

Brief of Organization.

## **EREC India Research Laboratory**

**(NABL Accredited/ GOVT. of Assam Recognised)**

**(ISO 17025:2017 & ISO 9001:2015 Certified)**

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Laboratory Address

EREC Lab, Rupnagar, Guwahati – 781032, Assam

Contact: **98640-66613, 90850-66613, 70029-00145**

Email: [mpguw2@rediffmail.com](mailto:mpguw2@rediffmail.com)

EREC India Research Laboratory in short EREC (ইবেক) was established in 2008 with its aim to establish an updated & sophisticated TESTING & RESEARCH Laboratory. Consultancy on testing is also included for the greater benefit of public and researchers.



# Erec India Research Laboratory

(ISO 17025:2017 & ISO 9001:2015 Certified)

Office: EREC, Rupnagar, Guwahati PIN-781032, Assam

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## Establishment:

1. Water Testing Laboratory
2. Food Testing Laboratory
3. Engineering Laboratory

NABL Accredited (2013)  
NABL Accredited (2018)  
NABL Accredited (2021)

Reference to the establishment as a Testing Organization, we are very glad to introduce our self as a Quality Testing Provider of different types of sample like Water & Food along with the Civil construction Materials.

Now, EREC India Research Laboratory is an apex private sector Laboratory providing the quality testing in the fields of "Water and Food", "Non Destructive testing" and "Road & Building Construction material".

The laboratory was started in 2009 and presently well equipped for the testing facilities as listed below. The organization is always emphasized on standard testing Quality, Reliability & Speedy test results in best competitive rates.

The required information/documents in support for your consideration/ recognize enclosed for your ready reference, so that, we can get an opportunity to serve your esteemed organization.

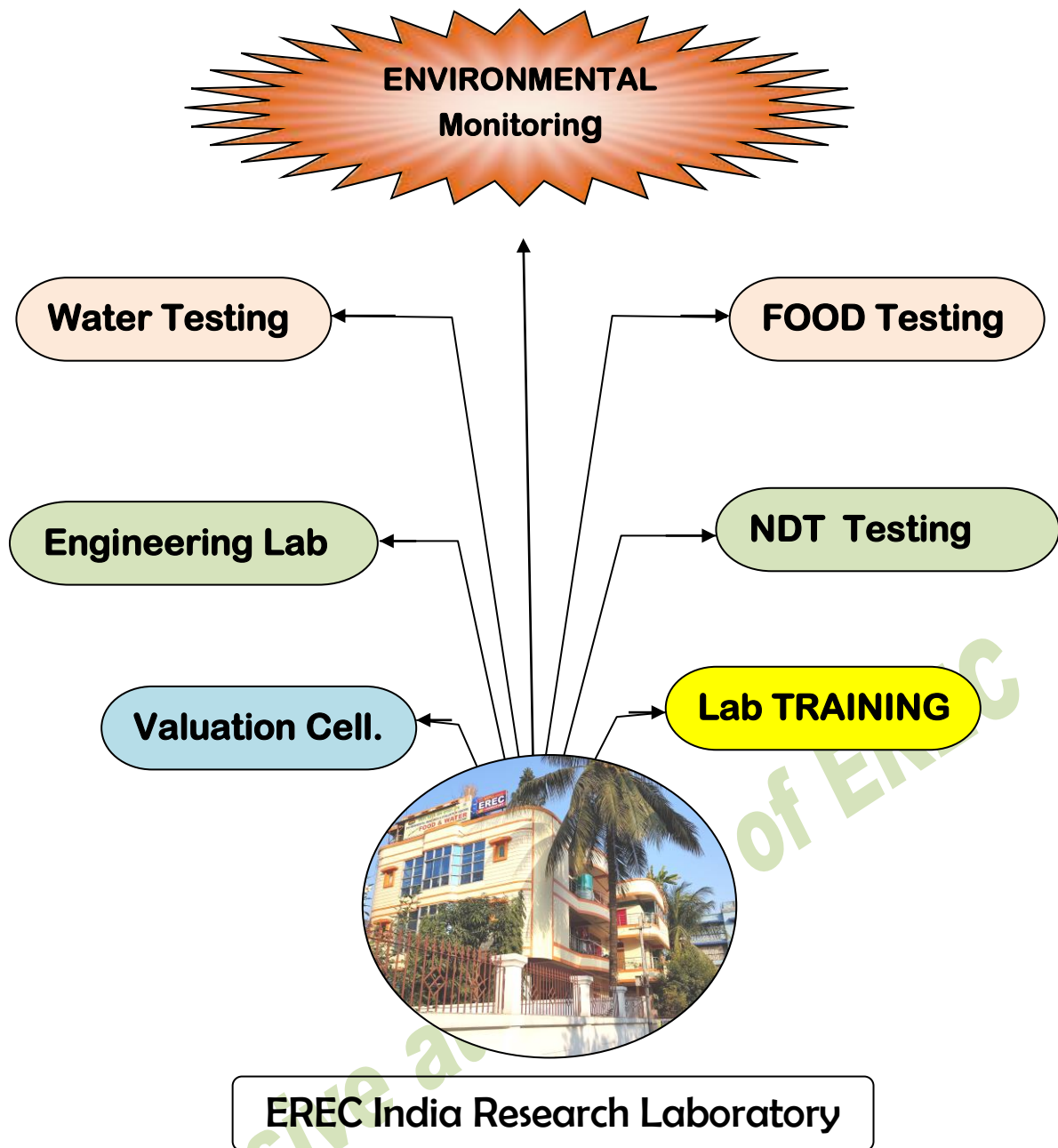
Thanks a lot for your Positive needful action.

