

Citizen Action for Good Water Supply and Safe Sewerage...

Watchout for Defective Water Supply and Sewerage Systems!!

Effectiveness of household water supply and drainage is ultimately linked to the water supply and sewerage system maintained by your local body (Panchayat, Panchayat Engineering department, Municipality, Water and Sewerage Board, as the case may be).

As responsible citizens, you can watch for defects or damage to water supply and sewerage system in your area.

You have a direct stake in proper maintenance of these facilities.

So report any defect to your local authority.



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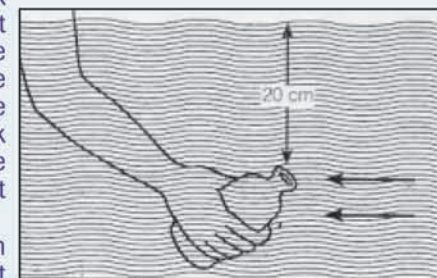
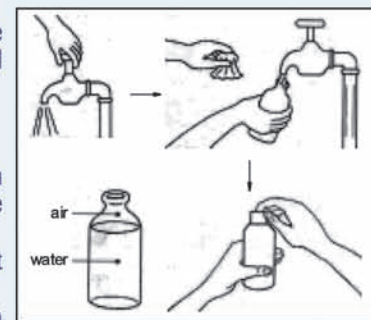
Catalogue of Services

Consumer's Guide for Sampling of Water Served by Street Vendors, Shops & Establishments

1. This guidelines is to help you arrange for testing of water served by hotel, restaurants, street corner eateries, cooldrink, fruit juice shops and establishments who serve water to their client as a part of their service. In this guide we will refer to all of them as vendor(s).
2. Your legal rights vis-a-vis these service providers is usually enforceable through the Consumer Protection Act., apart from the public interest, the information and education value of your effort to determine potability of water served by such vendors.
3. Your sampling strategy will depend on :
 - i. Whether you can plan a purchase and use the occasion to collect a water sample, or
 - ii. Have made a spot decision to send a sample of the water served by the vendor for testing.
4. Where you are able to plan for collection of a water sample, obtain a sample collection bottle from the laboratory and carry the same with you to the vendor. It is preferable to go with another person such as a friend or family, who can witness the sample collection process.
5. Do not open the bottle until immediately before sample collection.
6. Do not rinse the bottle.
7. Purchase food or such other service from the vendor that is accompanied by service of drinking water. If the vendor forgets to serve water, ask for it specifically.
8. Ask for the bill and settle payment to the vendor and obtain receipt.
9. Open the bottle gently and transfer the water served to you in to it.
10. Tightly close the bottle. Wipe any spillage on the outside of the bottle.
11. Write sample collection date, and vendor identification using a marker pen.
12. Fill in the Water Sample Collection Record (WCR1) and the Test Requisition Letter (TRL1). These forms are provided with the IHS lab prepared water collection bottles. They can also be downloaded from the IHS web site <http://www.ihs.org.in/wqt>
13. The WCR1 form requires the signature of an witness. You may ask the vendor or their representative to act as witness. If the vendor, refuses to do so, your friend or family member can serve as witness. Do mention, whether you did inform the vendor about the sampling, and the vendor's response to your request to stand as witness.
14. In case of street vendors without a permanent address, try to ascertain the place where the street vendor resides, where does he park the push cart or such other vending platform, if any and name and the exact location in the street where you purchased service from the vendor.
15. Deliver the sample at the laboratory as soon as possible, preferably within six hours, and definitely not later than 24 hours from the time of collection.
16. Keep away from sunlight. Avoid exposure to excessive heat. Keep in refrigerator if delayed delivery is anticipated. Always keep the bottle in upright position.
17. If you decide on the spot to have the water served by a vendor sent for testing.
 - i. You may try to quickly get a sample collection bottle from the laboratory. These bottles are available from the IHS Front Office round the clock. Then follow the above guidelines.
 - ii. Else, arrange to transfer the water to the most clean bottle easily accessible to you. For example, you could empty water from a packaged water bottle and use the same to collect the sample to be tested. Another alternative would be to buy a new plastic or glass bottle and use it.
 - iii. Collect identifying information about the vendor.
 - iv. Carry the water to the IHS and transfer the same to a lab prepared water collection bottle.
 - v. Fill in the Sample Collection Records, Test Requisition Letter give the sample for testing.
 - vi. Water sample collection service is available at the IHS Front office round the clock. Samples received during laboratory business hours are processed in next available batch. Samples received after business hours are stored in a refrigerator and processed in the first batch of the next business day.

