

**INVESTIGATION OF TOTAL COLIFORM BACTERIA, PRESENCE
OF HEAVY METALS AND WATER
HARDNESS IN WATER FROM TAP WATER AND WATER COOLER
WATER OF 5 HOSTELS IN UiTM SHAH ALAM**

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This Final Year Report entitled “**Investigation of Total Coliform Bacteria. Presence of Heavy Metals and Water Hardness in Water from Tap Water and Water Cooler Water of 5 Hostels in UiTM Shah**” was submitted by Nursuhada binti Razaki, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Applied Chemistry, in Faculty of Applied Sciences, and was approved by



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ABSTRACT

This study was conducted to examine the biological and chemical characteristics of drinking water of tap water and water cooler water from five hostels in UiTM Shah Alam. A total of 10 drinking water samples were collected from Melati, Anggerik, Delima, Seroja and Teratai. The samples were analyzed for 2 chemical parameters: heavy metals, minerals and water hardness and one biological parameter which was total coliform bacteria. The presence of bacteria was measured by using membrane filtration method while ICP-OES was used for measuring concentration of heavy metals and minerals. Total coliform bacteria was only presence in water cooler water from Melati and Delima. The results of total heavy metal concentrations indicated that zinc, nickel and iron were present in tap water and water cooler water while lead and cadmium gave negative results. All 5 hostels have low water hardness. Overall, the tap water and water cooler water from 5 hostels in UiTM Shah Alam are biologically and chemically safe for drinking according to Malaysian Ministry of Health Drinking Water Standards, 2000.