With Best regards,

*Dr. Mahidhar Pathak*(CEO)

Promoter – EREC

## EREC at a glance



**Dr. Mahidhar Pathak**

*Promoter and CEO of  
the Organisation*

## 1. BRIEF OF ORGANISATION

1	Kinds of organization	TESTING LABORATORY. (with standard methods, calibrated-sophisticated testing equipments and competent personals)
2	Name of Laboratory	EREC India Research Laboratory. In short – EREC (ইৰেক)
3	Address of Laboratory	EREC Lab, Rupnagar, Guwahati, PIN – 781032, Assam.
4	Communication	Ph : 98640-66613,90850-66613 (O) Mail: <a href="mailto:mpguw2@rediffmail.com">mpguw2@rediffmail.com</a>
5	Date of Establishment	1 <sup>st</sup> Sept, 2007
6	Legal status of the Unit	<ol style="list-style-type: none"> <li>SSI Regd. No. : 18062201610 Dated : 15.12.2012 by DI &amp; CC, Kamrup, Assam.</li> <li>Govt. of Assam – Recognition certificate for testing laboratory.</li> <li>Approved by GMDA.</li> </ol>
7	Quality Assurance by	<ol style="list-style-type: none"> <li>ISO 9001:2015 awarded.</li> <li>ISO 17025: 2017 (NABL Accredited)</li> </ol>
8	Prime function of organization	<p>To provide the testing facilities in the field of</p> <ul style="list-style-type: none"> <li>➤ Chemical section,</li> <li>➤ Microbiological section,</li> <li>➤ Proximate analysis,</li> <li>➤ Physical analysis.</li> <li>➤ Energy section.</li> </ul>
9	Name & qualification of Key personal	<p><b>Dr. Mahidhar Pathak.</b></p> <p><u>Qualification:</u> Ch. Engr.; MIE (Civil); M. Tech (Highway), AMIM (Auto); FIV;CPI, NDT; M.Sc. (IT); M.A (Eco); M. Com(Fin); MBA (Fin); LLB, Ph. D.</p> <p><u>Designation :</u>CEO &amp; Promoter.</p>

10	EXPERIENCE & QUALITY OF TESTING	<p>The EREC India Research Laboratory was established in the year of 2009 and from its inception it is experienced in Testing and Consultancy. The most of the Testing are in the field of WATER – drinking water, ETP water, pond water etc. FOOD – Natural / agricultural, process food, Cooking food etc. To perform the tests, we have competent analyst with sufficient educational qualification and training . The in-house training and evaluation are also completed as a part of competency of analysts. The Indian Standard (IS), AOAC, APHA are accepted as standard methods to perform the tests. To carry out the tests in proper way, the required appropriate tools and machinery are also installed at the laboratory which are calibrated periodically. The CRM (Certified Reference Materials) are also procured and preserve as per guideline. To maintain the Quality of testing, the repitated and replicate test are also always performing. The PT and ILC with the external laboratories are conducting from the very beginning to ascertain the quality of test results.</p> <p>Presently, we have the sufficient infrastructure with building and testing environment. We have two own RCC buildings having 15000 Sqft for laboratory and 11 nos car parking. The organization is day to day growing now with its standard and scopes.</p>
11	Test Equipments	The list of test equipments are disclosed against the test facilities. List enclosed.
12	Competent analyst	<p><b>Food :</b> Dr. Sagarika Kalita – Food and nutrition. Asstt. : Biman Bhuya. B.Sc (Chemistry) QM- Prtam Pathak.</p> <p><b>Food Microbiology:</b> Ms. Pooja Agarwal, Ms. Navnita Das</p> <p><b>Chemistry :</b> Rimpi Kalita , Mr. utpal Kalita</p>
13	Quality Manager	Sri Pritam Pathak – (IQA)
14	<b>Food testing</b> Facilities	The organization is experienced with food test since 2016 and NABL accredited in 2018. Since then the organization have been doing food test in glorious ways. The clients are increasing day to day. A list of clients is included for your reference.



