Laboratory	**Nawal Analytical Laboratories, Plot No. 100, New SIDCO Industrial Estate, Srinagar, Hosur, Tamil Nadu**		
Accreditation Standard	**ISO/IEC 17025:2005**		
Discipline	**Chemical Testing**	**Issue Date**	**05.04.2014**
Certificate Number	**T-1192**	**Valid Until**	**04.04.2016**
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S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
I.	**AIR, GASES & ATMOSPHERE**			
1.	**Ambient Air Quality**	SPM (Suspended Particulate Matter)	IS: 5182 (Part 4) 1999 (RA 2010)	5.0 – 300 µg/m^3
		Sulphur Dioxide as SO_2	NAL/SOP/AAQ/002, Issue No: 01 & Date: 15.04.2013 (Based on CPCB Guide lines for measurement of Ambient air pollutants (Vol-1) May 2011)	3.0 – 100 µg/m^3
		Nitrogen Dioxide as NO_2	NAL/SOP/AAQ/003, Issue No: 01 & Date: 15.04.2013 (Based on CPCB Guide lines for measurement of Ambient air pollutants (Vol-1) May 2011)	9.0 -100 µg/ m^3
		RPM (PM 10) Particulate matter (Size less tahn10 µm)	NAL/SOP/AAQ/004, Issue No: 01 & Date: 15.04.2013 (Based on CPCB Guide lines for measurement of Ambient air pollutants (Vol-1) May 2011)	5.0 -150 µg/m^3
		PM 2.5 Particulate matter (Size less tahn2.5 µm)	NAL/SOP/AAQ/005, Issue No: 01 & Date: 15.04.2013 (Based on CPCB Guide lines for measurement of Ambient air pollutants (Vol-1) May 2011)	10.0 -100 µg/ m^3
		Ozone as O_3	NAL/SOP/AAQ/006, Issue No: 01 & Date: 15.04.2013 (Based on CPCB Guide lines for measurement of Ambient air pollutants (Vol-1) May 2011)	10.0 -200 µg/ m^3

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Lead as Pb	NAL/SOP/AAQ/007, Issue No: 01 & Date: 15.04.2013 (Based on CPCB Guide lines for measurement of Ambient air pollutants (Vol-1) May 2011	0.05 – 10 µg/ m^3
		Arsenic as As	NAL/SOP/AAQ/008, Issue No: 01 & Date: 15.04.2013 (Based on CPCB Guide lines for measurement of Ambient air pollutants (Vol-1) May 2011	2.0 – 15 ng / m^3
		Nickel as Ni	NAL/SOP/AAQ/009, Issue No: 01 & Date: 15.04.2013 (Based on CPCB Guide lines for measurement of Ambient air pollutants (Vol-1) May 2011	2.0 – 30 ng / m^3
		Carbon monoxide as CO	NAL/SOP/AAQ/013, Issue No: 01 & Date: 15.04.2013 (Based on CPCB Guide lines for measurement of Ambient air pollutants (Vol-1) May 2011)	115 – 2520 µg/ m^3
		Ammonia as NH_3	NAL/SOP/AAQ/012, Issue No: 01 & Date: 15.04.2013 (Based on CPCB Guide lines for measurement of Ambient air pollutants (Vol-1) May 2011	20 - 500 µg/ m^3
		Benzene as C6H6	IS: 5182(Part -11) 2006 Clause No-4	0.1 – 30 µg/ m^3

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		Benzo (α) Pyrene	NAL/SOP/AAQ/011, Issue No: 01 & Date: 15.04.2013 (Based on CPCB Guide lines for measurement of Ambient air pollutants (Vol-1) May 2011	0.04 – 15 ng / m^3
		Toluene	IS: 5182 (Part -11) 2006, Clause 4	0.1 - 500 µg/ m^3
		Xylene	IS: 5182 (Part -11) 2006, Clause 4	0.1 - 500 µg/ m^3
2.	**Stack Emission**	Particulate Matter	NAL/SOP/STA/001, Issue No: 01 & Date: 15.04.2013 (Based on CPCB guidelines on Methodologies for Source Emission Monitoring - LATS/80/2013-14)	5.0 – 5000 mg/Nm^3
		Sulphur Dioxide as SO_2	NAL/SOP/STA/002, Issue No: 01 & Date: 15.04.2013 (Based on CPCB guidelines on Methodologies for Source Emission Monitoring - LATS/80/2013-14)	3.0 – 200.0 mg / Nm^3
		Oxides of Nitrogen (NOx) as NO2	NAL/SOP/STA/003, Issue No: 01 & Date: 15.04.2013 (Based on CPCB guidelines on Methodologies for Source Emission Monitoring - LATS/80/2013-14)	9.0 – 300 mg / Nm^3
		Lead (in Particulate Matter)	NAL/SOP/STA/004, Issue No: 01 & Date: 15.04.2013 (Based on CPCB guidelines on Methodologies for Source Emission Monitoring - LATS/80/2013-14)	0.1 – 10 mg/m^3

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		Carbon Monoxide as CO	NAL/SOP/STA/005, Issue No: 01 & Date: 15.04.2013(Based on Instrument Manual for Flue Gas Analyzer)	10.0 – 500 mg/ m^3
II.	**POLLUTION & ENVIRONMENT**			
1.	**Effluent water & Sewage water (Raw, Process, Treated)**	pH	IS: 3025 (Part 11) 1983 (RA 2006)	1 – 14
		Total Solids	IS: 3025 (Part 15) 1984 (RA 2009)	2.5 – 20000 mg/l
		Temperature	IS: 3025 (Part 9) 1984 (RA 2006)	Ambient to 60°C
		Total Dissolved Solids	IS: 3025 (Part 16) 1984 (RA 2002)	2.5 – 20000 mg/l
		Total Suspended Solids	IS: 3025 (Part 17) 1984 (RA 2006)	2.5 – 1000 mg/l
		Residual Chlorine	IS: 3025 (Part 26) 1986, Clause No - 3,4 (RA 2003)	0.02 – 100mg/l
		Sulphate as SO_4	IS: 3025 (Part 24) 1986 Clause – 2,4 (RA 2009)	5.0 – 2500 mg/l
		Chloride as Cl	IS: 3025 (Part 32) 1988 - Clause No – 2 (RA 2009)	1.0 – 2500 mg/l
		Sulphide as H2S	IS: 3025 (Part 29) 1986 Clause No - 2,3 (RA 2009)	0.05 – 10 mg /l
		Oil & Grease	IS: 3025 (Part 39) 1991 Clause No – 5 (RA 2009)	2.0 – 200 mg/l
		Ammonical Nitrogen as NH3-N	IS: 3025 (Part 34) 1988 Clause No - 2.2, 2.3(RA 2003)	1 – 100 mg /l
		COD (Chemical Oxygen Demand)	IS: 3025 (Part 58) 2006	2.5 – 25000 mg/l

