



National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



SCOPE OF ACCREDITATION

Laboratory Name MET- CHEM LABORATORIES, #289, ASHIRWAD, 12TH CROSS, 5TH MAIN, M.S RAMAIAH NAGAR, BENGALURU, KARNATAKA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-5318 Page No. : 1 / 7

Validity 28/06/2019 to 27/06/2021 Last Amended on -

| S.No | Discipline / Group | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing/ Limits of Detection |
|---------------------------|---------------------------|----------------------------|--|--|---------------------------------------|
| Permanent Facility | | | | | |
| 1 | CHEMICAL- ORES & MINERALS | Bauxite | Aluminum (Al ₂ O ₃) | IS : 2000 (Part 3) : 2000, RA 2017 | 1 % to 90 % |
| 2 | CHEMICAL- ORES & MINERALS | Bauxite | Ferric Oxide (Fe ₂ O ₃) | IS : 2000 (Part 4) : 2000, RA 2017 | 1 % to 35 % |
| 3 | CHEMICAL- ORES & MINERALS | Bauxite | Loss on Ignition (LOI) | IS : 2000 (Part 1) : 2000, RA 2017 | 0.5 % to 40 % |
| 4 | CHEMICAL- ORES & MINERALS | Bauxite | Silica(SiO ₂) | IS : 2000 (Part 2) : 2000, RA 2017 | 0.5 % to 20 % |
| 5 | CHEMICAL- ORES & MINERALS | Bauxite | Titanium (TiO ₂) | IS : 2000 (Part 5) : 2000, RA 2017 | 0.5 % to 12 % |
| 6 | CHEMICAL- ORES & MINERALS | Iron ores | Al ₂ O ₃ | IS-1493 (Part-1): 1981, RA 2016 | 0.1 % to 10 % |
| 7 | CHEMICAL- ORES & MINERALS | Iron ores | L.O.I | Manual of Procedure for Chemical and Instrumental Analysis of Ores, Minerals, Ore Dressing Products and Environmental Samples", issued by Controller General Indian Bureau of Mines, Feb: 2012 | 0.1 % to 10 % |
| 8 | CHEMICAL- ORES & MINERALS | Iron ores | P | IS-1493 (Part-1): 1981, RA 2016 | 0.01 % to 0.5 % |
| 9 | CHEMICAL- ORES & MINERALS | Iron ores | S | IS-1493 (Part-1): 1981, RA 2016 | 0.01 % to 0.2 % |
| 10 | CHEMICAL- ORES & MINERALS | Iron ores | SiO ₂ | IS-1493 (Part-1): 1981, RA 2016 | 0.5 % to 20 % |



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| 11 | CHEMICAL- ORES & MINERALS | Iron ores | Total Fe | IS-1493 (Part-1): 1981, RA 2016 | 5.00 % to 69.5 % |
| 12 | CHEMICAL- ORES & MINERALS | Lime stone & Dolomite | CaO | IS-1760 (part-3): 1991, RA 2017 | 0.1 % to 60 % |
| 13 | CHEMICAL- ORES & MINERALS | Lime stone & Dolomite | K ₂ O | IS-1760 (part-3): 1991, RA 2017 | 0.03 % to 2 % |
| 14 | CHEMICAL- ORES & MINERALS | Lime stone & Dolomite | L.O.I | IS-1760 (part-2): 1991, RA 2017 | 10 % to 50 % |
| 15 | CHEMICAL- ORES & MINERALS | Lime stone & Dolomite | MgO | IS-1760 (part-3): 1991, RA 2017 | 0.1 % to 30 % |
| 16 | CHEMICAL- ORES & MINERALS | Lime stone & Dolomite | Na ₂ O | IS-1760 (part-3): 1991, RA 2017 | 0.1 % to 2 % |
| 17 | CHEMICAL- ORES & MINERALS | Limestone&dolomite | Alumina(Al ₂ O ₃) | IS-1760 (part-3): 1991, RA 2017 | 0.1 % to 10 % |
| 18 | CHEMICAL- ORES & MINERALS | Limestone&dolomite | Fe ₂ O ₃ | IS-1760 (part-3): 1991, RA 2017 | 0.1 % to 10 % |
| 19 | CHEMICAL- ORES & MINERALS | Limestone&dolomite | Silica(SiO ₂) | IS 1760 PART 2: 1991, RA 2017 | 0.1 % to 20 % |
| 20 | CHEMICAL- ORES & MINERALS | Manganese ores | Al ₂ O ₃ | IS-1473: 2004, RA 2016 | 1 % to 5 % |
| 21 | CHEMICAL- ORES & MINERALS | Manganese ores | Fe ₂ O ₃ | IS-1473: 2004, RA 2016 | 1 % to 40 % |