## (I) FOOD Tests – PARAMETERS & EQUIPMENTS :

SN	Name of Test	Available Equipments
1	Calorific Value (Kcal/kg)	Bomb Calorimeter
2	Protein Estimation	Digital Kjeldahl
3	Fats Content	Digital Soxhlet
4	Carbohydrate	By calculation
5	Sugar content	Chemical process
6	Moisture	Digital Moisture Meter
7	Fibre content	Digital Fibrometer.
7	Vitamins A,B,D,K	Chemical Process
8	Other Nutrients	Chemical Process
9	Density	Chemical process
10	Viscosity	Chemical process
11	Particle size	Physical process
12	Other Chemical test	Chemical process
13	Pesticides Group (Organ chlorine/organophosphorus (OPP)–	HPLC & GC – FID, NPD,ECD
14	Heavy metals	AAS with HG
15	Curcumin	Chemical process
16	Micro Biological test parameters	Food Micro lab
17	Radioactive test	Authorized agent of BRIT
18	Other Nutritional test	As per requirement



New Auto Kjeldahl and Soxhlet equipments



Bomb Calorimeter - Calorific value measurement

**Experience in Food Testing:** The EREC India Research Laboratory added food division in the year 2016 and accredited in 2018. And since then, various kinds of food are testing continuously. The credential of Laboratory is enlisted herewith. During this period the Laboratory is experienced in these following kinds of food: like

*Drinking water, Spices, Milk, Honey, Edible oils and Fats, Raw food, Cooking food, Process food, Beverage, food grains, liquid food,*



Working with Kjeldahl equipment



GC with detectors (For Pesticides testing)

## (II) Water Test- Facilities:

### **Parameters as per IS 10500:2012 & 14543: 2016**

#### **I - Physical Parameters.**

	Parameter			Parameter	
1.	pH		2.	Odor	
3.	TDS (Total Dissolved Solids)		4.	Turbidity	
5.	Taste		6.	Colour	

#### **II (A) - Chemical Parameters.**

Gr II – (General Parameters)					
1	Alkalinity		16	Selenium	
2	Calcium		17	Copper	
3	Iron		18	Zinc	
4	Total Hardness		19	Silver	
5	Manganese		20	Chloramines	
6	Nitrate		21	Aluminum	
7	Nitrite		22	Phenolic compounds	
8	Fluoride		23	Oil & grease	
9	Magnesium		24	Anionic surface active agent	
10	Residual Chlorine		25	Barium	
11	Sulphate		26	Antimony	
12	Sulphide		27	Borate	
13	Chloride		28	Ammonia	
14	Sodium				
15	Potassium				

## II (B) – Heavy metal Parameters.

1	Mercury		6	Chromium	
2	Cadmium		7	Nickel	
3	Arsenic		8	Polychlorinated biphenyls	
4	Cyanide		9	Polynuclear aromatic hydrocarbons	
5	Lead		10	Trihalomethanes	

## III (A) - Microbiological Test :

1	Total Plate Count (At 37°C)		4	Escherichia Coli	
2	Total Plate Count (At 22°C)		5	Staphylococcus aureus	
3	Coliform Bacteria		6	Fecal streptococcus	

## III (B) Microbiological Test :

1	Yeast & Mould		5	Vibrio cholera	
2	<b>Pseudomonas aeruginosa</b>		6	Vibrio Parahaemolyticus	
3	Sulphur reducing anaerobes		7	<b>Shigella</b>	
4	<b>Salmonella</b>				

1	<b>Pesticides Group</b>	Multi Residue method applied for Organo-chlorine Pesticides, Organo-Phosphorus Pesticides by GC-ECD, FID & NPD detectors. HPLC also available.
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## (III) Proximate Testing – FOOD and Non Food.

