AMOLAKCHAND MAHAVIDYALAYA, YAVATMAL

BEST PRACTICES 2021-2022

1. **Title: "Water Analysis Practice for Societal Welfare"**

2. **Objectives:** Determine water quality for drinking, irrigation, and industrial use. Identify and quantify pollutants for environmental impact assessment. Provide students with practical experience and research opportunities. Trace pollutant origins for effective pollution control. Develop methods for treating contaminated water. Safeguard public health by monitoring harmful substances.

3. **Context:** Addressed region-specific needs and challenging issues. Ensured advanced equipment and trained personnel availability. Maintained precise results through calibration and maintenance. Secured sample storage to prevent contamination. Addressed environmental impacts and disposal of hazardous waste. Implemented SOPs for consistency, reproducibility, and safety.

4. **Practice:** Systematic testing and evaluation of water samples. Studied physical, chemical, and biological properties. Collected samples from various sources. Used sophisticated instruments for analysis. Determined pH, checked colour, turbidity, and odour. Conducted chemical tests for contaminants. Analysed data, compared with standards, and prepared reports. Followed safety protocols for accuracy.

5. **Constraints:** Lack of advanced lab equipment and infrastructure. Financial strain due to reagents, consumables, and maintenance.

6. **Evidence of Success:** Analysed 38 samples in 92 days, showcasing efficiency. Received positive feedback and results in the review. 230 B.Sc. students acquired essential water analysis skills.

Resources Required and Problems Encountered: Required: Lab space, skilled team, analytical instruments, reagents, documentation, budget. Problems: Lack of resources, proper sample collection, skilled technicians, time efficiency, maintenance.

Notes: Institute emphasizes values, academic integrity, diversity, and inclusion. Implements best practices for teaching methods, student engagement, and transparent communication.

AMOLAKCHAND MAHAVIDYALAYA, YAVATMAL

DEPARTMENT OF CHEMISTRY

A REPORT

on

Analysis of Water Parameters

Session 2021-22

Amolakchand Mahavidyalaya, Yavatmal

Department of Chemistry

Analysis of Bore/well water

Sample:- 38

Name of Student:- Durgesh S. Kove

Class:- BSc III

Location:- Chandore Nagar

Sr. No.	Parameter	Result
1.	pH	7.0
2.	Temperature	26° C
3.	Total solids	10.7 mg/lit
4.	Color	Colourless
5.	Total Hardness	106 mg/l
6.	Calcium hardness	76 mg/l
7.	Magnesium hardness	30 mg/l
8.	Turbidity	2000 NTU = 002, 200 NTU =2.3
9.	Conductivity	0.74 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 37

Name of Student:- Gayatri A. Kapse

Class:- BSc III

Location:- Darda Nagar

Sr. No.	Parameter	Result
1.	pH	6.9
2.	Temperature	26° C
3.	Total solids	10.3 mg/lit
4.	Color	Colourless
5.	Total Hardness	104 mg/l
6.	Calcium hardness	76 mg/l
7.	Magnesium hardness	32 mg/l
8.	Turbidity	2000 NTU = 002, 200 NTU =2.7
9.	Conductivity	0.76 µ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 36

Name of Student:- Pranay V. Khobragade

Class:- BSc III

Location:- Patipura

Sr. No.	Parameter	Result
1.	pH	7.1
2.	Temperature	26° C
3.	Total solids	10.8 mg/lit
4.	Color	Colourless
5.	Total Hardness	102 mg/l
6.	Calcium hardness	74 mg/l
7.	Magnesium hardness	28 mg/l
8.	Turbidity	2000 NTU = 002, 200 NTU =2.6
9.	Conductivity	0.69 µ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 35

