

Ground water Quality Status (Tube well) of Cuttack, Bhubaneswar and Puri cities (2016)

Location → Parameter (Permissible limit, max.- IS :10500 :2012) ↓	Month	Cuttack					Bhubaneswar						Puri			
		Jagatpur Industrial area	Madhapatna- Kalyan nagar area	Bidanasi – Tulsipur area	Badambadi area	Ranihat – Mangalabag area	Khandagiri area	CapitalHospital	Samantaraypur	Jharpada	Chandrasekhar pur	Secretariat - Governor House- area	Badadanda	Mausima Mandir	Sea beach site	Baliapanda
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
pH (6.5 to 8.5)	A	6.8	7.3	7.9	7.1	7.8	6.6	7.6	8.5	6.3	8.4	6.9	7.9	7.3	7.8	7.8
	O	7.3	7.7	8.2	7.7	8.1	7.3	7.6	7.7	7.6	8.1	8.3	7.9	7.5	8.1	8.2
Conductivity, µS/cm	A	649	408	183	546	266	105	307	380	243	221	286	834	993	393	277
	O	636	374	129	624	298	303	192	641	253	125	290	1157	705	1187	682
Biological Oxygen Demand, mg/l	A	0.3	0.3	0.4	0.5	0.2	0.1	0.9	0.5	0.5	0.5	0.4	0.1	0.1	0.5	0.8
	O	0.4	0.4	0.5	0.3	0.1	0.1	0.2	0.8	0.3	0.1	0.1	0.9	0.2	0.4	0.9
Chemical Oxygen Demand, mg/l	A	1.8	1.8	3.6	1.8	1.8	5.4	7.2	7.2	7.2	9.0	9.0	3.5	1.8	3.5	3.5
	O	4.0	4.0	4.0	2.0	2.0	7.3	7.3	5.5	3.6	5.5	5.5	10.9	3.6	7.3	20.0
Turbidity, NTU(5)	A	0.6	0.7	0.9	1.7	0.8	30.0	150.0	0.8	1.4	1.0	1.8	80.0	13.0	1.2	1.4
	O	13	1.7	2.2	30	9.2	6.4	110	4.2	20	70	1.6	6.6	10	5.6	5.4
Total Dissolved Solids, mg/l(2000)	A	347	217	113	286	153	64	183	213	137	122	155	498	561	239	150
	O	357	215	78	364	158	162	118	345	142	72	158	652	388	682	372
Total Fixed Solids, mg/l	A	328	192	88	260	132	52	165	187	112	98	138	479	540	220	128
	O	326	198	62	324	146	142	126	321	122	62	127	622	365	624	646
Total Alkalinity, mg/l (600)	A	82	116	76	132	116	28	36	84	22	72	64	232	196	72	68
	O	152	120	56	232	140	56	42	304	24	28	88	240	82	252	92
T. Hardness (as CaCO ₃), mg/l (600)	A	140	104	66	130	100	20	52	110	32	80	78	222	204	86	74
	O	176	120	44	222	112	64	40	242	40	28	100	256	52	254	86

