**PROBLEM STATEMENT**

Plants and their extracts have been used to cure many diseases since centuries. Present studies deals with the ethno-medicinal background of *Dyerophytm indicum* Gibs. Ex Wt. As since Charak era the *Dyerophytm indicum* Gibs. Ex Wt has being used as wonderful substitute for *Plumbago zeylanica L* as a potential alternative to cure various ailments. Therefore, it is time to validate *Dyerophytm indicum* which has never been experimentally demonstrated, as potential therapeutic agent in lieu of *Plumbago zeylanica L*.

Rajasthan is a well-known state that is being recognized as the driest region, arid regions has its own significance and plants from arid area has therapeutic uses, so many plants have being reported with economic importance and medicinal uses. Different region show different biodiversities, due to which a large variety of plants, with different families & species are present in Rajasthan, which makes Rajasthan a satisfactory place for research oriented work on medicinal plants. The study also support Rajasthan to establishes itself as a rich state in terms of medicinal plants. So in present study two such plants were explored and there validation and standardization was performed.

**Aim:** In present investigation efforts were made for scientific validation and authentication of *Dyerophytm indicum* [Gibs. Ex. Wight] kuntze using modern analytical tools and techniques and co-comparison of *Dyerophytm indicum* was done with *Plumbago zeylanica L*. to prove the safe and efficacious use of former as substitute to the later.
Objectives of the Present Study Includes:

i. Collection of plant material and primary screening as phyto-chemical evaluation

ii. Isolation and characterization of various successive extractions

iii. Generation of Macroscopic and Microscopic markers

iv. Generation of Physico-chemical markers

v. Successive extractions to examine the antimicrobial activity of both the plants.

vi. Generation of various chromatograms (viz. tlc fingerprints and HPLC Chromatograms)

vii. Antioxidant evaluation

viii. RAPD and SDS PAGE Gel analysis

ix. GC Mass Spectroscopy

x. Monograph preparation