

# Abstract

This work is related with the solutions of Bratu type equations that have been found by using Picard's method. The efficiency of Picard's method have been shown by solving examples of Bratu type equations. The maximum error is tabulated for all numerical techniques and compare with Picard's method, which has least maximum error. It has also shown that how the solution approximated by Picard's method is very close to exact solution. Existence and uniqueness of solutions along with convergence have been proved for each numerical example in this work.

Chapter 1 includes the introduction, application and existence of solution of Bratu type equation. Convergence criteria is also described in this chapter. .

Chapter 2 includes application of Picard's method to general Bratu type equation, while in chapter 3 we discussed some specific cases of Bratu type equation, which are done by Picard's method.

In Chapter 4, we have observed that solutions evaluated by Picard's method are more effectual and accurate than other methods.

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