## ANNEXURE-V

**Drinking Water Standards and Probable Effects of Human Health (BIS: IS: 10501991)**

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Prescribed limits</th>
<th>Probable effects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Desirable</td>
<td>Permissible</td>
</tr>
<tr>
<td>COLOUR (HAZEN UNIT)</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>ODOUR</td>
<td>Essentially free</td>
<td></td>
</tr>
<tr>
<td>TASTE</td>
<td>Agreeable</td>
<td></td>
</tr>
<tr>
<td>TURBIDITY (NTU)</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>pH</td>
<td>6.5</td>
<td>8.5</td>
</tr>
<tr>
<td>HARDNESS, as CaCO₃, mg/l</td>
<td>300</td>
<td>600</td>
</tr>
<tr>
<td>IRON, as Fe, mg/l</td>
<td>0.30</td>
<td>1.00</td>
</tr>
<tr>
<td>CHLORIDE, as Cl₂, mg/l</td>
<td>250</td>
<td>1000</td>
</tr>
<tr>
<td>RESIDUAL CHLORINE, only when Water is chlorinated</td>
<td>0.20</td>
<td>-</td>
</tr>
<tr>
<td>TOTAL DISSOLVED SOLIDS, mg/l</td>
<td>500</td>
<td>2000</td>
</tr>
<tr>
<td>CALCIUM, as Ca, mg/l</td>
<td>75</td>
<td>200</td>
</tr>
<tr>
<td>MAGNESIUM, as Mg, mg/l</td>
<td>30</td>
<td>100</td>
</tr>
<tr>
<td>COPPER, as Cu, mg/l</td>
<td>0.05</td>
<td>1.50</td>
</tr>
<tr>
<td>Substance, as X, mg/l</td>
<td>Lower Limit</td>
<td>Upper Limit</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>SULPHATE, as SO$_4$</td>
<td>200</td>
<td>400</td>
</tr>
<tr>
<td>NITRATE, as N</td>
<td>45</td>
<td>100</td>
</tr>
<tr>
<td>FLUORIDE, as F</td>
<td>1.00</td>
<td>1.50</td>
</tr>
<tr>
<td>CADMIUM, as Cd</td>
<td>0.01</td>
<td>No relaxation</td>
</tr>
<tr>
<td>LEAD, as Pb</td>
<td>0.05</td>
<td>No relaxation</td>
</tr>
<tr>
<td>ZINC, as Zn</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>CHROMIUM, as Cr</td>
<td>0.05</td>
<td>No relaxation</td>
</tr>
<tr>
<td>ARSENIC, as As</td>
<td>0.05</td>
<td>No relaxation</td>
</tr>
<tr>
<td>ANTIMONY, as Sb</td>
<td>0.006</td>
<td>No relaxation</td>
</tr>
<tr>
<td>ALUMINIUM, as Al</td>
<td>0.030</td>
<td>0.200</td>
</tr>
<tr>
<td>BARIUM, as Ba</td>
<td>2</td>
<td>No relaxation</td>
</tr>
<tr>
<td>BERYLLIUM, as Be</td>
<td>nil</td>
<td>0.0002</td>
</tr>
<tr>
<td>CYANIDE, as CN</td>
<td>0.05</td>
<td>No relaxation</td>
</tr>
<tr>
<td>Substance</td>
<td>Symbol</td>
<td>Unit</td>
</tr>
<tr>
<td>-------------------</td>
<td>--------</td>
<td>------------</td>
</tr>
<tr>
<td>MERCURY, as Hg</td>
<td>mg/1</td>
<td>0.001</td>
</tr>
<tr>
<td>MANGANESE, as Mn</td>
<td>mg/1</td>
<td>0.10 - 0.30</td>
</tr>
<tr>
<td>SELENIUM, as Se</td>
<td>mg/1</td>
<td>0.01</td>
</tr>
<tr>
<td>BORON, as B</td>
<td>mg/1</td>
<td>1.00 - 5.00</td>
</tr>
<tr>
<td>ALKALINITY, as CaCO3</td>
<td>mg/l</td>
<td>200 - 600</td>
</tr>
<tr>
<td>PESTICIDES</td>
<td>ug/l</td>
<td>nil - 0.001</td>
</tr>
<tr>
<td>PHOSPHATE, as PO4</td>
<td>mg/1</td>
<td>No guideline</td>
</tr>
<tr>
<td>SODIUM, as Na</td>
<td>mg/1</td>
<td>No guideline</td>
</tr>
<tr>
<td>POTASSIUM, as K</td>
<td>mg/1</td>
<td>No guideline</td>
</tr>
<tr>
<td>NICKEL, as Ni</td>
<td>mg/1</td>
<td>No guideline</td>
</tr>
<tr>
<td>PATHOGENS</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>---------------------------</td>
<td>---</td>
<td>----</td>
</tr>
<tr>
<td>a) TOTAL COLIFORM No/dl</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) FAECAL COLIFORM No/dl</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RADIOACTIVITY:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- BETA PARTICLES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- ALPHA PARTICLES</td>
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</tr>
<tr>
<td>- RADIUM</td>
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</tbody>
</table>