Name of Student:- Radhika R. Kidey

Class:- BSc III

Location:- Abhyankar Nagar

Sr. No.	Parameter	Result
1.	pH	6.7
2.	Temperature	26° C
3.	Total solids	10.3 mg/lit
4.	Color	Colourless
5.	Total Hardness	103 mg/l
6.	Calcium hardness	70 mg/l
7.	Magnesium hardness	33 mg/l
8.	Turbidity	2000 NTU = 002, 200 NTU =2.4
9.	Conductivity	0.76 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 34

Name of Student:- Priti D. Thakare

Class:- BSc III

Location:- Bajoriya Nagar

Sr. No.	Parameter	Result
1.	pH	6.9
2.	Temperature	26° C
3.	Total solids	10.8 mg/lit
4.	Color	Colourless
5.	Total Hardness	102 mg/l
6.	Calcium hardness	72 mg/l
7.	Magnesium hardness	30 mg/l
8.	Turbidity	2000 NTU = 002, 200 NTU =2.2
9.	Conductivity	0.76 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 33

Name of Student:- Nachiket Chaudhary

Class:- BSc III

Location:- Tilak wadi

Sr. No.	Parameter	Result
1.	pH	6.9
2.	Temperature	25° C
3.	Total solids	10.6 mg/lit
4.	Color	Colourless
5.	Total Hardness	104 mg/l
6.	Calcium hardness	73 mg/l
7.	Magnesium hardness	31 mg/l
8.	Turbidity	2000 NTU = 002, 200 NTU =2.0
9.	Conductivity	0.63 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 32

Name of Student:- Rohit N. Rathod

Class:- BSc III

Location:- Rathod Lay-out

Sr. No.	Parameter	Result
1.	pH	6.9
2.	Temperature	25° C
3.	Total solids	10.7 mg/lit
4.	Color	Colourless
5.	Total Hardness	106 mg/l
6.	Calcium hardness	74 mg/l
7.	Magnesium hardness	32 mg/l
8.	Turbidity	2000 NTU = 002, 200 NTU =2.4
9.	Conductivity	0.76 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 31

Name of Student:- Rohan D. Zamare

Class:- BSc III

Location:- Bajoriya Nagar

Sr. No.	Parameter	Result
1.	pH	6.6
2.	Temperature	26° C
3.	Total solids	10.9 mg/lit
4.	Color	Colourless
5.	Total Hardness	107 mg/l
6.	Calcium hardness	76 mg/l
7.	Magnesium hardness	31 mg/l
8.	Turbidity	2000 NTU = 002, 200 NTU =2.1
9.	Conductivity	0.66 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 30

Name of Student:- Rohan D. Zamare

Class:- BSc III

Location:- Bajoriya Nagar

Sr. No.	Parameter	Result
1.	pH	6.6
2.	Temperature	26° C
3.	Total solids	10.9 mg/lit
4.	Color	Colourless
5.	Total Hardness	107 mg/l
6.	Calcium hardness	76 mg/l
7.	Magnesium hardness	31 mg/l
8.	Turbidity	2000 NTU = 002, 200 NTU =2.1
9.	Conductivity	0.66 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 29

Name of Student:- Prachi C. Gaikwad

Class:- BSc III

Location:- Anand Nagar

Sr. No.	Parameter	Result
1.	pH	7.1
2.	Temperature	26° C
3.	Total solids	10.1 mg/lit
4.	Color	Colourless
5.	Total Hardness	101 mg/l
6.	Calcium hardness	72 mg/l
7.	Magnesium hardness	29 mg/l
8.	Turbidity	2000 NTU = 002, 200 NTU =2.5
9.	Conductivity	0.71 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 28

Name of Student:- Mahesh S. Ade

Class:- BSc III

Location:- Lohara

Sr. No.	Parameter	Result
1.	pH	7.3
2.	Temperature	27° C
3.	Total solids	10.3 mg/lit
4.	Color	Colourless
5.	Total Hardness	103 mg/l
6.	Calcium hardness	76 mg/l
7.	Magnesium hardness	27 mg/l
8.	Turbidity	2000 NTU = 002, 200 NTU =2.1
9.	Conductivity	0.74 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 1