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| 22 | CHEMICAL- ORES & MINERALS | Manganese ores | L.O.I | Manual of Procedure for Chemical and Instrumental Analysis of Ores, Minerals, Ore Dressing Products and Environmental Samples", issued by Controller General Indian Bureau of Mines, Feb: 2012 | 0.3 % to 10 % |
| 23 | CHEMICAL- ORES & MINERALS | Manganese ores | P | IS-1473: 2004, RA 2016 | 0.02 % to 0.2 % |
| 24 | CHEMICAL- ORES & MINERALS | Manganese ores | S | IS-1473: 2004, RA 2016 | 0.1 % to 2.0 % |
| 25 | CHEMICAL- ORES & MINERALS | Manganese ores | SiO ₂ | IS-1473: 2004, RA 2016 | 1.0 % to 10 % |
| 26 | CHEMICAL- ORES & MINERALS | Manganese ores | Total Mn | IS-1473: 2004, RA 2016 | 2.00 % to 60.0 % |
| 27 | CHEMICAL- POLLUTION & ENVIRONMENT | Waste Water | Ammonical Nitrogen | IS 3025 Part 34 : 1988 | 2 mg/l to 1000 mg/l |
| 28 | CHEMICAL- POLLUTION & ENVIRONMENT | Waste Water | BOD for 3 days at 27 degree centigrade | IS 3025 Part 44: 1993 | 2 mg/l to 200 mg/l |
| 29 | CHEMICAL- POLLUTION & ENVIRONMENT | Waste Water | Calcium | IS 3025 part-40/1991: 2003 | 7 mg/l to 1000 mg/l |
| 30 | CHEMICAL- POLLUTION & ENVIRONMENT | Waste Water | Chemical Oxygen Demand | IS 3025 Part 58: 2006 | 10 mg/l to 5000 mg/l |



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| 31 | CHEMICAL- POLLUTION & ENVIRONMENT | Waste Water | Chlorides as Cl | IS 3025 part-32: 1988 | 10 mg/l to 4000 mg/l |
| 32 | CHEMICAL- POLLUTION & ENVIRONMENT | Waste Water | Colour | MCL/SOP/Color: 2019 | 20 Hazen to 100 Hazen |
| 33 | CHEMICAL- POLLUTION & ENVIRONMENT | Waste Water | Conductivity | IS 3025: Part-14: 1984 | 20 µmhos/cm to 5000 µmhos/cm |
| 34 | CHEMICAL- POLLUTION & ENVIRONMENT | Waste Water | Copper as Cu | IS 3025 part 42/1992 : 2003 | 0.05 mg/l to 5 mg/l |
| 35 | CHEMICAL- POLLUTION & ENVIRONMENT | Waste Water | Fluoride | IS 3025 part- 60/Spadns Method: 2008 | 0.8 mg/l to 400 mg/l |
| 36 | CHEMICAL- POLLUTION & ENVIRONMENT | Waste Water | Iron as Fe | I.S. 3025 Part-53/ Clause-06: 2003 | 0.2 mg/l to 100 mg/l |
| 37 | CHEMICAL- POLLUTION & ENVIRONMENT | Waste Water | Magnesium | IS 3025 part-46/1994 : 2003 | 2 mg/l to 1000 mg/l |
| 38 | CHEMICAL- POLLUTION & ENVIRONMENT | Waste Water | Manganese as Mn | IS 3025 part 59/Clause 06: 2006 | 1 mg/l to 100 mg/l |
| 39 | CHEMICAL- POLLUTION & ENVIRONMENT | Waste Water | Nitrates | MCL/SOP/NO3: 2019 | 1 mg/l to 1000 mg/l |
| 40 | CHEMICAL- POLLUTION & ENVIRONMENT | Waste Water | Oil & Grease | IS 3025 Part39/Clause 07: 1991 | 10 mg/ml to 1000 mg/ml |



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| 41 | CHEMICAL- POLLUTION & ENVIRONMENT | Waste Water | pH value | IS 3025 part-11/1983 : 2002 | 1 to 10 |
| 42 | CHEMICAL- POLLUTION & ENVIRONMENT | Waste Water | Phenolphthalein (alk) | IS 3025 part-23/1986 : 2003 | 20 mg/l to 400 mg/l |
| 43 | CHEMICAL- POLLUTION & ENVIRONMENT | Waste Water | Residual chlorine (Free) | IS 3025 Part 26/ cl 3.0: 1986 | 1 mg/l to 5 mg/l |
| 44 | CHEMICAL- POLLUTION & ENVIRONMENT | Waste Water | Sulphates | IS 3025 part- 24/1986/Clause 02: 2003 | 10 mg/l to 2000 mg/l |
| 45 | CHEMICAL- POLLUTION & ENVIRONMENT | Waste Water | TDS at 105 degree centigrade | IS 3025 part-4/1983: 2002 | 30 mg/l to 10000 mg/l |
| 46 | CHEMICAL- POLLUTION & ENVIRONMENT | Waste Water | Total alkalinity | IS 3025 part-23/1986: 2003 | 20 mg/l to 2000 mg/l |
| 47 | CHEMICAL- POLLUTION & ENVIRONMENT | Waste Water | Total Chromium | IS 3025 Part 52 / Clause06: 2003 | 2 mg/l to 60 mg/l |
| 48 | CHEMICAL- POLLUTION & ENVIRONMENT | Waste Water | Total hardness | IS 3025 part-21/1986: 2003 | 15 mg/l to 5000 mg/l |
| 49 | CHEMICAL- POLLUTION & ENVIRONMENT | Waste Water | Total Kjeldal Nitrogen | IS 3025 Part 34 /Clause2.3: 1988 | 2 mg/l to 1000 mg/l |
| 50 | CHEMICAL- POLLUTION & ENVIRONMENT | Waste Water | TSS | MCL/SOP/TSS: 2019 | 20 mg/l to 4000 mg/l |