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		BOD at 20°C for 5 days / BOD at 27°C for 3 days (Biological Oxygen Demand)	IS: 3025 (Part 44) 1993 (RA 2009)	2.5 – 5000 mg/l
		Residual Sodium Carbonate	IS 11624-1986 (RA 2001)	1.0 – 100 meq/l
		Hexavalent Chromium as Cr6+	IS: 3025 (Part 52) 2003 (RA 2009)	0.05 – 25 mg/l
		Cyanide as CN	IS: 3025 (Part 27) 1986 Clause No -2 (RA 2009)	0.01 – 1 mg/l
		Phenolic compounds as C6H5OH	IS: 3025 (Part 43) 1992 Clause No 5, 6 (RA 2009)	0.001 – 10 mg/l
		Free Ammonia as NH3	IS: 3025 (Part 34) 1988 Clause No - 2.2, 2.3(RA 2003)	0.05 -10 mg/l
		Percent Sodium	IS 11624-1986 (RA 2009)	1.0 -100 %
		Boron as B	Annex H of IS 13428-2005	0.05-10 mg/l
		Total Kjeldahl Nitrogen as N	IS: 3025 (Part 34) 1988 Clause No - 5.3 (RA 2003)	0.5 – 250 mg/l
		Reactive Silica as SiO2	IS: 3025 (Part 35) 1998 Clause No- 3 (RA 2003)	0.5 – 100 mg/l
		Fluoride as F	IS: 3025 (Part 60) 2008	0.04 – 10 mg/l
		Copper as Cu	IS: 3025 (Part 42) 1992 Clause No - 6 (RA 2009)	0.05 - 25 mg/l

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Nickel as Ni	IS: 3025 (Part 54) 2003 (RA 2009)	0.05 – 25 mg/l
		Zinc as Zn	IS: 3025 (Part – 49) 1994 (RA 2009)	0.01 - 25 mg /l
		Lead as Pb	IS: 3025 (Part – 47) 1994(RA 2009)	0.05 – 50 mg /l
		Sodium as Na	IS: 3025(Part 45) 1993 Clause No -5 (RA 2009)	0.5 – 500 mg/l
		Potassium as K	IS: 3025 (Part 45) 1993 Clause No - 5 (RA 2009)	0.5 – 500 mg/l
		Total Phosphate as PO4	IS: 3025 (Part 31) 1988 Clause No 4 (RA 2009)	0.05 – 100 mg/l
		Total Chromium as Cr	IS: 3025(Part 52)2003 Clause No-7 (RA 2009)	0.05 – 40 mg/l
		Arsenic as As	IS: 3025 (Part 37)1988 Clause No-2 (RA 2009)	0.001 – 100 mg/l
		Cadmium as Cd	IS: 3025(Part 41)1992 Clause No -3 (RA 2009)	0.01 – 10 mg/l
		Iron as Fe	IS: 3025 (Part 53 2003 Clause No - 6, 7 (RA 2009)	0.05 – 25 mg/l
		Mercury as Hg	IS: 3025 (Part 48) 1994 (RA 2009)	0.001 – 10 mg/l
		Selenium as Se	IS : 3025 (Part 56) 2003 (RA 2009)	0.001 – 10 mg/l
		Manganese as Mn	IS 3025 – Part 59 - 2006 (RA 2009)	0.050 – 25 mg/l
		Aluminium as Al	IS: 3025 (Part 55) 2003 (RA 2009)	0.05 – 25 mg/l

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2.	**Soil**	pH	IS: 2720 (Part 26) 1987 (RA 2011)	1 – 14
		Conductivity	IS: 14767 – 2000 (RA 2010)	2.5 – 2000 µS/cm
		Organic Matter	IS: 2720 (Part 22) 1972	0.1 – 20%
		Sodium as Na	USEPA - 3050 B Rev. 2, 1996 & 7000B Rev.2, 2007	1 – 500 mg/kg
		Potassium as K	USEPA - 3050 B Rev. 2, 1996 & 7000B Rev.2, 2007	1 – 500 mg/kg
		Phosphorus	IS: 10158 – 1982 (RA 2009)	1 – 500 mg/kg
		Available Nitrogen as N	NAL/SOP/SAS/008, Issue No: 01 & Date: 15.04.2013 (Irrigation Water Management Principles & Practices by Dilip kumar Majumdar)	1 – 500.0 mg/kg
		Calcium as Ca	USEPA - 3050 B Rev. 2, 1996 & 7000B Rev.2, 2007	1 – 5000 mg/kg
		Magnesium as Mg	USEPA - 3050 B Rev. 2, 1996 & 7000B Rev.2, 2007	1 – 500 mg/kg
		Copper as Cu	SW- 846 / USEPA - 3050 B Rev. 2, 1996 & 7000B Rev.2, 2007	0.5 – 20 mg/kg
		Cation Exchange Capacity	USEPA 9080 -1986	1 to 50 meq /100g
3.	**Sludge**	Iron as Fe	SW- 846 / USEPA - 3050 B Rev. 2, 1996 & 7000B Rev.2, 2007	0.05 – 5 %
		Total Chromium as Cr	SW- 846 / USEPA - 3050 B Rev. 2, 1996 & 7000B Rev.2, 2007	1 – 200 mg/kg

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Nickel As Ni	SW- 846 / USEPA - 3050 B Rev. 2, 1996 & 7000B Rev.2, 2007	1 – 200 mg/kg
		Lead as Pb	SW- 846 / USEPA - 3050 B Rev. 2, 1996 & 7000B Rev.2, 2007	1 – 200 mg/kg
		Arsenic as As	USEPA – 3050 B Rev. 2, 1996 & 7062B – 1994	1 – 100 mg/kg
		Antimony as Sb	USEPA – 3050 B Rev. 2, 1996 & 7000B Rev. 2, 2007	0.1 – 100 mg/kg
		Selenium as Se	USEPA – 3050 B Rev. 2, 1996 & 7740B – 1986	0.1 – 100 mg/kg
III.	**WATER**			
1.	**Water (Packaged Drinking Water other than Packaged Natural Mineral Water & Packaged Natural Mineral Water other than Packaged Drinking Water , Drinking Water on the quality of water intended for human consumption**	Colour	IS: 3025 (Part - 4) 1983 (RA 2012)	1 to 75 Hazen
		Odour	IS: 3025 (Part - 5) 1983 (RA 2012)	Agreeable / Disagreeable
		Taste	IS: 3025 (Part - 8) 1984 (RA 2002)	Agreeable / Disagreeable
		Conductivity	IS: 3025 (Part - 14) 1984 (RA 2002)	1 - 10000 µS/cm
		Turbidity	IS: 3025 (Part -10) 1984 (RA 2006)	0.5 – 100 NTU
		Total Hardness as CaCO3	IS: 3025 (Part -21) 2009	1-1000mg/l
		Total Dissolved Solids	IS: 3025 (Part 16) 1984 (RA 2006)	2 – 2000 mg/l
		pH	IS: 3025(Part 11) 1983 Clause No – 2 (RA 2006)	2 - 10
		Barium as Ba	Annex F of IS: 13428 - 2005	0.05 - 10.0 mg/l