Name of student:- Zoya Jannat Sayed Sahd Ahmed

Class:- B.Sc. III year

Location:- Kalamb Chowk

Sr. No.	Parameter	Result
1.	pH	7.6
2.	Temperature	26°C
3.	Total solids	11.5 mg/lit
4.	Color	Colourless
5.	Total Hardness	105 mg/l
6.	Calcium hardness	72 mg/l
7.	Magnesium Hardness	23 mg/l
8.	Turbidity	2000 NTU = 002 , 200 NTU = 2.6
9.	Conductivity	0.74 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 2

Location:- Lohara

Name of student:- Achal Prakash Wankhade

Class:- B.Sc. III year

Sr. No.	Parameter	Result
1.	pH	7.7
2.	Temperature	25°C
3.	Total solids	10.5 mg/lit
4.	Color	Colourless
5.	Total Hardness	107 mg/l
6.	Calcium hardness	72 mg/l
7.	Magnesium Hardness	21 mg/l
8.	Turbidity	2000 NTU =1.5 , 200 NTU = 14.5
9.	Conductivity	0.85 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 3

Name of student:- Tejaswini Naresh Kaikade

Class:- B.Sc. III year

Location:- Babhulgaon

Sr. No.	Parameter	Result
1.	pH	7.7
2.	Temperature	25°C
3.	Total solids	10.9 mg/lit
4.	Color	Colourless
5.	Total Hardness	106 mg/l
6.	Calcium hardness	65 mg/l
7.	Magnesium Hardness	29 mg/l
8.	Turbidity	2000 NTU = 002 , 200 NTU = 12.6
9.	Conductivity	0.83 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 4

Name of student:- Jaydeep Ade

Class:- B.Sc. III year

Location:- Kalamb

Sr. No.	Parameter	Result
1.	pH	7.6
2.	Temperature	25°C
3.	Total solids	11.9 mg/lit
4.	Color	Colourless
5.	Total Hardness	105 mg/l
6.	Calcium hardness	72 mg/l
7.	Magnesium Hardness	26 mg/l
8.	Turbidity	2000 NTU = 002 , 200 NTU = 11.6
9.	Conductivity	0.90 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 5

Name of student:- Rutik Prakash Bhongade

Class:- B.Sc. III year

Location:- Lohara

Sr. No.	Parameter	Result
1.	pH	7.3
2.	Temperature	25°C
3.	Total solids	10.12 mg/lit
4.	Color	Colourless
5.	Total Hardness	106 mg/l
6.	Calcium hardness	62 mg/l
7.	Magnesium Hardness	22 mg/l
8.	Turbidity	2000 NTU = 005 , 200 NTU = 3.6
9.	Conductivity	0.86 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 6

Name of student:- Adarsh S. Ware

Class:- B.Sc. III year

Location:- Samarthwadi

Sr. No.	Parameter	Result
1.	pH	7.1
2.	Temperature	25°C
3.	Total solids	11.1 mg/lit
4.	Color	Colourless
5.	Total Hardness	109 mg/l
6.	Calcium hardness	67 mg/l
7.	Magnesium Hardness	29 mg/l
8.	Turbidity	2000 NTU = 0025 , 200 NTU = 3.8
9.	Conductivity	0.66 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 7

Name of student:- Vaishali Chaudhari

Class:- B.Sc. III year

Location:- Mainde Chowk

Sr. No.	Parameter	Result
1.	pH	7.2
2.	Temperature	25°C
3.	Total solids	11.11 mg/lit
4.	Color	Colourless
5.	Total Hardness	106 mg/l
6.	Calcium hardness	75 mg/l
7.	Magnesium Hardness	25 mg/l
8.	Turbidity	2000 NTU = 006 , 200 NTU = 11.6
9.	Conductivity	0.61 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 8

