishra	Ground	2.59	-||-	2.25	7.2	.39	190	420	346.14	2,48	-ve	
36	Yogesh Yadav	Ground	2.62	-||-	2.19	7.6	.63	167	317	230.7	1,92	+ve	
37	Abhishek ~~Yogesh~~ Yadav	Ground	1.82	-||-	1.51	7.4		210	237	207.6	1,52	-ve	
38	Arun Sharma	Tap Nagar Nigam	2.2	-||-	2.19	7.3	.43	181	410	446.13	1,98	-ve	
39	Kishore Rajpoot	Ground	2.6	-||-	2.19	7.3	.39	~~190~~ 198	318	238.4	1,53	+ve	
40		Ground			2.21	7.6	.39	200	322	246.14	1,62	-ve	
41	Aashutosh Chaurasiya	Ground	2.52	-||-	2.21	7.1	.43	192	415	346.14	1,92	-ve	

SN	Name	Source of Sample water	Colour	Odour	Turbidity	pH	Conductivity	Total Alkalinity	TDS	Total Hardness	Iron	Bacteria	Remarks
42	Guddu Singh	~~Ground~~ RO	1.21	Non objectable	1.1	6.4	.39	60	65	130.76	.1.12	-ve	
43	Soft Computer	Jar Water	2.3	-||-	2.52	7.7	.43	248	377	384.6	.1.87	-ve	
44	Manish Jain	Mineral (R.O)	1.6	-||-	1.42	7.6	.41	200	170	138.45	.96	++	
45	Suraj Kashyap		2.12	-||-	2.33	7.1	.63	284	405	330.75	.2.13	-ve	
46	Jairam Meshram	Tap N.M.	2.62	-||-	2.90	6.8	.39	289	465	315.37	2.20	+ve	
47	Chaturbhuj Kumar	Tap W.	1.61	-||-	1.48	7.3	.41	196	219	384.6	.1.79	+ve	
48		R.O	1.26	-||-	1.19	9.5	.39	62	69	115.38	.92	-ve	
49	Aakriti Pasuan	R.O	.28	-||-	0.09	6.7	.43	43	28	207.68	0.28	-ve	
50		Tap	3.01	-||-	2.83	7.2	.91	198	431	346.14	.1.48	+ve	
51	K. Chakravarty	Tap Water	2.29	-||-	2.5	6.9	.41	182	371	238.45	.1.59	~~+ve~~	
52		Ground	2.2	-||-	2.55	7.1	.39	180	361	307.68	.1.64	~~-ve~~	

S.N	Name	Source of Sample taken	Colour	Odour	Turbidity	pH	Conductivity	Total Alkalinity	TDS	Total Hardness	Iron	Bacteria	Remarks
53	Pearl Heights	Ground (1)	0.08	Non objectionable	.021	7.1	.34	24	007	361.52	.12	-ve	
54		Ground (2)	2.25	-||-	2.23	7.1	.38	158	361	346.14	.1,43		
55	Prashant Ku. Kalo	Ground	3.01	-||-	2.63	7.1	.29	167	383	399.9	.1,79	-ve	
56	Rishabh Adwani	Ground	2.6	-||-	2.79	6.9	.37	194	426	461.52	.1,93	-ve	
57	Gajadhar Rao		1.92	-||-	~~2.7~~ 1.78	7.6	.33	260	271	215.37	.1,63	-ve	
58	Arun Kaiwartya	Ground	1.8	-||-	1.63	7.6	.29	200	256	269.22	.1,78	-ve	
59	R.B. Lal	Ground	2.6	-||-	2.81	7.0	.39	194	428	384.6	.1,32	-ve	
60	Varsha Yadav	Tap (NN)	3.1	-||-	2.78	7.5	.34	250	389	346.14	.1,67	-ve	
61	Khirodini Patel	Ground	2.8	-||-	2.89	6.5	.36	197	448	384.6	.1,42	-ve	

