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"MODIFICATION ON KITCHEN WASTE BIOGAS PLANT AND ITS PERFORMANCE ANALYSIS"

A Project Report Submitted To Visvesvaraya Technological University in Partial Fulfillment of the Requirement for the Degree of Bachelor of Engineering in Mechanical

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June – 2009

ABSTRACT

Biomethanation is an effective method of disposal of kitchen wastes. It generates biogas and the spent slurry is used as fertilizer. In small family 0.5-1kg kitchen waste is dumped to the environment daily. To utilize this waste in an effective manner a kitchen waste biogas plant has been set up along with a pre digester, this pre digester reduces the power needed to crush the waste. In this project firstly, the parameters like temperature, solid waste to water content, pH value of the digester are analyzed to observe the dependence of these parameters on production of biogas. Secondly the performance of pre digester is analyzed to find the effect of pre digester slurry on the biogas production and to find time taken by the waste to complete acidic reaction. Finally a chemical method to convert methane to methanol (liquid fuel) is discussed.

Key words: Predigester, Methanogenic phase, Acidic phase, Slurry, Anaerobic digestion, Methanol, Methyl bromide