

# CONTENTS

Items	Page
List of tables .....	I
List of figures .....	III
List of photographs .....	IV
Abstract .....	1
<b>Part I:</b>	
♦ Aim of the thesis .....	3
♦ Introduction .....	4
♦ Literature Review .....	8
<b>Part II:</b>	
♦ Materials and methods .....	53
<b>Part III:</b>	
♦ Experimental Results .....	69
<b>Part IV:</b>	
♦ Discussion .....	125
♦ Conclusion .....	137
♦ Summary .....	138
♦ References .....	141
♦ Arabic summary .....	v

## LIST OF TABLES

Table	Description	Page
Table (1)	Sites of samples collected from drinking water at sharqia governorate.	53
Table (2)	The physical and chemical analysis of the collected drinking water samples	70
Table (3)	Morphological characteristics of the isolated bacteria.	75
Table (4)	Effect of increasing concentration of $Pb^{+2}$ on the growth of most frequent isolates.	78
Table (5)	Effect of increasing concentration of $Fe^{+3}$ on the growth of most frequent isolates.	84
Table (6)	$Pb^{+2}$ Uptake by the (9) bacterial isolates using lead concentration of 50 ppm.	91
Table (7)	$Fe^{+3}$ Uptake by the (9) bacterial isolates using lead concentration of 50 ppm.	92
Table (8)	Physiological characterization of the four chosen isolates.	95
Table (9)	Effect of shaking on $Pb^{+2}$ uptakes by the (4) selected strains.	97
Table (10)	Effect of shaking on $Fe^{+3}$ uptakes by the (4) selected strains.	98
Table (11)	Effect of increasing concentrations of $Pb^{+2}$ on biosorption processes by the (4) selected strains.	100
Table (12)	Effect of increasing concentrations of $Fe^{+3}$ on biosorption processes by the (4) selected strains.	101
Table (13)	Effect of Incubation temperatures on $Pb^{+2}$ on biosorption process by the (4) selected strains.	103