SN	Name	Source of Sample	Colour	Odour	Turbidity	pH	Conductivity	Total Alkalinity	TDS	Total Hardness	Iron	Bactria	Remark
62	Shamim Ahmed	Filter	.92	Non object	.97	7.1	.19	42	.45	92.90	.77	-ve	
63		Pump	2.1	-||-	1.87	7.7	.33	230	295	438.44	.1,44	-ve	
64		Tank	2.5	-||-	2.19	7.2	.39	190	306	346.14	.1,59	-ve	
65	Hemlal Kashyap	Ground	2.59	-||-	2.13	6.8	.29	187	420	423.06	.1,73	-ve	
66	M.S. Alam	Ground	2.6	-||-	2.23	7.1	.31	192	336	407.67	.1,54	-ve	
67	H.L. Agrawal	A-	2.72	-||-	2.33	7.8	.28	240	383	346.14	1,62	-ve	
68		N-	2.83	-||-	2.29	7.9	.29	210	377	384.6	.1,65	-ve	
69	D. Nath	Ground	3.91	-||-	3.19	6.9	.31	282	503	499.98	.2,07	-ve	
70	Principal, Railway	Ground	3.90	-||-	~~3.69~~ 3.09	6.0	.39	278	498	446.13	2,12	-ve	
71	Dipika Patel	Ground	2.7	-||-	2.42	6.6	.23	186	338	246.14	.1,93	-ve	
72	~~Pawan Patel~~ S.K. Gupta	Ground	2.6	-||-	2.19	6.7	.29	148	318	346.14	.1,88	+++	

SN	Name	Source of water	Colour	Odour	Turbidity	pH	Conductivity	Total Alkalinity	TDS	Total Hardness	Iron	Bacteria	Remark
73	Meena Bai	Tapwater	3.2	Non-objec	2.98	6.8	.34	187	479	384.6	1.94	-ve	
74	Janhvi Patel	R.O.	2.5	-"-	2.21	6.4	.41	196	325	384	2.1	-ve	
75	Awadesh Kaushik	Tapwater	2.31	-"-	2.17	7.4	.34	192	308	323.06	2.17	-ve	
76	A.K. Dwivedi	R.O.	0.03	-"-	0.91	7.3	.43	38	25	423.06	.03	-ve	
77	Pravin Kumar	Ground	2.1	-"-	1.96	7.0	.39	185	298	253.8	~~1.19~~ .2.32	-ve	
78		Tap	2.7	-"-	2.12	7.1	.41	193	317	246.12	.19		
79	Rashid Ahmed Khan Yakuwarden Nagar Tifra, Bilaspur 9926127458	Ground	2.1	-"-	0.91	7.3	.39	173	287	346.14	.21	-ve	
80	M. Soni ~~Premshu Bais~~	R.O.	0.03	-"-	0.92	7.1	.41	37	26	230.76	.19	-ve	
81	Premshu Bais			-"-		7.0	.39	188	269	538.42	.21	+++	

SN.	Name	Source of water	Colour	Odour	Turbidity	pH	Conductivity	Total Alkalinity	TDS	Total hardness	Iron	Bacteria	Remark
82	K.S. Awasthi Dipu park 9300312505	Ground water	3.2	odourless	2.87	6.5	.39	132	408	692.28 ~~408~~ ~~692.28~~	.19	+ive	
83	K.S. Awasthi Dipu park 9300312505	Tap water from mun.	3.1	—"—	2.76	6.6	.41	127	408	~~408~~ 561.5	.21	+ve	
84	Mahendra Kumar Rathore Vikrandham Nagar Mangla 9907422903	Ground water	3.7	—"—	2.12	6.5	.43	112	312	~~37~~ 538.44	.21	+ive	
85)	Dr. T.K. Day Chanhidil 7999848986	Tap water	3.9	—"—	2.56	6.8	.41	153	384	328	.23	-ve	
		Filter water (Candle water)	2.51	—"—	2.33	7.2	.39	109	328	319	.21	-ve	
(86)	Rakesh Singh Gautam	Well water	2.8	—"—	1.7	5.9	.43	127	346	192.8	.07	-ve	
87	Rubi verma	Tap water	4.42	—"—	4.8	5.9	1.43		629	1,153.8	1.3		
88	Rubi verma (9893296158) (C.M.O)	Well water	3.51	—"—	3.1	6.5	.39		415	515.364	.99	+ive	
89	A.K. Dwivedi 9425544786	Tap water	3.23	—"—	3.4	6.8	.79		448	538.44	.07	-ve	
90	Ranjit Singh 9826772471	Tap water	2.53	—"—	1.65	6.5	.43		~~389~~ 388	~~176.916~~ 176.91	~~.03~~ .03	~~+ve~~ +ve	

