GUIDELINES FOR

Recognition of Laboratories under Water (Prevention & Control of Pollution) Act, 1974 and Air (Prevention & Control of Pollution) Act, 1981.

Meghalaya State Pollution Control Board
Forests & Environment Department, Government of Meghalaya
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1.0 Introduction

The Meghalaya State Pollution Control Board was constituted under Sub-section (1) of Section 4 of the Water (Prevention & Control of Pollution) Act, 1974 by the Government of Meghalaya vide Notification No. PHE.161/83/1 Dated the 16th November 1983. Subsequently the enforcing responsibility of the Air (Prevention & Control of Pollution) Act, 1981 was entrusted to the Board. The Government of Meghalaya vide Notification No. ENV.6/2008/106 Dated the 15th May 2014 has transferred the Meghalaya State Pollution Control Board from the Administrative Control of the Public Health Engineering Department to the Forests and Environment Department. The last reconstitution of the Board was notified vide Notification No. ENV.6/2008/307 Dated 20th November 2014.

The section 17 of the Water (Prevention & Control of Pollution) Act, 1974 defines functions of the Board which involves to plan a comprehensive program for the prevention, control or abatement of pollution of streams and wells in the State and to secure the execution of thereof. The Section 17 (2) of the said act also state that the Board may establish or recognize a laboratory or laboratories to enable the Board to perform its functions under this Section efficiently, including the analysis of samples of water from any stream or well or samples of sewage or trade effluents.

Similarly section 17 (2) of Air (Prevention & Control of Pollution) Act, 1981, provide that the State Board may establish or recognize laboratory or laboratories to enable the Board to perform its functions under this section efficiently.

The laboratories play vital role of any effective pollution control program. The analytical laboratories provide qualitative as well as quantitative data for good decision making purpose.

For generating this valuable data with a desire accuracy and to quantify concentration of the constituents present in the samples, the laboratory should have the desired facilities and capabilities to achieved the above goal. Laboratory accreditation provides recognition of technical competence including quality system management of the laboratories. Such recognition is considered the first essential step towards mutual acceptance of test results and test certificate.

2.0 Environmental Laboratory under provisions of Air Act, 1981

The laboratory recognized under provisions of Air Act need to fulfil desired testing of parameters as required by the State Board. The laboratory should have minimum facility to conduct sampling and analysis of following parameters: -

A. Ambient Air/Fugitive Emissions

Nitrogen oxides as NO_2, Sulphur oxides as SO_2, Particulate matter as PM_{10}, Particulate matter as $PM_{2.5}$, Carbon monoxide (CO), Lead, Nickle, Ozone as O_3.

B. Stack Gases/Source Emission

Particulate Matter, Sulphur Dioxide, Carbon Dioxide, Carbon Monoxide, Oxygen, Oxides of Nitrogen.

C. Noise Level

Ambient Noise level, Source Noise level measurement.

The laboratory seeking recognition under Air Act must fulfil the following requirements: -

1. Laboratory should be located in the State of Meghalaya and neighbouring state viz Assam.
2. Should have facilities to carry out sampling and analysis of the parameters specified above.
3. Should have original testing procedures/manuals (USEPA, CPCB, ISC).
4. Should be having minimum laboratory space of 100 sq.mtr.
5. Regular and stabilized electricity supply through use of Uninterrupted Power Supply (UPS) system.
6. Provision of Diesel Generator (D.G) sets for continuous supply of power.
7. The laboratory should maintain appropriate environmental conditions for the testing.
8. The laboratory should have instruments as per the testing procedures adopted by them. The testing procedure adopted should be of standard method (USEPA, CPCB, ISC) or validate methods.
9. All instruments should be properly and regularly calibrated.
10. For preparation of all standard solutions only "Analytical Reagent Grade (AR) or Guaranteed Reagent Grade (GR) should be used, since their purity levels are known.
11. Reference Materials (RM's) or Certified Reference Materials (CRM's) should be used for calibrations during analysis of metals etc.
12. Safe laboratory practices should be adopted.
13. Standard Operating Procedure (SOP) should be maintain for data handling, storage and retrieval, health and safety precautions, analytical method, routine inspection, calibration and standardization of instruments etc.
14. The recognized laboratory shall have to participate in AQC program conducted by CPCB.
15. The man power requirement will be as under:-

Sl. No.	Qualification	Nature of Job	Nos. (Minimum)
1.	High School/Intermediate	Field Attendant, Lab	2
2.	Bachelor's Degree in Basic Science or equivalent	Analyst	2

3.	Master's Degree in Science or equivalent with minimum two years experience in environment laboratory	Supervision of Analysis and Signing	1
	Total Manpower (Minimum)		**5**

3.0 Environmental Laboratory under provisions of Water Act, 1974

The laboratory recognized under provisions of Water Act need to fulfil desired testing of parameters as required by the State Board. The laboratory should have minimum facility to conduct sampling and analysis of following parameters:-

A. Physical Tests

Conductivity, Colour, pH, Total Solids, Total Dissolved Solid, Total Suspended Solids, Turbidity.

B. Inorganic General and Non-Metallic

Acidity, Alkalinity, Ammonical Nitrogen, Chloride, Dissolved Oxygen, Flouride, Total Hardness, Total Kjehldal Nitrogen, Nitrate Nitrogen, Phosphate, Sulphate.

C. Trace Metals

Cadmium, Calcium, Chromium Total, Copper, Iron, Lead, Magnesium, Nickel, Sodium, Zinc, Manganese.

D. Organics

Bio-Chemical Oxygen Demand, Chemical Oxygen Demand, Oil & Grease.

E. Microbiological Tests

Total Coliform, Feacal Coliform, E. Coli, Total Plate Count.

The laboratory seeking recognition under Water Act, 1974 must fulfil following requirements: -

1. Laboratory should be located in the State of Meghalaya and neighbouring state viz Assam.
2. Should have facilities to carry our sampling and analysis of the parameters specified above.
3. Should have original testing procedures/manuals (APHA, USEPA, CPCB, ISC). Should be having minimum laboratory space of 100 sq. mtr.
4. Regular and stabilized electricity supply through use of Uninterrupted Power Supply (UPS) system.
5. Provision of Diesel Generator (D.G.) sets for continuous supply of power.
6. The laboratory should maintain appropriate environmental conditions for the testing.
7. The laboratory should have instruments as per the testing procedures adopted by them. The testing procedure adopted should be of standard method (USEPA, CPCB, ISC) or validate methods.
8. All instruments should be properly and regularly calibrated.

