

Keywords:

AS(III)	pH	Living					Dried				
		<i>Chlorella</i>	<i>Oscillatoria</i>	<i>Scenedesmus</i>	<i>Spirogyra</i>	<i>Pandorina</i>	<i>Chlorella</i>	<i>Oscillatoria</i>	<i>Scenedesmus</i>	<i>Spirogyra</i>	<i>Pandorina</i>
10 mg/l	2.0	4	3	5	4	4	4	4	5	5	4
	4.0	7	6	7	6	7	7	6	7	6	6
	6.0	7	6	7	6	7	7	5	7	6	6
	8.0	5	4	5	4	5	5	4	5	5	5
	10.0	4	3	4	3	4	4	3	4	3	5
20 mg/l	2.0	8	6	9	8	7	9	8	9	9	9
	4.0	11	9	13	12	12	12	11	14	13	15
	6.0	10	9	12	12	14	11	10	14	13	14
	8.0	8	5	8	6	6	7	4	8	7	7
	10.0	5	3	5	3	3	4	2	5	3	3
30 mg/l	2.0	10	9	11	8	8	9	9	10	9	8
	4.0	20	18	23	20	21	21	18	22	20	21
	6.0	19	17	22	20	20	21	18	21	18	19
	8.0	9	7	8	9	8	9	8	8	9	9
	10.0	5	3	5	4	4	5	4	5	4	4
40 mg/l	2.0	10	9	12	11	12	12	9	13	11	11
	4.0	17	16	20	18	19	17	15	19	18	17
	6.0	13	11	14	12	12	14	8	13	13	12
	8.0	11	7	9	8	9	9	7	8	9	8
	10.0	9	6	8	7	7	9	6	7	6	6
50 mg/l	2.0	12	7	11	9	9	12	8	10	9	9
	4.0	14	10	15	13	12	14	11	14	12	12
	6.0	11	8	12	10	9	10	7	11	9	9
	8.0	10	7	9	9	8	9	7	9	8	8
	10.0	8	6	7	8	7	8	6	8	8	8

Table 1: %LRVRUSWLRQ RI \$6 , , , PJ J XQGHU YDU\LQJ S+

AS(V)	pH	Living					Dried				
		<i>Chlorella</i>	<i>Oscillatoria</i>	<i>Scenedesmus</i>	<i>Spirogyra</i>	<i>Pandorina</i>	<i>Chlorella</i>	<i>Oscillatoria</i>	<i>Scenedesmus</i>	<i>Spirogyra</i>	<i>Pandorina</i>
10 mg/l	2.0	5	4	5	4	4	5	3	5	4	5

The pH of the solution has played a key role in the biosorption of arsenite and arsenate by the microalgae. Aqueous solutions containing As (III) and As (V) were prepared with varying pH ranging from 2.0 to 10.0. Arsenic sorption decreased with increasing pH and the maximum arsenic removal occurred at pH 4.0 for both living and dried biomass. The highest As (III) uptake (Q) of 23 mg/g was recorded with living biomass of *Scenedesmus* at an initial concentration of 30 mg/l followed by *Pandorina* (21 mg/g). Maximum uptake of 22 mg/g As (III) was found with the dried biomass of *Scenedesmus* which was followed by *Chlorella* and *Pandorina* (Table 1). The metal sorption of As (V) was highest in living biomass of *Scenedesmus* (20 mg/g) and the trend was reflected in dried biomass of *Chlorella* and *Pandorina* at 30 mg/g (Table 2)

Various temperatures in the range of 23°C - 35°C were used to study the metal uptake by the algal isolates. The results indicated that 32°C was found optimum in which maximum adsorption has taken place and there were no significant changes in the metal uptake at temperature below 29°C and above 32°C. The living biomass of *Scenedesmus* and *Chlorella* has adsorbed maximum As (III) from the

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