Resident's Guide for Water Sample Collection.

1. Select and secure the sample collection bottle and a dark coloured carry bag:
 - i. Depending on the test required, you may use either "client prepared" bottle or "lab prepared" bottle. Client prepared bottle means that the bottle can be prepared by you at home or in your establishment. Note that the bottle has to be prepared sufficiently before you use it to collect a sample, so that there is time for the bottle to dry. Lab prepared bottle means a presterilised bottle provided by the laboratory.
 - ii. The Water Quality Testing Service catalogue shows where "client prepared" bottle is adequate for collection of sample. The laboratory may, however, prepare and supply a bottle for an additional service charge. Note that bottles are prepared with specific tests in mind. Hence check with laboratory, before you use a lab prepared bottle.
 - iii. Note that, for certain tests separate bottle would not be required. For example, to test packaged water, simply deliver the packaged water as it is to the laboratory.
 - iv. Here sample collection bottle means the lab prepared bottle or client prepared bottle as appropriate.
2. Do not open bottle until, ready to use.
3. Do not rinse the bottle.
4. Plan to collect water into the bottle in such a way that the sample is representative of the water to be tested.
5. Open the bottle gently and fill water without any splashes.
6. Tightly close the bottle. Wipe any spillage on the outside of the bottle.
7. Write sample collection date, and brief identification of the source on the bottle label, using a permanent marker pen.
8. In case of collections from a storage tank, collect the sample from below the surface by gently dipping mouth of the bottle under the water gradually filling the bottle, so that you do not stir up the sediments, if any.
9. Place the bottle inside the dark coloured polythene bag and put adequate ice cubes inside the bag. The quantity of ice cubes should be enough to cover bottom $\frac{2}{3}$ rd of the bottle. Excess ice above bottle's neck may cause mixing up of the sample with water from the ice. Make sure that ice cubes remain below the neck.
10. Fill in the Water Sample Collection Record (WCR1) and the Test Requisition Letter (TRL1). These forms are provided with the IHS lab prepared water collection bottles. They can also be downloaded from the IHS web site at <http://www.ihs.org.in/wqt/index.htm>.
11. Deliver the sample at the laboratory as soon as possible, preferably within six hours, and definitely not later than 24 hours from the time of collection.
12. Keep away from sunlight. Avoid exposure to excessive heat. Keep in refrigerator if delayed delivery is anticipated. Always keep the bottle in upright position.



Water Quality Testing Services

SvCd	Service	Quantity of sample required	Bottle or Packet Preparations	Page No.
B125	Water Collection Bottle - 125 ml.		NA	2
B01L	Water Collection Bottle - 1000 ml.		NA	2
BPT	Basic Potability Test	500 ml	Lab-B01L	3
CPT	Complete Potability Test	1000 ml	Lab-B01L	4
BCT	Bacteriological Analysis	100 ml	Lab-B125	5
BIT	Bottled Water Integrity Test	Pack	NA	6
FLD	Fluoride Analysis of Water	100 ml	Client	6
GQT	Ground Water Quality Test	500 ml	Client	7
GBT	Ground Water Bacteriological Contamination Test	100 ml	Lab-B125	8
GPT	Ground Water Potability Test.	1000 ml	Lab-B01L	9
CAT	Chlorine Availability Test	100g /ml	Client	10
AQT	Alum Quality Test	100g	Client	10
LAT	Liquid Chlorine Acceptability Test	100 ml	Client	11
SCS	Sample Collection Service	AA	AA	12
FCS	Fast Sample Collection Service	AA	AA	12
ECS	Emergency Sample Collection Service	AA	AA	12
SNS	Sanitary Survey of Source	AA	AA	12