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		Copper as Cu	IS: 3025 (Part 42) 1992 Clause No - 6 (RA 2009)	0.01 – 5.0 mg/l
		Iron as Fe	IS: 3025 (Part 53) 2003 Clause No - 6,7 (RA 2009)	0.01 – 15.0 mg/l
		Manganese as Mn	IS: 3025 (Part 59) 2006	0.005 – 15 mg/l
		Nitrate as NO_3	IS: 3025 (Part -34) 1988 Clause No - 3.3 (RA 2009)	0.01 – 55.0 mg/l
		Nitrite as NO_2	IS: 3025 (Part -34) 1988 Clause No - 4 (RA 2009)	0.01 – 10 mg/l
		Fluoride as F	IS: 3025 (Part -60) 2008	0.02 – 10.mg/l
		Zinc as Zn	IS:3025 (Part 49) 1994 , Clause No -5 (RA 2009)	0.005 – 10 mg/l
		Silver as Ag	Annex-J of IS: 13428-2005	0.005 – 1 mg/l
		Aluminium as Al	IS: 3025 (Part 55) 2003 Clause No -5, 6	0.01 to 1 mg/l
		Chloride as Cl	IS: 3025 (Part 32) 1988 Clause No –2 (RA 2007)	1- 1000 mg/l
		Selenium as Se	IS: 3025 (Part 56) 2003/ IS: 15303 Clause No - 7 (RA 2009)	0.001- 1 mg/l
		Sulphate as SO_4	IS: 3025 (Part 24) 1986 Clause No – 2, 4 (RA 2009)	5 – 400 mg/l
		Total Alkalinity as $CaCO_3$	IS: 3025(Part 23) 1986 (RA 2009)	1 – 500 mg/l

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		Calcium as Ca	IS: 3025 (Part 40) 1991 Clause No - 5 (RA 2009)	1 – 1000 mg/l
		Magnesium as Mg	IS: 3025(Part 46) 1994 Clause No - 6 (RA 2009)	1 – 1000 mg/l
		Sodium as Na	IS: 3025 (Part 45) 1993 Clause No - 5 (RA 2003)	0.5 – 200 mg/l
		Residual Free Chlorine	IS: 3025(Part 26) 1986 Clause No - 3, 4 (RA 2003)	0.02 – 5 mg/l
		Phenolic Compounds	IS: 3025(Part 43) 1992 Clause No - 5,6 (RA 2009)	0.001 – 1 mg/l
		Mineral Oil	IS: 3025 (Part 39) 1991 Clause No – 6 (RA 2009)	0.01 to 10 mg/l
		Anionic surface Active agents as MBAS	Annex K of IS: 13428 - 2005	0.1 - 1.0 mg/l
		Sulphide asH2 S	IS: 3025 (Part 29) 1986, Clause - 2,3 (RA 2009)	0.05 – 25 mg /l
		Antimony as Sb	Annex G of IS: 13428 - 2005 (RA 2009)	0.001 – 1.5 mg//l
		Borates as B	Annex H of IS: 13428-2005(RA 2009)	0.05 – 25 mg/l
		Mercury as Hg	IS: 3025 (Part 48) 1994 (RA 2009)	0.005 – 5 mg/l
		Cadmium as Cd	IS: 3025 (Part 41) 1992(RA 2009)	0.001 - 5 mg/l
		Arsenic as As	IS: 3025 (Part 37) 1988 (RA 2009)	0.001 - 1 mg/l

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Cyanide as CN	IS: 3025 (Part 27) 1986 (RA 2009)	0.001 - 5 mg/l
		Lead as Pb	IS: 3025 (Part 47) 1994 Clause No - 7 (RA 2009)	0.005 - 5 mg/l
		Chromium as Cr	Annex J of IS: 13428-2005(RA 2009)	0.01 – 5 mg/l
		Nickel as Ni	Annex L of IS:13428-2005 (RA2009)	0.01 - 5.0 mg/l
		Chloramines as CI2	IS: 3025 (Part 26) 1986 Clause No. 3, 4 (RA 2003)	0.1 – 10.0 mg/l
		Polychlorinated biphenyls (PCBs)		
		2,4,4’ Tri chloro biphenyl	Annex - M of IS 13428- 2005	1.0 to 10 µg/l
		2, 2,5,5’ Tetra chloro biphenyl	Annex - M of IS 13428- 2005	1.0 to 10 µg/l
		2, 2’, 3,4,4’, 5’ Hexa chloro biphenyl	Annex - M of IS 13428- 2005	1.0 to 10 µg/l
		2,2’,4,4’,5,5’ Hexa chloro biphenyl	Annex - M of IS 13428- 2005	1.0 to 10 µg/l
		2,2’,3,4,4’,5,5’ Hepta chloro biphenyl	Annex - M of IS 13428- 2005	1.0 to 10 µg/l
		2,6’ Di chloro biphenyl	Annex - M of IS 13428- 2005	1.0 to 10 µg/l
		Poly Aromatic Hydrocarbons (PAHs)		
		Acenaphthene	APHA 21st Edition 2005 – 6440	1.0 to 10 µg/l
		Acenaphthylene	APHA 21st Edition 2005 – 6440	1.0 to 10 µg/l

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Anthracene	APHA 21st Edition 2005 – 6440	1.0 to 10 µg/l
		Benzo (a) anthracene	APHA 21st Edition 2005 - 6440	1.0 to 10 µg/l
		Benzo (b) fluranthene	APHA 21st Edition 2005 – 6440	1.0 to 10 µg/l
		Benzo (g,h,i) perylene	APHA 21st Edition 2005 – 6440	1.0 to 10 µg/l
		Benzo (a) pyrene	APHA 21st Edition 2005 – 6440	1.0 to 10 µg/l
		Chrysene	APHA 21st Edition 2005 – 6440	1.0 to 10 µg/l
		Dibenz (a,h) anthracene	APHA 21st Edition 2005 – 6440	1.0 to 10 µg/l
		Fluoranthene	APHA 21st Edition 2005 – 6440	1.0 to 10 µg/l
		Fluorene	APHA 21st Edition 2005 – 6440	1.0 to 10 µg/l
		Indeno (1,2,3-cd) pyrene	APHA 21st Edition 2005 – 6440	1.0 to 10 µg/l
		Naphthalene	APHA 21st Edition 2005 – 6440	1.0 to 10 µg/l
		Phenanthrene	APHA 21st Edition 2005 – 6440	1.0 to 10 µg/l
		Pyrene	APHA 21st Edition 2005 - 6440	1.0 to 10 µg/l
		Pesticide Residues :-		
		2, 4 DDT (O,P DDT)	USEPA 525.2 Revision 2.0 (1995)	1.0 to 10 µg/l
		4, 4 DDT (P,P DDT)	USEPA 525.2 Revision 2.0 (1995)	1.0 to 10 µg/l
		2, 4 DDE (O,P DDE)	USEPA 525.2 Revision 2.0 (1995)	1.0 to 10 µg/l
		4, 4 DDE (P,P DDE)	USEPA 525.2 Revision 2.0 (1995)	1.0 to 10 µg/l
		2, 4 DDD (O,P DDD)	USEPA 525.2 Revision 2.0 (1995)	1.0 to 10 µg/l

