

Laboratory **Advanced Environmental Laboratory, Tamil Nadu Pollution Control Board, No. 1/276, Meyyanur Main Road, "Siva Tower", Illrd Floor, Salem, Tamil Nadu**

Accreditation Standard **ISO/IEC 17025: 2005**

Certificate Number **TC-6874**

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Validity **07.02.2018 to 06.02.2020**

Last Amended on --

| Sl. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|-----|----------------------------|-------------------------|---|--|
|-----|----------------------------|-------------------------|---|--|

CHEMICAL TESTING

| I. | WATER | | | |
|----|---|--|---|------------------------|
| 1 | Water (Ground Water, Lake water, River water) | pH Value @25°C | APHA 23 rd Edn- 4500 H ⁺ | 2 to 12 |
| | | Conductivity @25°C | APHA 23 rd Edn- 2510 B | 2 µs/cm to 25000 µs/cm |
| | | Total Solids | APHA 23 rd Edn- 2540B | 4 mg/L to 25000 mg/L |
| | | Total Suspended Solids @105°C | APHA 23 rd Edn- 2540 D | 4 mg/L to 400 mg/L |
| | | Total Dissolved solids @180°C | APHA 23 rd Edn- 2540 C | 4 mg/L to 25000 mg/L |
| | | Chloride as Cl | APHA 23 rd Edn- 4500 Cl B | 5 mg/L to 12000 mg/L |
| | | Sulphate as SO ₄ | APHA 23 rd Edn- 4500 SO ₄ E | 5 mg/L to 8000 mg/L |
| | | Oil & grease | APHA 23 rd Edn- 5520 B | 4 mg/L to 20 mg/L |
| | | Bio Chemical Oxygen Demand (3 days @ 27°C) | IS 3025 (Part 44) | 2 mg/L to 100 mg/L |
| | | Chemical Oxygen Demand | APHA 23 rd Edn- 5220 B | 8 mg/L to 400 mg/L |
| | | Ammonical nitrogen as NH ₃ -N | APHA 23 rd Edn- 4500-NH ₃ C | 2 mg/L to 100 mg/L |
| | | Total Kjeldahl Nitrogen | APHA 23 rd Edn- 4500-N _{org} -B | 2 mg/L to 100 mg/L |
| | | Nitrite nitrogen as NO ₂ -N | APHA 23 rd Edn-4500 NO ₂ -B | 0.05 mg/L to 10 mg/L |
| | Nitrate nitrogen as NO ₃ -N | APHA 23 rd Edn- 4500 NO ₃ -B | 1.0 mg/L to 50 mg/L | |

**Iti Saxena
Convenor**

**Alok Jain
Program Director**

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| | | Total Volatile Solids @550°C | APHA 23 rd Edn- 2540 E | 10 mg/L to 100 mg/L |
| | | Total fixed Solids @550°C | APHA 23 rd Edn- 2540 E | 10v to 100 mg/L |
| | | Fluoride as F | APHA 23 rd Edn- 4500- F B,D | 0.2 mg/L to 10 mg/L |
| | | Alkalinity as CaCO ₃ | APHA 23 rd Edn- 2320-B | 1 mg/L to 500 mg/L |
| | | Acidity as CaCO ₃ | APHA 23 rd Edn- 2310-B | 1 mg/L to 50 mg/L |
| | | Total Hardness as CaCO ₃ | APHA 23 rd Edn- 2340 C | 5v to 2000 mg/L |
| | | Calcium hardness as CaCO ₃ | APHA 23 rd Edn- 3500 Ca | 5 mg/L to 1000 mg/L |
| | | Magnesium hardness as CaCO ₃ | APHA 23 rd Edn- 3500 Mg- B | 5 mg/L to 800 mg/L |
| | | Calcium as Ca | APHA 23 rd Edn- 3500 Ca B | 5 mg/L to 700 mg/L |
| | | Magnesium as Mg | APHA 23 rd Edn- 3500 Mg | 4 mg/L to 500 mg/L |
| | | Sodium as Na | APHA 23 rd Edn- 3500 Na- B | 5 mg/L to 1000 mg/L |
| | | Potassium as K | APHA 23 rd Edn- 3500 K-B | 5 vto 200 mg/L |
| | | Hexavalent Chromium as Cr ⁶⁺ | APHA 23 rd Edn- 3500 Cr B | 0.05 mg/L to 5.0 mg/L |
| | | Total Chromium as Cr | APHA 23 rd Edn- 3500 Cr B | 0.05 mg/L to 10.0 mg/L |
| | | Dissolved Oxygen | APHA 23 rd Edn- 4500 O C | 1 mg/L to 8 mg/L |
| | | Cyanide as CN | APHA 23 rd Edn- 4500 C N E | 0.05 mg/L to 1.0 mg/L |
| | | Phosphate as PO ₄ | APHA 23 rd Edn- 4500 P E | 0.5 mg/L to 20.0 mg/L |
| | | Total Iron as Fe | APHA 23 rd Edn- 3500 Fe B | 0.05 mg/L to 10 mg/L |
| | | Phenolic Compounds as C ₆ H ₅ OH | APHA 23 rd Edn- 5530 C | 0.05 mg/L to 5 mg/L |
| II. | POLLUTION AND ENVIRONMENT | | | |