9. For preparation of all standard solutions only "Analytical Reagent Grade (AR) or Guaranteed Reagent Grade (GR) should be used, since their purity levels are known.
10. Reference Materials (RM's) or Certified Reference Materials (CRM's) should be used for calibrations during analysis.
11. Safe laboratory practices should be adopted.
12. Standard Operating Procedure (SOP) should be maintain for data handling, storage and retrieval, health and safety precautions, analytical method, routine inspection, calibration and standardization of instruments etc.
13. The recognized laboratory shall have participate in AQC program conducted by CPCB.
14. The man power requirement will be as under:-

Sl. No.	Qualification	Nature of Job	Nos. (Minimum)
1.	High School/Intermediate	Field Attendant, Lab	2
2.	Bachelor's Degree in Basix Science or equivalent	Analyst	2
3.	Master's Degree in Science or equivalent with minimum two years experience in environment laboratory	Supervision of Analysis and Signing	1
	Total Manpower (Minimum)		**5**

4.0 Environmental Laboratory under provisions of Air Act, 1981 and Water Act, 1974

The laboratory if wishes can apply to seek recognition under both Air and Water Act. They should have facilities to conduct sampling and analysis of parameters as detailed for laboratories seeking recognition under Air Act and Water Act both.

The laboratory seeking recognition under Air Act and Water Act should be having following:-

1. Laboratory should be located in the State of Meghalaya and neighbouring state viz Assam.
2. Should have facilities to carry out sampling and analysis of the parameters specified above.
3. Should have original testing procedures/manuals (APHA, USEPA, CPCB, ISC) Should be having minimal laboratory space of 150 sq. mtr.
4. Regular and stabilized electricity supply through use of Uninterrupted Powe Supply (UPS) system.
5. Provision of Diesel Generator (D.G.) sets for continuous supply of power.
6. The laboratory should maintain appropriate environmental conditions for the testing.
7. The laboratory should have instruments as per the testing procedures adopted by them. The testing procedure adopted should be of standard method (APHA, USEPA, CPB, ISC) or validate methods.

8. All instruments should be properly and regularly calibrated.
9. For preparation of all standard solutions only "Analytical Reagent Grade (AR) or Guaranteed Reagent Grade (GR) should be used, since their purity levels are known.
10. Reference Materials (RM's) or Certified Reference Materials (CRM's) should be used for calibrations during analysis of metals, inorganic general and non metallic, organics such BOD, COD, Oil & Grease.
11. Safe laboratory practices should be adopted.
12. Standard Operating Procedure (SOP) should be maintain for data handling, storage and retrieval, health and safety precautions, analytical method, routine inspection, calibration and standardization of instruments etc.
13. The recognized laboratory shall have to participate in AQC program conducted by CPCB.
14. The man power requirement will be as under:-

Sl. No.	**Qualification**	**Nature of Job**	**Nos. (Minimum)**
1.	High School/Intermediate	Field Attendant, Lab	2
2.	Bachelor's Degree in Basix Science or equivalent	Analyst	2
3.	Master's Degree in Science or equivalent with minimum two years experience in environment laboratory	Supervision of Analysis and Signing	1
	Total Manpower (Minimum)		**5**

5.0 Fees Structure:

All applicant laboratories have to deposit a non-refundable processing fee while submitting application for recognition of the State Board. The fee structure will be as follows:

	Testing Laboratories	**1st Year**	**2nd Year**	**3rd Year**
Application Fee (non-refundable, to be paid along with the application)	For product group/discipline (e.g. Ground water/Surface water/Waste water/Ambient Air/Noise/Stack Emission)	Rs. 24, 000.00	-	-
Annual Accreditation Fee (per year from the date of accreditation)	-	Rs. 12, 000.00	Rs. 12, 000.00	Rs. 12, 000.00

Note - Annual Accreditation fee is payable in advance and is non-refundable and non-adjustable				
Assessment Charges (payable after the completion of assessment visit to laboratory)	-	Rs. 5, 000.00 person		
Travel, Boarding and Lodging expenditure	The Applicant will make the travel arrangements for the Team. Also, to ensure the safety and security of the Team visiting for conducting assessments.	-	-	-

N.B: The requisite fees may be deposited either through by DD or through NEFT/RTGS. In case of payment made by DD, the same should be drawn in favour of Member Secretary, Meghalaya State Pollution Control Board, Arden, Lumpyngngad, Shillong – 793014, Meghalaya. In case of payment made through NEFT/RTGS, the details are given below:

BANK OF INDIA, MOTINAGAR BRANCH, SHILLONG,

IFSC No: BKID0004060

Account No: 406010100001242

6.0 Procedure for recognition of Laboratory

Step – I Submission of application in prescribed format along with necessary enclosures.

Step – II Preliminary scrutiny of the application received based on guidelines for recognition of environmental laboratory by MSPCB.

Step – III Laboratories fulfilling criteria for recognition on the basis of desktop evaluation will be inspected by the team constituted by the Board.

Step – IV The recommendation of the inspecting team alongwith desktop evaluation report will be submitted to the Laboratory incharge for decision.

Step – V The Laboratory in charge will submit its recommendations to Member Secretary and Chairman/Board meeting.

Step – VI Approval by the MSPCB for eligible recommended laboratory (ies) for their recognition.

Step – VII The list of approved laboratories will be posted on Websites of MSPCB.

Constitution of Inspecting Team.

1. Scientist B/Scientist C/Senior Scientist/Chief Scientist from Central Laboratory.
2. Senior Technical Assistant from Central Laboratory.
3. Constitution of Expert.
    i. Sr. Scientist/Chief Scientist – Central Laboratory
    ii. Member Secretary, MSPCB.

7.0 General conditions for recognized laboratories

1. The Environmental laboratories desirous of renewal of recognition at the expiry of earlier recognition period have to submit application for renewal of recognition at least six months before the expiry date of earlier recognition.

