Coastal Water Quality with respect to Criteria parameters during 2017 (January-December)

Sl. No	Sampling Location	No. of Obs.	Annual average values (Range of values) Parameters					Frequency of violation (Percent of violation) from designated criteria value		Existing Class	Parameters responsible for downgrading the water quality	Possible Reason
			pH	DO (mg/l)	BOD (mg/l)	Turbidity, NTU	FC (MPN/100 ml)	BOD	FC			
1.	Puri											
(a)	Swargadwara	12	7.9 (7.4-8.2)	6.4 (5.4-7.3)	1.4 (0.6-3.0)	9.6 (0.8-27.0)	492 (<1.8-5400)	0	3 (25)	Does not confirm to Class-SW-II	FC	Human activities
(b)	Bankimuhan	12	7.8 (7.3-8.2)	6.2 (5.6-7.5)	1.8 (0.9-3.1)	10 (2-40)	4400 (<1.8-16000)	1 (8)	7 (58)	Does not confirm to Class-SW-II	BOD, FC	Human activities
(c)	Baliapanda	12	8.0 (7.6-8.3)	6.2 (5.6-7.4)	1.3 (0.6-2.7)	8 (1-28)	651 (<1.8-5400)	0	5 (42)	Does not confirm to Class-SW-II	FC	Human activities
2.	Gopalpur	12	8.0 (7.8-8.4)	6.4 (5.2-7.7)	1.0 (0.3-1.8)	10.1 (0.7-40.0)	30 (<1.8-130)	0	1 (8)	SW-II		
3.	Paradeep	12	7.9 (7.4-8.2)	6.6 (5.8-8.5)	0.8 (0.3-1.4)	12.4 (1.9-40.9)	7 (<1.8-45)	0	0	SW-II		
Water quality criteria for Class SW-II Waters (MOEF Notification G.S.R. No. 7 Dt. 22.12.1998)			**6.5-8.5**	**4.0 or more**	**3.0 or less**	**30 or less**	**100 or less***				**For Bathing, Contact Water Sports and Commercial Fishing**	

* The value not exceeding 200/100 ml in 20 percent of samples in the year and in 3 consecutive samples in monsoon months.

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Sl. No	Sampling Location	No. of Obs.	Annual average value (Range of values) Parameters					Frequency of violation (Percent of violation) from designated criteria value			Existing Class	Parameters responsible for downgrading the water quality	Possible Reason
			pH	DO (mg/l)	BOD (mg/l)	O&G, mg/l	FC (MPN/100 ml)	BOD	O&G	FC			
1.	Gopalpur	12	8.0 (7.8-8.4)	6.4 (5.2-7.7)	1.0 (0.3-1.8)	0.6 (0.2-0.9)	30 (<1.8-130)	0	0	0	SW-IV		
2.	Paradeep	12	7.9 (7.4-8.2)	6.6 (5.8-8.5)	0.8 (0.3-1.4)	1.2 (0.8-1.7)	7 (<1.8-45)	0	0	0	SW-IV		
Water quality criteria for Class SW-IV Waters (MOEF Notification G.S.R. No. 7 Dt. 22.12.1998)			6.0-9.0	3.0 or more	5.0 mg/l or less	10 or less	500 or less					For Harbour Waters	

Coastal Water Quality with respect to other parameters during 2017 (January- December)

Sl. No.	Sampling Location	Physical parameters		Organic pollution Indicators				Bacteriolo - gical parameter	Mineral constituents							
								Annual average values (Range of values)								
		TSS	Total alkal -inity	COD	NH₄-N	Free NH₃-N	TKN	TC	EC	SAR	B	TDS	TH	Cl	SO₄	F
		(mg/l)		(mg/l)				(MPN/ 100 ml)	(µS/cm)		(mg/l)					
1.	Puri															
(a)	Swargadwara	204 (24-544)	125 (92-192)	43.6 (35.1-49.6)	0.096 (0.050-0.280)	0.004 (0-0.014)	1.24 (0.56-3.08)	879 (<1.8-9200)	47956 (31670-59240)	78.58 (54.39-90.84)	3.356 (2.095-4.150)	40645 (25800-51700)	5032 (3500-6300)	22529 (14993-29485)	2650 (589-3980)	0.720 (0.440-1.100)
(b)	Bankimuhan	257 (21-486)	129 (84-192)	45.5 (33.1-60.0)	1.239 (0.050-1.064)	0.007 (0.002-0.023)	2.38 (0.56-7.28)	5179 (<1.8-16000)	45712 (34190-59140)	72.17 (50.80-85.27)	3.205 (2.011-3.953)	38659 (27500-49830)	4843 (3500-6400)	21451 (15991-27986)	2573 (541-3632)	0.707 (0.360-1.100)
(c)	Baliapanda	216 (56-472)	124 (96-192)	41.9 (35.1-49.6)	0.091 (0.050-0.280)	0.006 (0.001-0.029)	1.38 (0.56-4.48)	1173 (<1.8-9200)	47203 (33740-59310)	77.60 (47.07-106.48)	3.315 (2.077-4.325)	39619 (27600-48900)	5088 (3750-6000)	21866 (15992-26987)	2588 (584-3894)	0.733 (0.410-1.300)
2.	Gopalpur	263 (49-606)	120 (100-146)	39.1 (33.5-49.0)	0.125 (0.050-0.450)	0.007 (0-0.023)	1.98 (0.56-6.72)	62 (<1.8-230)	46736 (34408-58050)	75.70 (57.02-98.15)	3.328 (2.125-4.455)	38988 (28200-49300)	5269 (3500-6400)	21821 (15492-28486)	2507 (568-3228)	0.700 (0.420-1.100)
3.	Paradeep	258 (94-516)	122 (76-196)	42.4 (35.7-53.6)	0.144 (0.050-0.730)	0.004 (0-0.014)	2.29 (0.56-14.00)	21 (<1.8-78)	46644 (32190-62520)	75.93 (59.82-90.85)	2.979 (0.046-4.912)	38348 (26100-53040)	4778 (2650-6500)	21203 (14493-28486)	2372(543-3152)	0.754 (0.480-1.100)

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Sl. No.	Sampling Location	Nutrients		Heavy metals									
		Annual average values (Range of values)											
		NO_3^-	PO_4^{3-}-P	Cr(VI) ##	T. Cr##	Fe##	Ni##	Cu##	Zn##	Cd##	Hg##	Pb##
		(mg/l)		Cr(VI) ##	T. Cr##	Fe##	Ni##	Cu##	Zn##	Cd##	Hg##	Pb##
				(mg/l)									
1.	Puri											
(a)	Swargadwara	4.512 (0.994-11.427)	0.071 (0.001-0.291)	0.003	0.015	0.19	0.006	0.003	0.018	0.0009	0.00021	0.006
(b)	Bankimuhan	5.061 (0.644-13.246)	0.122 (0.002-0.265)	0.005	0.017	0.110	0.006	0.004	0.019	0.0008	0.00032	0.005
(c)	Baliapanda	5.360 (0.365-17.129)	0.062 (0.002-0.218)	0.007	0.015	0.160	0.008	0.004	0.018	0.0009	0.00013	0.005
2.	Gopalpur	3.805 (1.004-11.111)	0.028 (0.002-0.165)	0.012	0.027	0.22	0.004	0.005	0.016	0.0007	<0.00006	0.004
3.	Paradeep	4.090 (0.191-16.338)	0.136 (0.002-0.630)	0.007	0.018	0.18	0.004	0.008	0.014	0.0011	<0.00006	0.004

Data for the period April, 2017