

Laboratory Des Fergusson Testing Laboratory, Kurrakalva (V), Papanaidupeta (P), Renigunta (M), Chittoor (D), Andhra Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7767

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Validity 30.08.2018 to 29.08.2020

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 |
|---|--|---|---|--|
| <u>CHEMICAL TESTING</u> | | | | |
| I. | WATER | | | |
| 1. | Surface water Ground water Irrigation water | Colour | IS 3025 (Part 4) Platinum Cobalt Visual Comparison method | 1 Hazen to 10 Hazen |
| | | Odour | IS 3025 (Part 5) | Agreeable/Disagreeable |
| | | pH | IS 3025 (Part 11) Electrometric Method | 5 to 13 |
| | | Turbidity | IS 3025 (Part 10) | 1 NTU to 10 NTU |
| | | Conductivity | IS 3025 (Part 14) | 1 μ S/cm to 5000 μ S/cm |
| | | Total solids | IS 3025 (Part 16) | 1 mg/L to 5000 mg/L |
| | | Total Dissolved solids | IS 3025 (Part 16) | 1 mg/L to 5000 mg/L |
| | | Total Suspended solids | IS 3025 (Part 17) | 1 mg/L to 200 mg/L |
| | | Total Hardness (as CaCO ₃) | IS 3025 (Part 21) EDTA Method | 1 mg/L to 1000 mg/L |
| | | Calcium (as Ca) | IS 3025 (Part 40) EDTA Method | 1 mg/L to 500 mg/L |
| | | Magnesium (as Mg) | IS 3025 (Part 46) EDTA Method | 1 mg/L to 200 mg/L |
| | | Chlorides (as Cl) | IS 3025 (Part 32) Argentometric Method | 1 mg/L to 800 mg/L |
| | | Sulphates (as SO ₄) | IS 3025 (Part 24) Turbidity Method | 1 mg/L to 1000 mg/L |
| | | p-Alkalinity (as CaCO ₃) | IS 3025 (Part 23) Indicator method | 1 mg/L to 200 mg/L |
| | | | IS 3025 (Part 23) Potentiometric method | 1 mg/L to 200 mg/L |
| m-Alkalinity (as CaCO ₃) | IS 3025 (Part 23) Indicator method | 1 mg/L to 800 mg/L | | |
| | IS 3025 (Part 23) Potentiometric method | 1 mg/L to 800 mg/L | | |

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|-----|----------------------------------|--------------------------------------|---|--|
| | | Nitrates(as NO ₃ -N) | IS 3025 (Part 34) Chromotropic Acid method | 0.05 mg/L to 100 mg/L |
| | | Fluorides | IS 3025 (Part 60) Zirconium Alizarin method without distillation (Visual Comparison) | 0.05 mg/L to 200 mg/L |
| | | COD | IS 3025 (Part 58) | 10 to 15000 as mg O ₂ /L |
| | | BOD @27° C, 3 days | IS 3025 (Part 44) | 10 to 600 as mg O ₂ /L |
| 2. | Swimming Pool water | Colour | IS 3025 (Part 4) Platinum Cobalt (Visual Comparison) method | 1 Hazen to 10 Hazen |
| | | Odour | IS 3025 (Part 5) | Agreeable/Disagreeable |
| | | pH | IS 3025 (Part 11) Electrometric Method | 7.5 to 8.5 |
| | | Turbidity | IS 3025 (Part 10) | 1 NTU to 10 NTU |
| | | Total solids | IS 3025 (Part 16) | 1 mg/L to 5000 mg/L |
| | | Total Dissolved solids | IS 3025 (Part 16) | 1 mg/L to 5000 mg/L |
| | | Suspended solids | IS 3025 (Part 17) | 1 mg/L to 200 mg/L |
| | | Chlorides (as Cl) | IS 3025 (Part 32) Argentometric Method | 0.5 mg/L to 800 mg/L |
| | | p-Alkalinity (as CaCO ₃) | IS 3025 (Part 23) Indicator method | 1 mg/L to 200 mg/L |
| | | | IS 3025 (Part 23) Potentiometric method | 1 mg/L to 200 mg/L |
| | | m-Alkalinity (as CaCO ₃) | IS 3025 (Part 23) Indicator method | 5 mg/L to 800 mg/L |
| | | | IS 3025 (Part 23) Potentiometric method | 5 mg/L to 800 mg/L |
| 3. | Drinking water Packaged water | Colour, | IS 3025 (Part 4) Platinum Cobalt (Visual Comparison) method | 1 Hazen to 5 Hazen |
| | | Odour | IS 3025 (Part 5) | Agreeable/Disagreeable |
| | | pH | IS 3025 (Part 11) Electrometric Method | 3 to 10 |
| | | Turbidity | IS 3025 (Part 10) | 1 NTU to 10 NTU |

