Workshop 12 of Knowledge Sharing and Ideation Series

Enhancing the performance of Laboratories (JJM) organized by Training & Capacity Building Cell, Quality Council of India , Supported by UNICEF, India at SPM NIWAS Kolkata

Har Ghar Jal
Jal Jeevan Mission

"Key Takeaways from 4 days on site Training cum Workshop w.e.f 07/05/2024 – 10/05/2024 and Summary of the ppt presented for the U.T of J&K on 08/05/2024 at SPM NIWAS, Kolkata"

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QCI
Quality Council of India

NAME & DESIGNATION OF PRESENTER:-

INHA MANZOOR (ASSISTANT ENGINEER)

DEPARTMENT:- JAL SHAKTI DEPARTMENT OF JAMMU & KASHMIR (U.T of J&K)

Date: 07/06/2024

INTRODUCTION:-

Dr. Syama Prasad Mukherjee National Institute of Water and Sanitation (SPM NIWAS)

- Located at Joka, Diamond Harbour Road, West Bengal.

- Inaugurated by the Hon'ble Prime Minister of India on 30-12-2022 virtually.


पेयजल एवं स्वच्छता विभाग
जल शक्ति मंत्रालय
भारत सरकार
DEPARTMENT OF DRINKING WATER AND SANITATION
MINISTRY OF JAL SHAKTI
GOVERNMENT OF INDIA
सत्यमेव जयते
स्वच्छ भारत
एक कदम स्वच्छता की ओर
Har Ghar Jal
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TCB Training and Capacity Building Division
भारतीय गुणवत्ता परिषद्
QUALITY COUNCIL OF INDIA
QCI Creating an Ecosystem for Quality
Dr. Syama Prasad Mookerjee National Institute of Water and Sanitation (SPM-NIWAS)
4-Day Residential Training-Cum-Workshop
on
Enhancing the Performance of Laboratories
Under Jal Jeevan Mission
In Collaboration With
UNICEF, India
&
Training & Capacity Building Cell,
Quality Council of India
Venue
SPM - NIWAS, Kolkata
Date
07 - 10 May, 2024
RECEPTION
AND SANITATION

GROUP PHOTO AT SPM NIWAS KOLKATA.


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Dr. Syama Prasad Mookerjee National Institute of Water and Sanitation (SPM-NIWAS)
4-Day Residential Training-Cum-Works
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How did WQM&S become an integral part of Jal Jeevan Mission?

Vision of JJM :-

To provide adequate quantity of drinking water of prescribed quality on regular and long term basis at affordable service charges through Functional Household Tap Connections by 2024.

Overview of BIS 10500:2012 (Drinking water Specification Code)

Quick rundown of Important terms related to Physical, Chemical and Bacteriological characteristics of Drinking Water was provided. For example the terms like Turbidity, pH, TDS etc. were illustrated with their Acceptable and Permissible limits as per BIS 10500:2012