Name of student:- Ishita Jaiswal

Class:- B.Sc. III year

Location:- Gurudeo Nagar, Umarsara

Sr. No.	Parameter	Result
1.	pH	7.4
2.	Temperature	25°C
3.	Total solids	10.12 mg/lit
4.	Color	Colourless
5.	Total Hardness	107 mg/l
6.	Calcium hardness	74 mg/l
7.	Magnesium Hardness	23 mg/l
8.	Turbidity	2000 NTU = 002 , 200 NTU = 10.6
9.	Conductivity	0.72 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 9

Name of student:- Tejaswini Rajendra Wandhare

Class:- B.Sc. III year

Location:- Umarsara

Sr. No.	Parameter	Result
1.	pH	7.8
2.	Temperature	25°C
3.	Total solids	11.18 mg/lit
4.	Color	Colourless
5.	Total Hardness	109 mg/l
6.	Calcium hardness	67 mg/l
7.	Magnesium Hardness	26 mg/l
8.	Turbidity	2000 NTU = 056 , 200 NTU = 001
9.	Conductivity	0.87 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 10

Name of student:- Firdous Anjum Mo. Aminullah

Class:- B.Sc. III year

Location:- Kalamb Chowk

Sr. No.	Parameter	Result
1.	pH	7.9
2.	Temperature	25°C
3.	Total solids	11.16 mg/lit
4.	Color	Colourless
5.	Total Hardness	105 mg/l
6.	Calcium hardness	72 mg/l
7.	Magnesium Hardness	21 mg/l
8.	Turbidity	2000 NTU = 002 , 200 NTU = 4.6
9.	Conductivity	0.77 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 11

Name of student:- Sameera Fatema Karam Khan

Class:- B.Sc. III year

Location:- Waghapur

Sr. No.	Parameter	Result
1.	pH	8.0
2.	Temperature	25°C
3.	Total solids	10.15 mg/lit
4.	Color	Colourless
5.	Total Hardness	105 mg/l
6.	Calcium hardness	75 mg/l
7.	Magnesium Hardness	22 mg/l
8.	Turbidity	2000 NTU = 002 , 200 NTU = 6.6
9.	Conductivity	0.82 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 12

Name of student:- Aaliya Sadaf Aarif Khan

Class:- B.Sc. III year

Location:- Wadgaon Road

Sr. No.	Parameter	Result
1.	pH	8.0
2.	Temperature	25°C
3.	Total solids	11.52 mg/lit
4.	Color	Colourless
5.	Total Hardness	110 mg/l
6.	Calcium hardness	65 mg/l
7.	Magnesium Hardness	20 mg/l
8.	Turbidity	2000 NTU = 002 , 200 NTU = 2.55
9.	Conductivity	0.85 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 13

Name of student:- Shiba Tarannum Shaikh Mo.

Class:- B.Sc. III year

Location:- Moha

Sr. No.	Parameter	Result
1.	pH	8.2
2.	Temperature	25°C
3.	Total solids	11.44 mg/lit
4.	Color	Colourless
5.	Total Hardness	108 mg/l
6.	Calcium hardness	66 mg/l
7.	Magnesium Hardness	29 mg/l
8.	Turbidity	2000 NTU = 002 , 200 NTU = 2.5
9.	Conductivity	0.89 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 14

Name of student:- Vaishnavi Vinod Dhumane

Class:- B.Sc. III year

Location:- Kalamb Chowk

Sr. No.	Parameter	Result
1.	pH	7.8
2.	Temperature	25°C
3.	Total solids	11.29 mg/lit
4.	Color	Colourless
5.	Total Hardness	107 mg/l
6.	Calcium hardness	68 mg/l
7.	Magnesium Hardness	28 mg/l
8.	Turbidity	2000 NTU = 002 , 200 NTU = 2.8
9.	Conductivity	0.71 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 15