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|-----------|----------------------------|--|---|--|
| | | Conductivity | IS 3025 (Part 14) | 0.1 μ S/cm to 2 mS/cm |
| | | Total solids | IS 3025 (Part 16) | 1 mg/L to 2000 mg/L |
| | | Total Dissolved solids | IS 3025 (Part 16) | 1 mg/L to 2000 mg/L |
| | | Suspended solids | IS 3025 (Part 17) | 1 mg/L to 200 mg/L |
| | | Total Hardness (as CaCO ₃) | IS 3025 (Part 21) EDTA Method | 5 mg/L to 600 mg/L |
| | | Calcium (as Ca) | IS 3025 (Part 40) EDTA Method | 1 mg/L to 200 mg/L |
| | | Magnesium (as Mg) | IS 3025 (Part 46) | 1 mg/L to 100 mg/L |
| | | Chlorides, (as Cl) | IS 3025 (Part 32) Argentometric Method | 0.5 mg/L to 800 mg/L |
| | | Sulphates as (SO ₄) | IS 3025 (Part 24) Turbidity Method | 1 mg/L to 1000 mg/L |
| | | p-Alkalinity (as CaCO ₃) | IS 3025 (Part 23) Indicator method | 1 mg/L to 200 mg/L |
| | | | IS 3025 (Part 23) Potentiometric method | 1 mg/L to 200 mg/L |
| | | m-Alkalinity (as CaCO ₃) | IS 3025 (Part 23) Indicator method | 1 mg/L to 800 mg/L |
| | | | IS 3025 (Part 23) Potentiometric method | 1 mg/L to 800 mg/L |
| | | Nitrates(as NO ₃ -N) | IS 3025 (Part 34) Chromotropic Acid method | 0.05 mg/L to 100 mg/L |
| | | Fluorides | IS 3025 (Part 60) Zirconium Alizarin method | 0.05 mg/L to 200 mg/L |
| 4. | Construction water | pH | IS 3025 (Part 11) Electrometric Method | 5 to 12 |
| | | Total solids | IS 3025 (Part 16) | 1 mg/L to 5000 mg/L |
| | | Total Dissolved solids | IS 3025 (Part 16) | 1 mg/L to 5000 mg/L |
| | | Total Suspended solids | IS 3025 (Part 17) | 1 mg/L to 200 mg/L |
| | | Chlorides (as Cl) | IS 3025 (Part 32) Argentometric Method | 1 mg/L to 800 mg/L |
| | | Sulphates (as SO ₄) | IS 3025 (Part 24) Turbidity Method | 1 mg/L to 1000 mg/L |

