



**VISVESVARAYA TECHNOLOGICAL UNIVERSITY
BELGAUM- 590 010**

PROJECT WORK

**“EVALUATION OF SELECTED INDIAN PLANTS FOR PHYTOCHEMICAL,
ANTI-CANCER, ANTI-MICROBIAL AND ANTI-OXIDANT ACTIVITY”**

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ABSTRACT

Phytochemical screening, anti-cancer activity, anti-microbial activity and anti-oxidant activity of selected Indian medicinal plants like *Pogostemon cablin* (Patchouli), *Withania somnifera* (Ashwagandha), *Clerodendrum serratum* (Bharangi), *Bacopa monnieri* (Brahmi), *Lantana camara* (Big sage) and *Plectranthus amboinicus* (Indian mint) was evaluated. Phytochemical screening was done to check the various phytochemicals like phenols, saponins, flavonoids, cardiac glycosides, alkaloids, glycosides, phlabetannins and steroids. The methanolic extract of the leaves of all the above plants were taken and anti-microbial activity was tested against 8 bacterial strains and the zone of inhibition against these bacteria was observed. The same methanolic extract was taken for anti-oxidant activity determination using 2,2-diphenyl-1-picrylhydrazyl (DPPH) method. Gallic acid was used as the standard for anti-oxidant activity. The methanolic extracts showed strong radical scavenging activity for *Pogostemon cablin*, *Clerodendrum serratum*, *Lantana camara* and *Bacopa monnieri*. Anti-cancer activity was tested on these plants using non-small A549 lung carcinoma cells line by MTT assay method. *Withania somnifera*, *Clerodendrum serratum* and *Lantana camara* possessed potential anti-cancer activity. Hemolysis assay was done to check if the methanolic extracts have any side effects on normal cells. From the study it was seen that *Clerodendrum serratum* and *Lantana camara* have good anti-microbial, anti-oxidant and anti-cancer activity and can be used as effective drugs in pharma industry.