Abstract:

In the present study tap water samples of different areas of Lahore city are collected to check the presence of any toxic metal. The water samples are analyzed by atomic absorption spectrometer for the detection of cadmium, chromium, nickel, lead and copper. The studied showed that in the selected areas all the metals were in their permissible limit except for cadmium and chromium which were found in little amount in some water samples. For the removal of cadmium (Cd) and chromium (Cr), biosorption process is used. Certain parameters are also studied such as amount of adsorbent; time of reaction and the solution pH are also studied. With the increase in adsorbent dose (moringa olifera leaves) and the reaction time the rate of adsorption also increase but after certain amount of dose and time there are no significant amendments were observed in adsorption. The change in pH also affects the adsorption capacity as moving from high pH to low.

The optimal dose of the activated carbon is selected as 0.2g and the contact time for each process was 60 minutes (1 hr). The pH for all the Reactions was adjusted as 7. The usage of moringa olifera leaves for the removal of cadmium and chromium is found to be cost effective and time saving.