Notes:

1. For tests where lab prepared bottles are to be used for collection of sample, the laboratory will supply the bottles if test service charges are paid in full.
2. Alternatively, you can collect the laboratory prepared bottles on payment of the deposit amount. In such a case the deposit amount will be adjusted towards test service charges at the time of receipt of sample, and test requisition.
3. Where client prepared bottles are adequate, you should follow instructions contained in this catalogue to prepare the bottle or packet for sample collection. You may, however, purchase laboratory prepared bottles for this purpose. Please, however, note that the test service charges have been fixed assuming that you will prepare your bottle / packet for collection of sample. Hence only 50% of bottle deposit will be adjusted in case you use any of the laboratory prepared bottles.
4. For service charges please refer the latest price list.

Legend:

SvCd: Service Code; NA: Not Applicable; AD: Adjustable Deposit; AA: As Appropriate. Lab : Bottle prepared by the Laboratory or its equivalent to be used; Client: Bottle Prepared by the client in accordance with bottle preparation instructions in the catalogue. CB: Estimate on case basis.

Water Collection Bottles - 125 ml (B125), and 1 Litre (B01L)

A presterilised rigid polypropylene bottle of appropriate capacity to collect water for testing.

A. Bottle Specifications:

Polypropylene, wide mouth reagent bottle with built in seal ring to prevent leakage, manfd. by Polylab.

Dimension in millimeters:

Dimension	B125	B01L
Base Diameter	40	74
Body Diameter	50	95
Height (Base to Cap)	100	210
Mouth Diameter	30	45

B. Bottle Preparation:

1. Bottles are cleaned with liquid soap and water and finally rinsed with distilled water.
2. Aqueous sodium thiosulfate solution (100 gm / litre) drops are added, 3 drops for B125, and 20 drops for B01L.
3. Bottles are then autoclaved at 15 lbs pressure at 121°C for about 30 minutes, labelled and placed in low density polyethylene bags.
4. Labelling includes sterilization batch no., date, a space for writing sample collection date, source etc.

C. Product Contents:

1. One presterilised polypropylene bottle of appropriate size.
2. One dark polythene bag of appropriate size.
3. Test Requisition Letter (TRL1) and Water Sample Collection Record (WCR1) Form.
4. Resident's (RSCG1) and Consumer's (CGSC1) Guide for Water Sample Collection.
5. Tissue paper to wipe spillage if any.

D. Can be used to collect water for various tests as shown below.

B125

Bacteriological Analysis (BCT)

Fluoride Analysis of Water (FLD)

Ground Water Bacteriological Contamination Test (GBT)

B01L

Basic Potability Test (BPT)

Complete Potability Test (CPT)

Ground Water Quality Test (GQT)

1. These bottles can also be used to collect water for similar testing by any other laboratory. However, check with the concerned laboratory before using these bottles for submission of samples to them. The IHS Water Quality Laboratory will be happy to answer technical questions from the concerned laboratory about the bottle preparation process.
2. Polylab plastic labware, A.K. Scientific industries 5531/9, Basti Harphool singh sadar Thana Road, Delhi-110 006

Water Quality Testing Services Price List

SvCd	Service	Service Charges / AD(Rs.)
B125	Water collection Bottle-125 ml	25
B01L	Water collection Bottle-1000 ml	50
BPT	Basic Potability Test	400
CPT	Complete Potability Test	600
BCT	Bacteriological Analysis	200
BIT	Bottled Water Integrity Test	100
FLD	Fluoride Analysis of Water	100
GQT	Ground Water Quality Test	400
GBT	Ground Water Bacteriological Contamination Test	200
GPT	Ground Water Potability Test.	800
CAT	Chlorine Availability Test	200
AQT	Alum Quality Test	100
LAT	Liquid Chlorine Acceptability Test	200
SCS	Sample Collection Service	400
FCS	Fast Sample Collection Service	500
ECS	Emergency Sample Collection Service	800
SNS	Sanitary Survey of Source	Estimate on case basis

Note: Prices may be revised from time to time. Please ask for latest price list at the time of ordering for test.