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		4,4 DDD (P,P DDD)	USEPA 525.2 Revision 2.0 (1995)	1.0 to 10 µg/l
		ϒ - HCH (Lindane)	USEPA 525.2 Revision 2.0 (1995)	1.0 to 10 µg/l
		α - HCH	USEPA 525.2 Revision 2.0 (1995)	1.0 to 10 µg/l
		β - HCH	USEPA 525.2 Revision 2.0 (1995)	1.0 to 10 µg/l
		δ - HCH	USEPA 525.2 Revision 2.0 (1995)	1.0 to 10 µg/l
		Endosulfan α	USEPA 525.2 Revision 2.0 (1995)	1.0 to 10 µg/l
		Endosulfan β	USEPA 525.2 Revision 2.0 (1995)	1.0 to 10 µg/l
		Endosulfan sulphate	USEPA 525.2 Revision 2.0 (1995)	1.0 to 10 µg/l
		Monocrotophos	USEPA 525.2 Revision 2.0 (1995)	1.0 to 10 µg/l
		Ethion	USEPA 525.2 Revision 2.0 (1995)	1.0 to 10 µg/l
		Chlorpyrifos	USEPA 525.2 Revision 2.0 (1995)	1.0 to 10 µg/l
		Phorate	USEPA 525.2 Revision 2.0 (1995)	1.0 to 10 µg/l
		Butachlor	USEPA 525.2 Revision 2.0 (1995)	1.0 to 10 µg/l
		Phorate sulphone	USEPA 525.2 Revision 2.0 (1995)	1.0 to 10 µg/l
		Alachlor	USEPA 525.2 Revision 2.0 (1995)	1.0 to 10 µg/l
		Atrazine	USEPA 525.2 Revision 2.0 (1995)	1.0 to 10 µg/l
		Methyl parathion	USEPA 525.2 Revision 2.0 (1995)	1.0 to 10 µg/l

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		Methyl Paraoxon	USEPA 525.2 Revision 2.0 (1995)	1.0 to 10 µg/l
		Malathion	USEPA 525.2 Revision 2.0 (1995)	1.0 to 10 µg/l
		Malaoxon	USEPA 525.2 Revision 2.0 (1995)	1.0 to 10 µg/l
		Aldrin	USEPA 525.2 Revision 2.0 (1995)	1.0 to 10 µg/l
		Dieldrin	USEPA 525.2 Revision 2.0 (1995)	1.0 to 10 µg/l
		Phorate sulphoxide	MOA/NAL/W/06 Issue No.01 & Date: 03.01.2012 (HPLC Method)	1.0 to 10 µg/l
		Isoproturon	MOA/NAL/W/06 Issue No.01 & Date: 03.01.2012 (HPLC Method)	1.0 to 10 µg/l
		2, 4 - D	MOA/NAL/W/06 Issue No.01 & Date: 03.01.2012 (HPLC Method)	1.0 to 10 µg/l
IV.	**PLASTIC & PLASTICS PRODUCTS**			
		Migration test for Packaged Containers used for packaged drinking water/Natural mineral water	IS 9845: 1998	0.1- 50 mg/dm^2 0.1- 200 mg/lit
		Overall Migration for films used for Packaged Drinking Water/ Natural mineral water	IS 9845: 1998	0.1 - 60 mg/dm^2

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V.	**FOOD & AGRICULTURAL PRODUCTS**			
1.	**Egg and egg product (Raw & Processed)**	Total Solids	AOAC 19th Edition 2012, 925.30 Chapter-34	0.1 - 70.0 %
		Fat	AOAC 19th Edition 2012, -925.32 Chapter-34	1.0 - 50.0 %
2.	**Processed Fruit and Vegetable products - Fruits Based Juices (Mango Juice, Noni Juice, Tomato Ketchup, Tomato Sauce , Chilli Sauce,Jam) Dried Mango powder and Mango slice**	Moisture	AOAC 19th Edition 2012, 934.06 Chapter-37	0.05 - 90.0 %
		Total Solids	AOAC 19th Edition 2012, 925.30 Chapter-34	0.1 - 70.0 %
		Total Soluble Solids	AOAC 19th Edition 2012, Chapter-37,932.12	1.0 - 40.0 %
		Total Ash	AOAC 19th Edition 2012, 940.26 Chapter-37	0.1 - 25.0 %
		Titratable Acidity	AOAC 19th Edition 2012, 942.15 B Chapter -37	Min 0.1 ml of alkali /100g or ml
		pH	AOAC 19th Edition 2012, 981.12, Chapter-42	2.0 – 8.0
		Benzoic acid	AOAC 19th Edition 2012, 994.11, Chapter-37	0.5 - 1000 ppm
		Salinity as NaCl	IS : 2860-1964 Reff.2001, (Class 11)	0.1 to 20%
		Total Protein	IS: 7219-1973	0.1 to 20%
		Total Fat	NAL/SOP/F/014, Issue No: 01 &	0.1 to 10%

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			Date: 15.04.2013 (Based on Pearson composition & analysis of foods 9th Edition)	
		Crude Fiber	NAL/SOP/F/015, Issue No: 01 & Date: 15.04.2013 (Based on Pearson composition & analysis of foods 9th Edition)	0.1 to 10%
		Calcium as Ca	IS: 13574-1992 Reaff.2002	10 to 2000 ppm
		Mineral Impurities	IS: 13816 -2009	0.05 to 10%
		Acid insoluble ash	IS: 13846-2009	0.01 to 10%
		Magnesium as Mg	AOAC 19th Edition 2012, 931.10,Chapter-37	10 to 2000ppm
		Sodium as Na	AOAC 19th Edition 2012, 966.16 , Chapter-37	10 to 2000ppm
		Brix	IS: 2860-1964	4 to 30%
		Total Sugar as sucrose	AOAC 19th Edition 2012, 925.35 Chapter-37	1 to 90%
		Alcohol as Ethanol	IS:15096- 2002	0.1 to 10%
		Volatile Acids	AOAC 19th Edition 2012, 925.34, Chapter-37	0.1 to 10%
		Starch	AOAC 19th Edition 2012, 925.38, Chapter-37	Qualitative
		Energy-Kcal/100g [By calculation]	NAL/SOP/F/017, Issue No: 01 & Date: 15.04.2013 (Based on Pearson composition & analysis of foods 9th	By calculation

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			Edition)	
		Carbohydrates [By difference]	NAL/SOP/F/016, Issue No: 01 & Date: 15.04.2013 (Based on Pearson composition & analysis of foods 9th Edition)	By calculation
		Sulphur dioxide	AOAC 19th Edition 2012, 990.28, Chapter-47	20 – 5000 ppm
3.	**Cereals & Cereal Products**	Moisture	IS: 1155-1968	1.0 – 25%
	(Wheat Atta, Fortified Atta,	Total Ash	IS: 1155-1968	0.05 – 5%
	Protein Rich Atta, Maida,	Ash insoluble in dil HCl	IS: 1155-1969	0.01 - 5.0%
	Fortified Maida, Protein Rich	Gluten	IS: 1155-1968	1.0 – 10 %
	Maida, Rawa, Besant, Pearl	Alcoholic Acidity	IS: 1009-1979	0.02 – 5.0%
	barley, Whole meal barley, corn	Crude fibre	IS: 1155-1968	0.5 – 10.0 %
	flour, custard)	Calcium	AOAC 19th Edition 2012, 944.03, Chapter 32	1 - 200 mg/kg
	Food grains			
	Wheat, Maize, Jawa, Rice,	Total Protein	IS 7219-1973, Reaff. 2000	1 – 85 %
	Moong whole, Chana whole,	Total Fat	IS: 12711-1989	1-10%
	Dal- Moong, Urd, Arhar,	Granularity	IS: 1155-1968	0.5 – 10 %
	Chana.	Foreign Matter (Extraneous matter)	IS: 4333(Part 4)-2002	0.01 to 10%
	(Malted & Malt based foods -	Damaged grains	IS: 4333(Part 4) -2002	0.01 to 10%