### I. Proximate Analysis :

SN	Name of Test	Units	Available Equipments
1	GCV – Gross Calorific Value	Kcal/Kg	Bomb Calorimeter
2	Ash Content,	%	Muffle furnace
3	Volatile Matter,	%	Muffle furnace
4	Sulfur content.	%	Chemical Lab
5	Fix carbon,	%	Calculation
6	Moisture content	%	Moisture Balance meter



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## II. ULTIMATE Analysis :

SN	Name of Test	Units	Available Equipments
1	Oxygen content	Kcal/Kg	Chemical Lab
2	Hydrogen Content	%	Chemical Lab
3	Nitrogen content	%	Chemical Lab
4	Ash Content	%	Chemical Lab
5	Carbon content	%	Chemical Lab
6	Sulfur content	%	Chemical Lab

## V ETP/WTP and other water test :

1	pH		5	TSS	
2	D.O (Dissolved Oxygen)		6	VSS Volatile	
3	BOD5		7	Ammonia ... Optional	
4	COD		8	Phosphorus ... Optional	
5	Total Solid/Residue				

## (IV) Environmental Monitoring :(Air and Water)

SN	Name of Test	Method of test	
1	Ambient Air Monitoring	CPCB Method	Combo PM2.5 & PM10.
2	Indoor Air Quality	CPCB Method	Indoor quality tester.
3	Flue Gas Analysis	CPCB Method	Portable Flue gas Analyzer.
4	Sound level Measurement	CPCB Method	Sound Level meter.
5	Weather quality recoding	CPCB Method	Automatic Weather Station.
6	Respiratory Air Quality	CPCB Method	Respiratory Dust Sampler
7	VOC Analyst	CPCB Method	VOC Analyser



## **(V) ENGINEERING DIVISION:**

The Engineering Section of Erec India Research Laboratory is also has an Engineering Division established in 2009 with NDT services which is the pioneer in entire North East Region. It is one of the vital and progressive part of the EREC Laboratory. The whole building (five storied) under name and style EREC LAB is the prime testing lab of engineering parameters. It is situated at the Heart of the City (Guwahati). The EREC India Research Laboratory is now rich of its Testing Experience as well as engineering consultancy. The Testing devices, Standard Procedure (SOP), CRM, Yearly Calibration & AMC of equipment and Proper recording system are available. The testing is performed by the highly qualified and experience personals which can be challenge for its accuracy.

## **(VI) Facilities of testing**

- **Steel Testing – Physical and Chemical**
  - **Cement Testing,**
- **Soil Testing,**
  - **Aggregate Testing section,**
- **Bitumen Testing section,**
  - **Coal and Coke Testing.**
- **Environmental Monitoring (Air and Water),**
  - **NDT (Non-Destructive Testing),**
- **Other Testing – Cube test, Brick test, Core cutting, Mix design etc.**
  - **Property Valuation**

## **(A) Steel Testing (Lab Testing):**

SN	Name of Test	Method of test	Available Equipments
1	Tensile strength with proof stress & Elongation	Indian Standard :1786-2008	UTM-60T
2	Bend test	Indian Standard :1786-2008	UTM-60T
Chemical test :			
3	Carbon content	Indian Standard :228-1987 Part 1	Carbon Sulfur Apparatus
4	Sulfur content	Indian Standard :228-1989 Part 9	Carbon Sulfur Apparatus
5	Phosphorus	Indian Standard :228-1987 Part 3	Alkalimetric Method
6	Sulfur and phosphorus	Indian Standard :228-	IS Method

## (B) Cement Testing (Lab Testing)

SN	Name of Test	Method of test	Available Equipment'
1	Normal Consistency	Indian Standard :4031-1988 Part 4	Vicat's Apparatus
2	Initial and Final Setting time	Indian Standard :4031-1988 Part 5	Vicat's Apparatus
3	Soundness Test	Indian Standard :4031-1988 Part 3	Le-Chatelier
4	Fineness test	Indian Standard :4031-1996 Part 1&2	Sieves &Blaint's air
5	Strength of cement	Indian Standard :4031-1988 Part 6	CTM
6.	Chemical testing of cement	Indian Standards	Existing chemical lab
7	Specific gravity of cement	Indian Standard :2720 – (Part - 3)	Le-Chatelier Method