Name of student:- Snehal Anil Sawalkar

Class:- B.Sc. III year

Location:- Umarsara

Sr. No.	Parameter	Result
1.	pH	8.2
2.	Temperature	25°C
3.	Total solids	10.38 mg/lit
4.	Color	Colourless
5.	Total Hardness	108 mg/l
6.	Calcium hardness	75 mg/l
7.	Magnesium Hardness	27 mg/l
8.	Turbidity	2000 NTU = 002 , 200 NTU = 4.6
9.	Conductivity	0.85 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 16

Name of student:- Samiksha Vijay Walke

Class:- B.Sc. III year

Location:- Datta Chowk

Sr. No.	Parameter	Result
1.	pH	7.9
2.	Temperature	25°C
3.	Total solids	10.45 mg/lit
4.	Color	Colourless
5.	Total Hardness	106 mg/l
6.	Calcium hardness	74 mg/l
7.	Magnesium Hardness	22 mg/l
8.	Turbidity	2000 NTU = 002 , 200 NTU = 2.9
9.	Conductivity	0.88 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 17

Name of student:- Amisha Arvind Bhoyar

Class:- B.Sc. III year

Location:- Shastri Nagar

Sr. No.	Parameter	Result
1.	pH	7.8
2.	Temperature	25°C
3.	Total solids	10.95 mg/lit
4.	Color	Colourless
5.	Total Hardness	110 mg/l
6.	Calcium hardness	72 mg/l
7.	Magnesium Hardness	24 mg/l
8.	Turbidity	2000 NTU = 002 , 200 NTU = 1.6
9.	Conductivity	0.74 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 18

Name of student:- Kajal Shivaji Ade

Class:- B.Sc. III year

Location:- Gurudeo Nagar

Sr. No.	Parameter	Result
1.	pH	7.6
2.	Temperature	25°C
3.	Total solids	11.95 mg/lit
4.	Color	Colourless
5.	Total Hardness	105 mg/l
6.	Calcium hardness	69 mg/l
7.	Magnesium Hardness	30 mg/l
8.	Turbidity	2000 NTU = 002 , 200 NTU = 7.6
9.	Conductivity	0.75 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 19

Name of student:- Shreyas Wanjare

Class:- B.Sc. III year

Location:- Lohara

Sr. No.	Parameter	Result
1.	pH	7.4
2.	Temperature	25°C
3.	Total solids	11.85 mg/lit
4.	Color	Colourless
5.	Total Hardness	107 mg/l
6.	Calcium hardness	67 mg/l
7.	Magnesium Hardness	29 mg/l
8.	Turbidity	2000 NTU = 002 , 200 NTU = 9.6
9.	Conductivity	0.85 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 20

Name of student:- Renu Rajkumar Muneshwar

Class:- B.Sc. III year

Location:- Shashtri Nagar

Sr. No.	Parameter	Result
1.	pH	7.8
2.	Temperature	25°C
3.	Total solids	10.75 mg/lit
4.	Color	Colourless
5.	Total Hardness	108 mg/l
6.	Calcium hardness	68 mg/l
7.	Magnesium Hardness	25 mg/l
8.	Turbidity	2000 NTU = 004 , 200 NTU = 8.6
9.	Conductivity	0.69 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 21

Name of student:- Priyanka Shankar Bansod

Class:- B.Sc. III year

Location:- Ravinagar

Sr. No.	Parameter	Result
1.	pH	7.2
2.	Temperature	25°C
3.	Total solids	10.65 mg/lit
4.	Color	Colourless
5.	Total Hardness	105 mg/l
6.	Calcium hardness	73 mg/l
7.	Magnesium Hardness	21 mg/l
8.	Turbidity	2000 NTU = 006 , 200 NTU = 6.6
9.	Conductivity	0.57 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 22

Name of student:- Kunal Manoj Yadav

Class:- B.Sc. III year

Location:- Prajapati Nagar

Sr. No.	Parameter	Result
1.	pH	7.5
2.	Temperature	25°C
3.	Total solids	10.98 mg/lit
4.	Color	Colourless
5.	Total Hardness	110 mg/l
6.	Calcium hardness	72 mg/l
7.	Magnesium Hardness	25 mg/l
8.	Turbidity	2000 NTU = 007 , 200 NTU = 2.6
9.	Conductivity	0.75 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 23