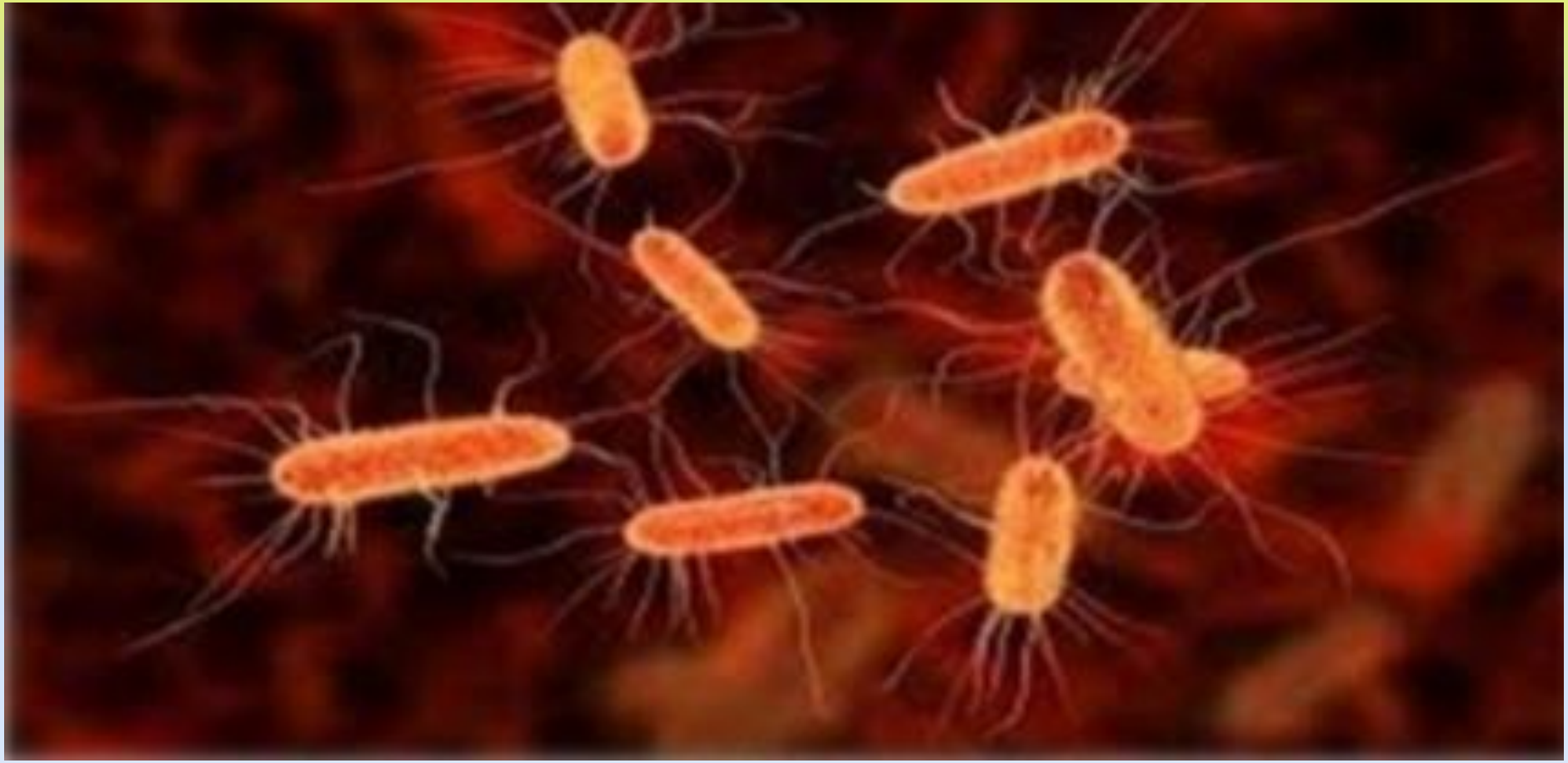
Organoleptic & Physical Parameters

Table 1 Organoleptic and Physical Parameters
(*Foreword* and *Clause* 4)

Sl No.	Characteristic	Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source	Method of Test, Ref to Part of IS 3025	Remarks
(1)	(2)	(3)	(4)	(5)	(6)
i)	Colour, Hazen units, *Max*	5	15	Part 4	Extended to 15 only, if toxic substances are not suspected in absence of alternate sources
ii)	Odour	Agreeable	Agreeable	Part 5	a) Test cold and when heated b) Test at several dilutions
iii)	*p*H value	6.5-8.5	No relaxation	Part 11	—
iv)	Taste	Agreeable	Agreeable	Parts 7 and 8	Test to be conducted only after safety has been established
v)	Turbidity, NTU, *Max*	1	5	Part 10	—
vi)	Total dissolved solids, mg/l, *Max*	500	2 000	Part 16	—

NOTE — It is recommended that the acceptable limit is to be implemented. Values in excess of those mentioned under 'acceptable' render the water not suitable, but still may be tolerated in the absence of an alternative source but up to the limits indicated under 'permissible limit in the absence of alternate source' in col 4, above which the sources will have to be rejected.

Escherichia Coli (E.Coli) Bacteria found in contaminated water samples



Ministry of Commerce and Industry
Department for Promotion of Industry and Internal Trade