	Name	Source	Colour	odour	Turbidity	pH	Conductivity	Total alkalinity	TDS	Total Hardness	Iron	Bacteria	Remark
91	Diwakar Singh (Dayalbaug) BJP 7898664331	Bore water (self)	2.31	odourless	2.9	6.7 ~~6.7~~	.19	158	377	323	.13	-ve	
92	Vidyadhar pandey Coat Tapwater 9827932502	Tap water	1.9	-11-	2.8	6.3	.26	165	528 ~~[illegible]~~	200.58	.09	-ve	
93	Vidyadhar pandey 9827932502	Handpump	1.2	-11-	3.1	6.6	.18	237	678	460.59	.13	-ve	
94	Dr. Aditya Dubey	R.O	.09	-11-	.91	7.4	.24	36	50	111.3	.08	-ve	
95	Dr Aditya Dubey	MOTOR	1.03	-11-	1.63	6.1	.36	243	327	297.16	.21	-ve	
96	Dr. Aditya Dubey	Tap	1.19	-11-	1.96	6.1	.41	290	328	282.3	.21	-ve	
97	SANJEEV KUMAR Gaur Colony Yadunandan Nagar Tikra 8085308553	Tubewell water	1.21	-11-	2.1	6.3	.22	145	305	289.73	.19	-ve	
98	R.R. MAGHAR CHANDELA NAGAR 9425297467	Bore water	1.4	-11-	1.96	6.7	.26	186	397	312.01	.16	-ve	

	Name	Source	Colour	Odour	Turbidity	pH	Conductivity	Total alkalinity	TDS	Hardness	Iron	Bactria	Remarks
99	K.L. Yadav Tikrepam 9691466093	Bore Water	4.51	No specific odour	4.4	6.3	1.43	182	662	1188	.03	+ve	

FREE
DRINKING WATER ANALYSIS
C M DUBEY P G College , Lab Report

Name of The Sample Collector & Depositor- M.K. Naidu

Date of Sample received in lab- 18-11-19

Area - Gali NO. 3, Rajiv Vihar, Bilaspur

Sample Number- 08

Water Type-- Ground water from borewell

Date of analysis -

S N	Characteristic	Unit	Permissible Limit	Cause for rejection	Remark
1	COLOUR	Pt-cobalt scale	5.0	25	2.52
2	ODOUR	----	odourless	objectionable	No specific odour
3	TURBIDITY	N T U	1.0	5.0	2.58
4	Conductivity	Micromhos/cm			33
5	Total Alkalinity	mg/l	200	600	354
6	T D S	mg/l	500 mg/Liter		383
7	TOTAL HARDNESS	mg/l	200 ppm	600	307
8	IRON	Mg/l	0.3	1	~~.23~~ .23
9	pH	pH scale	6.5---8.5	< 6.5 or >9.2	6.8
10	Bacteria	After 24 Hr			-ve
		After 48 Hr			-ve

Remarks-----Water is potable/ ~~not potable~~ as per tested parameters

The above findings are true to our ability but we do not take any responsibility for the authenticity of the report.

For further confirmation please contact the government authorized laboratory.

Tested By : HSharma

Dr (Smt.) Harsha Sharma

And her team member

[Varsha Burman, Pooja Mahobia, Damini kaushik, Preeti Patel, Sanjeeda Khan, Pramod Painkra and lab technician Moolchand Soni]

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(ESTD.1956)

C.M. Dubey Post Graduate College, Bilaspur (C.G.)

