ABSTRACT

The aim of this dissertation titled, "calibration of environmental chambers and incubators and other similar devices", is the study of the different calibration standards for environmental chambers that exist around the world and an understanding of their application, in order to create a calibration protocol. Based on this protocol, an experiment was performed in which a chamber is being calibrated in order to study the behaviour of the temperature inside the furnace at various points, the positions of which will be mentioned below. To do this study, mathematical analysis of various bias and random errors occur during calibration and then the calculation of the extended uncertainty is needed. At the end of the experiment and the preparation of results, the results are being discussed and various solutions are being proposed to aim at as small a measurement uncertainty as possible.

Keywords: [calibration protocol, temperature, position of the points, mistakes, errors, extended uncertainty]