QUALITY COUNCIL® OF INDIA
QCI Creating an Ecosystem for Quality

ACCREDITATION

NABCB
National Accreditation Board for Certification Bodies

NABL
National Accreditation Board for Testing and Calibration Laboratories

NABH
National Accreditation Board for Hospitals and Healthcare Providers

NABET
National Accreditation Board for Education and Training

QUALITY PROMOTION

NBQP
National Board for Quality Promotion

TCB Training and Capacity Building

QUEST

SPECIAL PROJECTS GROUP

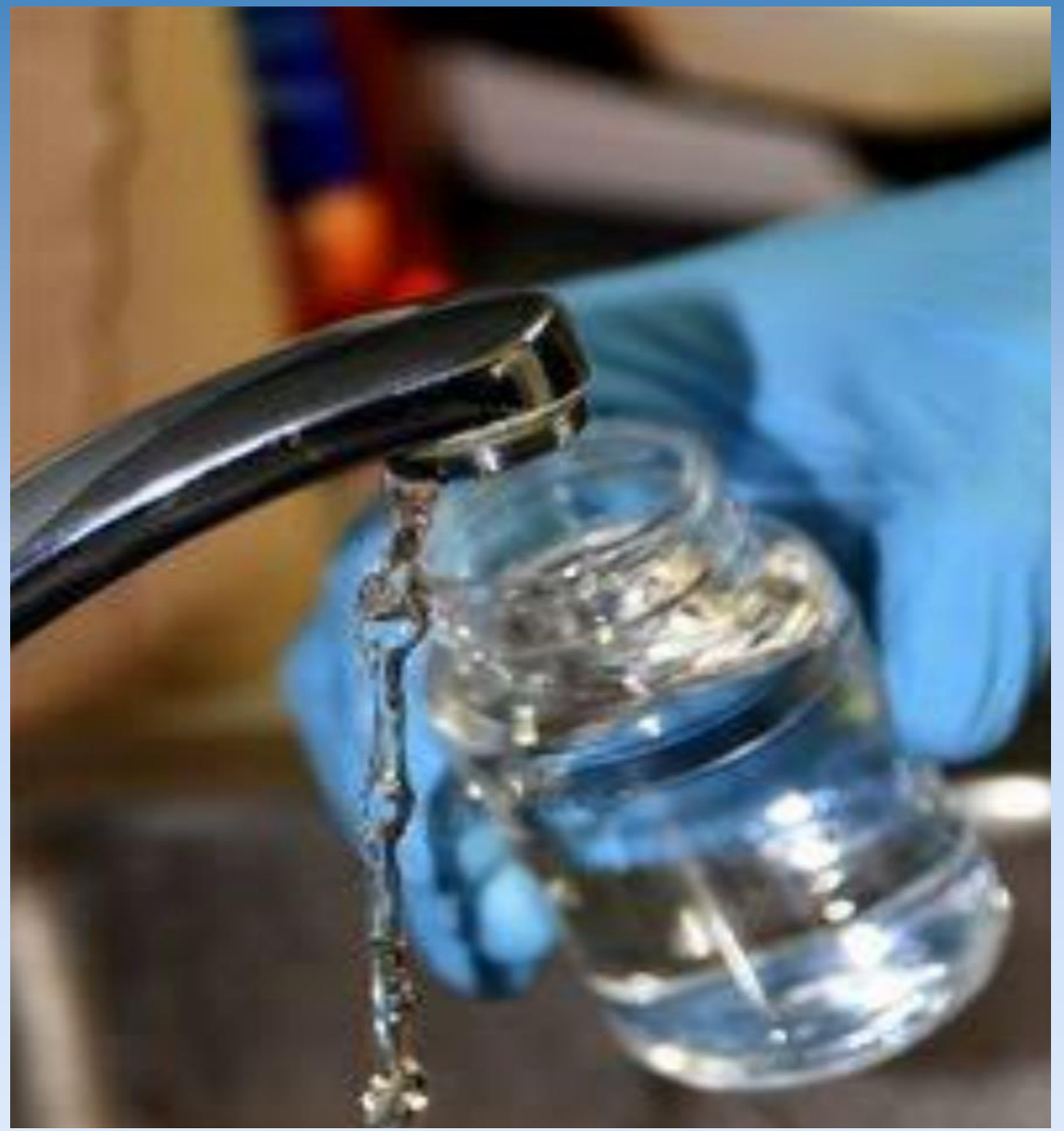
PPID Project Planning & Implementation Division

