

Ground water Quality Status (Tube well) of Cuttack, Bhubaneswar and Puri cities (2015)

Location → Parameter (Permissible limit,max.- IS :10500 :2012) ↓	Month	Cuttack					Bhubaneswar						Puri			
		Jagatpur Industrial area	Madhupatna- Kalyan nagar area	Bidanasi – Tulsiapur 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	7.2	7.6	7.3	7.6	7.0	8.0	8.1	6.4	7.1	6.7	8.3	7.2	8.3	7.8
	O	7.1	7.6	7.7	7.8	7.8	6.2	6.3	8.0	7.0	6.6	6.8	7.6	8.1	8.2	8.0
Conductivity, µS/cm	A	674	386	165	663	213	134	322	225	238	158	136	947	912	1082	252
	O	908	290	139	405	300	721	388	412	269	246	499	1166	528	970	389
Biological Oxygen Demand, mg/l	A	0.3	0.3	0.6	2.1	0.5	0.8	0.2	0.7	0.8	0.8	0.2	0.6	0.8	0.3	0.1
	O	0.4	0.8	0.4	1.2	0.3	0.2	0.3	0.3	0.3	0.5	0.4	0.1	0.2	0.4	0.9
Chemical Oxygen Demand, mg/l	A	26.3	11.3	9.4	11.3	11.3	3.8	1.9	3.8	5.7	3.8	0.9	5.5	5.5	7.3	2.3
	O	5.4	10.8	7.2	10.8	5.4	5.4	8.9	7.1	7.2	12.6	5.4	6.2	4.6	10.8	12.3
Turbidity, NTU(5)	A	0.5	1.2	0.2	3.0	2.8	1.2	2.4	0.7	3.5	0.7	4.0	3.5	4.9	0.8	1.1
	O	1.4	80	0.6	25	0.6	16	0.3	0.6	5.7	0.8	2.4	60	1.1	2.1	8.7
Total Dissolved Solids, mg/l(2000)	A	385	214	95	372	122	75	172	132	125	80	75	585	530	660	130
	O	488	176	82	224	179	410	215	248	149	139	264	748	327	665	227
Total Fixed Solids, mg/l	A	365	202	81	362	108	62	161	119	102	68	63	570	516	1026	239
	O	475	220	78	230	180	411	209	243	136	138	256	739	299	621	214
Total Alkalinity, mg/l (600)	A	72	112	68	160	94	28	28	84	22	16	20	264	268	218	40
	O	112	100	58	128	140	86	94	176	70	44	108	296	186	290	168
T. Hardness (as CaCO ₃), mg/l (600)	A	156	106	52	156	94	24	48	80	36	28	28	248	226	252	36
	O	168	108	60	136	140	140	112	172	64	56	140	370	196	312	152