Hand Washing

One very important practice that minimises the risk of gastroenteritis is hand washing.

Good hand washing requires use of soap, adequate water, and careful cleaning of all parts of the hand.

Create a place within the home for hand-washing. This should have a water tap, bucket or drum containing water, and soap

An adult or older sibling should wash the hands of young children.

Hand Wash - House Rules

- ☛ Wash hands before eating.
- ☛ Wash hands before serving of food.
- ☛ Wash hands before cooking.
- ☛ Wash hands after defecating and ablution.
- ☛ Wash hands after cleaning a child who has defecated, changing nappies, or after disposing of a child's stool.
- ☛ Wash hands after using a tissue or handkerchief.
- ☛ Wash hands after playing with pets.

Basic Potability Test (BPT)

This test checks for presence of bacteria, and indicators of contamination with putrefying material. Fluoride level is also checked. This is a cost-effective means to reassure yourself whether the water consumed by you, your family and colleagues is potable or not. But the test will not help much to investigate the source of contamination.

A. Sample Required:

At least 500 ml of water collected in Water Collection Bottle - 1000 ml (B01L), or equivalent, delivered at laboratory preferably within 6 hrs, but not later than 24 hrs from time of collection. Keep away from sunlight. Avoid exposure to excessive heat. Keep in refrigerator, if delayed delivery is anticipated.

B. Test Duration:

If sample is found satisfactory, then report will be available after 48 hours. If sample is found to have bacteria then further test will be made to look for indication of fecal contamination. This test will take another 48 hours. So report will be available after 96 hours.

C. Report Details:

1. Most probable number of organisms (MPN) present per 100 ml of water. This is an indicator of bacterial contamination.
2. Physical indicators of contamination: PH, Color, Turbidity, and Electrical Conductivity.
3. Chemical Indicators of Contamination:(a) Ammonia, (b) Nitrites, and (c) Nitrates
4. Fluoride content. This indicates risk of fluorosis.
5. Total Hardness which includes Calcium and Magnesium.
6. Confirmatory test for E.Coli which indicates fecal contamination. This test will be done only if the MPN value is found unsatisfactory.
7. Interpretation is based on test results and sample collection record.

Proper Use of Water For Hygiene And Drinking

Most infectious agents that cause diarrhoea are transmitted by faecal-oral route. This includes transmission by contaminated drinking water or contaminated food, and from person to person. Clean water is essential for drinking and cooking. In addition, plentiful of water helps to encourage hygienic practices such as hand washing, cleaning of utensils, and cleaning of latrines. These practices can interrupt the spread of infectious agents that cause diarrhoea. To facilitate good hygiene, it is more important that the water supply be abundant than clean, although both qualities are desirable. Households that have ready access to a generous supply of water, and to clean water for drinking and cooking, have diarrhoea less frequently than families whose access to water is difficult or whose drinking water is heavily contaminated.

Complete Potability Test (CPT)

This test checks for more water quality parameters compared to the basic potability test and in addition, provides clues for possible sources of contamination, if any. Thus the test not only helps you know if the water consumed by your family and friends is potable but will also help investigate the possible source of contamination if any.

A. Sample Required:

At least one litre of water is collected in Water Collection Bottle - 1000 ml (B01L) or equivalent, delivered at laboratory preferably within 6 hrs, but not later than 24 hrs from time of collection. Keep away from sunlight. Avoid exposure to extensive heat. Keep in refrigerator, if delayed delivery is anticipated.

B. Test Duration:

If sample is found satisfactory, then report will be available after 48 hours. If sample is found to have bacteria then further test will be made to look for indication of fecal contamination, isolate specific organisms. This test will take another 48 hours. So report will be available after 96 hours.