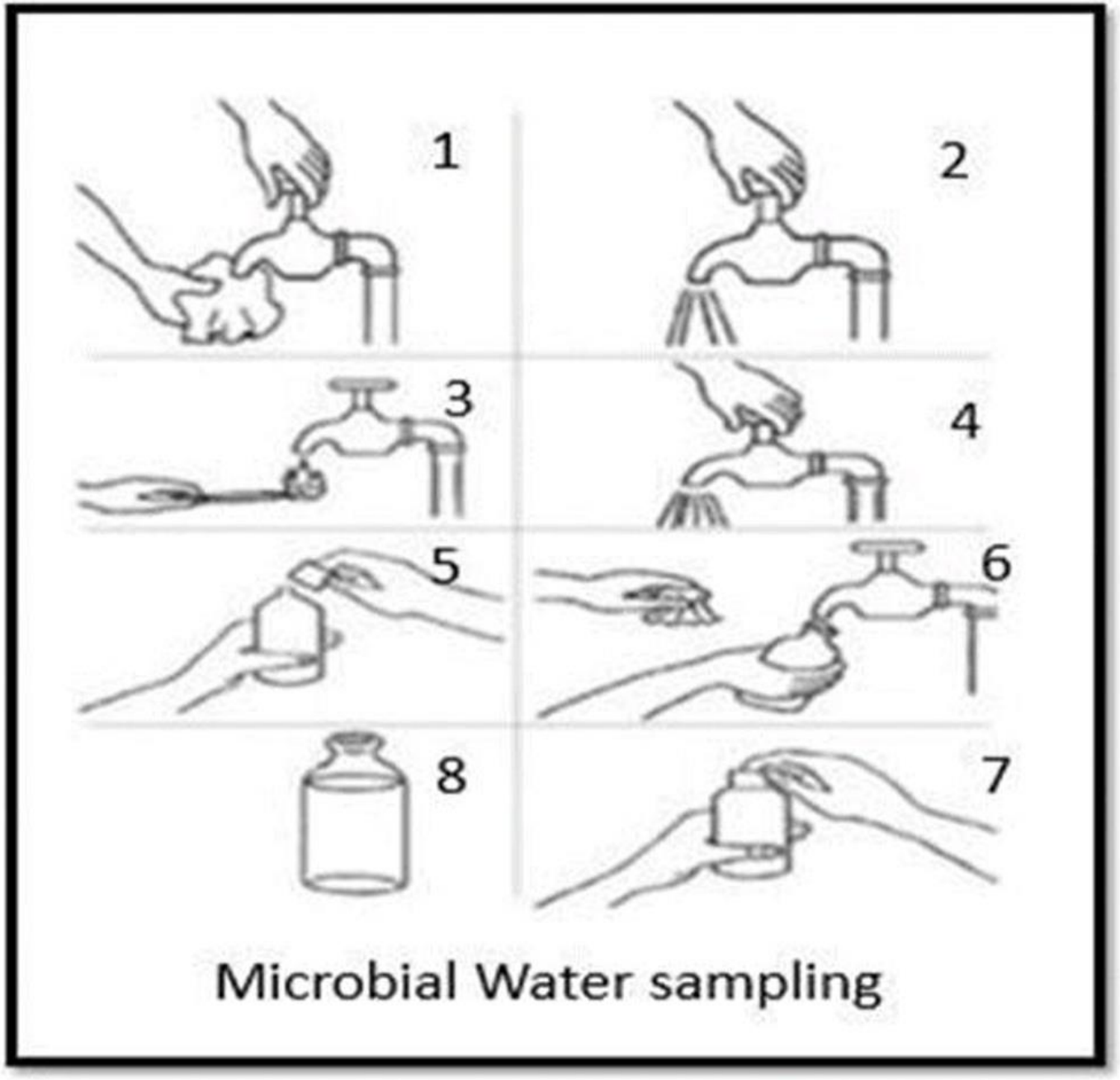
ZED

PADD

DRINKING WATER SAMPLE COLLECTION :-

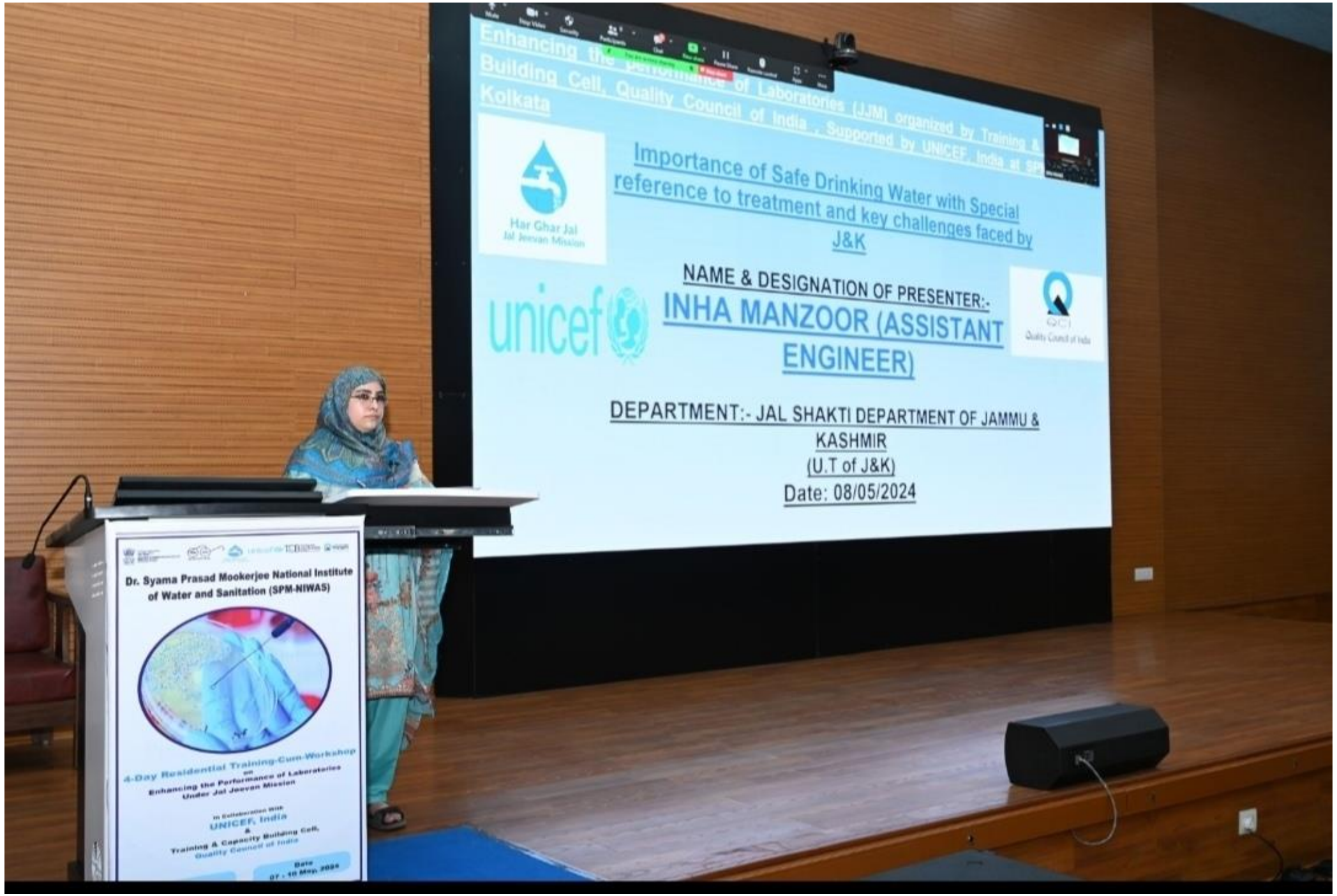
AIM:- The main consideration while collecting drinking water samples is to ensure that there is no way of contamination getting into the water sample.




1
2
3
4
5
6
8
7
Microbial Water sampling

Personnel Management

- **6. Resource Requirements:**
  - 6.2 Personnel
    - 6.2.1 All personnel of the laboratory, either internal or external, that could influence the laboratory activities shall act impartially, be competent and work in accordance with the laboratory's management system.


Enhancing the performance of Laboratories (JJM) organized by Training &
Building Cell, Quality Council of India , Supported by UNICEF, India at SP
Kolkata
Har Ghar Jal
Jal Jeevan Mission
Importance of Safe Drinking Water with Special reference to treatment and key challenges faced by J&K
unicef
NAME & DESIGNATION OF PRESENTER:-
INHA MANZOOR (ASSISTANT ENGINEER)
QCI
Quality Council of India
DEPARTMENT:- JAL SHAKTI DEPARTMENT OF JAMMU & KASHMIR
(U.T of J&K)
Date: 08/05/2024
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Enhancing the performance of Laboratories (JJM) organized by Training & Capacity Building Cell, Quality Council of India , Supported by UNICEF, India at SPM NIWAS Kolkata

Importance of Safe Drinking Water with Special reference to treatment and key challenges faced by J&K

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INHA MANZOOR (ASSISTANT ENGINEER)

DEPARTMENT:- JAL SHAKTI DEPARTMENT OF JAMMU & KASHMIR

(U.T of J&K)

Date: 08/05/2024

INTRODUCTION

Why is Safe Drinking Water important?