## (C) Bitumen Testing:

SN	Name of Test	Method of Testing.	Available Equipments
1	Penetration test	Indian Standard : 1203-1978	Penetrometer, Wash bath.
2	Ductility test	Indian Standard : 1208-1978	Testing machine, Stdmould, Water bath, Thermometer.
3	Softening point Test	Indian Standard : 1205-1978	Standard Ring and Ball Apparatus. Thermometer.
4	Specific Gravity test	Indian Standard : 1202-1978	Sp. Gravity Bottles, Water Bath, Bath thermometer.
5	Kinematic Viscosity	Indian Standard : 1206-1978	SayboltFurol Viscometer, Bath
6	Flash & Fire Test	Indian Standard : 1209-1978	Pensky-martens Apparatus, Thermometer.
7	Marshall Mix design	Not available in IS	Marshall stability Equipment.
8.	Core Coring (101.6 mm) and Testing		Core Cutting Method

## (D) Aggregate Testing (Lab Testing)

SN	Name of Test	Method of Testing.	Available Equipment
1	Gradation (Sieve analysis) for GSB	Indian Standard : 2386-1963 Part 1	Sieve
2	Crushing Value test	Indian Standard : 2386 -1963 Part 4	Aggregate Crushing Value
3	Abrasion Value test	Indian Standard : 2386 -1963 Part 4	Loss Angeles Abrasion Value
4	Soundness Test	Indian Standard : 2386 -1963 Part 5	
5	Specific Gravity & water Absorption	Indian Standard : 2386 -1963 Part 3	
6	Impact Value	Indian Standard : 2386-1963 Part 4	Aggregate Impact Value
7	Bulk Density	Indian Standard : 2386-1963 Part 3	
8	Clay and Fine silt		
9	Flakiness & Elongation	IS: 2386-Part 1: 1963	Flakiness gauge, Elongation Gauge. Trays.
10	Chemical test	Indian Standard	Existing chemical lab

## (E) Soil Testing (Lab Testing)

SN	Name of Test	Method of test	Available Equipments
1	Moisture content	Indian Standard : 2720-1990 Part 3, Section 1	Moisture Box & Humidity Cabin
2	Specific Gravity	Indian Standard : 2720-1990, Section 2	
3	Sieve analysis	Indian Standard : 2720-1985 Part 4	Sieves
4	Atterberg Limits	Indian Standard : 2720-1985	Attarburg Liquid & Plastic Limit
5	Bulk Density		
6	CBR (California Bearing ratio)	Indian Standard : 2720-1990 Part 3	CBR Load Frame + Proving rings
7	Direct Shear test	Indian Standard : 2720-1986 Part 13	Direct Shear Apparatus
8	Tri-axial Shear Test	Indian Standard : 2720-1971 Part 11	Tri-axial Shear Apparatus
9	Plate bearing Test		Plate bearing Test Apparatus
10	Unconfined Compression Test	Indian Standard : 2720-1991 Part 10	Unconfined Compression Test Apparatus
11	MDD and OMC	Indian Standard : 2720-1985 Part VI	Hot air oven.





## (VIII) Non- Destructive Testing [ NDT]



SN	Name of Test	Parameters	Equipment
1	<b>Hammer Test</b>	Compressive Strength of Conc.	Schmidt Hammer.
2	<b>Rebar Location</b>	Rebar Position, Diameter, Coverage and spacing of b	Profometer+5
3	<b>Resistivity</b>	Corrosion in % of Reinforcement.	Canin +
4	<b>UV Pulse Velocity</b>	Quality, Strength, Homogeneous structure. Crack detection.	Ticco
5	<b>Pile Test</b>	Length of pile (upto 99.00 m), Surface of pile, Bulb position, Crack, void etc on pile and quality of casting of pile.	PET.
***	<b>Retrofitting</b>	The super Engineering techniques by which the unsound or suspected RCC structure can be restructured for use and expansion without breaking existing structure which is known as Retrofitting. EREC is the expert in Retrofitting after proper NDT testing of any type RCC structure or RCC Building.	

## (IX) Valuation:

Valuation is the original profession of the organization. The Key person of the organization is a Govt. Approved Valuer and Chartered Engineer. He is also empaneled valuer of Financial Institution, Govt. Body, CBDT etc. and also the Doctorate holder in the field of Valuation.

