**ABSTRACT**

This work investigated the effect of various concentrations of Eosin Y dye on the performance of the Dye-sensitized solar cell (DSSC). Distinct concentrations like 10 mg, 20 mg and 30 mg of Eosin Y Dye were prepared for the construction of DSSC. For preparation of photoanode, Titanium dioxide [nanoparticles](https://www.sciencedirect.com/topics/materials-science/nanoparticle) were used to prepare paste, which was deposited on fluorine doped tin oxide (FTO) glass substrate by Doctor blade technique. Absorption spectra of the dyes were taken, and the [photovoltaic performance](https://www.sciencedirect.com/topics/materials-science/photovoltaic-performance) was measured for the fabricated cells. The highest efficiency is obtained by the cell with 10 mg of Eosin Y which is 0.39%. The conversion efficiency of the cells with 20 mg and 30 mg of Eosin Y are 0.007% and 0.0015% respectively.