• **HISTORICAL ROOTS**:- In 2010, U.N General Assembly declared that " Safe and Clean Drinking water" is a HUMAN RIGHT.

•**ECONOMIC BACKDROP :-** Investments in Water Supply and Sanitation yield "Net Economic Benefit".

•**SOCIAL BENEFIT :-** Poverty alleviation of weaker sections of the society.

• **HEALTH AND HYGIENE MERITS**:- Overall development of a healthy human being for a better and secure future.

KEY FACTS:-

1) According to W.H.O Report, microbiologically contaminated Drinking water can transmit diseases like **DIARRHOEA** which is estimated to cause **4,85,000 Diarrhoeal deaths** each year in INDIA.
2) Research shows **DIARRHOEA** is **2nd** leading cause of death in children under the age of 5 years.

Times of India

Azadi ka Amrit Mahotsav

DEPARTMENT OF DRINKING WATER AND SANITATION
MINISTRY OF JAL SHAKTI
GOVERNMENT OF INDIA

G20

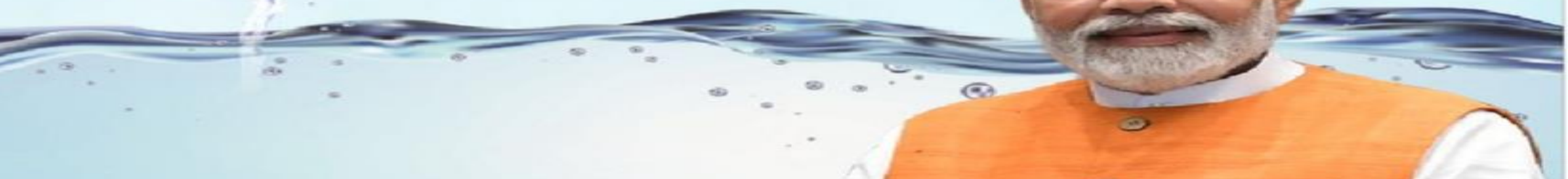
Transforming India in Amrit Kal

100% tap water coverage will avert

400,000

diarrhoea deaths

WHO Report



What is meant by CONTAMINANT in Drinking Water?

" Contaminant" is any Physical, Chemical , Biological or Radiological substance present in water that can have adverse effect on it.

TYPES OF CONTAMINANTS IN DRINKING WATER:-

1) **PHYSICAL**
2) CHEMICAL
3) BIOLOGICAL/MICROBIAL
4) RADIOLOGICAL

Water Treatment Methods commonly adopted in J&K:-

AIM:-

To produce and maintain water that is:-

1) Adequate
2) Hygienically safe
3) Easily Accessible
4) Aesthetically attractive
5) Palatable
6) Sustainable


Tulip garden Srinagar
Nishat Water Treatment Plant
Recently viewed
Dal Lake
Char Chinar Dal lake
Boulevard Rd
Vivanta Dal View, Srinagar