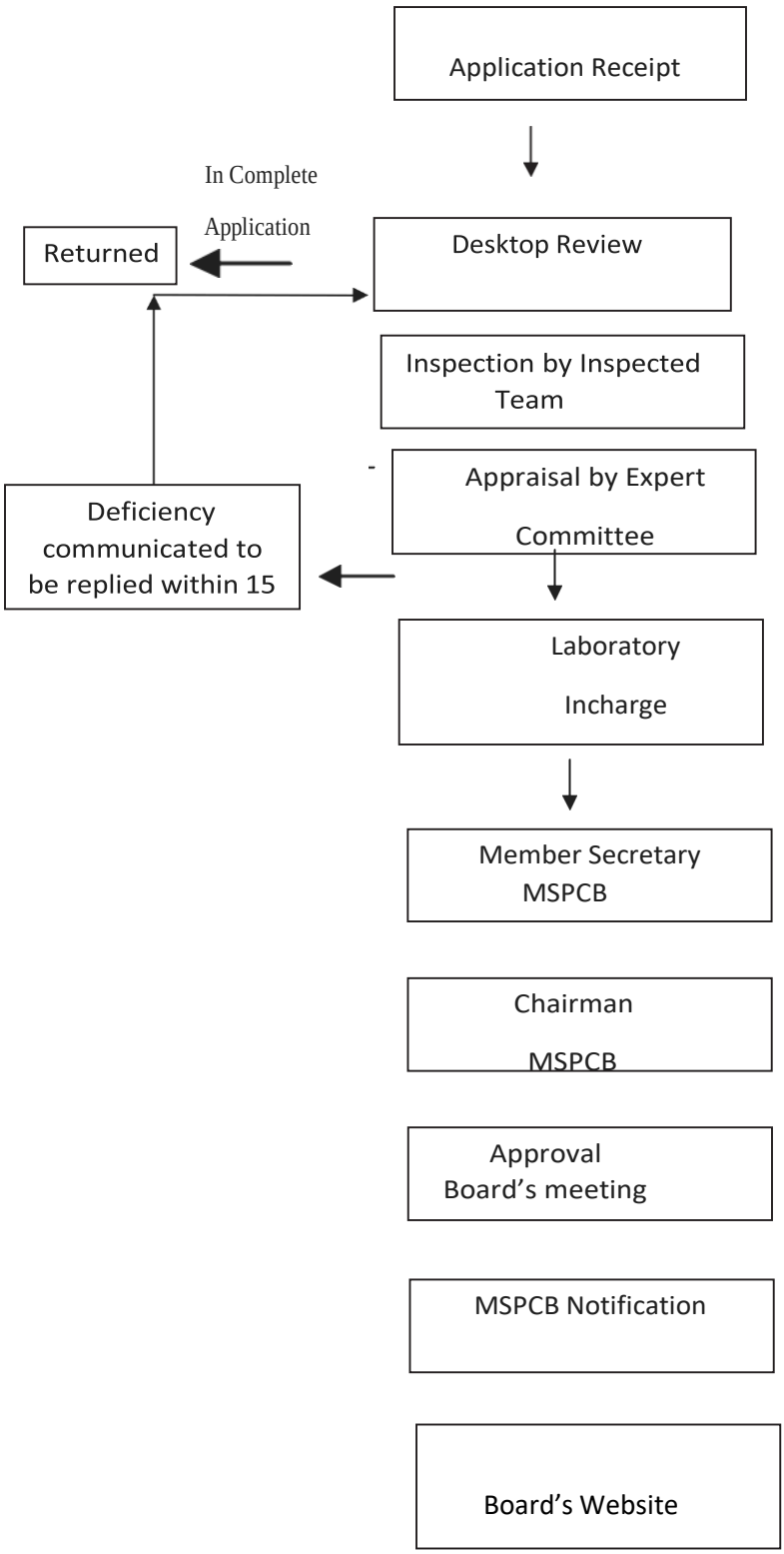
2. The recognition of a laboratory shall be for the period of 3 years.

The MSPCB reserves its right to de-recognize or revoke its recognition at any time in public interest without assigning any reason, if its deemed necessary by the MSPCB. The recognition will also be revoked during following events:

1) If the laboratory is not maintaining calibration of equipments.
2) If the laboratory is not using chemicals/consumable/glass ware of appropriate quality.
3) If the laboratory is not following conditions of recognition.
4) In case, the laboratory indulges in mal practices and issuing fraudulent reports.
5) There are complaints against the laboratory regarding analytical mal practices.
6) The laboratory not complying the rules and regulations notified under the Acts.

8.0 FLOW SHEET FOR RECOGNITION OF LABORATORY

Flow Chart



PROFORMA

RECOGNITION OF LABORATORY UNDER THE WATER ACT, 1974 & AIR ACT, 1981

(To be filled in by all existing laboratories to be considered for recognition as Water Act, 1974 & Air Act, 1981 by Meghalaya State Pollution Control Board)

1. General
   (i) Name of Organization: ……
   (ii) Name of the Laboratory: …….
   (iii) Address:
      a) Postal: ……..
      ……..
      ……
      b) Telephone: …….
      c) Fax: ……
      d) E-mail: ……
   (iv) Year of establishment of organization: ……..
   (v) Year of establishment of environmental laboratory/wing: ……
   (vi) Type of Organization: (Please tick the appropriate to your Organization)

Government	Autonomous	Public Sector
Pollution Control Board/Committee	Educational Institute (Govt/Govt added/private)	
Private	NGO	Any other

   (vii) If laboratory/organization is private/NGO, give details:

a. Whether registered with local, state or central govt. authorities : Yes/No
b. If yes, mention Registration NO. and date : _____
c. Nationality of owner/head of the Organization : _____
d. Laboratory is located in (tick relevant)

e. Laboratory is situated in authorized/approved area notified by the govt. Commercial/Business complex Residential area Industrial area Other

Yes/No

(viii) Objectives & scope of the organization*

(Please indicate, among others, whether it includes specialized testing, measurement, services)

(ix) Head of the Organization:

a) Name
b) Designation
c) Address
d) Telephone
e) Fax No.
f) E-mail

(x) Laboratory Incharge, if different than (ix) above.

a) Name and Designation: ……..
b) Address: ……..
c) Telephone: ……..Fax: …….. E-mail: ……

(xi) Name of accreditation body (s)/organization i.e. ISO, NABL, GLP, SPCB's, PCC's etc. from which the laboratory has been already recognized/accredited, give details.

Sl. No.	**Name of the certification/recognition body/organization**	**Accreditation/recognition granted for the activities**	**Environmental Parameter covered**	**Validity up to**

(xii) If applied for renewal of laboratory recognition under EPA, 1986, give previous recognition details:

a. Validity period: From_____ to _____
b. Reference of Gazette notification: _____
c. CPCB/MoEF reference No: _____

(xiii) Whether laboratory ever been de-recognized before its validity period of recognition under The Water Act, 1974. The Air Act 1981 and The E (P) Act, 1986 by State Pollution Control Board/Pollution Control Committee/Central Government/CPCB, if yes, give details:

2. Infrastructural details of Laboratory: (please enclose brief layout plan map of laboratory) with organizational chart and laboratory position in there to:

(i) Total floor space of the environmental laboratory (in sq. mtr): _____

a) Water Laboratory = Sq. mtr

b) Biological & Microbiological Laboratory = Sq. mtr

c) Air Laboratory = Sq. mtr

d) Provide scanned photograph of above with layout plan.

(ii) Details of major project undertaken pertaining to environmental studies:
[*please attach separate sheet, if space is insufficient]*

(iii) Which of the following type of analytical tests are being carried out in the laboratory [please mark Yes (√)/No (x)]:

a) Physical
b) Inorganics general and non metallic
c) Inorganic (Trace metals)
d) Organics (General)
e) Trace Organics
f) Microbiological
g) Toxicity
h) Biological
i) Hazardous waste
j) Soil, sludge, sediment
k) Hazardous waste characterization
l) Ambient air
m) Source emission
n) Air Toxics
o) Hazardous Air Pollutants
p) Volatile Organic Carbon
q) Noise measurement
r) Meteorological
s) Vehicular emission/Auto exhaust

(iv) Laboratory scientists/chemist or officials are fully conversant for sampling, monitoring, preservation and transportation [please tick Yes (√)/No (x)]

a) Water and waste water
b) Hazardous waste
c) Solid waste
d) Soil
e) Municipal waste
f) Biomedical waste
g) Ambient air/fugitive emission
h) Air Toxic analysis
k) Hazardous Air Pollutants analysis
l) Volatile Organic Carbon analysis
m) Noise monitoring
n) Meteorological monitoring
o) Source emission
p) Auto exhaust monitoring
q) On line ambient air quality monitoring