C. Report Details:

1. Most probable number of organisms (MPN) present per 100 ml of water. This is an indicator of bacterial contamination.
2. Tests to investigate possible source of bacterial contamination. These tests will be done only if the MPN value is found unsatisfactory.
 - i. Confirmatory test for E.Coli which indicates fecal contamination.
 - ii. Isolation of specific bacteria such as Salmonella, Fecal Streptococci.
3. Physical indicators of contamination: PH₁, Color, Turbidity, and Electrical Conductivity.
4. Chemical Indicators of Contamination:(a) Ammonia,(b) Nitrites,and (c) Nitrates
5. Mineral Content Estimation. These test will assess whether the level of naturally dissolved minerals are within permissible limits.
 - i. Fluoride content. This indicates risk of fluorosis.
 - ii. Calcium, Magnesium, Sulfates, and Chlorides.
6. Indicators of Industrial Pollution: Alkalinity Test.
7. Quality of Treatment Assessment.
8. Interpretation, based on test results and sample collection record.

Clients Guide for Preparation of Water Sample Collection Bottles

1. Identify a suitable glass or polypropylene bottle.
 - i. Bottle volume should at least be 20% more than the volume of sample.
 - ii. Prefer a bottle with wider mouth.
 - iii. The bottle's cap should be closed tightly.
 - iv. Used bottles are acceptable, but would require soaking and thorough cleaning.
2. Clean the bottle and its cap with soap water.Liquid soap is preferable.If using bar soap make sure that no soap piece is left behind in the bottle.
3. Rinse both bottle and cap in plain water adequately to remove traces of soap.If feasible, use distilled water for the final rinse.
4. Dry the bottle and its cap. Avoid exposure to dust while drying.
5. Place the cap securely, after drying.
6. Fix an ordinary self adhesive label to note sample collection date, time and source. A floppy disk label or a school note book label will do.
7. Use the bottle for collection of sample within four days of preparation.
8. Note that such a bottle can be used to collect water sample for testing of physical and chemical parameters. To check for presence of micro organisms and send a sample for bacteriological analysis use an appropriate lab prepared (presterilised) bottle.

Legal Provisions about water quality :

The Andhra Pradesh Public Health (APPHA) Act, 1939, fixes responsibility on the local authority for water supply. Thus the municipal authorities and Gram Panchayats are legally required to provide for sufficient supply of drinking water for consumption by inhabitants of the area within their jurisdiction.Under section 20 the District Collector has powers to cause enquires about sanitary condition of water supply system and adequacy of supply. Under section-21 the Director - Public Health has powers to direct a local authority to improve water supply. Under section 24 the Health Officer can give instructions to any person having control of drinking water source, to take appropriate action to maintain its hygiene.

Sample Collection Service (SCS)

The laboratory will depute a trained person to collect water sample from the client designated premises any where in Hyderabad District. The visit will be within seven days, according to mutually agreed day and time. The sample collector will come with lab prepared sample collection bottle, required stationary. (S)he will collect the sample, fill the water sample collection bottle record, assist the client in filling up of the Test Requisition Letter, and carry the sample to the laboratory.

Fast Sample Collection Service (FCS)

Same as above, but the response time will be within one business day.

Emergency Sample Collection Service (ECS)

Same as above, but the response time will be immediate. Sample collector will reach as soon as possible, or within 2 hours.

Sanitary Survey of Source (SNS)

The laboratory will depute appropriately trained personnel to visit a water source and do sanitary survey of following types of sources using appropriate sanitary information form developed by the Institute based on WHO recommended formats. Forms WS-1 to 6 mentioned below are given in the IHS publication titles "A manual on Control of Gastroenteritis with special reference to Andhra Pradesh, India", 2001 by Prasanta Mahapatra and Samatha Reddy. These or their latest updates, if any, will be used as guide to the survey.

Water Source Type	Sanitary Inspection Form
Dug Well	WS-1
Bore Well / Tube Well	WS-2
Piped Water Supply System (PWS)	WS-3
Water Tanker Truck Distribution System	WS-4
Intakes from Reservoirs, Streams and Rivers	WS-5
Water Treatment Plant	WS-6

Service charge estimates will depend on the location of the source, number of sources in a cluster, the level of details required under general comments, and the nature of follow up action expected by the laboratory.