CRUDE FILTER AT WATER TREATMENT PLANT NISHAT (19MGD), KASHMIR

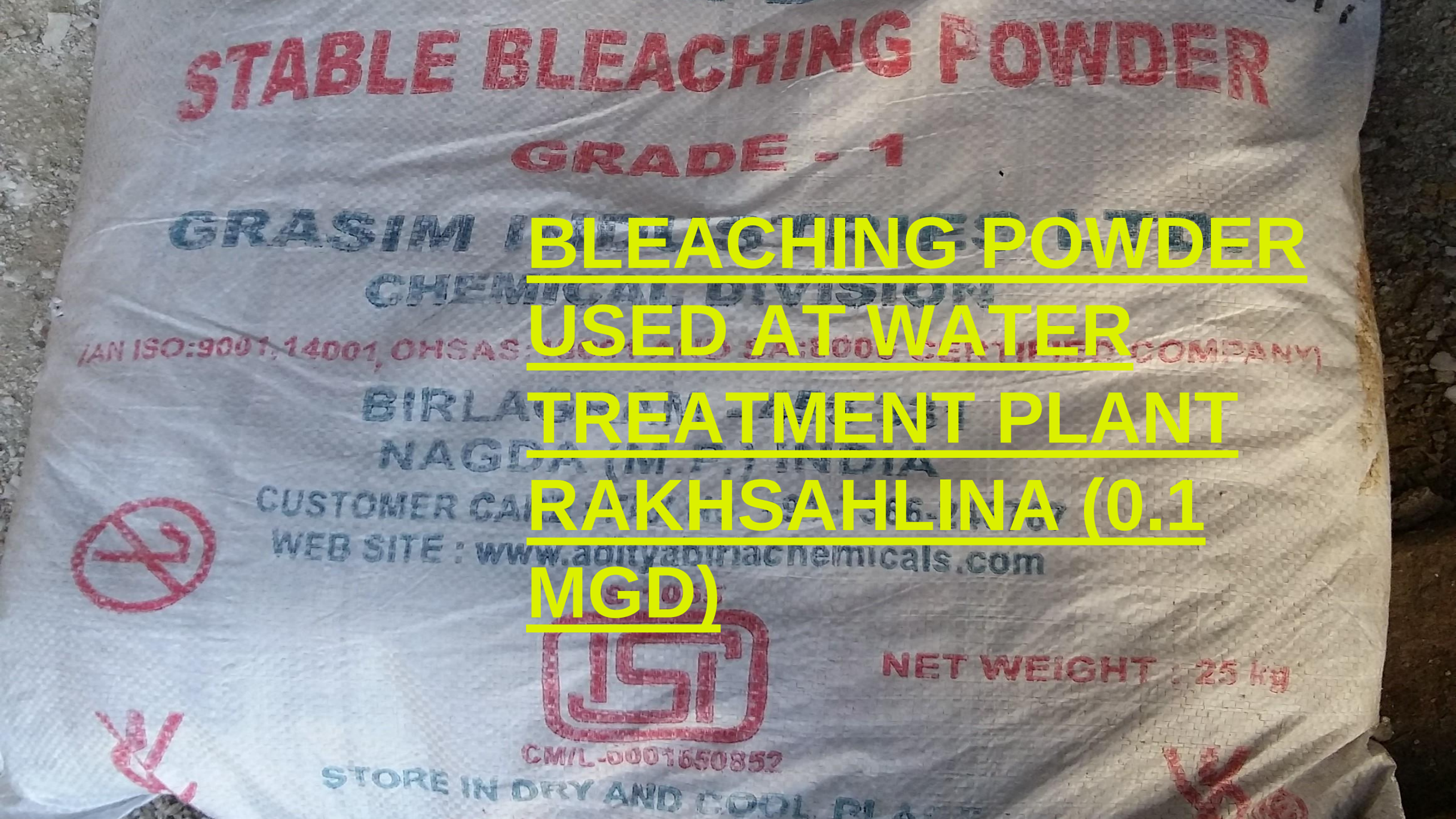
PICTURE SHOWING RECTANGULAR PRE-SEDIMENTATION TANK AT WATER TREATMENT PLANT MEHJOOR NAGAR (1.125 MGD), KASHMIR

PICTURE SHOWING FERRIC ALUM BEING USED AS A COAGULANT AT WATER TREATMENT PLANT PADSHAHIBAGH (0.3 MGD)

FLOCCULATOR WITH MOVING BRIDGE AND SCRAPER AT WATER TREATMENT PLANT NISHAT (19 MGD), KASHMIR

4.0 MGD RAPID SAND FILTRATION PLANT AT WATER TREATMENT PLANT NISHAT (19 MGD)

RAPID SAND FILTRATION BEDS AT 4 MGD STAGE 2nd RAPID SAND FILTRATION PLANT AT NISHAT



BLEACHING POWDER USED AT WATER TREATMENT PLANT RAKHSAHLINA (0.1 MGD)

CASCADE TYPE AERATOR AT WATER TREATMENT PLANT NISHAT (19 MGD CAPACITY)

KEY CHALLENGES FACED BY J&K:-

1) HIGH TURBIDITY OF RAW WATER MAINLY DURING CLOUD BURSTS AND MUD SLIDES.