(v) Laboratory scientists/chemists or officials are capable of analysis desired/relevant parameters in various types of matrix [please tick Yes (√)/No (x)]

a. Liquid Samples (water & wastewater)
b. Solid Samples (soil/mud/solid waste/sludge etc.)
c. Semi-solid samples (sludge/slurry)
d. Gaseous samples (Ambient air, source emission, vehicular emission)

(vi) a) Mark the parameters given in Appendix 'A' which can be analyzed in the laboratory:

b) Mark the equipment given in Appendix 'B' which are available in the laboratory:

c) Mark the glass apparatus/assembly given in Appendix 'C', which are available in the laboratory.

d) Mark the Instruments given in Appendix 'D' which are available in the laboratory.

e) Mark the methodology employed for analysis in Appendix 'E'.

f) Mark the Air Quality Parameters, which can be analyzed in the laboratory in Appendix 'F'.

g) Mark the Instruments/equipment given in Appendix 'G'.

h) Give details about instruments/equipment in Appendix 'H'.

i) Give details about the analytical methods adopted in Appendix 'I'.

j) Give details about the facilities available for anlaysis of specified organic compounds in Appendix 'J'.

(vii) Which of the methods given below are being followed for the [Tick√]:

(a) Water and Wastewater Analysis:

1. APHA	2. BIS	3. USEPA
4. ASTM	5. ISO	6. Any other

(b) Air Pollution Monitoring and Analysis

1. APHA	2. BIS	3. USEPA
4. CPCB	5. ASTM	6. ISO
7. Any other		

(viii) Provide details for participation in inter-laboratory (between laboratories) Analytical quality control proficiency testing programme during last 5 years. Attach copy of performance report with the application.

Coordination Agency i.e. CPCB, WHO, NABL, SPCB/PCC etc.	Period (Month/Year)	Parameter covered	Percentage of performance

(ix) Name, designation and qualifications of staff/officials posted at environmental laboratory/branch (with expertise in environmental analysis/testing): (Please enclose separate sheet if space is inadequate)

Sl. No.	Name	Designation	Qualification	Total experience in any. Field (years & months)	Nature of present job assignment (√ only)		
					Administrative	Supervisory	Analysis/sampling

(x) Details of training programme/related with the environment filed attended with in last five years by the officials working at the laboratory as mentioned at (ix).

Sl. No.	Name of officials	Training conducted by the institution/ organization	Title/topic	Duration

(xi) Please indicate by asterisk (*) the name of personnel (maximum three) & having desired qualification and experience as mentioned in Annexure – IV to be considered for nomination as Govt. Analysts. Brief bio-data of there persons should enclosed as per annexure – V.

Sl. No.	Name	Designation	Qualification	Experience in years related with Environmental Analysis

(xii) If applied for renewal of recognition under EPA 1986, please outline steps taken for up gradation of laboratory (please attach details annexure) during recognition period with respect to:

a) Procurement of new sophisticated instrument.
b) Addition of new parameters.
c) Participation in Analytical Quality Control (AQC) exercise of CPCB.

Signature: (Head of organization) **(Head of laboratory)**

Full name: _____

(In capital letters)

Seal of laboratory

Self-Assessment by the laboratory

Pre-requisite for Recognition of Laboratories under the Water Act, 1974 & Air Act, 1981

The laboratory should ensure that it fulfils the following essential requirement by it self through self assessment before submitting an application seeking recognition under Water Act, 1974 & Air Act, 1981:

(i) Laboratory (Private) is registered by the local govt/State Govt/Central Govt.

(ii) Laboratory has minimum 9 nos. of fulltime working skilled man power with following qualifications:

Sl. No.	**Qualification**	**Nature of Job**	**Nos. of Man power**
1.	High School/Intermediate with Science	Assistance in sampling analysis	2
2.	Bachelor's Degree in Basic Science or equivalent	Sampling and analysis	4
3.	Master's Degree in Science or equivalent or Bachelor's Degree in Engineering/Technology or equivalent or Ph.D.	Sampling & Analysis Supervision of Analysis	3
		Total Manpower (Minimum)	**9**

(iii) Environmental laboratory should have minimum space required as given below:

a) Water Laboratory = 100 Sq. mtr

b) Air Laboratory = 100 Sq. mtr

c) Water & Air Laboratory = 150 Sq. mtr

(iv) Laboratory should compulsorily meet essential parameter requirement as Appendix A & F.

(v) Laboratory fulfils minimum requirement of equipment/instrument as Appendix B, D & G.

(vi) Laboratory should analyzed samples adopting any validated methods i.e. USEPA, APHA, BIS, ASTM, ISO, EU or CPCB only.

(vii) Laboratory must have environmental journals/books/analytical methods for sample analysis with adequate space.

(viii) Laboratory should have not been revoked there recognition by any SPCB/PCC and Govt. Department. If revoked, recognition case will not be considered before period of three years from the date of revoked.

(ix) Laboratory must have comprehensive facilities, expertise for water or air or both related parameters.

(x) Laboratory should apply strictly as per the format with desired enclosure.

APPENDIX - A

LIST OF PARAMETERS BEING ANALYSED

A) Physical Tests: [Please mark Yes(√)/No(×)]

S. No.	Mandatory parameter	S. No.	Secondary parameter
1.	Conductivity	1.	Odour
2.	Colour	2.	Salinity
3.	pH	3.	Settleable solids
4.	Fixed & volatile solids	4.	Sludge volume index (SVI)
5.	Total Solids	5.	Flocculation test (Jar test)
6.	Total dissolved solids	6.	
7.	Total suspended solids	7.	
8.	Turbidity	8.	
9.	Temperature	9.	
10.	Velocity & discharge Measurement of industrial effluent stream	10.	

Minimum required – All 10 nos. of parameters Minimum required 3 parameters

B) Inorganic [Please mark Yes(√)/No(×)]

(i) General & Non-metallic

S. No.	Mandatory parameter	S. No.	Secondary parameter
1.	Acidity	1.	Carbon dioxide
2.	Alkalinity	2.	Chlorine demand
3.	Ammonical nitrogen	3.	Iodine
4.	Chloride	4.	Sulphite
5.	Chlorine residual	5.	Sulphide
6.	Dissolved oxygen	6.	Bromide
7.	Fluoride	7.	Silica
8.	Total hardness	8.	Cyanide
9.	Total kjehldal nitrogen (TKN)	9.	
10.	Nitrite nitrogen	10.	
11.	Nitrate nitrogen	11.	
12.	Phosphate	12.	
13.	Sulphate	13.	

