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SYNTHETIC SEED: A STUDY ON *Labisia pumila*

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**Final Year Project Report Submitted in
Partial Fulfillment of the Requirements for the
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ABSTRACT

SYNTHETIC SEED: A STUDY ON *Labisia pumila*

Synthetic seed are useful tool for micropropagation and delivery of aseptic plantlets from one place to another. Nevertheless, the synthetic seed technology has not widely applied to the *Labisia pumila* plant. In this present study, synthetic seeds were produced by encapsulating nodal segments of *in vitro Labisia pumila* in the calcium alginate gel. The aims of this study were to investigate the effect of various concentrations of sodium alginate and calcium chloride solution in order to produce good quality of beads and to study the survival rate of *Labisia pumila* using synthetic seed technology. The results of this study showed that 5% sodium alginate solution and 5% calcium chloride solution combinations are the optimum value for producing good quality of beads. Firm and rounded beads were observed by the encapsulation with 5% sodium alginate solution and exposed to 5% calcium chloride solution. The produced synthetic seeds were then tested for their germination ability by culturing on MS medium supplemented with cytokoninins; BAP and zeatin each at the concentrations of 3.0 mg/L. However there is no growth observed after 4 weeks of incubation. Beside that the contamination rate also very high in this experiment.