ABSTRACT

The spectrophotometer as the name suggests is a device consisting of a spectrometer and photometer. The spectrometer produces light from a spectrum with a certain wavelength and a photometer is a measuring device for the intensity of light transmitted or absorbed. Then the absorbance will be measured and determined.

In this study, the author designed a spectrophotometer using a light source in the form of an HPL (High Power LED) using a cholesterol sample simulation and added a zero adjustment program as an indicator of zero blank cuvette. Then it is processed in a microcontroller with a display in the form of a 2 x 16 LCD and storage of absorbent data using SD Card storage. The data collection process is done five times. Obtained sample results with different color gradations affect the absorbance value of the solution. the thicker the color of the solution, the greater the absorption and cholesterol values. It is proven by the highest error absorbance value from the red sample 1 which is 1,0742644 and the highest error cholesterol concentration value is 3,057 mg / dl.