'NAAC Accredited 'A', UGC declared college having 'Potential for Excellence'

A constituent College of Atal Bihari Vajpayee Vishwavidyalaya, Bilaspur (Chhattisgarh)

DETAILED PROJECT/ACTIVITIES REPORT OF DEPARTMENT OF CHEMISTRY

C.M. DUBEY POST GRADUATE COLLEGE, BILASPUR (C.G)

(SESSION – 2019-2020)

TITLE OF THE PROJECT: "PREPARATION OF HERBAL AND CHEMICAL HAND SANITIZER"

PROJECT BACKGROUND: –

As we all know that Hand Sanitizer is a liquid gel generally used to decrease infectious agents on the hand.

During this Pandemic Period of COVID-19 which reached India on 30th January 2020 and on this day the first COVID-19 case was reported. Various routes have been used by Indian Government, WHO, the ministry of Ayush to decrease the effect of this novel Corona Virus, like maintaining social distance, washing hands for 20 seconds, using masks and gloves and also using hand Sanitizers.

Hand Sanitizer is used as a disinfectant. In most healthcare setting, alcohol-based hand sanitizer is preferable for hand washing, reason include it being better tolerated and are more effective at reducing bacteria. Hand washing with soap and water however, should be carried out if contamination can be seen or following the use of toilet. Non-alcohol-based hand sanitizers has no recommendations

Looking to the pandemic and non-availability of the sanitizer in the market the Chemical Association of C.M. Dubey Post Graduate College, Bilaspur (C.G) on March 2019-20 has taken the responsibility to prepare Homemade Herbal and Chemical Sanitizer to **serve the society** and also to **bring chemistry into practical use.**. Dr. Harsha Sharma of the department decided to make sanitizer in the chemistry lab.. The principal played a vital role in this project.

OBJECTIVES OF THE PROJECT: -

1. To help the Students and needy peoples in this pandemic time
2. To serve the society
3. To make sanitizer at cheaper cost since it was unavailable or available at very high rate
4. To find the potential of sanitizers in medical and chemical field.
5. To make people aware of using hand sanitizer .
6. Use of chemistry in daily life

DESCRIPTION-

Using the required ingredients, the Homemade Herbal and Chemical Sanitizer were prepared in the Chemistry lab of C.M.D. P.G. College on March 2019-2020, and both of these sanitizers proved very successful in market and in chemical and medical field.

The Alcohol used here in both the sanitizers are typically a combination of isopropyl alcohol, ethanol (ethyl alcohol) or n-propanol with version containing 60 to 95% of alcohol and it is proved to be more effective. Care should be taken or they may be inflammable. Alcohol based hand sanitizers worked against various microorganisms. Compounds such as Glycerin is added to prevent the drying of the skin. Vitamin-E is used to reduce bacteria on skin and also reduces skin itching.

Lavender and sandalwood oil were used to kill number of germs responsible for cold, flu and other illness. Aloe vera contain some agents which is used to inhibit fungi, bacteria and virus. Chloroxylenol is an antimicrobial ingredient that is frequently used as an antiseptic/disinfectant for skin.

Thus, by knowing the potentials of above ingredients the two homemade herbal and chemical sanitizer were prepared in the chemistry lab of C.M. Dubey Post graduate college, Bilaspur (C.G) and it was proved very effective and successful in the market.

COVID-19 is the major reason due to which the Chemistry department of C.M. Dubey Post Graduate has decided to self-prepare Herbal and Chemical Sanitizer.

Another major reason of taking this step is the scarcity of the sanitizer in the market and also the cost of sanitizer which is so high that a poor people are unable to afford, the sellers were also selling this sanitizer in black. So, due to this reason Chemistry department of C.M. Dubey post graduate College has decided to self-prepare sanitizer and masks also, as much as they can and distribute to all the needy and poor peoples.

The Guidance and financial support were provided by **Shri Sanjay Dubey Sir. (Chairman, C.M. Dubey Post Graduate College, Bilaspur (C.G)), & Shri. Sanjay Singh Sir, (Principal, C.M. Dubey Post Graduate College, Bilaspur (C.G)).** We the whole Chemistry department are Hearty thankful for their support.