Minimum required – All 13 parameters Minimum required – Atleast 3 parameters

(ii) Trace Metals [Please mark Yes(√)/No(×)]

S. No.	Mandatory parameter	S. No.	Secondary parameter
1.	Boron (B)	1.	Arsenic (As)
2.	Cadmium (Cd)	2.	Manganese (Mn)
3.	Calcium (Ca)	3.	Cobalt (Co)
4.	Chromium (Cr) Total	4.	Aluminium (Al)
5.	Chromium (CR) Hexavalent	5.	Beryllium (Be)
6.	Copper (Cu)	6.	Barium (Ba)
7.	Iron (Fe)	7.	Lithium (Li)
8.	Lead (Pb)	8.	Selenium (Se)
9.	Magnesium (Mg)	9.	Silver (Ag)
10.	Nickel (Ni)	10.	Tin (Sn)
11.	Potassium (K)	11.	Antimony (Sb)
12.	Sodium (Na)	12.	Cobalt (Co)
13.	Sodium absorption ratio (SAR)	13.	Vanadium (V)
14.	Zinc (Zn)	14.	
15.	Mercury (Hg)	15.	

Minimum required – All 15 parameters Minimum required – Atleast 4 parameters

C) Organics (General) and Trace Organics [Please mark (√)/No(×) and give details at Appendix J for Trace organics]

S. No.	Mandatory parameter	S. No.	Secondary parameter
1.	Bio-chemical oxygen demand (BOD)	1.	Carbon/ Nitrogen ratio
2.	Chemical oxygen demand (COD)	2.	Total organic halide (AOX)
3.	Oil & Grease	3.	Surfactants
4.	Phenol	4.	Tannin & lignin
5.	Pesticide (each)	5.	Poly-chlorinated biphenyl (PCB's) each
	(i) Organo-chlorine (BHC, DDT, Aldrin, Eudosulphan)	6.	Poly nuclear aromatic hydrocarbon (PAH) each
	(ii) Organo nitrogen-phosphrous (Malathion, Chloropyriphos)	7.	Organic Carbon (in Solid)
		8.	Absorbable organic halide (AOX)

Minimum required – All 5 parameters Minimum required – Atlease 3 parameters

D) Microbiological Tests [Please mark Yes(√)/No(×)]

S. No.	Mandatory parameter	S. No.	Secondary parameter
1.	Total Coliform	1.	Total plate count
2.	Faecal Coliform	2.	Enterococcus
3.	Faecal Streptococci	3.	Coliphage
4.	E. Coli	4.	

Minimum required – All 4 parameters Minimum required – Atleast 1 paramenters

E) Toxicological Tests [Pleas mark Yes(√)/No(×)]

S. No.	Mandatory parameter	S. No.	Secondary parameter
1.	Bioassay method for evaluation of toxicity using fish (90% survival of fish after 96 hrs in 100% effluent	1.	Bio-accumulation, bio magnification and bio-transformation studies
		2.	Estimation of the effect at tissue level
		3.	Measurement of toxicity using Daphnia or other organism
		4.	Measurement of toxicity factor using zebra fish (dimensionless toxicity test)

Minimum required – 1 parameter minimum required – 1 parameter

F) <u>Biological Tests</u> [Please mark Yes(√)/No(×)]

S. No.	Parameter	S. No.	Parameter
1.	Benthic organism identification and count	1.	Saprobity Index
2.	Macrophytic Identification	2.	Chlorophyll
3.	Planktonic Identification count	3.	Primary productivity
4.	Measurement of various diversity index	4.	P/R Ratio

Minimum required – Atleast 3 parameter

G) <u>Hazardous Waste</u> [Please mark Yes(√)/No(×)]

S. No.	Mandatory parameter
1.	Preparation of Leachate (TCLP extract/ Water extract)
2.	Corrositivity
3.	Ignibility (Flash point)
4.	Reactivity
5.	Toxicity
6.	Measurement of heavy metals/pesticides in the waste/leachete

Minimum required – Atleast 3 parameters

H) <u>Soil/Sludge/ Sediment and Solid Waste</u> [Please mark Yes(√)/No(×)]

S. No.	Mandatory parameter	S. No.	Secondary parameter
1.	Boron	1.	Ammonia
2.	Nitrogen available	2.	Bicarbonate
3.	Organic carbon/matter (Chemical method)	3.	Calcium

4.	Phosphorous (available)	4.	Calcium carbonate
5.	pH	5.	Chloride
6.	Electrical Conductivity (EC)	6.	Colour
7.	Phosphate (ortho)	7.	Heavy metal
8.	Phosphate (Total)	8.	Magnesium
9.	Potassium	9.	Exchangeable sodium percentage (ESP)
10.	SAR in Soil extract	10.	Gypsum requirement
11.	Cation Exchange capacity (CEC)	11.	Sulphate
12.	TKN	12.	Mechanical soil analysis
13.	Calorific value	13.	Nitrate
14.	Sodium	14.	Nitrite
15.	Soil moisture	15.	PAH
		16.	Pesticide
		17.	Potash (available)
		18.	Sulphur
		19.	TOC
		20.	Total water soluble salt
		21.	Water holding capacity
		22.	H. Acid

Minimum required: All 15 parameters Minimum required: Atleast 10 parameters

Remarks:
Besides minimum instruments/equipments facilities laboratory must qualify minimum 5 essential groups i.e. A to E for water and similarly A to D for air analysis

APPENDIX – B

a) LIST OF EQUIPMENT FOR WATER/ WASTE WATER ANALYSIS
[Note: Please mark Yes(√)/No(×)]

S. No.	Equipments	Yes/No	Nos. available
	BASIC EQUIPMENTS		
1.	Ice Box/s* (2)		
2.	Filtration assembly* (1)		
3.	Heating Mantle		
4.	Stop watch		
5.	Hot air oven* (2)		
6.	Hot plate* (2)		
7.	Muffle furnace* (1)		
8.	Standard weight		
9.	Water bath		
10.	Thermometer/s* (4)		
11.	Refrigerator/s big size* 300 litres or above (2)		
	SPECIFIC EQUIPMENTS		
1.	Autoclave* (1)		
2.	Bottom sampler		
3.	BOD Incubator* (1)		
4.	Centrifuge* (1)		
5.	Aquarium for bioassay test* (4)		
6.	COD Digester with aluminium heating blocks* (1)		
7.	Colony Counter		
8.	Depth Sampler		
9.	Digester with condensers		
10.	Digestion chamber* (1)		
11.	Dissolved oxygen sampler		
12.	Flocculator (Jar testing apparatus)		
13.	Flow meter		
14.	Incubator for bacteriological test* (2)		
15.	Laminar flow* (1)		
16.	Magnetic Stirrer with hot plate* (2)		
17.	Mechanical shaker		
18.	Microwave digester		
19.	TKN Analyzer semi automatic with aluminium block digester		
20.	Ultrasound water bath		
21.	Vacuum pump* (1)		
22.	Water purification/ distillation assembly* (1)		
23.	Ekman Dredge		
24.	Water sampler		
25.	Oil & Grease sampler		
26.	Water Testing kit		
27.	Chloroscope for residual chlorine		
28.	Any other equipment (please attach details on separate sheet)		

Besides minimum analytical capabilities, expertise, laboratory must be equipped with these items if seeking recognition with desired nos. as mentioned against each items.

Provide minimum numbers of items, in case exact numbers are not available.