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|-----|----------------------------|--|---|--|
| | | p-Alkalinity (as CaCO ₃) | IS 3025 (Part 23) Indicator method | 1 mg/L to 200 mg/L |
| | | | IS 3025 (Part 23) Potentiometric method | 1 mg/L to 200 mg/L |
| | | m-Alkalinity (as CaCO ₃) | IS 3025 (Part 23) Indicator method | 1 mg/L to 800 mg/L |
| | | | IS 3025 (P23) Potentiometric method | 1 mg/L to 800 mg/L |
| 5. | Water from Purifier | Colour | IS 3025 (Part 4) Platinum Cobalt (Visual Comparison) method | 1 Hazen to 5 Hazen |
| | | Odour | IS 3025 (Part 5) | Agreeable/Dis to agreeable |
| | | pH | IS 3025 (Part 11) Electrometric Method | 3 to 10 |
| | | Turbidity | IS 3025 (Part 10) | 1 NTU to 10 NTU |
| | | Conductivity | IS 3025 (Part 14) | 0.1 µS/cm to 2 mS/cm |
| | | Total solids | IS 3025 (Part 16) | 1 mg/L to 2000 mg/L |
| | | Total Dissolved solids | IS 3025 (Part 16) | 1 mg/L to 2000 mg/L |
| | | Suspended solids | IS 3025 (Part 17) | 1 mg/L to 200 mg/L |
| | | Fluorides | IS 3025 (Part 60) Zirconium Alizarin method | 0.05 mg/L to 200 mg/L |
| | | Total Hardness (as CaCO ₃) | IS 3025 (Part 21) EDTA Method | 5 mg/L to 600 mg/L |
| | | Calcium (as Ca) | IS 3025 (Part 40) EDTA Method | 1 mg/L to 200 mg/L |
| | | Magnesium (as Mg) | IS 3025 (Part 46) | 1 mg/L to 100 mg/L |
| | | Chlorides, (as Cl) | IS 3025 (Part 32) Argentometric Method | 0.5 mg/L to 800 mg/L |
| | | Sulphates as (SO ₄) | IS 3025 (Part 24) Turbidity Method | 1 mg/L to 1000 mg/L |
| | | p-Alkalinity (as CaCO ₃) | IS 3025 (Part 23) Indicator method | 1 mg/L to 200 mg/L |
| | | | IS 3025 (Part 23) Potentiometric method | 1 mg/L to 200 mg/L |

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| | | m-Alkalinity (as CaCO ₃) | IS 3025 (Part 23) Indicator method | 1 mg/L to 800 mg/L |
| | | | IS 3025 (Part 23) Potentiometric method | 1 mg/L to 800 mg/L |
| | | Nitrates(as NO ₃ -N) | IS 3025 (Part 34) Chromotropic Acid method | 0.05 mg/L to 100 mg/L |
| II. | FOOD AND AGRICULTURAL PRODUCTS | | | |
| 1. | Bakery products (Biscuits, Bread, Cakes, Cookies, Puffs, Pastries, Sweets) Ready to eat and cooked food (Chat, Chips, Noodles, Condiments) Pulses and Cereal products (Rice, Wheat, Soybean, Bajra, Jowar, Groundnuts, peanuts, Oats, Dry fruits) | Moisture | IS 1155 Appendix A | 0.1 % to 40 % |
| | | Ash | IS 7874 (Part 1) | 0.05 % to 20 % |
| | | Acid insoluble ash | IS 7874 (Part 1) | 0.01 % to 3 % |
| | | Crude fiber | IS 7874 (Part 1) | 0.1 % to 25 % |
| | | Fats | IS 7874 (Part 1) | 0.1 % to 60 % |
| | | Proteins | IS 7219 | 1 % to 50 % |
| | | Carbohydrates | Annex C of IS 1656 | 20 % to 80 % |
| | Energy | SOP no.:45 Revision no.:00 Dated:12-09-2018 | 150 to 900 Kcal/100g | |
| 2. | Fruit and Fruit Products (Mangoes, Tomatoes, Grapes, banana, Oranges, Guava, Papaya, All fruit juices, jams, jellies) | Water insoluble solids | IS 13845 | 0.5 % to 65 % |
| | | Acidity | IS 13844 | 0.1 % to 10 % |

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|-----|--|-------------------------|---|--|
| 3. | Canned & Processed food Milk & Milk products, curd & curd products like butter milk, condensed milk, milk shakes, Cheese, paneer, Cream. Juices, mango pulp, Sauces, ketchups, pickles, Gulabjamun, Rasagullas, Frozen fruits) | Headspace | IS 2860 | 2 mm to 15 mm |
| | | Drained weight | IS 2860 | 40 % to 80 % |
| | | pH of cut out syrup | IS 2860 | 2 to 6 |
| | | Specific gravity | IS 2860 | 1 to 2 |
| | | Acidity | IS 2860 | 0.1 % to 1.5 % |