HIGHLY TURBID RAW WATER IN RIVER JHELUM AFTER CLOUD BURST IN UPPER REACHES


HEAVY SILT ACCUMULATED IN PRE-SEDIMENTATION TANK CHAMBERS AFTER MUD SLIDES IN UPPER REACHES AT WATER TREATMENT PLANT LASJAN

2) DAMAGES CAUSED TO RIVER EMBANKMENTS DURING FLASH FLOODS

HUGE DAMAGE CAUSED AT RIVER JHELUM EMBANKMENT AT LASJAN SRINAGAR DUE TO FLASH FLOODS


GEO BAGS LAID AT THE EMBANKMENT OF RIVER JHELUM IN KASHMIR TO PREVENT FLOOD FURY

3) DIFFICULTY IN OPERATION & MAINTENANCE OF WATER TREATMENT PLANTS IN SNOW BOUND AREAS AND HILLY TERRAIN

SNOW BEING REMOVED FROM APPROACH ROAD OF WATER TREATMENT PLANT

4) PIPE BURSTS DURING SUB-ZERO TEMPERATURES IN KASHMIR

PIPE LEAKAGE/ BURST AT MEHJOOR NAGAR, KASHMIR DUE TO FROST ACTION

SYNOPSIS OF KEY CHALLENGES FACED IN JAMMU & KASHMIR DUE TO WEATHER VAGARIES:-

1) HIGH TURBIDITY OF RAW WATER MAINLY DURING CLOUD BURSTS AND MUD SLIDES

2) DAMAGES CAUSED TO RIVER EMBANKMENTS DURING FLASH FLOODS

3) DIFFICULTY IN OPERATION & MAINTENANCE OF WATER TREATMENT PLANTS IN SNOW BOUND AREAS AND HILLY TERRAIN

4) PIPE BURSTS DURING SUB-ZERO TEMPERATURES IN KASHMIR


GROUP DISCUSSIONS
OF TEAM J&K

VOTE OF THANKS ON BEHALF OF TEAM J&K AT SPM NIWAS, KOLKATA ON 10/05/2024

FELICITATION OF TEAM J&K DURING VALEDICTORY SESSION BY WORTHY ADVISOR, SPM NIWAS, KOLKATA AND OTHER DIGNITARIES INCLUDING DIRECTOR TCB, QCI AND TOP SCIENTISTS AND EXPERTS ALL OVER INDIA ON 10/05/2024.

DEPARTMENT OF DRINKING WATER AND SANITATION
MINISTRY OF JAL SHAKTI
GOVERNMENT OF INDIA

स्वच्छ भारत
एक कदम स्वच्छता की ओर

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QUALITY COUNCIL OF INDIA
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Dr. Syama Prasad Mookerjee National Institute of Water and Sanitation

D.H Road, Joka, Kolkata-700104

CERTIFICATE OF TRAINING

This certificate is awarded to

INHA MANZOOR

for successfully participating in the training on

Enhancing the Performance of Laboratories (NJJM)

He /She scored A grade on the assessment conducted at the conclusion of the training.

organized by

Training and Capacity Building (TCB) Cell, Quality Council of India

on 7 -10 May 2024

at

SPM-NIWAS, Kolkata

Alok Jain
Director & Head,
TCB Cell, QCI, India

Cert No.TCB/QCI/100524/02-016

Mohd.Ishaq
IAS (Retd)
Adviser, SPM-NIWAS

I AM A WATER QUALITY CHAMPION

Water Quality Learning Group for National Jal Jeevan Mission (NJJM)

The idea of NJJM Learning Group is quite innovative ,dynamic and interesting . The concept of iECHO platform is unique and illuminating. The flexibility of the training course contents chosen is vivid, well planned and oriented, organized and it corresponds well with the day to day challenges faced in the "Water Quality Monitoring and Surveillance" sector. Pertinent to mention that the training faculty from INREM Foundation has been very patient, cordial and accommodating in all the sessions.

Inha Manzoor
Assistant Engineer
JAL-SHAKTI Department - J&K

You can also become a WQ Champion!!

Visit waterquality.network

Water Quality Network

S.No.	State	Total no. of Sources	Sources tested for Chemical parameters	
			No.	%age
				A
1	Jammu & Kashmir	13403	9842	73.43
2	Jharkhand	116060	86727	74.73
3	Uttar Pradesh	59694	39115	65.53
4	Goa	168	132	78.57
5	Andhra Pradesh	170672	55332	32.42

THANK YOU !