Certified that all the above equipments are properly of _____ _____ (Name of laboratory) and procurement records/bills of instruments/equipments available at the laboratory. The list of instruments/equipments taken on loan is appended herewith.

Signature of Laboratory Incharge

APPENDIX - C

a) LIST OF GLASS APPARATUS AND DISTILLATION ASSEMBLIES
[Note: Please mark Yes (√)/No(×)]

Sl No.	Particulars	Yes or No	Total nos. available
1.	Fluoride distillation assembly		
2.	Cyanide distillation assembly		
3.	Ammonia distillation assembly		
4.	Water distillation assembly		
5.	Soxlet extraction assembly		
6.	Arsenic estimation assembly		
7.	Phenol distillation assembly		
8.	Any other (please enclose details on separate sheet)		

Remarks: If actual figures are not available give minimum/ least nos. available

APPENDIX - D

a) LIST OF INSTRUMENTS FOR WATER/ WASTE WATER ANALYSIS
[Note: Please mark Yes(√)/No(×)]

S. No.	Name of instruments		Yes/No	Total Nos. **
	BASIC INSTRUMENTS			
1.	Analytical Balance +* (1) 1 mg			
2.	Conductivity Meter* (1)			
3.	Dissolved oxygen meter			
4.	pH Meter with combined glass electrode* (1)			
5.	Turbidity meter* (1)			
	SPECIFIC INSTRUMENTS			
1.	Alpha/Beta Radioactivity Counter			
2.	Atomic Absorption Spectrophotometer (Flam e) with the following cathode lamps + (√available HCL)* (1)			
	(i) Aluminium (iii) Arsenic (v) Barium (vii) Cadmium (ix) Chromium (xi) Iron (xiii) Lead (xv) Manganese (xvii) Nickel (xix) Selenium (xxi) Sodium (xxiii) Tin (xxv) Vanadium	(ii) Antimony (iv) Barellium (vi) Boron (viii) Calcium (x) Copper (xii) Lithium (xiv) Magnesium (xvi) Mercury (xviii) Potassium (xx) Silver (xxii) Strontium (xxiv) Cobalt (xxvi) Zinc (xxvii) Other, pl. specify		
3.	Atomic Absorption Spectrophotometer with Graphite Furnace and Hydride Generation System			
4.	Organic Halogen Analyzer (AOX/TOX)			
5.	Binocular Microscope			
6.	Flame Photometer* (1)			
7.	Gaws Chromatograph with following detector* ++ (1)			
	- ECD - NNPD - FID – TID - FPD - Other detector			
8.	Gas Chromatograph with Mass Spectrometer (GC-MS)			
9.	High Pressure Liquid Chromatograph (HPLC)			
10.	Ion Chromaograph			
11.	Inductively Coupled Plasma (ICP) Spectrometer			
12.	Mercury Analyzer Digital* (1)			
13.	Portable Analyser Kit (DO, pH, Temp. cond.)			
14.	Precision Balance weighing up to 1 mg* (Water/ air)			
15.	Rotary Evaporator* (1)			
16.	Spectrophotometer (Visible)* or Ultraviolet & visible* (1)			
17.	Stereo Microscope			

* Besides minimum analytical capabilities, expertise, laboratory must equipped with these items If seeking/ applying for recognition with desired nos. as mentioned against each items.

** Provide minimum number if item, in case exact numbers are not available

+ All H.C.L. may not required essentially

++ GC equipped minimum ECD, NPD & FID with capillary column.

- It equipped with ICP Spectrophotometer then AAS is not required essentially.
- Mercury Analyzer Digital may not required essentially, if Mercury is measured 1 ppb or below by AAS/ICP.

b) LIST OF SPECIFIC EQUIPMENTS/INSTRUMENTS FOR HAZARDOUS WASTE ANALYSIS

[Note: Please mark Yes(√)/No(×)]

Sl No.	Instruments	Nos. available
1.	Bomb colorimeter	
2.	Elemental analyzer	
3.	Flash point apparatus	
4.	Moisture content meter	
5.	Rotary evaporator	
6.	Toxicity characteristic leaching procedure (TCLP) extractor	
7.	Toxic Gas analyzer	
8.	X-ray fluorescence (XRF) Spectrometer	
9.	Zero head space extractor (ZHE)	

c) MAINTENANCE CONTRAC STATUS OF IMPORTANT SOPHISTICATED INSTRUMENTS

[Note: Please mark Yes(√)/No(×)]

Sl No.	Name of instruments	Repair job undertaken on Annual Maintenance contract/ emergency call basis	Whether sufficient spares available
1.	AAS (Flame & Flameless)		
2.	AOX		
3.	Total Organic Carbon Analyzer		
4.	Gas Chromatograph		
5.	Water purification system		
6.	Analytical balance		
7.	Specific ion meter		
8.	Mercury analyzer		
9.	UV-Visible spectrophotometer		
10.	Alpha/Beta Radioactivity Counter		
11.	Any other		

d) REFERENCE MATERIAL (RMS) AND CERTIFIED REFERENCE MATERIAL (CRMS)

Sl No.	Availability of RMS/ CRMS Parameters	Yes or No (√/×)	Nos. of standards
1.	Trace Metals		
2.	Organo-chlorine pesticides		
3.	Organo-nitrogen phosphorous pesticides		
4.	Polychlorinated Biphenyls (PCB's)		
5.	Polycyclic aromatic hydrocarbon (PAH)		
6.	Benzene, Ethylene, Toluence & Xylene		
7.	Dioxins and furans		

Note: *- Please enclose details on separate sheet, if space is inadequate.*
- Provide list of standards (RM/CRM) with their names, make & expiry date

APPENDIX - E

METHODOLOGY EMPLOYED FOR ANALYSIS
[Please tick √ relevant adopted method]

(A) PHYSICAL PARAMETERS

Sl. No.	PARAMETER	METHOD ADOPTED
1.	Colour	a. Visible comparison method (only potable water) b. Spectrophotometric Method (All)
2.	Odour	Threshold odour test
3.	Conductivity	Conductivity meter
4.	pH Value	Electronic (pH Meter)
5.	Total solids dried at 103-105^{o}C	Gravimetric
6.	Total suspended solids dried at 103-150^{o}C	Gravimetric
7.	Total dissolved solids dried at 180^{0}C	Gravimetric
8.	Fixed and volatile solids ignited at 550^{o}C	Gravimetric
9.	Settleabe solids	Volumetric using Imhoff concentration
		Gravimetric
10.	Sludge volume index (SVI)	Volumetric followed by gravimetric (using Imhoff conc. And
11.	Salinity	a. Electrical conductivity method b. Density method
12.	Settled sludge volume	Volumetric
13.	Turbidity	Nephelometric
14.	Temperature	Thermometer
15.	Velocity and discharge measurement of river, drain, industrial effluent stream etc	a. Cross-Section-velocity method b. Weirs (Rectangular or V Notch or U-Notch) c. Chemical methods
16.	Flocculation test (Jar test)	Dosing of coagulants
17.	Other Parameters	

