Conclusion

From the previous discussion and summary of the study it can be concluded as –

1. The trial drugs i.e. *Lagerstroemia speciosa* (L.) Persleaves has a very good hypoglycemic effect as it significantly reduces the levels of FBS, PPBS and HbA1c in Type 2 Diabetes mellitus patients.

2. The decrease of fasting blood sugar is perhaps due to some inhibiting factors which stop the process of glycogenolysis and gluconeogenesis.

3. The decrease of post prandial blood sugar by decreasing the glucose absorption from GIT and by activating the transport of glucose across the cell membrane (peripheral utilization of Glucose) and by inhibiting alpha-amylase and alpha-glycosidase. It works as insulin receptor activator by increasing tyrosine-phosphorylation of the sub-unit of insulin receptor and hence maintained the insulin concentration of blood.

4. Trial drugs reduced body weight which directly indicates peripheral glucose utilization either may clearing the insulin receptors blocking (insulin receptor activator) or may due to induced insulin sensitivity to the tissue.

5. According to Ayurvedic point of view possible mode of action of *Lagerstroemia speciosa* (L.) Persleaves as follows - trial drugs have predominance of kasaya&katu rasa, ruksha&laghuguna and katuvipaka. All these factors antagonistic to the kapha and meda. The kasaya rasa is useful to control excessive urination by its stambhan property. This katuvipaka maintained pachakagni and so act as srotosodhak and clear avarans, consequently corrects metabolism. So our trial drugs act as a Kaphaghna and Medaghna and controls Prameha.
6. According to modern point of view the active principles of the plant are Corosolic Acid, lagerostromin and Lagertannins. Corosolic acid activates the transport of glucose across the cell membrane, resulting blood sugar reduction. It has inhibitory effects on post prandal hyperglycemia by inhibiting alpha-amylase and alpha-glycosidase. Lagerstroeminis an ellagitannin works as insulin receptor activator by increasing tyrosine-phosphorylation of the sub-unit of insulin receptor. Lagertannins stimulates glucose transport and adipocyte differentiation inhibitory activity in 3T3 – L1 which helps in reducing weight.

7. Trial drug acts as a mild purgative.

It is expected that, this Research work will stimulate the thinking of the Ayurvedic scholars as well as other Medical faculties interested in this field, to find out a cure for this disorder and thus Ayurveda may contribute towards bringing the required relief to the suffering humanity.