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Date: 6th February 2015

ADDENDUM TO TENDER NO
No: IISER/PUR/5298/14

Dear Sirs,

Sub: HEAT ENGINE CYCLE APPRATUS

HEAT ENGINE CYCLE – To draw a P-V diagram in the computer and determine the work done and also the efficiency of the engine.

A P-V diagram is generated as a heat engine is taken through a cycle. From this diagram, the heat added to the gas and the work done by the engine are measured to determine the efficiency of the engine. This actual efficiency is compared to the theoretical maximum efficiency.

This heat engine consists of air inside a cylinder which expands when the attached can is immersed in hot water. The expanding air pushes on a piston and does work by lifting a weight. The heat engine cycle is completed by immersing the can in cold water, which returns the air pressure and volume to the starting values.

The cycle is performed as follows:

- 1) With the can in the cold bath, the 200 g mass is placed on the platform.
- 2) The can is moved from the cold bath to the hot bath.
- 3) The 200 g mass is removed from the platform.
- 4) The can is moved from the hot bath to the cold bath.

The change in pressure is measured with a Low Pressure Sensor. The change in piston height is measured by the attached string over the Rotary Motion Sensor pulley. The change in volume is calculated by multiplying the change in piston height by the piston cross-sectional area. A Temperature sensor also.

P-V diagram is to be generated in a computer. Interface will be required for that. Software also is to be Quoted.

Thanking You,

Yours Faithfully

Deputy Registrar
[Purchase & Stores]