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| 51 | CHEMICAL- POLLUTION & ENVIRONMENT | Waste Water | Turbidity | IS 3025 part-10/1984: 2002 | 4 NTU to 40 NTU |
| 52 | CHEMICAL- POLLUTION & ENVIRONMENT | Waste Water | Zinc as Zn | IS 3025 Part 49/Clause05 - AAS: 1994 | 0.02 mg/l to 2 mg/l |
| 53 | CHEMICAL- WATER | (Drinking water /Bore well water/ Raw Water) | Calcium | IS 3025 part-40/1994 : 2003 | 2 mg/l to 500 mg/l |
| 54 | CHEMICAL- WATER | (Drinking water /Bore well water/ Raw Water) | Chlorides | IS 3025 part-32: 1988 | 2 mg/l to 1000 mg/l |
| 55 | CHEMICAL- WATER | (Drinking water /Bore well water/ Raw Water) | Colour | MCL/SOP/Color: 2019 | 5 Hazen to 100 Hazen |
| 56 | CHEMICAL- WATER | (Drinking water /Bore well water/ Raw Water) | Conductivity | IS 3025: Part-14: 1984 | 5 micromhos/cm to 5000 micromhos/cm |
| 57 | CHEMICAL- WATER | (Drinking water /Bore well water/ Raw Water) | Fluoride | IS 3025 part-60/Spadns Method: 2008 | 0.2 mg/l to 100 mg/l |
| 58 | CHEMICAL- WATER | (Drinking water /Bore well water/ Raw Water) | Iron as Fe | I.S. 3025 Part-53 / Clause-06: 2003 | 0.1 mg/l to 100 mg/l |
| 59 | CHEMICAL- WATER | (Drinking water /Bore well water/ Raw Water) | Magnesium | IS 3025 part-46/1994: 2003 | 2 mg/l to 500 mg/l |
| 60 | CHEMICAL- WATER | (Drinking water /Bore well water/ Raw Water) | Manganese as Mn | IS 3025 part 59/Clause 06: 2006 | 1 mg/l to 100 mg/l |
| 61 | CHEMICAL- WATER | (Drinking water /Bore well water/ Raw Water) | Nitrates | MCL/SOP/NO3: 2019 | 1 mg/l to 500 mg/l |
| 62 | CHEMICAL- WATER | (Drinking water /Bore well water/ Raw Water) | pH value | IS 3025 part-11/1983: 2002 | 1 to 10 |
| 63 | CHEMICAL- WATER | (Drinking water /Bore well water/ Raw Water) | Phenolphthalein (alk) | IS 3025 part-23/1983: 2002 | 5 mg/l to 100 mg/l |



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| 64 | CHEMICAL- WATER | (Drinking water /Bore well water/ Raw Water) | Sulphates | IS 3025 part-24/1986/Clause 02.: 2003 | 10 mg/l to 500 mg/l |
| 65 | CHEMICAL- WATER | (Drinking water /Bore well water/ Raw Water) | T.S.S | MCL/SOP/TSS: 2019 | 5 mg/l to 1000 mg/l |
| 66 | CHEMICAL- WATER | (Drinking water /Bore well water/ Raw Water) | Total alkalinity | IS 3025 part-23/1986: 2003 | 5 mg/l to 500 mg/l |
| 67 | CHEMICAL- WATER | (Drinking water /Bore well water/ Raw Water) | Total Chromium | IS 3025 Part 52 / Clause06: 2003 | 2 mg/l to 60 mg/l |
| 68 | CHEMICAL- WATER | (Drinking water /Bore well water/ Raw Water) | Total hardness | IS 3025 part-21/1991 : 2003 | 3 mg/l to 1000 mg/l |
| 69 | CHEMICAL- WATER | (Drinking water /Bore well water/ Raw Water) | Turbidity | IS 3025 part-10/1984 : 2002 | 1 NTU to 20 NTU |
| 70 | CHEMICAL- WATER | Water(Drinking water /Bore well water/ Raw Water) | TDS | IS 3025 part-16-1983: 2002 | 8 mg/l to 3000 mg/l |