APPENDIX - E

(B) I. INORGANIC (GENERAL & NON-METALLIC)

Sl. No.	PARAMETER	METHOD ADOPTED
1.	Acidity	a. Electrometric/ potentiometric titration b. Color Indicator titration
2.	Alkalinity	a. Electrometric/ Potentionmetric titration b. Colour Indicator titration
3.	Ammonical Nitrogen	a. Distillation followed by colorimetric method (Nesselerization or phenate) b. Distillation followed by titrimetric method c. Distillation followed by ion Selective electrode method
4.	Bromide	Colorimetric (Curcumin or Carmine)
5.	Carbon Dioxide	a. Titrimetric b. Nomographic
6.	Chloride	a. Titrimetric (Argentometric or Mercuric Nitrate) b. Potentionmetric
7.	Chlorine dem and	Dosing of sampling chlorine solution
8.	Chlorine Residual	Titrimetric
9.	Cyanide	a. Distillation followed by Titrimetric b. Distillation followed by Colorimetric c. Distillation followed by Cyanide- Selective Electrode
10.	Dissolved Oxygen	a. Winkler titrimetric-azide modification b. Membrane electrode method
11.	Fluoride	a. Distillation followed by Colorimetric (SPADNS or Alizarin Red) b. Distillation followed by Fluoride selective electrode
12.	Iodine	a. Leuce crystal violet method b. Amperometric titration method
13.	Total kjehdal nitrogen	a. Macro kjehldal method b. Semi micro kjehldal method
14.	Nitrite nitrogen	Colorimetric
15.	Nitrate nitrogen	a. Colorimetric b. Cadmium reduction method c. Electrode method
16.	Phosphate	Colorimetric
17.	Sulphate	a. Turbidimetric b. Gravimetric method with residual/ ignition or residue
18.	Sulphide	a. Iodometric method b. Ion selective electrode method

19.	Sulphite	a. Titrimetric b. Phenonthralin method
20.	Silica	a. Molybdosilicate method b. Heterotopy blue method
21.	Total hardness	Titrimetric (EDTA method)
22.	Other parameters (pl. specify)	

II. TRACE METALS (Tick for applicable methods for elemental analysis)

S. No.	Elements	Flame atomic absorption (direct)	Flame atomic absorption (extracted)	Flame photometry	Electro thermal atomic absorption	Hydride/ cold vapour atomic absorption	Inductively coupled plasma (ICP)	ICP/MASS spectrumetry ICP/MS	Anodic stipping voltametry	Alternative method (colorimetric/ titrimetric by difference etc)
1.	Aluminium (Al)									
2.	Antimony (Sb)									
3.	Arsenic (As)									
4.	Barium (Ba)									
5.	Beryllium (Be)									
6.	Boron (B)									
7.	Cadmium (Cd)									
8.	Calcium (Ca)									
9.	Chromium (Total) (Cr^3)									
10.	Chromium (Hexa) (Cr^{+6})									
11.	Cobalt (Co)									
12.	Copper (Cu)									

13.	Iron (Fe)									
14.	Lead (Pb)									
15.	Lithium (Li)									
16.	Magnesium (Mg)									
17.	Manganese (Mn)									
18.	Mercury (Hg)									
19.	Nickel (Ni)									
20.	Potassium (K)									
21.	Selenium (Se)									
22.	Silver (Ag)									
23.	Sodium (Na)									
24.	Sodium Absorption Ratio (SAR)									
25.	Strontium (Sr)									
26.	Tin (Sn)									
27.	Vanadium (V)									
28.	Zinc (Zn)									

1. Total nos. of metal analysis claimed _____
2. Metal digestion method adopted pre treatment (please tick appropriate)

(a) Using hot plate
(b) Closed loop system
(c) Microwave digestion

C. ORGANIC (GENERAL) & TRACE ORGANICS
[Please mark Yes (√)/ No (×) for adopted method]

Sl. No.	PARAMETER	METHOD ADOPTED
1.	Bio-chemical Oxygen Demand (BOD)	a. Three days BOD at 27°C b. Five days BOD at 20°C
2.	Chemical oxygen demand (COD)	a. Open reflux titrimetric method b. Closed reflux titrimetric method c. Closed reflux titrimetri c
3.	Oil & grease	a. Grass metric (simple extraction) b. Soxhlet extraction
4.	Phenol	a. Distillation followed by colorimetric b. Chloroform extraction
5.	Absorbable organic halogens	Absorption pyrolysis titrimetric
6.	Organic carbon (in solids)	Rapid titametration method
7.	Total organic carbon	a. High temperature combustion b. Persulphate ultraviolet or heated persulphate oxidation c. Wet oxidation method
8.	Surfactants	a. Surfactant separation by sublation b. Anionic surfactants as MBAS c. Non imic surfactants as CTAS
9.	Carbon/ Nitrogen Ratio	By calculation
10.	Tannin & lignin	Calorimetric method
TRACE ORGANICS		
11.	Pesticides	a. Organo-chlorine (Please specify adopted method b. Organo-phosphorous (Please specify adopted method) c. Carbamates (Please specify adopted method) d. Fungicides (Please specify adopted method)
12.	Polychlorinated biphenyl (PCBs)	Please specify adopted method
13.	Poly nuclear aromatic hydrocarbon	Please specify adopted method
14.	Volatile Organics	Please specify adopted method
15.	Trihalomethanes	Please specify adopted method

D. MICROBIOLOGICAL TESTS (Adopted method)

Sl. No.	PARAMETER	METHOD ADOPTED
1.	Total coliform	a. Multiple tube technique b. Membrane filter technique
2.	Faecal coliform	a. Multiple tube technique b. Membrane filter technique
3.	Faecal streptococci	a. Multiple tube technique b. Membrane filter technique
4.	Enterococcus	a. Multiple tube technique b. Membrane filter technique
5.	Total plate count	a. Pore plant method b. Spread plate methad c. Membranefilter methad
6.	E.Coli	a. Multiple tube technique b. Membrane filter technique
7.	Others (Please specify)	

E. HAZARDOUS WASTE PARAMETERS (Adopted method)

Sl. No.	PARAMETER	METHOD ADOPTED
1.	Preparation of Leachate (TCLP extract/ water extract)	-
2.	Determination of various parameter in Leachate i.e metal, pesticides	Methods as prescribed in water analysis
3.	Corrosivity	a. Electrometric (by pH meter) b. Corrosicity toward steel
4.	Reactivity	Identification of characteristic properties i.e. explosive, reading violent, violently react with waster forms potential explosive mixture with water etc.
5.	Ignitability	a. By pen sky martens apparatus b. By seta flash closed cap tester
6.	Toxicity	Toxicity characteristics leaching procedure (TCLP)
7.	Other (Please specify)	

APPENDIX – F

AIR QUALITY PARAMETERS

Facilities available [Please mark Yes (√)/No(×)]