PROJECT COORDINATOR-

Dr.(Smt) Harsha Sharma
Department Of Chemistry
C.M. Dubey Post Graduate College,
Bilaspur (C.G)

Incharge Principal
Incharge Principal
C.M. Dubey P.G. College
Bilaspur (C.G.)

Preparation of Sanitizer in the Chemistry lab of C.M. Dubey Post Graduate College, Bilaspur (C.G) by Dr. Smt. Harsha Sharma (Asst. Professor, C.M. Dubey Post Graduate College, Bilaspur (C.G)).

अल्कोहल, एलोवेरा जेल, चंदन आयल विटामिन ई, ग्लिसरीन से बना सेनेटाइजर

सीएमडी कॉलेज की प्रयोगशाला में बनाया गया होमलेड हर्बल सेनेटाइजर

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https://www.facebook.com/watch/?v=707964366678062

https://m.facebook.com/story.php?story_fbid=145910400348320&id=100047880825274&sfnsn=wiwspmo

Best Practice 02

Promoting Learner-Centric Pedagogy through Computers

The Objective:

The last decade of the 20th century has been a significant period in terms of rapid growth in technology. Technology has become the most effective tool in all the spheres of life and education tops the list. Significant change in the mode of learning and teaching are being adopted and therefore it becomes mandatory for every institution to apprise their faculty and students and to meet the challenges. It was felt to make them digitally literate for the new mode of teaching. ICT tools are used to communicate, create, disseminate, store, and manage information.

The Context:

The profuse use of ICT in education has made it a new way of learning for students and teachers. Tremendous material can be accessed both by the faculty and students who can use this tool. Keeping this in mind, 2019-20 was earmarked for training the faculty and the students to be comfortable and compatible with laptops and computers. The teachers trained to be digitally literate and trained to use ICT, these approaches can lead to higher order thinking skills, provide creative and individualized options for students to express their understandings, and leave students better prepared to deal with ongoing technological change in society and the workplace. Learning about computers and the Internet which is necessary when technological literacy is the end goal. The technology facilitates learning across the curriculum and integrating technological skill development with curriculum applications.

The Practice:

At the very beginning of the session, briefing sessions were held by Dr S Pavni, Head of Computer Department, to carry out the orientation program in various batches for the faculty. It started with the basics which was to ensure the proper use of computer and its parts. Training included the following steps-

1. Basics which was to ensure the proper use of computer and its parts.
2. Navigate the operating system and start application.
3. Basic function in Word and Spreadsheet.
4. Operate Google, Zoom etc.
5. Receive and send email.
6. To manage online class on Google meet, Zoom, Webex etc.

The unprecedented events of Pandemic made it possible for us to put into practice what we had learned throughout the year and introduced us to a new era of online teaching. At the time of total lockdown that is from 22nd March 2020, we could conduct our online classes for PG II and IV Semester, unhampered as all the faculty was competent enough to use this mode of teaching. The student's future was not jeopardized, and continuous classes not only gave them academic requirement but also fulfilled the means of release of mental turmoil. The faculty mentored and catered to their emotional, mental, and stressful ordeal of pandemic hard times. It was during this; all the faculty could prepare online lectures as directed by the Chhattisgarh Higher Education and the University. These lectures are uploaded on the site of Chhattisgarh *Pathshala* website, University website and College website for the benefit of the students. It was during this the faculty of various Department also conducted online Value- added courses.

Evidence of Success:

- Enhanced the modes of communication.
- Cost-efficient.
- Paperless: Eliminate the usage of paper. ...
- Better teaching and learning methods.
- Enhanced data and information security.
- Minimize cost and save time.
- Easy student management.
- Automatic solutions to manual paper-based process and procedures.
- Ability to conduct Examinations online.
- Ability to share notes, projects etc in online mode.


C.M Dubey Post Graduate
Under The Aegis Of Department
TWO DAY
DIGITA
Date - 29th - 30th
November
C.M. Dubey Post Graduate
College, Bilaspur
Digital Marketing


REDMI NOTE 8 PRO
64MP QUAD CAMERA


REVIEW OF LITERATURE