Name of student:- Nishant Subhash Chavan

Class:- B.Sc. III year

Location:- Wadgaon Road

Sr. No.	Parameter	Result
1.	pH	7.7
2.	Temperature	25°C
3.	Total solids	11.58 mg/lit
4.	Color	Colourless
5.	Total Hardness	109 mg/l
6.	Calcium hardness	70 mg/l
7.	Magnesium Hardness	24 mg/l
8.	Turbidity	2000 NTU = 005 , 200 NTU = 8.6
9.	Conductivity	0.85 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 24

Name of student:- Mahak Almas Akeel

Class:- B.Sc. III year

Location:- Kalamb Chowk

Sr. No.	Parameter	Result
1.	pH	7.3
2.	Temperature	25°C
3.	Total solids	10.74 mg/lit
4.	Color	Colourless
5.	Total Hardness	107 mg/l
6.	Calcium hardness	67 mg/l
7.	Magnesium Hardness	23 mg/l
8.	Turbidity	2000 NTU = 008 , 200 NTU = 9.6
9.	Conductivity	0.75 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 25

Name of student:- Shreya S. Dixit

Class:- B.Sc. III year

Location:- Samarthwadi

Sr. No.	Parameter	Result
1.	pH	7.5
2.	Temperature	25°C
3.	Total solids	10.75 mg/lit
4.	Color	Colourless
5.	Total Hardness	109 mg/l
6.	Calcium hardness	69 mg/l
7.	Magnesium Hardness	28 mg/l
8.	Turbidity	2000 NTU = 007 , 200 NTU = 6.6
9.	Conductivity	0.65 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 26

Name of student:- Pepo Gautam Ambhore

Class:- B.Sc. III year

Location:- Bajoria Nagar

Sr. No.	Parameter	Result
1.	pH	7.5
2.	Temperature	25°C
3.	Total solids	11.55 mg/lit
4.	Color	Colourless
5.	Total Hardness	108 mg/l
6.	Calcium hardness	68 mg/l
7.	Magnesium Hardness	28 mg/l
8.	Turbidity	2000 NTU = 006 , 200 NTU = 5.6
9.	Conductivity	0.59 μ Siemens cm^{-1}

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Analysis of Bore/well water

Sample:- 27

Name of student:- Aakash Karlawar

Class:- B.Sc. III year

Location:- Gilani Nagar

Sr. No.	Parameter	Result
1.	pH	7.5
2.	Temperature	25°C
3.	Total solids	10.41 mg/lit
4.	Color	Colourless
5.	Total Hardness	106 mg/l
6.	Calcium hardness	62 mg/l
7.	Magnesium Hardness	22 mg/l
8.	Turbidity	2000 NTU = 005 , 200 NTU = 2.2
9.	Conductivity	0.55 μ Siemens cm^{-1}

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1. **<u>Title of the practice: Enhancing Education in the Face of Adversity: The Hybrid Learning Model and Flexible Attendance Policy.</u>**

2. **Objectives of the practice:** The practice **"Hybrid Learning Model and Flexible Attendance Policy"** was implemented during the academic session 2021-22 in response to the challenges posed by the Covid-19 pandemic. Its objectives were multi-fold:

- To reduce in-person attendance to mitigate the risk of Covid-19 transmission, following local health guidelines.
- To ensure seamless education by blending in-person and online methods, adapting swiftly to pandemic-induced disruptions.
- To choose between in-person and remote attendance to accommodate health and logistical concerns.
- To promote the use of technology and online learning systems to facilitate remote education and collaboration.
- To maintain the quality of education, ensure that online content is engaging and aligned with individual learning.
- To adjust assessment methods to ensure fair evaluations of both in-person and remote learners.
- To establish clear communication channel on the hybrid model, attendance policies, and any pandemic-related changes.
- To provide training to faculty members to effectively conduct hybrid instruction and utilize technology.
- To assess the effectiveness of the hybrid model and attendance policy.

