



Study of phytoconstituents, nutritional profile, anti-bacterial properties, assay and isolation of phenolic compounds in the extract of pulp, seed, leaves and bark of *Syzygium cumini*

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Abstract : The present investigation was undertaken to screen methanol extract of leaf, seed, bark and pulp of the plant *Syzygium cumini* for analysis of phytochemical constituents, anti-diabetic and anti-bacterial property. The study revealed that carbohydrate, protein, phenol, tannin, alkaloid, flavonoid, terpenoid were present in the plant samples whereas steroid and saponin were not detected. The result revealed significant amount of anti-bacterial and anti-diabetic property of the plant extract. The leaf extracts showed maximum anti-bacterial activity against *Streptococcus aureus* with zone of inhibition 6 mm. The FTIR analysis of the samples and the diabetic drugs revealed presence of some common bioactive functional

groups like carboxylic compound. The study provided scientific basis of use of the plant extract as a source of nutrition and potential anti-bacterial and anti-diabetic drug.

Keywords : Functional group, Anti-bacterial property, Anti-microbial property, UV-vis-spectrometer, FTIR spectrometer and zone of inhibition.

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Introduction :

Syzygium cumini commonly called as Black plum or Jamun is an important medicinal plant in various traditional system of medicine belonging to Myrtaceae family. The plant is rich in compound containing alkaloid, flavonoid, terpenoid, carbohydrate, phenol and tannin

It help in controlling diabetics, specifically jamun has an action on pancreas, the main organ responsible for causing diabetics. The fruit, the seed and even the juice of the jamun all play an important role in the treatment of diabetics. The jamun contain a type of glucose called as jamboline, which check the conversion of the starch into sugar in cases of increased production of glucose, the main reason behind the high sugar level. The antibiotic activity of the black berry extract