



(A Constituent Board of Quality Council of India)



### SCOPE OF ACCREDITATION

Laboratory Name PREMIER ANALYTICAL LABORATORIES, BESIDE GOVT. PRIMARY SCHOOL,

HOSPET, BELLARY, KARNATAKA, INDIÁ

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-6193 Page No.: 1 / 8

| S.No | Discipline / Group                      | Product / Material of<br>Test | Specific Test<br>Performed | Test Method<br>Specification<br>against which tests<br>are performed | Range of Testing/<br>Limits of Detection |
|------|---|-------------------------------|----------------------------|--|--|
|      |   | Pe                            | ermanent Facility          |  |  |
| 1    | CHEMICAL- ORES & MINERALS               | Iron Ore                      | Loss on Ignition           | PAL/SOP/06 Issue<br>No:01: 2017                                      | 0.5 % to 15 %                            |
| 2    | CHEMICAL- ORES & MINERALS               | Iron Ore                      | Manganese                  | IS:1493: 1959, RA<br>2016  | 0.1 % to 2 %                             |
| 3    | CHEMICAL- ORES & MINERALS               | Iron Ore                      | Phosphorus                 | IS:1493(part 1): 1981,<br>RA 2016                                    | 0.02 % to 0.1 %                          |
| 4    | CHEMICAL- ORES & MINERALS               | Iron Ore                      | Silica                     | IS:1493(part 1): 1981,<br>RA 2016                                    | 0.5 % to 25 %                            |
| 5    | CHEMICAL- ORES & MINERALS               | Iron Ore                      | Total Fe                   | IS:1493(part 1): 1981,<br>RA 2016                                    | 10 % to 70 %                             |
| 6    | CHEMICAL- ORES & MINERALS               | Limestone & dolomite          | Calcium Oxide              | IS:1760(Part 3): 1992,<br>RA 2017                                    | 10.0 % to 55.5% %                        |
| 7    | CHEMICAL- ORES & MINERALS               | Limestone & dolomite          | Loss On Ignition           | IS:1760(Part 1): 1991,<br>RA 2017                                    | 1 % to 50 %                              |
| 8    | CHEMICAL- ORES & MINERALS               | Limestone & dolomite          | Magnesium Oxide            | IS:1760(Part 3): 1992,<br>RA 2017                                    | 0.2 % to 30.0 %                          |
| 9    | CHEMICAL- ORES & MINERALS               | Limestone & Dolomite          | Silica                     | IS:1760(Part 2): 1991,<br>RA 2017                                    | 0.5 % to 25 %                            |
| 10   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Ambient Air                   | Oxides of Nitrogen (NO2)   | IS: 5182 ( Part 7 ):<br>2012   | 5 μg/m³ to 500 μg/m³                     |
| 11   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Ambient Air                   | Oxides of Sulphur (SO2)    | IS: 5182 ( part 2): 2012   | 5 μg/m³ to 500 μg/m³                     |





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|------|---|-------------------------------|--|---|--|
| 12   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Ambient Air                   | Particulate Matter (Size less than 2.5μm) or PM2.5   | USEPA Quality Assurance Hand Book Vol.II Part 1 Quality Assurance Document 2.12: 2012 | 5 μg/m³ to 1000 μg/m³                    |
| 13   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Ambient air                   | Particulate Matter (Size less than10µm) or PM10  | IS 5182 (Part 23)<br>:2006: 2012  | 5 μg/m³ to 1000 μg/m³                    |
| 14   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Ambient Noise                 | Noise (LMin(Minimum<br>Noise level),<br>LMax(Maximum Noise<br>level) & Leq(Equivalent<br>Noise level)) | IS : 9989 :1981: 2008   | 35 to 130                                |
| 15   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluent / Sewage             | Ammonical Nitrogen as NH4-N  | APHA 23rd<br>EDITION,4500-NH3,<br>B,C: 2017   | 1 mg/L to 500 mg/L                       |
| 16   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluent / Sewage             | Boron as B   | APHA 23rd<br>EDITION,4500-B, B:<br>2017   | 0.1 mg/L to 10 mg/L                      |
| 17   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluent / Sewage             | Calcium as ca  | APHA 23rd<br>EDITION,3500 Ca B ,:<br>2017   | 1 mg/L to 2000 mg/L                      |
| 18   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluent / Sewage             | Chloride as Cl   | APHA 23rd<br>EDITION,4500 CI B:<br>2017   | 1 mg/L to 10000 mg/L                     |
| 19   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluent / Sewage             | Chlorine Residual  | APHA 23rd<br>EDITION,4500-CI, I :<br>2017   | 1 mg/L to 100 mg/L                       |
| 20   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluent / Sewage             | Conductivity   | APHA 23rd<br>EDITION,2510 B ,:<br>2017  | 1 micromhos/Cm to 50000 micromhos/Cm     |