A. Ambient Air/ Fugitive Emission

Sl No.	Group Parameters	Yes or No (√/×)	Adopted method
(i)	Mandatory Parameters		
1.	Nitrogen dioxide as NO_2		
2.	Sulphur dioxide (SO_2)		
3.	Total suspended particulate matter		
4.	Respirable suspended particulate matter (PM_{10})		
(ii)	Secondary Parameter		
1.	Ammonia		
2.	Carbon monoxide		
3.	Chlorine		
4.	Fluoride		
5.	Non methane hydrocarbon		
6.	Lead		
7.	Methane		
8.	Ozone		
9.	Benzene toluene Xylene (BTX)		
10.	Polycyclic aromatic hydrocarbon (PAH) Benzo-a-pyrine & others		
11.	$PM_{2.5}$		
12.	Volatile Organics Carbon		

Minimum required – atleast 5 parameters from secondary parameter

B. Stack gases/ source emission

Sl No.	Group Parameters	Yes or No (√/×)	Adopted method
(i)	Mandatory Parameters		
1.	Particulate matter		
2.	Sulphur dioxide		
3.	Velocity & flow		
4.	Carbon dioxide		
5.	Carbon monoxide		
6.	Temperature		
7.	Oxygen		
8.	Oxides of nitrogen		
(ii)	Secondary Parameters		
1.	Acid mist		
2.	Ammonia		
3.	Chlorine		

4.	Fluoride (Particulate)		
5.	Fluoride (Gaseous)		
6.	Hydro-chloric acid		
7.	Total-chloric acid		
8.	Total Hydro carbon		
9.	Carbon disulphide		
10.	Mercaptan		

Minimum required – atleast 5 parameters from secondary parameter

C. Noise Level

Sl No.	Group Parameters	Yes or No (√/×)	Adopted method
1.	Noise level measurement (20 to 140 dba)		
2.	Ambient Noise & Source specific noise		

D. Meteorological Monitoring

Sl No.	Group Parameters	Yes or No (√/×)	Adopted method
(i)	Mandatory Parameters		
1.	Ambient temperature		
2.	Wind direction		
3.	Wind speed		
4.	Relative Humidity		
(ii)	Secondary Parameters		
1.	Solar radiation		
2.	Rain fall		

E. Vehicular Emission Monitoring

Sl No.	Group Parameters	Yes or No (√/×)	Adopted method
(i)	Mandatory Parameters		
1.	Carbon monoxide		
2.	Smoke Density		
3.	hydrocarbon		
(ii)	Secondary Parameters		
1.	Oxides of Nitrogen		

Remark: *Laboratory seeking recognition must qualify minimum 4 groups A to D groups of parameters with appropriate space requirement, skilled manpower and adequate infrastructure facilities.*

APPENDIX – G

LIST OF EQUIPMENT/ INSTRUMENTS

[Please mark Yes(√)/ No(×)]

Sl No.	Group Parameters	Yes or No (√/×)	Adopted method
1.	BTX analyzer (PID/FID detector)		
2.	BTX calibrator		
3.	Charcoal Tubes		
4.	CO Analyzer (Non-dispensive Infrared principle)		
5.	Detector Tubes with pump of different pollutants (Please specify details)		
6.	Dust analyzer (Beta Attenuation/ TOEN)		
7.	Exhaust CO/HC analyzer		
8.	Flue gas analyzer		
9.	Gas Chromotograph with Air sampling port, FID & PFPD detectors		
10.	Handy sampler for gaseous monitoring* (2)		
11.	Respirable Dust sampler		
12.	Low flow pump		
13.	Meteorological sensors with mast (WS, WD, Temp, Humidity)* (1)		
14.	Micro balance (Readability 1 ug)		
15.	Multi calibration system		
16.	Multi channel recorder		
17.	Multi calibration kit (portable)		
18.	Noise level meter* (2)		
19.	NO-NO2-Nox Analyzer (Chemiluminescence based)		
20.	Ozone analyzer (Ultraviolet)		
21.	Permeation tubes for calibration		
22.	RSPM sampler with flow controller/ brush less motor + calibration kit* (4)		
23.	Smoke density meter		
24.	SO2 Analyzer (Pulsed Fluorescence based)		
25.	Soap bubble meter		
26.	Stack monitoring kit with High Temp Probes* (2)		
27.	Toddler Bags		
28.	Wet gas meter		
29.	Any other (please specify)		

LIST OF INFRASTRUCTURAL EQUIPMENTS FOR AIR ANALYSIS
[Please mark Yes(√)/No(×)]

Sl No.	Group Parameters	Yes or No (√/×)	Adopted method
1.	Air Conditioner (split type)		
2.	Air Conditioner (Window type)		
3.	Breathing apparatus		
4.	Cold room far sample storage		
5.	Computer with printer		
6.	Constant voltage transformer		
7.	Face shield and helmet		
8.	Gas mask		
9.	Refrigerator (frost free, CFC free)		
10.	Tool kit (Electrical & Mechanical)		
11.	Uninterupted power supply (UPS) system		
12.	First aid box		
13.	Trolley for sample transportation		
14.	Fume Hood		
15.	Exhaust System		
16.	Fire Extinguisher		
17.	Electricity Generator		
18.	Gas Cylinder Trolleys		
19.	Any other (Please specify)		

** Provide minimum numbers of items, in case exact number are not available

* Besides minimum analytical capabilities, expertise laboratory must equipped with these items, if seeking/applying for recognition with desired numbers as mentioned against each item.

APPENDIX – H

S. No.	Instrument/ Equipment	Make/ Model	Procurement document/ bills available	Standard operating procedure (SOP's) available	Measuring range	Accuracy %±	Month & year of purchase	Month & Year placed in service	Calibration status internal/ External
1.	AAS								
2.	GC								
3.	Flame photometer								
4.	Mercury analyzer								
5.	BOD incubator								
6.	Analytical balances								
7.	Autoclave								
8.	pH meter								
9.	Conductivity meter								
10.	Bacteriological incubator								
11.	Spectrophotometer (visible)								
12.	Turbidity meter								
13.	Noise level meter								
14.	Respirable Dust sampler								
15.	Stack monitoring kit								
16.	Meteorological sensor								

(Please provide details on separate sheet, if space is inadequate) * If external, mention date of calibration validity

APPENDIX – I

S. No.	Parameter	Method adopted (Please provide method details viz. Method Nos. page details)	Measuring Range	Minimum Detection Limit (MDL)	SOP's Available
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

APPENDIX - J

Please provide the name of compound being analyzed in the laboratory using Gas Chromatography technique for the following groups:

S. No.	Pesticides			Polychlorinated Biphenyls (PCB's)	Polynuclear aromatic hydeocarbon PAH	Dioxins & Furand	Benzene ethylene toluence & Xylene	Trihalomethanes
	Organo-chlorine	Organo Nitro phosphorous	carbonate					

Attachments

1. Provide coloured scanned photograph showing inner view/ work area of the laboratory for the following sections.

Water and Wastewater Section	Microbiology Section
Instrumentation Section	Air and Emission Testing Section
Library/ conference Room	Outer view of the laboratory building

2. Enclose Layout Plan of the laboratory with the application