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Ca, mg/l (200)	A	32.9	25.7	19.2	31.3	28.1	6.4	16.0	31.3	11.2	20.8	22.4	38.5	36.9	14.4	19.2
	O	54.5	33.7	14.4	67.3	32.1	14.4	11.2	49.7	11.2	6.4	25.7	52.9	12.8	56.9	24.0
Mg, mg/l(100)	A	14.1	9.8	4.4	12.7	7.3	1.0	2.9	7.8	1.0	6.8	5.4	30.7	27.3	12.2	6.3
	O	9.8	8.8	2.0	13.2	7.8	6.8	2.9	28.8	2.9	2.9	8.8	30.2	4.9	27.3	6.3
Chloride, mg/l (1000)	A	97.8	47.9	10.8	60.7	11.7	13.7	58.7	41.1	52.9	15.7	37.2	127.2	185.8	78.3	29.4
	O	93.9	50.9	9.8	62.6	11.7	52.8	35.2	39.1	54.8	17.6	33.3	166.3	156.5	176.0	146.7
Sulphate, mg/l (400)	A	62.3	17.4	13.1	32.6	14.4	4.0	25.6	32.8	3.1	12.2	16.9	49.1	42.8	22.6	20.6
	O	37.4	10.9	6.8	29.7	4.5	5.6	5.8	2.4	9.7	9.6	6.2	93.6	12.1	97.3	18.3
Nitrate as NO ₃ , mg/l (45)	A	27.400	3.308	1.302	32.758	4.101	9.344	9.362	2.914	36.934	2.006	9.105	10.296	13.760	3.902	1.151
	O	23.975	4.315	3.951	6.223	5.100	43.532	20.036	7.802	24.633	7.994	14.127	46.968	46.237	18.210	0.438
Ammonium-N, mg/l (0.5)	A	<0.056	<0.056	0.112	<0.056	<0.056	<0.056	0.224	<0.056	0.448	<0.056	<0.056	0.056	<0.056	<0.056	<0.056
	O	<0.056	<0.056	0.056	<0.056	<0.056	<0.056	<0.056	<0.056	<0.056	<0.056	<0.056	<0.056	<0.056	<0.056	0.056
Total Kjeldahl Nitrogen, mg/l	A	0.56	0.56	0.84	0.56	0.56	0.56	1.40	0.56	1.68	0.56	0.56	1.12	0.56	0.56	0.56
	O	0.56	0.56	0.56	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
Fluoride, mg/l (1.5)	A	0.340	0.240	0.360	0.390	0.290	0.190	0.210	0.270	0.280	0.310	0.180	0.230	0.500	0.300	0.290
	O	0.210	0.210	0.220	0.240	0.310	0.160	0.170	0.480	0.150	0.170	0.160	0.170	0.200	0.180	0.290
Phosphate-P, mg/l	A	0.189	0.083	0.066	0.002	0.105	0.004	0.002	0.554	0.002	0.002	0.060	0.144	0.056	0.113	0.396
	O	0.092	0.067	0.076	0.073	0.042	0.033	0.096	0.056	0.023	0.032	0.082	0.079	0.392	0.146	0.019
Sodium, mg/l	A	58.8	30.5	7.1	39.9	7.7	8.8	38.4	27.2	31.9	10.3	24.2	83.0	115.7	50.2	19.2
	O	58.20	28.5	6.39	37.75	7.52	30.83	21.95	25.98	33.37	10.52	19.22	103.2	98.8	115.4	85.9
Potassium, mg/l	A	14.7	5.7	2.0	11.8	3.2	0.8	7.4	11.9	5.5	2.3	3.7	18.2	20.8	7.2	4.7
	O	3.7	4.0	1.2	7.2	4.0	2.0	3.1	6.1	5.1	2.4	6.2	46.8	37.6	49.2	29.8
Boron, mg/l(1.0)	A	<0.003	<0.003	<0.003	<0.003	<0.003	0.007	<0.003	<0.003	0.056	<0.003	<0.003	0.147	0.133	0.056	0.053
	O	0.158	0.126	0.042	0.333	0.056	0.028	0.07	0.14	0.046	0.039	0.063	0.281	0.162	0.172	0.126
Chromium (VI), mg/l	A	0.018	0.023	0.025	0.025	0.015	0.015	0.015	0.023	0.025	0.025	0.010	0.015	0.010	0.013	0.020
	O	0.008	0.015	0.005	0.020	0.023	0.021	<0.002	0.005	0.023	0.005	0.005	<0.002	0.017	0.005	<0.002
Chromium, Total, mg/l (0.05)	A	0.023	0.031	0.031	0.031	0.023	0.025	0.040	0.040	0.030	0.040	0.024	0.037	0.030	0.030	0.031
	O	0.030	0.030	0.024	0.057	0.054	0.057	0.018	0.020	0.057	0.030	0.027	0.013	0.035	0.030	0.015
Iron,Total, mg/l (1.0)	A	0.170	0.260	0.260	0.100	0.080	1.800	7.750	0.120	0.400	0.130	0.340	7.270	2.720	0.340	0.220
	O	0.070	0.056	0.130	5.100	0.110	7.770	6.800	3.580	4.910	1.120	7.840	0.270	0.420	0.340	1.690

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Mercury, mg/l(0.001)	A	0.00006	<0.00006	<0.00006	<0.00006	0.00013	<0.00006	<0.00006	<0.00006	<0.00006	<0.00006	<0.00006	<0.00006	<0.00006	<0.00006	<0.00006
	O	<0.00006	0.00006	0.00006	0.00013	<0.00006	0.00006	0.00013	0.00013	0.00006	<0.00006	0.00013	0.00006	0.00006	<0.00006	0.00006
Cadmium, mg/l (0.003)	A	0.0008	0.0004	0.0004	0.0004	0.0004	0.0006	0.0004	0.0006	0.0004	0.0004	0.0005	0.0004	0.0006	0.0006	0.0005
	O	0.002	0.001	0.001	0.002	0.001	0.002	0.001	0.001	0.001	0.002	0.002	0.001	0.002	0.001	0.001
Copper, mg/l (1.5)	A	0.002	0.002	0.004	0.003	0.002	0.003	0.002	0.006	0.002	0.002	0.004	0.001	0.003	0.002	0.004
	O	0.004	0.004	0.005	0.002	0.005	0.001	0.008	0.002	0.001	0.001	0.001	0.002	0.007	0.003	0.002
Lead, mg/l (0.01)	A	0.004	0.004	0.005	0.003	0.004	0.005	0.005	0.005	0.003	0.003	0.003	0.004	0.004	0.004	0.004
	O	0.006	0.007	0.006	0.003	0.007	0.004	0.004	0.014	0.004	0.006	0.005	0.009	0.009	0.007	0.009
Nickel, mg/l (0.02)	A	0.008	0.012	0.004	0.008	0.011	0.011	0.005	0.009	0.009	0.009	0.007	0.004	0.006	0.004	0.008
	O	0.008	0.010	0.007	0.008	0.007	0.008	0.004	0.009	0.004	0.005	0.004	0.009	0.012	0.007	0.008
Zinc, mg/l (15)	A	0.012	0.016	0.008	0.015	0.018	0.017	0.008	0.021	0.011	0.011	0.018	0.017	0.011	0.014	0.007
	O	0.023	0.012	0.015	0.017	0.023	0.016	0.005	0.006	0.003	0.003	0.042	0.009	0.031	0.012	0.030
Total Coliform, MPN/100ml (Absent)	A	4.5	35	<1.8	<1.8	<1.8	<1.8	920	<1.8	<1.8	<1.8	<1.8	13	<1.8	540	<1.8
	O	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	540	<1.8	<1.8	>1600	<1.8	<1.8	<1.8	<1.8
Fecal Coliform, MPN/100ml (Absent)	A	4.5	170	<1.8	<1.8	<1.8	<1.8	170	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	240	<1.8
	O	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	350	<1.8	<1.8	1600	<1.8	<1.8	<1.8	<1.8

A : April

O : October