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|------|---|-------------------------------|---|--|--|
| 21   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluent / Sewage             | Nitrite Nitrogen as NO2<br>- N                | APHA 23rd<br>EDITION,4500-NO2, B<br>: 2017                           | 0.01 mg/L to 100 mg/L                    |
| 22   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluent / Sewage             | Oil & Grease                                  | APHA 23rd<br>EDITION,5520D ,:<br>2017                                | 1 mg/L to 1000 mg/L                      |
| 23   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluent / Sewage             | рН  | APHA 23rd EDITION<br>,4500 H+B: 2017                                 | 1 to 12                                  |
| 24   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluent / Sewage             | Sulphate as SO4                               | APHA 23rd<br>EDITION,4500 SO4 D :<br>2017                            | 1 mg/L to 1000 mg/L                      |
| 25   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluent / Sewage             | Total Alkalinity as<br>CaCO3                  | APHA 23rd EDITION<br>,2320 B: 2017                                   | 1 mg/L to 1000 mg/L                      |
| 26   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluent / Sewage             | Total Dissolved Solids                        | APHA 23rd EDITION ,<br>2540 C: 2017                                  | 1 mg/L to 100000 mg/L                    |
| 27   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluent / Sewage             | Total Hardness as<br>CaCO3                    | APHA 23rd EDITION<br>,2340 C: 2017                                   | 1 mg/L to 5000 mg/L                      |
| 28   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluent / Sewage             | Total Phosphate                               | APHA 23rd EDITION,<br>4500-P, D,: 2017                               | 0.1 mg/L to 100 mg/L                     |
| 29   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluent / Sewage             | Total Suspended solids                        | APHA 23rd EDITION<br>,2540 D: 2017                                   | 1 mg/L to 500 mg/L                       |
| 30   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluents / Sewage            | Biological oxygen Demand for 3 days at 27 ° C | IS 3025 (Part 44)::<br>2014  | 4 mg/L to 40000 mg/L                     |





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|------|---|-------------------------------|-------------------------------|--|--|
| 31   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluents / Sewage            | Chemical oxygen<br>Demand     | APHA 23rd EDITION,<br>5220B: 2017                                    | 2 mg/L to 80000 mg/L                     |
| 32   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluents / Sewage            | Colour                        | APHA 23rd EDITION,<br>2120 B: 2017                                   | 5 Hazen to 500 Hazen                     |
| 33   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluents / Sewage            | Dissolved Oxygen              | APHA 23rd EDITION,<br>4500 O: 2017                                   | 1 mg/L to 8 mg/L                         |
| 34   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluents / Sewage            | Fluoride as F                 | APHA 23rd EDITION,<br>4500 F,D: 2017                                 | 1 mg/L to 100 mg/L                       |
| 35   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluents / Sewage            | Iron as Fe                    | APHA 23rd EDITION,<br>3500 Fe B: 2017                                | 0.02 mg/L to 100 mg/L                    |
| 36   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluents / Sewage            | Nitrate Nitrogen as<br>NO3- N | APHA 23rd EDITION,<br>4500 NO3 E,<br>IS:3025(Part-34)-1958:<br>2017  | 0.1 mg/L to 50 mg/L                      |
| 37   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluents / Sewage            | Odour                         | APHA 23rd EDITION,<br>2150 B: 2017                                   | Qualitative                              |
| 38   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluents / Sewage            | Percent Sodium                | SOP-PAL/TM/W/038<br>Issue No: 01: 2015                               | 1 % to 100 %                             |
| 39   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluents / Sewage            | Potassium as K                | APHA 23rd EDITION,<br>3500 K, B: 2017                                | 2 mg/L to 1000 mg/L                      |





