**RESULTS OF THE WATER QUALITY PARAMETERS OF the institute**

**(SAMPLING DATE 15/09/21)**

***TABLE 1- PUMPS***

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameters** | **Permissible Limit** | **Maximum Limit** | **P1** | **P3** | **P8** | **P11** |  **P12** | **P13** | **P14** |
|  **pH** | **6.5 to 8.5** | **No relaxation** | **8.11** | **8.45** | **8.28** | **8.21** | **8.09** | **8.22** | **8.14** |
|  **TDS (mg/l)** | **500** | **2000** | **489** | **431** | **725** | **645** | **395** | **565** | **645** |
| **Hardness (as CaCO3) (mg/l)** | **200** | **600** | **100** | **120** | **130** | **140** | **100** | **160** | **140** |
|  **Alkalinity(as CaCO3) (mg/l)** | **200** | **600** | **320** | **330** | **250** | **270** | **310** | **280** | **270** |
| **Nitrate (mg/l)** | **45** | **No relaxation** | **0.16** | **0.10** | **0.06** | **0.09** | **0.12** | **0.07** | **0.09** |
| **Sulfate (mg/l)** | **200** | **400** | **36.89** | **31.65** | **41.85** | **31.48** | **29.96** | **47.73** | **32.97** |
| **Fluoride (mg/l)** | **1** | **1.5** | **0.725** | **0.821** | **0.545** | **0.618** | **0.814** | **0.692** | **0.635** |
| **Chloride (mg/l)** | **250** | **1000** | **170** | **135** | **295** | **300** | **220** | **210** | **250** |
| **Turbidity (NTU)** | **5** | **10** | **0.001** | **0.002** | **0.001** | **0.001** | **0.001** | **0.001** | **0.001** |
| **Arsenic (mg/l)** | **0.01** | **0.05** | **0.0029** | **0.0025** | **0.0031** | **0.0028** | **0.0035** | **0.0027** | **0.0030** |
| **Copper (mg/l)** | **0.05** | **1.5** | **0.0018** | **0.0021** | **0.0019** | **0.0025** | **0.0016** | **0.0028** | **0.0022** |
| **Cadmium (mg/l)** | **0.003** | **No relaxation** |  **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** |
| **Chromium (mg/l)** | **0.05** | **No relaxation** | **0.0028** | **0.0014** | **0.0019** | **0.0016** | **0.0017** | **0.0013** | **0.0019** |
| **Lead (mg/l)** | **0.01** | **No relaxation** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** |
| **Iron (mg/l)** | **0.3** | **No relaxation** | **0.19** | **0.11** | **0.15** | **0.10** | **0.16** | **0.17** | **0.14** |
| **Zinc (mg/l)** | **5** | **15** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** |
| **Fecal Coliform (cfu)** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| **E. Coli (cfu)** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

***Sampling Locations: P1 – Opp. Type 2 shop-C near water tank, P3 – Behind Helicopter building, P-8 Near Health Centre, P-11 Hall 10 back side, P-12 - Near about 150 M of P-2 (end of lane-36), P13 – Near Visiting Faculty Apartment, P14 Near Hall 12,***

***BDL Below Detection Limit; NTU – Nephelometric Turbidity Unit; cfu- Colony forming Units in 100 ml of the sample***

***Detection Limits Pb 0.0001 mg/l, Cu 0.0001 mg/l , Cr 0.0005 mg/l ,Fe 0.0001 mg/l , Cd 0.0004 mg/l, As 0.0001 mg/l, Zn 0.0005 mg/l***

