**UNIVERSITI TEKNOLOGI MARA**

# PERFORMANCE ANALYSIS ON THE EFFECT OF STOICHIOMETRIC AIR FUEL RATIO AND IGNITION STRENGTH FOR SPARK IGNITION ENGINE

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**MSc**

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## ABSTRACT

An approach for control of the spark ignition on the advance / retard and also the spark voltage with air fuel ratio for a model of carburetor engine is proposed. The amount of air to fuel ratio is one of the well-known problems in an engine management system design. It is one of the most critical parameter to the analysis of engine performance, torque and fuel consumption. It is common in the production plant as well as in the market use a greater diameter of high-tension cable that is expected to provide a proportional power with the increase amount of spark intensity to achieve the desired engine performance with stoichiometric air fuel ratio. A manually voltage control coils before the high tension cable is used to vary the spark strength in the combustion chamber in order to measure the power, torque and fuel consumption. Sets of experiments were conducted and results obtained were presented in term of graphs.