Table 1 Test Characteristics For Drinking Water
(Clause 3.1)

S.No	Substance or Characteristic	Requirement (Desirable Limit)	Undesirable effect outside the desirable limit	Permissible Limit in the absence of alternate source	Method of test (Ref to IS)	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Essential characteristics						
1	Colour Hazen Units, Max	5	Above 5, consumer acceptance decreases	25	3025 (Part 4):1983	Extended to 25 only if toxic substances are not suspected in absence of alternate source
2	Odour	Unobjection-able	--	--	3025 (Part 5):1983	a). Test cold and when heated b). Test at several dilutions
3	Taste	Agreeable	--	--	3025 (Part 7 and 8) :1984	Test to be conducted only after safety has been established
4	Turbidity NTU, Max	5	Above 5, consumer acceptance decreases	10	3025 (Part 10) :1984	--
5	pH Value	6.5 to 8.5	Beyond this range water will affect the mucous membrane and/or water supply system	No relaxation	3025 (Part 11) :1984	--
6	Total hardness (as $CaCO_3$) mg/L, Max	300	Encrustation in water supply structure and adverse effects o domestic use	600	3025 (Part 21) :1983	--
7	Iron (as Fe) mg/L, Max	0.3	Beyond this limit taste/appearance are affected, has adverse effect on domestic uses and water supply structures, and promotes iron bacteria	1.0	3025 (Part 32) :1981	--
8	Chlorides (as Cl) mg/L, Max	250	Beyond this limit, taste, corrosion and palatability are affected	1000	3025 (Part 32) :1988	--
9	Residual, free chlorine mg/L, Max	0.2	--	--	3025 (Part 26) :1986	To be applicable only when water is chlorinated. Tested at consumer end. When protection against viral infection is required, it should be Min 0.5 mg/L.
Desirable Characteristics						
10	Dissolved solids mg/L, Max	500	Beyond this palatability decreases and may cause gastro intestinal irritation	2000	3025 (Part 16) :1984	--

Table 1 Test Characteristics For Drinking Water (Contd.)
(Clause 3.1)

S.No	Substance or Characteristic	Requirement (Desirable Limit)	Undesirable effect outside the desirable limit	Permissible Limit in the absence of alternate source	Method of test (Ref to IS)	Remarks
11	Calcium (as Ca) mg/L, Max	75	Encrustation in water supply structure and adverse effects on domestic use	200	3025 (Part 40) :1991	--
12	Copper (as Cu) mg/L, Max	0.05	A stringent taste, discoloration and corrosion of pipes, fitting and utensils will be caused beyond this	1.5	3025 (Part 36) :1964	--
13	Manganese (as Mn) mg/L, Max	0.1	Beyond this limit taste/appearance are affected, has adverse effect on domestic uses and water supply structures	0.3	3025 (Part 35) :1964	--
14	Sulphate (as SO_4) mg/L, Max	200	Beyond this causes gastro intestinal irritation when magnesium or sodium are present	400	3025 (Part 24) 1986	May be extended upto 400 provided (as Mg) does not exceed 30
15	Nitrate (as NO_3) mg/L	50	Beyond this methaemoglobinemia takes place	No relaxation	3025 (Part 34) 1988	--
16	Fluoride (as F) mg/L, Max	1.0	Fluoride may be kept as low as possible. High fluoride may cause fluorosis	1.5	23 of 3025:1964	--
17	Phenolic compounds (as C_6H_5OH) mg/L, Max	0.001	Beyond this, it may cause objectionable taste and colour	0.002	54 of 3025:1964	--
18	Mercury (as Hg) mg/L, Max	0.001	Beyond this, the water becomes toxic	No relaxation	(see Note) Mercury ion analyser	To be tested when pollution is suspected
19	Cadmium (as Cd) mg/L, Max	0.01	Beyond this, the water becomes toxic	No relaxation	(see Note)	To be tested when pollution is suspected
20	Selemium (as Se) mg/L, Max	0.01	Beyond this, the water becomes toxic	No relaxation	28 of 3025:1964	To be tested when pollution is suspected
21	Arsenic (as As) mg/L, Max	0.05	Beyond this, the water becomes toxic	No relaxation	37 of 3025:1988	To be tested when pollution is suspected
22	Cyanide (as CN) mg/L, Max	0.05	Beyond this, the water becomes toxic	No relaxation	27 of 3025:1988	To be tested when pollution is suspected
23	Lead (as Pb) mg/L, Max	0.05	Beyond this, the water becomes toxic	No relaxation	(see Note)	To be tested when pollution/plumbo-solvency is suspected
24	Zinc (as Zn) mg/L, Max	5	Beyond this limit it can cause astringent taste and on opalescence in water	15	39 of 3025:1964	To be tested when pollution is suspected

Table 1 Test Characteristics For Drinking Water (Contd.)
(Clause 3.1)

S.No	Substance or Characteristic	Requirement (Desirable Limit)	Undesirable effect outside the desirable limit	Permissible Limit in the absence of alternate source	Method of test (Ref to IS)	Remarks
25	Anionic Detergents (as MBAS) mg/L, Max	0.2	Beyond this limit it can cause a light froth in water	1.0	Methylene blue extraction method	To be tested when pollution is suspected
26	Chromium (as Cr^{6+}) mg/L, Max	0.05	May be carcinogenic above this limit	No relaxation	38 of 3025:1964	To be tested when pollution is suspected
27	Polynuclear aromatic hydrocarbons (as PAH) g/L, max	--	May be carcinogenic	--	--	--
28	Mineral Oil mg/L, Max	0.01	Beyond this limit undesirable taste and odour after chlorination take place	0.03	Gas Chromatographic method	To be tested when pollution is suspected
29	Pesticides mg/L, Max	Absent	Toxic	0.001	--	--
30	Radioactive materials				58 of 3025:1964	
	a). Alpha emitters Bq/L. Max	--	--	0.1	--	--
	b). Beta emitters Bq/L Max	--	--	1	--	--
31	Alkalinity mg/L. Max	200	Beyond this limit taste becomes unpleasant	600	13 of 3025:1964	--
32	Aluminium (as Al) mg/L, Max	0.03	Cumulative effect is reported to cause dementia	0.2	31 of 3025:1684	--
33	Boron, mg/L, Max	1	--	5	29 of 3025:1964	--

NOTE: Atomic Absorption Spectrophotometric Method may be used.