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|------|---|--|-------------------------------|--|--|
| 40   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluents / Sewage                           | Residual Sodium carbonate     | IS 11624: 2009   | 0.1 m.eqs/L to 10<br>m.eqs/L             |
| 41   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluents / Sewage                           | Sodium absorption ratio       | IS 11624: 2009   | 1 to 20                                  |
| 42   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluents / Sewage                           | Sodium as Na                  | APHA 23rd EDITION,<br>3500 Na, B: 2017                               | 1 mg/L to 1000 mg/L                      |
| 43   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluents / Sewage                           | Turbidity                     | APHA 23rd EDITION,<br>2130 B: 2017                                   | 0.1 NTU to 100 NTU                       |
| 44   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluents/ Sewage                            | Acidity as CaCO3              | APHA 23rd EDITION<br>,2310 B: 2017                                   | 1 mg/L to 5000 mg/L                      |
| 45   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Effluents/Sewage                             | Mixed Liquor suspended solids | APHA 23rd EDITION<br>2540 A,D,E: 2017                                | 2 mg/L to 1000 mg/L                      |
| 46   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Stack Emission                               | Oxides of Nitrogen            | IS:11255(Part7) : 2014   | 2 mg/Nm³ to 400<br>mg/Nm³                |
| 47   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Stack Emission                               | Oxides of Sulphur             | IS:11255(Part2) : 2014   | 5 mg/Nm³ to 500<br>mg/Nm³                |
| 48   | CHEMICAL-<br>POLLUTION &<br>ENVIRONMENT | Stack Emission                               | Particulate matter            | IS:11255(Part1): 2009  | 5 mg/Nm³ to 500<br>mg/Nm³                |
| 49   | CHEMICAL- WATER                         | Borewell water /Ground water / Surface water | Calcium as Ca                 | APHA 23rd<br>EDITION,3500 Ca B:<br>2017                              | 1 mg/L to 2000 mg/L                      |





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|------|--------------------|---|--------------------------------|--|--|
| 50   | CHEMICAL- WATER    | Borewell water /<br>Ground water / Surface<br>water | Acidity as CaCO3               | APHA 23rd edition,<br>2310 B: 2017                                   | 1 mg/l to 1000 mg/l                      |
| 51   | CHEMICAL- WATER    | Borewell Water /<br>Ground Water /<br>Surface Water | Ammonical Nitrogen as NH4-N    | APHA 23rd EDITION<br>,4500-NH3, B,C: 2017                            | 1 mg/L to 500 mg/L                       |
| 52   | CHEMICAL- WATER    | Borewell water / ground water / surface water       | Boron as B                     | APHA 23rd edition ,<br>4500 - B, B: 2017                             | 0.02 mg/L to 10 mg/L                     |
| 53   | CHEMICAL- WATER    | Borewell water / Ground Water / Surface Water       | Colour                         | APHA 23rd<br>EDITION,2120 B :<br>2017                                | 5 Hazen units to 100<br>Hazen units      |
| 54   | CHEMICAL- WATER    | Borewell Water /<br>Ground water / Surface<br>Water | Conductivity                   | APHA 23rd EDITION<br>,2510 B: 2017                                   | 1 micromhos/cm to<br>20000 micromhos/cm  |
| 55   | CHEMICAL- WATER    | Borewell water /<br>Ground water / Surface<br>water | Dissloved Phosphate as PO4     | APHA 23rd edition ,<br>4500 - P , D: 2017                            | 0.02 mg/L to 2 mg/L                      |
| 56   | CHEMICAL- WATER    | Borewell water /<br>Ground water / Surface<br>water | Iron as Fe                     | APHA 23rd<br>EDITION,3500 Fe B :<br>2017                             | 0.02 mg/L to 100 mg/L                    |
| 57   | CHEMICAL- WATER    | Borewell Water / Ground Water / Surface Water       | Magnesium as Mg                | APHA 23rd EDITION<br>,3500 Mg B: 2017                                | 1 mg/L to 1000 mg/L                      |
| 58   | CHEMICAL- WATER    | Borewell water /<br>Ground water / Surface<br>water | Nitrate Nitrogen as<br>NO3- N  | APHA 23rd<br>EDITION,4500 NO3 E,<br>IS:3025(Part-34): 2017           | 0.1 mg/L to 50 mg/L                      |
| 59   | CHEMICAL- WATER    | Borewell water / ground water / surface water       | Nitrite Nitrogen as NO2<br>- N | APHA 23rd edition ,<br>4500 - NO2, B: 2017                           | 0.01 mg/L to 10 mg/L                     |