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Processed cereal based complimentary foods).			
		Weevilled grains	IS: 4333(Part 4) -2002	0.01 to 10%
		Uric Acid	AOAC 19th Edition 2012, 970.24, Chapter-32	1 – 100 mg/kg
4. a.	**Dairy Products-Milk & Milk Products**	Milk solids not fat	AOAC 19th Edition 2012, 990.21, Chapter-33	0.1 - 25.0 %
	Liquid Milk	Milk fat in milk	AOAC 19th Edition 2012, 989.04,Chapter-33	0.5 - 25.0 %
		Aflatoxin M1	AOAC 19th Edition 2012, Chapter 49, 2000.8	0.1 to 10 µg/kg
b.	**Condensed /Evaporated Milk (Sweetened, Unsweetened**)	Total Solids	IS: 12333-1997	10 to 90 %
		Sucrose	IS: 11764 – 1986	35 -80 %
		Titratable Acidity	IS: 1166 -1986	0.1 to 40 %
		Fat	AOAC 19th Edition 2007 Official Method, 905.02, Chapter-33	0.5 -20 %
		Milk Protein	AOAC 19th Edition 2005, Official method 930.33, Chapter 33	1 - 50 %
c.	**Milk Powder (Whole, Skimmed and partly skimmed milk powder)**	Moisture	IS: 11623 – 2008/ AOAC 19th Edition 2012, 927.05, Chapter-33	1 to 10 %
		Fat	AOAC 19th Edition 2012, 932.06, Chapter-33	1 – 20 %
		Total Ash (On Dry Basis)	AOAC 19th Edition 2012, 930.30,	0.1 to 5 %

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			Chapter-33	
		Titratable Acidity	IS: 11765 -1986 Reff.2003 / IS: 1166-1986 Reff.2009	0.1 to 40 %
		Milk Protein	AOAC 19th Edition 2012, 930.29, Chapter-33	25-75%
d.	**Sterilized Milk**	Turbidity test	IS: 4238-1967	Confirmation
		Sterility test 1.pH (Variation on 7 days incubation , Max)	IS: 4238-1967	0.1 to 0.3
		2.Titrable Acidity (Variation on 7 days incubation , Max)	IS: 4238-1967	0.01 to 0.1 %
e.	**Ghee /Butter**	Moisture Content	IS: 3508 -1966	10 to 90 %
		Refractive Index @ 40^0C	IS: 3508-1966	Qualitative
		Free Fatty Acid as Oleic acid	IS 3508 - 1966	0.1-5%
		Peroxide Value	AOAC 19th Edition 2012, 965.33 Chapter – 41	Qualitative
		Total Solids not fat	IS: 2802-1964	1.0 - 50.0%
		Fat	NAL/SOP/F/169, Issue No. 01, Date: 15.04.2013 (Based on Pearson's Composition and Analysis of Foods – 9th Edn.)	5.0 - 95.0%

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Protein	IS 7219 -1973	1 - 10%
		Starch	IS: 1479 (part 1) 1960 Reff.2003	Qualitative
f.	**Paneer**	Moisture	IS: 2785 – 1979	5 - 75%
		Fat	AOAC 19th Edition 2012, 989.05 Chapter – 33	45 - 75%
		Starch	AOAC 19th Edition 2012, Official method 925.50 Chapter – 37	Qualitative
g.	**Cheese**	Milk Fat	IS 2785 -1979	5 – 80%
		Salt as NaCl	IS 2785 – 1979	1 – 30%
h.	**Curd**	Fat	AOAC 19th Edition 2012, 989.05, Chapter-33	1 – 25%
		Starch	IS 1479(Part -1)-1960 Reaf.2003	Qualitative
		Total Solids	IS 12333 – 1997 Reaf.2003	1 – 50%
i.	**Khoa**	Moisture	IS 2785 – 1979	1 – 50%
		Fat	AOAC 19th Edition 2012, 989.05, Chapter-33	1 – 50%
j	**Ice cream**	Total Solids, %/wt	IS: 2802-1964	5 – 80%
		Milk Fat, %	IS: 2802-1964	1 – 50%
		Acidity ,% as Lactic Acid	IS: 2802-1964	0.1 – 10%
		Sucrose , %/wt	IS: 2802-1964	1 – 50%

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
5.	**Starch & Starch Products -Edible Starch and Starch Products**	Moisture	IS: 4706 (Part II):1978 Reaf. 2005	0.1-25%
		Total ash	IS: 4706 (Part II):1976 Reaf. 2005	0.01-25%
		Cold water soluble extract	IS: 1319-1983	0.05-70%
		Starch	IS: 4706 (Part II):1976 Reaf. 2005	0.05-100%
		Protein	IS:4706 (Part II):1976 Reaf. 2005	0.1-15%
		pH of Aqueous Extract	IS: 4706 (Part II):1976 Reaf. 2005	4.5 – 7.0
		Free Acidity	IS: 4706 (Part II):1976 Reaf. 2005	0.05-10%
		Sulphur Dioxide	IS: 4706 (Part II):1976 Reaf.2005	20 -2500PPM
		Crude Fiber	IS: 4706 (Part II):1976 Reaf. 2005	0.05-25%
6.	**Fish and Fish Products**	Acidity of Brine as Citric acid	IS: 14950-2001	0.1 – 50 g/100g
		Moisture	IS: 14950 -2001	1 – 100%
		Ash insoluble in Dil HCl (on dry basis)	NAL/SOP/F/231, Issue No.01 & Date: 21.11.2013 (Based on DGHS Manual-Lab Manual.6)	1 -5%
		Salt as NaCl	IS: 14950 -2001	0.25 - 50.0 %
		Sulphur dioxide	NAL/SOP/F/232, Issue No.01 & Date: 21.11.2013 (Based on DGHS Manual-	1-50ppm

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			Lab Manual.6)	
		Total Volatile Base - N	IS 5960 (part-1):1996 Reaf.2001	1 – 25%
		Histamine	NAL/SOP/F/233, Issue No.01, Date: 21.11.2013 (Based on DGHS Manual-Lab Manual.6)	10 – 100 mg/kg
		Lead	Annex L - 6 of IS: 2237-1997(RA 2009)	0.1 - 5 mg/kg
		Arsenic	Annex L - 5 of IS: 2237-1997(RA 2009)	0.02 – 5 mg/kg
7.	**Meat and Meat products Raw & Processed**	Total Volatile Base - N	IS:5960(Part-1) :1996 Reaf.2001	1 -25%
		Total Fat	IS:5960(Part-3):1970	1 – 35%
		Total Protein	IS:7219-1973	1 – 50%
		Total Ash	IS : 5960(Part-2): 2002	1 – 25%
		pH	IS : 5960(Part-10):2001	4.5 – 7.0
8.	**Oil & Fats**	Refractive index at 40^0C	IS 548 (Part-1):1964 Reaf.2001	1.40 - 1.46
		Saponification value	IS 548 (Part-1):1964 Reaf.2001	100 - 250
		Iodine Value	IS 548 (Part-1):1964 Reaf.2001	1.0 – 148.0
		Unsaponified Matter	IS 548 (Part-1):1964	0.1 – 1 %
		Acid Value	IS 548 (Part-1):1964 Reaf.2001	0.5 – 6.0
		Peroxide value	IS 548 (Part-1):1964 Reaf.2001	Qualitative