The underlying principle of the "Hybrid learning model and flexible attendance policy" was to ensure continuity of education while prioritizing the safety and flexibility of both students and faculty. The approach, allows students to attend classes in a way that suits their circumstances, whether in-person or remotely while maintaining academic rigor and engagement.

3. **The context:**

In the backdrop of the Covid-19 pandemic, the institute tackled following challenges while implementing a practice.

- Adherence to local health guidelines was paramount, ensuring the safety of students and staff.
- Essential resources such as sanitizers and masks were made available on campus.
- Assessing the accessibility of technology for students and faculty was critical.
- Adequate support was offered to address technical challenges faced by both students and faculty.
- Teaching methods had to be adjusted to suit the hybrid delivery format.
- Faculty members received training to effectively utilize online teaching tools.
- Equitable access to learning resources was ensured, with special support for students with disabilities.

- Clear channels of communication were established to keep all stakeholders informed.
- Efforts were made to enhance student engagement in the new learning environment.
- Inclusive attendance policies and fair assessment methods were designed.
- The institution proactively prepared for potential disruptions.
- Support and training were extended to staff members as well.
- Feedback was continuously gathered to drive improvements.
- Consistency in policy application was maintained.
- The institution ensured compliance with legal requirements.

4. The practice:

The practice amidst Covid-19 lockdown aimed to combine in-person and online teaching for flexibility while addressing pandemic constraints. The practice involved following steps.

- The hybrid learning model allowed students to choose their mode of attendance, accommodating various constraints.
- The approach recognized the diverse situations of students during the pandemic.
- Faculty extensively utilized technology to enhance the virtual learning experience.
- In-person classes adhered to Covid-19 guidelines to ensure the safety of students and staff.
- Equal access to technology and resources for online learning was ensured.
- Faculty members received training to effectively conduct online classes.
- Assessments included quizzes, projects, and in-person exams.
- The model prepared the institution to handle future crises more effectively

Constraints/Limitations:

Several constraints and limitations were encountered during the implementation of the practice:

- Disparities arose due to limitations in technology and internet access.
- Students and faculty faced technical challenges while adapting to online tools.
- Faculty had to invest extra effort in adapting teaching in hybrid mode.
- Maintaining assessment integrity in online exams was a concern.
- The pandemic took a toll on the mental health of both students and faculty.

5. Evidences of success:

Evaluation of the practice's success during the Covid-19 pandemic involved various types of evidences as stated below.

- Student attendance in both in-person and virtual classes was monitored.
- Data on student participation in online discussions, assignments, and activities were collected.
- Student grades and performance were compared with previous academic years.
- Success rates of courses delivered through the hybrid model were analysed.

- Feedback from students about their experiences was gathered through surveys and focus groups.
- Faculty opinions on the effectiveness of the attendance policy were assessed.
- The comments and suggestions related to the hybrid model and attendance policy by students and stakeholders were assessed.
- The utilization of technology tools during the hybrid model was assessed.
- Adherence to safety protocols during in-person classes was ensured.
- The impact on student retention and graduation rates was analysed.
- The cost-effectiveness of implementing the hybrid model was evaluated.

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6. **Resource required and problems encountered**.

In implementing the practice during the Covid-19 pandemic required various resources and encountered several problems as mentioned below.

Resources Required:

- Adequate hardware and software for online learning.
- Reliable internet access.
- Faculty and staff training.
- Digital course materials.
- Safety protocols for physical classrooms.
- Support services for students.
- Effective communication channels.

Problems encountered:

- Unequal access to technology and the internet.
- Difficulty engaging students in both online and in-person classes.
- Maintaining assessment integrity.
- Faculty adaptation challenges.
- Coordination complexities.
- Health and safety management during the pandemic.