Bacteriological Analysis (BCT)

Basic potability or Complete potability tests will establish bacteriological and chemical characteristic of water from a source. Usually the chemical characteristics of a source does not change so much. Hence, there is no need to repeat the chemical characteristics at short intervals. This test is same as the bacteriological component of the basic potability test. This test is recommended to enable you to monitor bacteriological contamination of water at frequent intervals for a source for which basic potability test has been done at least once. The test helps monitor contamination due to seasonal changes. And also to assess the quality of treatment.

A. Sample Required:

100 ml of water is collected in 125 ml (B125) water sample collection bottle or equivalent, delivered at laboratory preferably within 6 hrs, but not later than 24 hrs from time of collection. Keep away from sunlight. Avoid exposure to excessive heat. Keep in refrigerator, if delayed delivery is anticipated.

B. Test Duration:

If sample is found satisfactory, then report will be available after 48 hours. If sample is found to have bacteria then further test will be made to look for indication of fecal contamination. This test will take another 48 hours. So report will be available after 96 hours.

C. Report Details:

1. Most probable number of organisms (MPN) present per 100 ml of water. This is an indicator of bacterial contamination.
2. Confirmatory test for E.Coli which indicates fecal contamination. This test will be done only if the MPN value is found unsatisfactory.
3. Interpretation is based on test results and sample collection record.

Potable Water

Potable water is water which is fit for consumption by humans and other animals. It is also called drinking water, in a reference to its intended use. Water may be naturally potable, as is the case with pristine springs, or it may need to be treated in order to be safe. In either instance, the safety of water is assessed with tests which look for potentially harmful contaminants.

Bottled Water Integrity Test (BIT)

This is a basic test to check for integrity of packaged water. Generally yeast and molds (fungus) would grow, if the bottling (packaging) process is defective, or the packed (bottled) water has been stored longer than its designed life. Hence this test checks for presence of Yeast & Moulds in bottled water.

A. Sample Required:

Sealed packaged water sample with name of the brand, batch no, date of expiry. Should be delivered at the laboratory with sample collection record.

B. Test Duration:

It takes 168 hrs to confirm the presence or absence of yeast and moulds in water sample because it takes nearly seven days for fungus to grow .

C. Report Details:

1. Whether Yeast and Molds are present or absent.
2. Interpretation based on test result details in the manufacturer's label and sample collection record.

Fluoride Analysis of Water (FLD)

Excess fluoride gives rise to a condition called Dental Fluorosis in children and Skeletal Fluorosis in adults. Ground water from borewells etc may contain excess fluoride. This Fluoride analysis of water test estimates the quantity of fluoride in water and determines if it is within tolerable limit

A. Sample Required:

1. Atleast 100 ml of water collected in a glass or polypropylene bottle.
2. Domestic glass bottles can be used. Clean the bottle with soap water, rinse in plain water and dry it before use. Fix an ordinary self adhesive label to note sample collection date, time and source.
3. Or use IHS water collection bottle 125 ml (B125).
4. The sample should be accompanied by a Water Sample Collection Record (WCR1) and a Test Requisition Letter (TRL1).

B. Test Duration: 24hrs.

C. Report Details:

1. Fluoride content in water as mg per litre.
2. Interpretation, based on test results and sample collection record.

Liquid Chlorine Acceptability Test (LAT)

Liquid Chlorine is commonly used in disinfection of drinking water. Effectiveness of chlorination by addition of disinfectant (Liquid Chlorine) is dependant on the availability of chlorine in disinfectant. Liquid Chlorine grade is assigned on the basis of available chlorine.

Water disinfectant grade	Expected Chlorine availability in liquid chlorine
Grade-1	4% - 6%
Grade-2	12.5% - 15%

The above chlorine availability may not be satisfied in case of poor quality or stored disinfectant. Based upon the chlorine availability, the quantity of disinfectant required for proper treatment of water is calculated.