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Rancidity	NAL/SOP/F/234, Issue No.01 & Date: 21.11.2013 (DGHS Manual – Oils and Fats Lab Manula-2. 2005)	Qualitative
		Presence of Argemone oil	NAL/SOP/F/235, Issue No.01 & Date: 21.11.2013 (DGHS Manual – Oils and Fats Lab Manula-2, 2005)/ IS 548 (Part 2) 1976, RA 2009	Qualitative
		Specific Gravity	IS 548 (Part-1):1964 Reaf.2001	0.7-1.0
9.	**SPICES & CONDIMENTS Whole Spices , Condiments Caravey, Cloves, Cardamom, Chilies & Capsicum, Garlic, Cinnamon, Celery, Cassia, Pepper & Nutmeg, Fennel Ginger, Turmeric, White pepper , Black pepper, Nutmeg.**	Extraneous matter	IS: 4333 (Part I) -2001/ IS: 3579-2000	Qualitative
		Insect damaged Matter	IS: 4333 (Part I) -2001/ IS: 3579-2000	Qualitative
		Empty / Malformed Capsules	IS: 4333 (Part I) -2001/ IS: 3579-2000	Qualitative
		Immature and Shriveled Capsules	IS: 4333 (Part I) -2001/ IS: 3579-2000	Qualitative
		Broken Tendrils	IS: 4333 (Part I) -2001/ IS: 3579-2000	Qualitative
		Split fruits	IS: 4333 (Part I) -2001/IS: 3579-2000	Qualitative
		Damaged/ Discolored Fruits	IS: 4333 (Part I) -2001/IS: 3579-2000	Qualitative
		Moisture	IS: 1797-1985 Reaf. 2003	0.1 to 50 %

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Total ash on dry basis	IS: 1797-1985 Reaf.2003	0.1 to 10 %
		Ash insoluble in dilute HCl on dry basis	IS: 1797-1985 Reaf. 2003	0.1 to 1.5 %
	Cloves, Cardamom, Capsicum, cloves Cassia, Pepper, White pepper , Black pepper, Ginger	Volatile oil	IS: 1797-1985 Reaf. 2003	1 to 10 %
		Non volatile ether extract	IS: 1797-1985 Reaf. 2003	5 to 25 %
		Crude fiber	IS: 1797-1985 Reaf. 2003	0.05 to 80 %
		Cold water soluble extract on dry basis	IS: 1797-1985 Reaf. 2003	1 to 50 %
		Calcium as calcium oxide on dry basis	IS: 1797-1985 Reaf. 2003	0.1to 5 %
		Water soluble ash on dry basis	IS: 1797-1985 Reaf. 2003	0.5 to 5 %
		Alcohol Soluble Extract	IS: 1797-1985 Reaf. 2003	1 to 25%
		Starch	IS: 4706 (Part-II)1978	1 to 70 %
		Bulk density (Whole Black & White pepper)	IS: 1797-1985 Reaf. 2003	100 to 1000 gm/lit
		Headless Cloves in Cloves	IS: 4333 (Part I) -2001/IS: 3579-2000	0.01 to 10%
		Peprine Content in Pepper	IS 15695:2006	2 to 10%
		Lead Chromate in Turmeric	IS: 2860:1964 Reaf. 2001	Present/Absent
		Curcuminoid Content in Turmeric	IS 10925:1984 Reaf. 2012	1.0 to 50%

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Peroxidase test in Garlic	IS:15271 - 2003	Positive/Negative
	Mustard	Allyl iso thiocyanate	NAL/SOP/F/239, Issue No.01 , Date: 21.11.2013 (DGHS Manual, Lab Manual-10)	1.0 - 25%
		p-hydroxyl benzyl iso thiocyanate	NAL/SOP/F/240, Issue No.01 , Date: 21.11.2013 (DGHS Manual, Lab Manual-10)	2.5 - 50%
10.	**Nut and Nut Products (Ground Nut/Cashew Nut)**	Moisture	AOAC 19th Edition 2012, 925.40, Chapter 40	0.1 – 20.0 %
		Crude Protein	AOAC 19th Edition 2012, 950.48, Chapter – 40	0.1 to 20 %
		Crude Fat	AOAC 19th Edition 2012, 948.22, Chapter -40	0.1 to 50 %
		Crude Fiber	AOAC 19th Edition 2012, 935.53, Chapter-40	0.1 to 10 %
		Carbohydrate	NAL/SOP/F/016, Issue No: 01 & Date: 15.04.2013 (Based on Pearson composition & analysis of foods 9th Edition)	By calculation
		Energy	NAL/SOP/F/017, Issue No: 01 & Date: 15.04.2013 (Based on Pearson composition & analysis of foods 9th Edition)	By calculation
		Sulphur dioxide	AOAC 19th Edition 2012, , 990.28, Chapter 47	10 – 100 mg/kg

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
11.	**Sugar and Sugar Products Sweets &Confectionary, Chocolates, Sweetening agents, Chewing gum, Bubble gum, Sugar, Refined sugar, Khandesi sugar, icing sugar, cube sugar, honey, Joggery, dextrose, golden syrup, dried gluco syrup, Chasaccharin-Sodium**	Sulphated Ash	IS: 6287:1985/ IS 15279	0.01-50%
		Total Ash	IS: 12711:1989 Reaf.1994	0.01-50%
		Total fat	IS: 12711:1989 Reaf.1994	0.01-5%
		Milk Fat	IS: 1163:1992 Reaf.2004	2-50%
		Milk solids not fat	IS: 1163:1992 Reaf.2004	1-35 %
		Acid Insoluble ash	IS: 6287:1985 Reaf.1994	0.01-25%
		Sulphur dioxide	IS: 6287-1985	20-2500 mg/kg
		Moisture	IS: 1165:1992	0.01-25%
		Reducing Sugars	IS: 15279 : 2003	5-50%
		Sucrose	IS: 15279 : 2003	20-80%
12.	**Coffee, Cocoa and by Product Roasted Coffee and ground Coffee, soluble coffee powder, coffee-chicory mixture and Instant coffee**	Total Ash	IS: 2791:1972 Reaf.2009	0.01-25%
		Acid Insoluble Ash	IS: 3077:1992 Reaf.2009	0.01-25%
		Water Soluble Ash	IS: 3077:1992 Reaf.2009	0.01-75%
		Alkalinity of Soluble Ash	IS: 3077: 1992 Reaf.2009	0.01-10%
		Moisture	IS: 3077 :1992 Reaf.2009	0.01-25%
		Caffeine Content	IS: 3077:1992 Reaf.2009	0.01-10%
		Solubility in Boiling Water	IS:2791:1972 Reaf.2009	Qualitative

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Solubility In Cold Water	IS:2791:1972 Reaf.2009	Qualitative
		Water Soluble Matter	IS: 3077:1992 Reaf.2009	Qualitative
		Petroleum Ether Extract	IS: 3077:1992 Reaf.2009	0.05-25%
		Water Soluble Extract	IS:13862:1999	0.05-25%
13.	**Tea**	Caffeine	AOAC 19th Edition 2012, 925.17 Chapter 30	0.1-10%
		Total Ash	IS:13854 : 1994	0.05-25%
		Water Soluble Ash	IS:13855:1993	0.05-75%
		Alkalinity of Water Soluble Ash	IS:13856:1993	0.05-10%
		Acid insoluble Ash	IS:13857:1993	0.05-25%
		Water Soluble Extract	IS:13862 :1999	0.05-25%
		Crude Fiber	NAL/SOP/F/236, Issue No.01 , Date: 21.11.2013 (Based on Pearson's Composition and Analysis of Foods – 9th Edn)	1.0 – 25%
14.	**Bakery Products**	Acid insoluble Ash in Dil HCl	IS:12711:1989 Reaf.1994	0.01 - 5.0%
		Acidity of Extracted Fat (as Oleic Acid)	IS:12711:1989 Reaf.1994	0.05 – 50%