***(SAMPLING DATE 28/09/21)***

***TABLE 2 - VARIOUS HOSTELS LOCATIONS***

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameters** | **Hall 1** | **Hall 2** | **Hall 3** | **Hall 4** | **Hall 5** | **Hall 7** | **Hall 8** | **Hall 9** | **Hall 10** | **Hall 11** | **Hall 12** | **Hall 13** | **GH 1** | **GH2** |
| **pH** | **8.24** | **8.12** | **8.01** | **8.16** | **8.24** | **8.27** | **8.21** | **7.83** | **8.29** | **8.18** | **8.24** | **8.25** | **8.15** | **8.35** |
| **TDS (mg/l)** | **742** | **649** | **17.35** | **695** | **663** | **27.1** | **657** | **8.56** | **661** | **103** | **654** | **649** | **735** | **745** |
| **Hardness (as CaCO3) (mg/l)** | **160** | **140** | **40** | **150** | **140** | **40** | **130** | **40** | **150** | **80** | **160** | **130** | **260** | **280** |
| **Alkalinity(as CaCO3) (mg/l)** | **340** | **320** | **60** | **280** | **320** | **70** | **290** | **60** | **300** | **100** | **280** | **270** | **330** | **310** |
| **Nitrate (mg/l)** | **0.14** | **0.08** | **0.02** | **0.07** | **0.12** | **0.01** | **0.06** | **0.02** | **0.07** | **0.01** | **0.03** | **0.02** | **0.05** | **0.04** |
| **Sulfate (mg/l)** | **41.89** | **34.42** | **4.21** | **34.21** | **20.52** | **13.15** | **30.42** | **2.15** | **18.10** | **7.89** | **37.36** |  **21.89** | **24.21** | **25.26** |
| **Fluoride (mg/l)** | **0.740** | **0.635** | **0.049** | **0.716** | **0.569** | **0.051** | **0.682** | **0.042** | **0.564** | **0.084** | **0.480** | **0.538** | **0.784** | **0.756** |
| **Chloride (mg/l)** | **250** | **265** | **15** | **285** | **270** | **20** | **270** | **15** | **265** | **45** | **270** | **275** | **280** | **270** |
| **Turbidity (NTU)** | **0.002** | **0.001** | **0.001** | **0** | **0** | **0** | **0** | **0.010** | **0** | **0.020** | **0.001** | **0.001** | **0.010** | **0.010** |
| **Arsenic (mg/l)** | **0.0018** | **0.0015** | **0.0016** | **0.0011** | **0.0017** | **0.0014** | **0.0016** | **0.0014** | **0.0016** | **0.0012** | **0.0011** | **0.0014** | **0.0010** | **0.0015** |
| **Copper (mg/l)** | **0.0082** | **0.0014** | **0.0044** | **0.0076** | **0.0047** | **0.0042** | **0.0081** | **0.0089** | **0.0069** | **0.0054** | **0.0064** | **0.0121** | **0.0062** | **0.0077** |
| **Cadmium (mg/l)** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** |
| **Chromium (mg/l)** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** |
| **Lead (mg/l)** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** |
| **Iron (mg/l)** | **0.1832** | **0.1021** | **0.1612** | **0.1325** | **0.1724** | **0.1934** | **0.1726** | **0.1645** | **0.1127** | **0.1921** |  **0.0923** | **0.1431** | **0.1846** | **0.1658** |
| **Zinc (mg/l)** | **0.0482** | **0.1545** | **0.0618** | **0.0245** | **0.0216** | **0.0941** | **0.0674** | **0.0798** | **0.0179** | **0.0312** | **0.0246** | **0.0665** | **0.0345** | **0.0246** |
| **Fecal Coliform (cfu)** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| **E. Coli (cfu)** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

***Table 3 RA Hostels, VH and HC***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Parameters** | **Old RA****(104)** | **New RA** | **Old SBRA** | **New SBRA** | **HC** | **VH** |
| **pH** | **8.21** | **7.84** | **7.48** | **8.28** | **8.36** | **8.33** |
| **TDS (mg/l)** | **688** | **21.58** | **37.01** |  **679** | **634** | **49.2** |
| **Hardness (as CaCO3) (mg/l)** | **140** | **40** | **50** | **120** | **150** | **60** |
| **Alkalinity(as CaCO3) (mg/l)** |  **320** |  **50** | **80** | **260** | **320** | **70** |
| **Nitrate (mg/l)** | **0.07** | **0.02** | **0.03** | **0.06** | **0.04** | **0.02** |
| **Sulfate (mg/l)** | **31.68** | **2.21** | **2.68** | **19.26** | **25.57** | **9.15** |
| **Fluoride (mg/l)** | **0.628** | **0.047** | **0.061** | **0.538** | **0.726** | **0.087** |
| **Chloride (mg/l)** | **285** | **20** | **25** | **270** | **245** | **30** |
| **Turbidity (NTU)** | **0.001** | **0.001** | **0.001** | **0** | **0.001** | **0** |
| **Arsenic (mg/l)** | **0.0015** | **0.0006** | **0.0003** | **0.0011** | **0.0016** | **0.0005** |
| **Copper (mg/l)** | **0.0012** | **0.0008** | **0.0009** | **0.0067** | **0.0037** | **0.0011** |
| **Cadmium (mg/l)** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** |
| **Chromium (mg/l)** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** |
| **Lead (mg/l)** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** |
| **Iron (mg/l)** | **0.0916** | **0.0351** | **0.0324** | **0.1672** | **0.1183** | **0.0954** |
| **Zinc (mg/l)** | **0.0546** | **0.0235** | **0.0276** | **0.0362** | **0.0416** | **0.0321** |
| **Fecal Coliform (cfu)** | **0** | **0** | **0** | **0** | **0** | **0** |
| **E. Coli (cfu)** | **0** | **0** | **0** | **0** | **0** | **0** |