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Ca, mg/l (200)	A	42.4	26.4	16.0	38.4	25.6	8.0	16.0	23.2	11.2	8.0	6.4	75.2	62.4	28.8	9.6
	O	48.0	28.8	16.0	38.4	36.8	36.8	30.4	40.0	16.0	12.8	35.2	100.1	49.6	91.2	36.8
Mg, mg/l(100)	A	12.2	9.7	2.9	14.6	7.3	1.0	1.9	5.3	1.9	1.9	2.9	14.6	17.0	43.8	2.9
	O	11.7	8.8	4.9	9.7	11.7	11.7	8.8	17.5	5.8	5.8	12.6	29.2	17.5	20.4	14.6
Chloride, mg/l (1000)	A	88.1	52.8	9.8	101.8	6.9	19.6	58.7	21.2	47.0	25.4	21.5	146.8	127.2	185.9	44.0
	O	166.4	31.3	8.8	41.1	15.7	160.0	48.9	34.2	35.2	35.2	64.6	256.0	58.7	192.4	19.6
Sulphate, mg/l (400)	A	113.6	11.8	5.7	32.8	12.3	4.5	20.5	7.7	9.0	3.5	4.4	52.2	35.9	97.5	10.2
	O	68.0	18.0	4.3	18.0	11.8	45.1	28.6	10.4	13.5	22.1	21.8	36.4	28.6	55.2	25.0
Nitrate as NO ₃ , mg/l (45)	A	0.456	10.823	12.329	11.359	7.723	10.664	12.790	5.062	3.809	28.082	27.422	0.213	2.759	2.267	5.651
	O	3.543	0.771	1.050	6.346	1.324	3.251	3.237	5.855	3.158	13.839	2.595	4.313	13.950	10.673	0.815
Ammonium-N, mg/l (0.5)	A	<0.056	<0.056	<0.056	<0.056	<0.056	0.056	<0.056	<0.056	0.280	<0.056	0.896	<0.056	2.240	<0.056	0.112
	O	0.056	0.056	0.056	0.112	0.056	0.056	0.056	0.056	0.056	0.056	1.624	0.056	0.056	0.112	0.224
Total Kjeldahl Nitrogen, mg/l	A	0.28	0.56	0.28	0.28	0.58	0.28	0.28	0.28	1.68	0.28	1.96	0.28	5.04	0.28	0.28
	O	0.56	0.56	0.56	0.84	0.84	0.84	0.56	0.56	0.56	0.84	2.24	0.56	0.56	2.24	1.12
Fluoride, mg/l (1.5)	A	0.286	0.278	0.266	0.296	0.362	0.218	0.165	0.380	0.330	0.150	0.157	0.395	0.372	0.336	0.328
	O	0.300	0.520	0.250	0.790	0.430	0.230	0.210	0.470	0.260	0.450	0.210	0.300	1.500	1.340	0.320
Phosphate-P, mg/l	A	0.542	0.089	0.038	0.019	0.096	1.096	0.734	0.067	0.667	0.036	0.062	0.058	0.080	0.094	0.034
	O	0.117	0.061	0.139	0.059	0.019	0.039	0.075	0.119	0.019	0.039	0.069	0.039	0.085	0.075	0.045
Sodium, mg/l	A	57.8	34.6	6.4	66.9	4.4	12.8	38.6	13.7	30.9	16.8	14.1	96.4	83.6	123.0	29.1
	O	98.0	18.6	5.8	26.7	9.3	90.0	32.1	22.4	23.1	23.0	41.7	105.9	38.5	114.2	12.7
Potassium, mg/l	A	19.8	2.2	5.1	11.2	2.1	5.4	6.4	2.7	4.3	2.7	1.3	32.0	32.0	32.0	3.7
	O	15.0	5.3	1.6	6.6	3.4	11.0	5.2	6.3	5.1	5.3	8.3	30.2	7.8	14.2	3.4
Boron, mg/l(1.0)	A	0.231	0.167	0.026	0.125	0.019	0.202	0.035	0.009	0.003	0.016	0.009	0.138	0.151	0.064	0.212
	O	0.115	0.035	0.061	0.09	0.115	0.058	0.029	0.045	0.096	0.103	0.042	0.138	0.369	0.393	0.054
Chromium (VI), mg/l	A	<0.002	<0.002	<0.002	<0.002	<0.002	0.005	0.002	0.003	<0.002	<0.002	0.002	0.003	<0.002	0.005	<0.002
	O	0.007	<0.002	0.005	0.007	0.002	0.003	0.003	0.003	<0.002	<0.002	0.005	0.002	0.021	0.011	0.008
Chromium, Total, mg/l (0.05)	A	0.025	0.029	0.024	0.018	0.030	0.024	0.018	0.015	0.015	0.013	0.015	0.035	0.030	0.039	0.013
	O	0.022	0.011	0.019	0.015	0.008	0.011	0.009	0.015	0.011	0.018	0.018	0.011	0.038	0.033	0.025
Iron, Total, mg/l (0.3)	A	0.14	0.16	0.04	7.69	0.30	7.33	3.89	0.06	7.17	0.14	7.04	0.68	7.09	0.08	0.66
	O	0.02	6.34	0.25	0.99	0.28	4.38	0.03	0.20	1.05	0.21	0.07	0.02	0.38	0.03	8.42

(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	<0.00006	<0.00006	<0.00006	<0.00006	<0.00006	<0.00006	<0.00006	<0.00006	<0.00006	<0.00006	<0.00006
	O	<0.00006	0.00019	0.00025	<0.00006	0.00038	0.00038	0.00013	0.00006	0.00032	0.00038	0.00019	<0.00006	<0.00006	<0.00006	0.00019
Cadmium, mg/l (0.003)	A	0.002	0.001	0.001	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.002	0.001
Copper, mg/l (0.05)	A	0.005	0.006	0.007	0.007	0.009	0.015	0.009	0.009	0.011	0.009	0.005	0.011	0.007	0.011	0.008
Lead, mg/l (0.01)	A	0.003	0.003	0.004	0.002	0.004	0.004	0.004	0.003	0.003	0.004	0.002	0.007	0.008	0.005	0.005
Nickel, mg/l (0.02)	A	0.013	0.014	0.014	0.015	0.015	0.018	0.012	0.010	0.013	0.010	0.011	0.015	0.013	0.015	0.009
Zinc, mg/l (15)	A	0.010	0.015	0.007	0.012	0.012	0.009	0.006	0.008	0.015	0.007	0.009	0.020	0.015	0.016	0.016
Total Coliform, MPN/100ml (Absent)	A	<2	<2	<2	23	<2	<2	4	<2	<2	<2	<2	240	8	8	<2
	O	7	13	2	<2	23	<2	<2	13	2	<2	23	<2	<2	<2	23
Fecal Coliform, MPN/100ml (Absent)	A	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	49	<2	4	<2
	O	4	<2	<2	<2	4	<2	<2	2	<2	<2	8	<2	<2	<2	8

A : April

O : October