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|---------------------------------|--|--|---|--|
| 1. | Liquid Effluents (Effluent water, STP water, Waste water, Treated water) | pH Value@25°C | APHA 23 rd Edn- 4500 H ⁺ | 2 to 12 |
| | | Conductivity@25°C | APHA 23 rd Edn-2510 B | 1 µS/cm to 100000 µS/cm |
| | | Total Solids | APHA 23 rd Edn- 2540 B | 4 mg/L to 100000 mg/L |
| | | Total Suspended Solids@105°C | APHA 23 rd Edn- 2540 D | 4 mg/L to 25000 mg/L |
| | | Total Dissolved solids @180°C | APHA 23 rd Edn- 2540 C | 4 mg/L to 60000 mg/L |
| | | Chloride as Cl | APHA 23 rd Edn- 4500 Cl B | 2 mg/L to 20000 mg/L |
| | | Sulphate as SO ₄ | APHA 23 rd Edn- 4500 SO ₄ E | 5 mg/L to 10000 mg/L |
| | | Phosphate as PO ₄ | APHA 23 rd Edn- 4500 P E | 0.5 mg/L to 100 mg/L |
| | | Oil & grease | APHA 23 rd Edn- 5520 B | 4 mg/L to 200 mg/L |
| | | Bio chemical oxygen demand (3 days @ 27°C) | IS 3025 (Part 44) | 2 mg/L to 60000 mg/L |
| | | Chemical Oxygen Demand | APHA 23 rd Edn- 5220 B | 8 mg/L to 50000 mg/L |
| | | Ammonical nitrogen as NH ₃ -N | APHA 23 rd Edn- 4500 NH ₃ | 2 mg/L to 500 mg/L |
| | | Total Kjeldahl Nitrogen | APHA 23 rd Edn- 4500 N B | 2 mg/L to 500 mg/L |
| | | Nitrite Nitrogen as NO ₂ -N | APHA 23 rd Edn- NO ₂ B | 0.05 mg/L to 10 mg/L |
| | | Nitrate Nitrogen as NO ₃ -N | APHA 23 rd Edn- NO ₃ B | 1.0 mg/L to 400 mg/L |
| Total Volatile Solids@550°C | APHA 23 rd Edn- 2540 E | 10 mg/L to 10000 mg/L | | |
| Total Fixed Solids@550°C | APHA 23 rd Edn- 2540 E | 10 mg/L to 25000 mg/L | | |
| Fluoride as F | APHA 23 rd Edn- 4500 F B D | 0.2 mg/L to 50 mg/L | | |
| Alkalinity as CaCO ₃ | APHA 23 rd Edn- 2320 B | 1 mg/L to 10000 mg/L | | |
| Acidity as CaCO ₃ | APHA 23 rd Edn- 2310 B | 1 mg/L to 5000 mg/L | | |

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|-------------|-------------------------------|---|---|--|
| | | Total Hardness as CaCO ₃ | APHA 23 rd Edn- 2340 C | 5 mg/L to 10000 mg/L |
| | | Calcium hardness as CaCO ₃ | APHA 23 rd Edn- 3500 Ca | 5 mg/L to 5000 mg/L |
| | | Magnesium hardness as CaCO ₃ | APHA 23 rd Edn- 3500 Mg B | 5 mg/L to 5000 mg/L |
| | | Calcium as Ca | APHA 23 rd Edn- 3500 Ca | 5 mg/L to 3000 mg/L |
| | | Magnesium as Mg | APHA 23 rd Edn- 3500 Mg | 5 mg/L to 3000 mg/L |
| | | Sodium as Na | APHA 23 rd Edn- 3500 Na B | 5 mg/L to 1000 mg/L |
| | | Potassium as K | APHA 23 rd Edn- 3500 K B | 5 mg/L to 1000 mg/L |
| | | Hexavalent Chromium as Cr ⁶⁺ | APHA 23 rd Edn- 3500 Cr B | 0.05 mg/L to 100 mg/L |
| | | Total Chromium as Cr | APHA 23 rd Edn- 3500 Cr D | 0.05 mg/L to 100 mg/L |
| | | Dissolved Oxygen | APHA 23 rd Edn- 4500 C | 1 mg/L to 8 mg/L |
| | | Percent Sodium | TNPCB/AEL-SLM/SOP/35 Issue No.1 / Date 25.04.14 | 5% to 95 % |
| | | Cyanide as CN | APHA 23 rd Edn- 4500 C N E | 0.05 mg/L to 5.0 mg/L |
| | | Total Iron as Fe | APHA 23 rd Edn- 3500 Fe B | 0.05 mg/L to 10.0 mg/L |
| | | Phenolic Compounds | APHA 23 rd Edn- 5530 C | 0.05 mg/L to 5 mg/L |
| III. | ATMOSPHERIC POLLUTION | | | |
| 1. | Ambient Air Monitoring | Respirable Suspended Particulate Matter (PM ₁₀) | IS 5182 (Part 23) | 5 µg/m ³ to 400 µg/m ³ |
| | | Sulphur Dioxide (as SO ₂) | IS 5182 (Part 2) | 4 µg/m ³ to 50 µg/m ³ |
| | | Oxides of Nitrogen | IS 5182: (Part 6) | 9 µg/m ³ to 80 µg/m ³ |

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|-----|--|---|---|---|
| 2. | Stack Emission Monitor | (as NO _x) Particulate Matter | IS 11255 (Part I) | 5 mg/Nm ³ to 5000 mg/Nm ³ |
| 3. | Sound Level (Industrial Ambient Noise) | Sound level (Leq) | IS 9989 | 30 dB(A) to 130 dB(A) |