

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY
BELGAUM- 590 010**



**PROJECT REPORT
“INVITRO ANTI-CANCER ACTIVITY OF SELECTED
HERBAL EXTRACTS”**

**(Sponsored by Karnataka State Council for Science & Technology)
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**BACHELOR OF ENGINEERING
IN
BIO TECHNOLOGY**

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Project Guides

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ABSTRACT

According to primary survey projects that have been carried out, nature has gifted us several plants which are known to have anti-cancer, anti-microbial, anti-oxidant and other pharmacological activities. Camptothecin (CPT) is one of the most promising and potent isoquinoline alkaloid used extensively in the treatment of several cancers. *Nothapodytes nimmoniana*, a small tree distributed in the Western Ghats of south India. Since there is no synthetic source of this alkaloid and with an increasing global demand there has been a heavy dependence on naturally existing populations of *N.nimmoniana*. Only partial studies have been done on this plant. However, the effect of this herb on colorectal cancer cells has not been evaluated. The extraction, chemical constituents and proliferative effect on **calu-6** human colorectal cancer cells were evaluated using in particular the stem region of *N.nimmoniana*. The content of an alkaloid in the extracts from root, stem, bark, leaves of the plant were determined using reverse phase high performance liquid chromatography (HPLC). The cytotoxicity study has been carried out using **cell titer 96 non-radioactive cell proliferation assay** to evaluate the effect on cancer cells.