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|------|--------------------|---|------------------------------|--|--|
| 60   | CHEMICAL- WATER    | Borewell water /<br>Ground Water /<br>Surface Water | Odour                        | APHA 23rd EDITION<br>,2150 B: 2017                                   | Qualitative(objectionable / Unobjectionable) |
| 61   | CHEMICAL- WATER    | Borewell water / Ground Water / Surface Water       | Percent Sodium               | SOP-PAL/TM/W/038:<br>2015  | 1 % to 100 %                                 |
| 62   | CHEMICAL- WATER    | Borewell Water / Ground Water / Surface water       | Potassium as K               | APHA 23rd<br>EDITION,3500 K, B:<br>2017                              | 2 mg/L to 1000 mg/L                          |
| 63   | CHEMICAL- WATER    | Borewell water /<br>Ground water / Surface<br>water | Residual Sodium carbonate    | IS 11624: 2009   | 0.1 m.eq/L to 10<br>m.eq/L                   |
| 64   | CHEMICAL- WATER    | Borewell water /<br>Ground water / Surface<br>water | Sodium absorption ratio      | IS 11624: 2009   | 1 to 20                                      |
| 65   | CHEMICAL- WATER    | Borewell water / Ground Water / Surface water       | Sodium as Na                 | APHA 23rd<br>EDITION,3500 Na, B:<br>2017                             | 1 mg/L to 1000 mg/L                          |
| 66   | CHEMICAL- WATER    | Borewell water /<br>Ground water / surface<br>water | Sulphate as SO4              | APHA 23rd EDITION<br>,4500 SO4 D: 2017                               | 1 mg/L to 1000 mg/L                          |
| 67   | CHEMICAL- WATER    | Borewell water / Ground Water / Surface water       | Total Alkalinity as<br>CaCO3 | APHA 23rd EDITION,<br>2320 B : 2017                                  | 1 mg/L to 1000 mg/L                          |
| 68   | CHEMICAL- WATER    | Borewell water /<br>Ground water / Surface<br>water | Total Dissolved Solids       | APHA 23rd EDITION,<br>2540 C : 2017                                  | 1 mg/L to 10000 mg/L                         |
| 69   | CHEMICAL- WATER    | Borewell water / Ground Water / Surface water       | Total Hardness as<br>CaCO3   | APHA 23rd<br>EDITION,2340 C :<br>2017                                | 1 mg/L to 5000 mg/L                          |





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| 70   | CHEMICAL- WATER    | Borewell water / Ground Water / Surface Water       | Total Suspended solids     | APHA 23rd EDITION<br>,2540 D: 2017                                   | 1 mg/L to 500 mg/L                       |
| 71   | CHEMICAL- WATER    | Borewell water /<br>Ground water / Surface<br>water | Turbidity                  | APHA 23rd<br>EDITION,2130 B :<br>2017                                | 0.1 NTU to 100 NTU                       |
| 72   | CHEMICAL- WATER    | Borewell water / Surface water / Ground water       | рН                         | APHA -23rd edition,<br>4500 H+B: 2017                                | 1 to 13.5                                |
| 73   | CHEMICAL- WATER    | Borewell Water/ Ground Water / Surface Water        | Chloride as Cl             | APHA 23rd EDITION,<br>4500 CI B : 2017                               | 1 mg/L to 5000 mg/L                      |
| 74   | CHEMICAL- WATER    | Borewell water/Surface water/Ground water           | Temperature                | APHA 23rd EDITION<br>,2550 B: 2017                                   | 20 deg C to 100 deg C                    |