This test is designed to assist municipal, rural/urban water supply authorities in acceptance testing of liquid chlorine at the time of purchasing. Liquid Chlorine bottles will be randomly sampled following the specifications in IS 11673:1992

A. Sample Required:

At least 100 ml of liquid chlorine collected in a dry air tight plastic bottle. Deliver the product in its original package. In this case a sample can be taken by lab for testing and rest of product can be collected by consumer.

B. Test Duration: 24 hrs

C. Report Details: The percentage of available chlorine by volume.

Why you should test your water?

- ✓ *Water is mankind's most precious resource. Unfortunately it is often contaminated with impurities such as organic, inorganic contaminants and micro organisms.*
- ✓ *80% of Human Diseases are Water Borne.*
- ✓ *Children and the Aged have a weaker immunity system. Hence they are more susceptible to Water Borne Diseases.*
- ✓ *The Water Purifiers in our homes/offices are faced with constant threat of choking of filters which render them ineffective; this is a looming danger to our health.*

Chlorine Availability Test (CAT)

Chlorination by addition of a disinfectant (bleaching powder or liquid chlorine) is the commonest treatment of water meant for drinking. Effectiveness of this method is dependent on the availability of chlorine in the disinfectant. Bleaching powder grade is assigned on the basis of available chlorine.

Water disinfectant grade	Expected chlorine availability	
	Bleaching Powder	Liquid Chlorine
Grade-1	34%	4%-6%
Grade-2	32%	12.5% - 15%

Poor quality or stored disinfectant, may not satisfy the above chlorine availability. Moreover, the quantity of disinfectant required for proper treatment of water is calculated on the basis of chlorine availability. Thus, if you have old stock of bleaching powder, it would be desirable to find its chlorine availability to help accurately calculate the quantity of bleaching powder to be added to water.

This test estimates the chlorine availability in a given sample of bleaching powder or liquid chlorine. The test is useful as an acceptance test, at the time of purchasing disinfectants to determine whether the product received from a supplier satisfies the promised chlorine availability. The test is also useful to calculate the quantity of available disinfectant to be added for treatment of water.

A. Sample Required:

1. Bleaching powder: Atleast 100 gms collected using a dry plastic scoop and placed in a sealed polythene (LDPE) packet.
2. Liquid chlorine: Atleast 100 ml collected in a dry air tight plastic bottle.
3. Both: Deliver the product in its original package. In this case a sample can be taken by the laboratory for testing and rest of the product can be collected by the consumer.

B. Test Duration: 24 hours.

C. Report Details: The percentage of available chlorine by volume.

Alum Quality Test (AQT)

If surface water such as tanks, river, or lake water is the source for water supply system, alum is used to remove turbidity. Quality of alum to be tested depends on its alumina content.

Alum grade and expected Alumina in %	
Grade-I	17 %
Grade-II	15%

A. Sample Required

Minimum 100 gms of Alum in a sealed polyethylene (LDPE) cover, delivered at the laboratory, with sample collection record or Deliver the product in its original package, in this case a sample can be taken by the laboratory for testing and rest of the product can be collected by the consumer.

B. Test duration: 24 hours

C. Report Details: Alumina content in % by mass.

Ground Water Quality Test (GQT)

This test checks for Physical and Chemical parameters of ground water. This is a cost-effective means to reassure yourself whether the ground water consumed by you, your family and colleagues is potable or not.

A. Sample Required:

Atleast 500 ml of water collected in a glass or polypropylene bottle. Domestic glass bottles can be used. Clean the bottle with soap water, rinse in plain water and dry it before use. Fix an ordinary self adhesive label to note sample collection date, time and source. The sample should be accompanied by a Water Sample Collection Record (WCR1) and a Test Requisition Letter (TRL1).