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Total Solids	IS 12711 – 1989 Reaf.1994	25-90%
		Crude Fiber	IS 12711 -1989 Reaf.1994	1-25%
		Fat	IS 12711 – 1989 Reaf.1994	5 – 50%
		pH of aqueous extract	IS 12711 – 1989 Reaf.1994	5.5 – 7.0
		Moisture	IS 12711 – 1989 Reaf.1994	0.5-5.0%
		Sulphur dioxide	AOAC 19th Edition 2012, 990.28, Chapter -47	22-500 ppm
		Reducing sugar	IS:15279:2003	0.5-5.0 %
		Protein	NAL/SOP/F/237, Issue No.01 , Date: 21.11.2013 (Based on Pearson's Composition and Analysis of Foods – 9th Edition., 1991)	1 – 90 %
		Alcoholic acidity	NAL/SOP/F/238, Issue No.01 , Date: 21.11.2013 (Based on DGHS 2005 Manual 3)/ IS 12711 – 1989	0.1-10 %
		Energy-Kcal/100g [By calculation]	NAL/SOP/F/017, Issue No: 01 & Date: 15.04.2013 (Based on Pearson composition & analysis of foods 9th Edition)	By calculation
		Carbohydrates [By difference]	NAL/SOP/F/016, Issue No: 01 & Date: 15.04.2013 (Based on Pearson composition & analysis of foods 9th Edition)	By calculation

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
15.	**Beverages Alcoholic beverages**	Residue of Evaporation	IS 3752:2005	1 – 90%
		Alcohol as Ethanol	IS 3752:2005	1 – 100 %
		Ash Content	IS 3752:2005	0.1 – 10%
		Volatile Acidity	IS 3752:2005	0.1 to 10%
		Total Acidity	IS 3752:2005	1 – 25%
		Fixed Acidity	IS 3752:2005	1 – 25%
		Ethyl Acetate	IS 3752:2005	0.01-10%
		Acetaldehyde	IS 3752:2005	0.01-10%
16.	**Colour, Flavor & Preservatives**			
a.	**Common Salt, Iodized salt and Iron fortified Common salt**	Chloride as NaCl	IS 253-1985 Reaf. 2004	50 -100%
		Matter soluble in water other than sodium chloride	IS 253-1985 Reaf. 2004	0.5 - 5%
		Moisture	IS 253-1985 Reaf. 2004	0.1 - 2%
		Water insoluble in Matter	IS 253-1985 Reaf. 2004	0.1 - 5%
		Magnesium	IS 253-1985 Reaf. 2004	0.01 - 10%
		Iodine content	IS: 7224:2006	0.01- 100 mg/kg
		Sulphate as SO_4	IS 253-1985 Reaf. 2004	0.05-2.5%

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
b.	**Vinegar (Brewed or alcoholic Vinegar, Synthetic or Wine vinegar)**	Phosphorus pentoxide	Annex D of IS 14703:1999	0.01 to 0.1%
		Total Acids	7 of IS 3752- 2005	1 - 20 g/100ml
		Residual Alcohol	4 of IS 3752- 2005	0.1 – 2 %
		Total Solids	IS:14703- 1999	1-10 %
		Total Ash	IS: 14703 - 1999	0.1-5%
		Soluble Solids	IS:14703 -1999	0.05-1 g/100ml
c.	**Citric Acid IS:5464-1995**	Citric acid	IS 5464 - 1995 Reaf. 2001	90-100%
		Sulphate	IS:5464-1995	Present/ Absent
		Halides (Chloride)	IS:5464 -1995	Pass/Fail
		Sulphated ash	IS:5464-1995	0.05-1%
		Oxalates	IS:5464 -1995	Pass/Fail
		Water content	IS:5464-1995	1-10%
		Readily carbonizable substances	IS:5464-1995	Pass/Fail
d.	**Ascorbic Acid**	Purity	IS: 5342 : 1996	95 to 100%
		Loss on drying	IS: 4818 : 1996	0.05 to 1%
		Sulphated ash	IS:4750 : 1996	0.05 to 2%

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
e.	**Monosodium Glutamate**	Purity	IS: 9505 : 2007	90-100%
		Loss on drying	IS: 4818 : 1996	0.1-5%
		Chloride	IS: 9505 : 2007	Present/Absent
f.	**Calcium Chloride**	Matter Insoluble in Water	IS:1314 – 1984 Reaf.2000	0.005-1%
		Calcium chloride	IS:1314 – 1984 Reaf.2000	25-100%
		Magnesium chloride	IS:1314 – 1984 Reaf.2000	0.1-1%
		Alkalinity as Ca(OH)2	IS:1314 – 1984 Reaf.2000	0.001-1%
		Alkali Chlorides as NaCl	IS:1314 – 1984 Reaf.2000	0.1-2%
		Magnesium and alkali salts	IS:1314 – 1984 Reaf.2000	0.1-2.0%
		Oxidizing substance	IS:1314 – 1984 Reaf.2000	Pass/Fail
		Sulphates	IS:1314 – 1984 Reaf.2000	0.001-0.2%
		Ammonium salts	IS:1314 – 1984 Reaf.2000	Pass/Fail
		Magnesium	IS:1314 – 1984 Reaf.2000	0.01 to 2%
		Potassium	IS:1314 – 1984 Reaf.2000	0.01% and above
		Sodium	IS:1314 – 1984 Reaf.2000	0.01% and above
		pH @25°C	IS:1314 – 1984 Reaf.2000	4.5 - 8.5

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
g.	**Acetic Acid**	Solubility in Water	IS: 695 : 1986 Reaf.1996	Miscible or Immiscible
		Relative density @ 27°C	IS:82:1973	1.0 - 1.2
		Acetic acid content	IS: 695 : 1986 Reaf.1996	95 - 100 %
		Crystallizing point	IS: 695 : 1986 Reaf.1996	10 - 25°C
		Residue on Evaporation	IS: 695 : 1986 Reaf.1996	0.001- 0.1 %
		Chlorides	IS: 695 : 1986 Reaf.1996	Positive/ Negative
		Sulphates	IS: 695 : 1986 Reaf.1996	0.5-100 ppm
		Formic acid	IS: 695 : 1986 Reaf.1996	0.01- 0.5 %
		Acetaldehyde	IS: 695 : 1986 Reaf.1996	0.01- 0.5 %
		Oxidizable impurities	IS: 695 : 1986 Reaf.1996	Pass or fail
		Water content	IS: 695 : 1986 Reaf.1996	0.05 - 0.2 %
h.	**Potassium meta bi Sulphite**	Purity	IS:4751 : 1994 Reaf.1999	85 - 100 %
		Water Insoluble matter	IS:4751 : 1994 Reaf.1999	0.001 - 0.1 %
		Thio sulphate	IS:4751 : 1994 Reaf.1999	Pass/fail
		pH	IS:4751 : 1994 Reaf.1999	3 – 8 (acidic to litmus)
17.	**Animal Feed-Animal Feed/Poultry**	Moisture	IS: 7874(Part I)-1975, Reaf.1990	0.01 – 10 %
		Acid insoluble ash	IS: 7874(Part I)-1975, Reaf.1990	0.01 – 25 %