## Expert /Test performers (Engineering Section)

The following personals are working in the laboratory to provide the Laboratory Test Result :

Sl No	Name	Qualification	Experience	Designation
1	Dr. Mahidhar Pathak	Ch. Engr, MIE (Civil), M. Tech (H&T), AMIMI (Auto), FIV, M.Sc, MA, M Com, MBA, LLB, Ph.D	25 Yrs	CEO, Chief Consultant.
2	Mr. Pritam Pathak	B.Sc., Internal Quality Auditor.	3 Yrs	Quality Manager
3	Mr. HarballavSarma	B.Sc, IIT	20 Yrs	Technician.
4	Er. KandarpaSarma	MIE (Str), M.Sc (IT)	25 Years	Engineer. Dy TM
5	Er. Sankalpa Baishya	B E (Civil)	5 Years	Engineer
6	Er. Disha Sarma	B. Tech (Civil)	3 Years	Engineer
7	Er. Nirmali Lahkar	B. Tech (Civil)	3 Years	Engineer
8	Mr. Biman Bhuyan	B.A	20 Yrs	Technician
9	Ms. Trishna Barman	B.A, PGDCA	6 Years	Accountant
10	Mr. Hemansu Deka	ITI, BA	4 Years	Sample Collector

## General INFRASTRUCTURE of the Establishment

Sl No.	Particulars	Quantity	Remarks
1.	Office Space	a) 1400 Sq. ft. at MPG Complex as sitting area and reception.	Own Buildings.
	Laboratory -1	b) 4000 Sq. ft. of 2 <sup>nd</sup> floor Water Testing and Food Testing & 3 <sup>rd</sup> floor as EREC Library	
	Laboratory - 2	Five storied Building. (EREC LAB) Ground Floor : Steel and Soil Lab. First Floor : Lab Office 2 <sup>nd</sup> Floor : Instrumentation. 3 <sup>rd</sup> Floor : Bitumen Lab, Chemical Lab. 3 <sup>rd</sup> Mezzanine Floor : Bitumen test. 4 <sup>th</sup> Floor : Store, Cement Lab Total Area : 9500 Sqft., Parking 1500 Sqft	
2	Computers (a) P.C.. (b) Laptop . (c) Printers	(a) 15 Nos. (b) 5 No. (c) 8 Nos.	Own by Organization
3	P.A.S. ,Sound system	1 Set	
4	L.C.D. Projector	1 No.	
5	Digital Camera	5 Nos.	
6	Scientific Steel Tape /Lasher distance meter	1 No. + 1 No.	
7.	GPS MAP 60. S / No. 37845240	1 Nos.	
8.	Geological Compass	1 No.	
10	NDT equipment	Schmidt Hammer – Proceq Profometer 5+ Tico Canin + PET (Pile Tester)	Own
11	Water Testing Laboratory	2200 Sqft (Main Building)	Own
	Food Testing Laboratory	2200 Sqft (Main Building)	Own
11	Concrete Cutting machine, Drill machine	3 set	Own
12	Internet facility	TATA-net- connection.	Connected
13	Vehicles	4 wheelers - 4, Lab Van (Winger) -1, Bike -12 Nos.	Own
14	Library	The Library is equipped with 474 Nos. of Books on Civil Engineering, Research methodology, Environmental Engineering and management, Valuation, Hydrology, Geography, Geology, Survey, Accounts, Entrepreneurship etc.	Own
15	Conference hall	Capacity: 70 participants	Own

## **Machinery and Equipments**

The Machinery and equipment for the testing facilities in all divisions are separately placed to provide the testing service. The Machinery and equipments are divided & places as Under.

1. Water Testing – Chemical and Microbiology.(all area calibrated)
2. Food Testing - Chemical and Microbiology.(all area calibrated),
3. Soil Test Division.
4. Steel and Cement Test Division,
5. Bitumen Division,
6. NDT Division.
7. Coal Teasting section

*Thanks :  
Dr. Mahidhar Pathak*

Rupnagar, Guwahati, the 01.01.2022.  
Mob: 98640-66613



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Exclusive authority of EREC

## **Anexutres:**

1. SSI certificate
2. GMC Trade Licence
3. Govt. of Assam Recognition,
4. NABL crtificate
5. Extension Letter,
6. Scope of tests,
7. ISO 9001: 2015 Certificate
8. Credential (Only Food)

Exclusive authority of EREC