***TABLE 4 – VARIOUS RESIDENTIAL LOCATIONS***

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameters** | **T1****(169)** | **T2****(231)** | **T3D****(328)** | **T3F****(357)** | **T4****(442)** | **T5****(503)** | **T6****(616)** | **Multistory Building-A****(101)** | **Multistory Building-B****(101)** | **Multistory Building-C****(101)** | **Multistory Building-D****(101)** |
| **pH** | **8.11** | **8.31** | **8.24** | **8.35** | **8.29** | **8.31** | **8.28** | **8.41** | **8.36** | **8.35** | **8.38** |
| **TDS (mg/l)** | **628** | **511** | **503** | **408** | **552** | **634** | **402** | **669** | **671** | **657** | **677** |
| **Hardness (as CaCO3) (mg/l)** | **140** | **130** | **110** | **150** | **140** | **150** | **160** | **210** | **130** | **160** | **170** |
| **Alkalinity(as CaCO3) (mg/l)** | **310** | **360** | **350** | **370** | **320** | **330** | **360** | **300** | **310** | **280** | **290** |
| **Nitrate (mg/l)** | **0.22** | **0.15** | **0.21** | **0.19** | **0.44** | **0.11** | **0.37** | **0.08** | **0.09** | **0.06** | **0.04** |
| **Sulfate (mg/l)** | **33.05** | **36.63** | **34.63** | **24.73** | **21..78** | **64.84** | **32.73** | **24.10** | **21.78** | **35.36** | **42.21** |
| **Fluoride (mg/l)** | **0.792** | **0.842** | **0.837** | **0.872** | **0.824** | **0.721** | **0.796** | **0.458** | **0.435** | **0.421** | **0.472** |
| **Chloride (mg/l)** | **260** | **165** | **155** | **90** | **190** | **250** | **90** | **275** | **285** | **275** | **280** |
| **Turbidity (NTU)** | **0** | **0.001** | **0.001** | **0.001** | **0.001** | **0** | **0.001** | **0.001** | **0.002** | **0.001** | **0.001** |
| **Arsenic (mg/l)** | **0.0019** | **0.0013** | **0.0015** | **0.0018** | **0.0018** | **0.0017** | **0.0014** | **0.0018** | **0.0015** | **0.0014** | **0.0013** |
| **Copper (mg/l)** | **0.0098** | **0.0057** | **0.0047** | **0.0051** | **0.0059** | **0.0064** | **0.0059** | **0.0072** | **0.0087** | **0.0075** | **0.0062** |
| **Cadmium (mg/l)** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** |
| **Chromium (mg/l)** | **BDL** | **BDL** | **BDL** | **BDL** | **0.0006** | **0.0038** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** |
| **Lead (mg/l)** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** | **BDL** |
| **Iron (mg/l)** | **0.1526** | **0.1371** | **0.1184** | **0.1424** | **0.1372** | **0.1824** | **0.1466** | **0.1351** | **0.1084** | **0.1493** | **0.0985** |
| **Zinc (mg/l)** | **0.0451** | **0.0258** | **0.0198** | **0.1419** | **0.0775** | **0.0421** | **0.0985** | **0.0075** | **0.0125** | **0.0173** | **0.0241** |
| **Fecal Coliform (cfu)** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| **E. Coli (cfu)** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

***Sampling locations: H1 to RA2 various hostels; VH- Visitors Hostel; HC- Health Centre;***

***T1 to T6 Residences with corresponding House Numbers.***

***Multistory Building AtoD- New faculty buildingswith corresponding House Numbers.***

***BDL Below Detection Limit; NTU – Nephelometric Turbidity Unit; cfu- Colony forming Units in 100 ml of the sample***

***Detection Limits Pb 0.0001 mg/l, Cu 0.0001 mg/l , Cr 0.0005 mg/l ,Fe 0.0001 mg/l , Cd 0.0004 mg/l, As 0.0001 mg/l, Zn 0.0005 mg/l***