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Feed	Total ash	IS: 7874(Part I)-1975, Reaf.1990	0.01 – 25 %
		Crude Protein	IS: 7874(Part I)-1975, Reaf.1990	0.1 – 100 %
		Crude fiber	IS: 7874(Part I)-1975, Reaf.1990	0.05 – 100 %
		Crude fat	IS: 7874(Part I)-1975, Reaf.1990	0.01 – 25 %
		Urea nitrogen	IS: 7874(Part I)-1975, Reaf.1990	0.05 – 10 %
		Phosphorus	IS: 7874(Part II)-1975 Reaf.2004	0.05 – 50 %
		Calcium	IS: 7874(Part II)-1975 Reaf.2004	1 – 1000 ppm
		Salt as NaCl	IS: 7874(Part II)-1975 Reaf.2004	0.1 – 25 %
		Iodine	IS: 7874(Part II)-1975 Reaf.2004	0.1-100 g/kg
		Magnesium as Mg	IS:13433(Part II) – 2002	0.1 to 1000 g/kg
		Total sugar	AOAC 19th Edition 2012, 974.06, Chapter -4	0.1 – 50 %
		Sodium as Na	IS: 15121 – 2002	0.05 mg/kg and above
		Potassium as K	IS: 15121 – 2002	0.05 mg/kg and above
		Fluoride	IS: 7874 (Part -2) 1975 Reaf. 2004	0.1 – 20 g/kg
	Trace metals in food substance (Raw & Processed)	**Heavy Metals** Iron	AOAC 19th Edition 2012; 999.11 chapter 9	0.25 to 30 mg/kg
		Copper	AOAC 19th Edition 2012; 999.11 chapter 9	0.25 to 30 mg/kg

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Lead	AOAC 19th Edition 2012; 999.11 chapter 9	0.25 - 20 mg/kg
		Cadmium	AOAC 19th Edition 2012; 999.11 chapter 9	0.1 - 10 mg/kg
		Zinc	AOAC 19th Edition 2012; 999.11 chapter 9	0.1 – 20 mg/kg
		Arsenic	AOAC 19th Edition 2012; 963.21, Chapter 9	0.02 – 10 mg/kg
		Mercury	AOAC 19th Edition 2012; 971.21, Chapter 9	0.02 - 0.5 mg/kg
		Chromium	AOAC 19th Edition 2012; 2011.19 Chapter 50	0.25 to 20 mg/kg
		Nickel	AOAC 19th Edition 2012; 975.34, Chapter 9	0.25 to 20 mg/kg
		Tin	AOAC 19th Edition 2012; 980.19, Chapter 9	2.5 to 50 mg/kg
		Selenium	AOAC 19th Edition 2012; 986.15, Chapter 9	0.02 to 20 mg/kg
		Pesticide Residues		
		2, 4 DDT (O,P DDT)	AOAC 19th Edition 2012;970.52 Chapter – 10	10 to 100 µg/kg
		4, 4 DDT (P,P DDT)	AOAC 19th Edition 2012;970.52 Chapter – 10	10 to 100 µg/kg
		2, 4 DDE (O,P DDE)	AOAC 19th Edition 2012;970.52	10 to 100 µg/kg

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			Chapter – 10	
		4, 4 DDE (P,P DDE)	AOAC 19th Edition 2012;970.52 Chapter – 10	10 to 100 µg/kg
		2, 4 DDD (O,P DDD)	AOAC 19th Edition 2012;970.52 Chapter – 10	10 to 100 µg/kg
		4,4 DDD (P,P DDD)	AOAC 19th Edition 2012;970.52 Chapter – 10	10 to 100 µg/kg
		ϒ - HCH (Lindane)	AOAC 19th Edition 2012;970.52 Chapter – 10	10 to 100 µg/kg
		α - HCH	AOAC 19th Edition 2012;970.52 Chapter – 10	10 to 100 µg/kg
		β - HCH	AOAC 19th Edition 2012;970.52 Chapter – 10	10 to 100 µg/kg
		δ - HCH	AOAC 19th Edition 2012;970.52 Chapter – 10	10 to 100 µg/kg
		Endosulfan α	AOAC 19th Edition 2012;970.52 Chapter – 10	10 to 100 µg/kg
		Endosulfan β	AOAC 19th Edition 2012;970.52 Chapter – 10	10 to 100 µg/kg
		Endosulfan sulphate	AOAC 19th Edition 2012;970.52 Chapter – 10	10 to 100 µg/kg
		Aldrin	AOAC 19th Edition 2012;970.52 Chapter – 10	10 to 100 µg/kg

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Dieldrin	AOAC 19th Edition 2012;970.52 Chapter – 10	10 to 100 µg/kg
	Cereals & Cereal Product , Spice & Spice products	**Aflatoxin**		
		B1	AOAC 19th Edition 2012, Ch.49, 2012, 2000.08	5.0 to 30 µg/kg
		B2		5.0 to 30 µg/kg
		G1		5.0 to 30 µg/kg
		G2		5.0 to 30 µg/kg
	Nut & Nut Products	B1	AOAC 19th Edition 2012, Ch.49, 2012, 2000.08	5.0 to 30 µg/kg
		B2		5.0 to 30 µg/kg
		G1		5.0 to 30 µg/kg
		G2		5.0 to 30 µg/kg
	Coffee	Ochrotoxins	ASTA Method 24.2 /AOAC 19th Edition 2012, Chapter -49-2000.09	5.0 to 100 µg/kg
VI.	**HAZARDOUS WASTE – RoHS (Restriction of Hazardous Substances)**			
1.	Electro Technical Products Plastic, Leather, Rubber, Metals	Cadmium as Cd	ASTM E350-12 IEC 62321-2008	1 – 100 mg/kg
		Lead as Pb	ASTM E351-93 IEC 62321-2008	1 – 1000 mg/kg
		Mercury as Hg	IEC 62321-2008 IEC 62321-2008	1 – 1000 mg/kg
		Hexavalent Chromium as Cr6+	ASTM D4692 IEC 62321-2008	1 – 1000 mg/kg
2.	**Paint**	Cadmium	ASTM D 3335	1 – 1000 mg/kg

Laboratory	**Nawal Analytical Laboratories, Plot No. 100, New SIDCO Industrial Estate, Srinagar, Hosur, Tamil Nadu**		
Accreditation Standard	**ISO/IEC 17025:2005**		
Discipline	**Chemical Testing**	**Issue Date**	**05.04.2014**
Certificate Number	**T-1192**	**Valid Until**	**04.04.2016**
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S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Lead	ASTM D 3335	1 – 1000 mg/kg
		Mercury	ISO 7252 - 1984	1 –1000 mg/kg
		Hexavalent Chromium as Cr6+	ISO 3856 – 5 1984	1 – 1000 mg/kg

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***NOTE**: The Laboratory has demonstrated competence for the stated scope for **WATER**. This however **does not fully cover** the specification requirements of **BIS for the Packaged Drinking Water as per IS:14543 and the Packaged Natural Drinking Water IS:13428.**