B. Test Duration: 24 hrs.

C. Report Details:

1. Physical indicators of contamination: pH , Color, Turbidity, and Electrical Conductivity.
2. Chemical Indicators of Contamination: (a) Ammonia, (b) Nitrites, and (c) Nitrates
3. Mineral Content Estimation. These test will assess whether the level of naturally dissolved minerals are within permissible limits.
 - i. Fluoride content, this indicates risk of fluorosis.
 - ii. Calcium and Chlorides, effect domestic use, taste and palatability.
 - iii. Magnesium and Sulphates can be dangerous to mucus lining causing gastro intestinal irritation.
4. Indicators of Industrial Pollution: Alkalinity Test.
5. Interpretation is based on test results and sample collection record.

Water Quality

Water quality is the physical, chemical and biological characteristics of water. It is most frequently used by reference to a set of standards against which compliance can be assessed. The most common standards used to assess water quality relate to drinking water, safety of human contact and for the health of ecosystems.

Ground Water Bacteriological Contamination Test (GBT)

If borewell is near to sewerage, septic tank, place of open defecation then there is a possibility of fecal contamination. Usually the chemical characteristics of a source does not change so much. Hence, there is no need to repeat the chemical characteristics at short intervals. The test helps to monitor bacterial contamination due to seasonal changes, and also to assess the quality of treatment.

A. Sample Required:

At least 100 ml of water is collected in 125 ml (B125) water sample collection bottle or equivalent, delivered at laboratory preferably within 6 hrs, but not later than 24 hrs from time of collection. Keep away from sunlight. Avoid exposure to excessive heat. Keep in refrigerator, if delayed delivery is anticipated.

B. Test Duration:

If sample is found satisfactory, then report will be available after 48 hours. If sample is found to have bacteria then further test will be made to look for indication of fecal contamination, isolate specific organisms. This test will take another 48 hours. So report will be available after 96 hours.

C. Report Details:

1. Most probable number of organisms (MPN) present per 100 ml of water. This is an indicator of bacterial contamination.
2. Tests to investigate possible source of bacterial contamination. These tests will be done only if the MPN value is found unsatisfactory.
 - i. Confirmatory test for E.Coli which indicates fecal contamination.
 - ii. Isolation of specific bacteria such as Salmonella, Fecal Streptococci.
3. Interpretation is based on test results and sample collection record.

Ground Water Potability Test (GPT)

This test checks for more quality parameters compared to the Ground water quality test and in addition, provides clues for possible sources of contamination if any. Thus this test not only helps you know whether the ground water consumed by you, your family and colleagues is potable but will also help investigate possible source of contamination if any.

A. Sample Required :-

At least one litre of water collected in water collection Bottle-1000ml (B01L) or equivalent, delivered at laboratory preferably within 6 hrs, but not later than 24 hrs from time of collection. Keep away from sunlight. Avoid exposure to excessive heat. Keep in refrigerator, if delayed delivery is anticipated.

B. Test Duration :

If sample found satisfactory, then report will be available after 48 hrs. If sample is found to have bacteria then further test will be made to look for indication of fecal contamination, isolate specific organism. This test will take another 48 hours. So report will be available after 96 hours.

C. Report Details:

1. Most probable number of organisms (MPN) present per 100 ml of water. This is an indicator of bacterial contamination.
2. Tests to investigate possible source of bacterial contamination. These tests will be done only if the MPN value is found unsatisfactory.
 - i. Confirmatory test for E.Coli which indicates fecal contamination.
 - ii. Isolation of specific bacteria such as Salmonella, Fecal Streptococci.
3. Physical indicators of contamination: pH , Color, Turbidity, and Electrical Conductivity.
4. Chemical Indicators of Contamination: (a) Ammonia, (b) Nitrites, and (c) Nitrates
5. Mineral Content Estimation. These test will assess whether the level of naturally dissolved minerals are within permissible limits.
 - i. Fluoride content, this indicates risk of fluorosis.
 - ii. Calcium, Magnesium, Sulfate, Iron and Chlorides. Magnesium and Sulphates can be dangerous to mucus lining causing gastro intestinal irritation.
6. Indicators of Industrial Pollution: Total Dissolved Solids (TDS) and Alkalinity ensure in decreasing the potability; continuous exposure can lead to Gastrointestinal irritation.
7. Quality of treatment assessment.
8. Interpretation, based on test results and sample collection record.