

# **EXPERIMENTAL INVESTIGATION OF AIR CONDITIONING SYSTEM IN AUTOMOBILE USING A CONSTANT SPEED BIOGAS ENGINE**

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## **ABSTRACT**

This study represents an approach in the field of air conditioning system to enhance the performance of the automobile by using biogas as an alternative fuel. It helps to reduce the power requirement of engine, emission, and global warming. The experimental approach to check the feasibility of vapour compression cycle for air conditioning system in which the compressor is coupled to an engine operated on biogas. The results are satisfactory for 1 ton of refrigeration which is equivalent to a cooling load of a passenger car (4+1). The minimum requirement of an air conditioning system in a vehicle is fulfilled with the close observations that, the evaporator coil temperature is reached to 11<sup>0</sup> C; cabinet's temperature reaches to 22<sup>0</sup> C for consumption of biogas 0.20 m<sup>3</sup>.

**KEYWORDS:** Automobile Air Conditioning, Biogas, COP, Constant Speed Engine