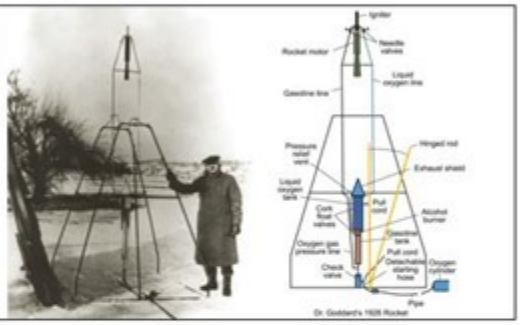
Module 06 Liquid Rocket Propellants

(You may screen shot or print this page and insert in in your exam package to save time)

1. **Name**: _____

2. **Given**: On March 16, 1926, Robert Goddard set up his rocket, which he later called Nell, fueled with gasoline and liquid oxygen, on a farm in Auburn, Massachusetts. Assume a chamber pressure of 250 psi, and an area ratio of 5.0. It burned for 20 seconds.



3. **Find**:
   a) Using CEQUEL, make a table and a plot of c^* and the vacuum specific impulse as a function of mixture ratio. (Mixture ratios from 1 to 10)
   b) What is a mixture ratio to achieve high performance?
   c) Estimate the Nozzle throat dimeter using the given data and the results plus your engineering judgement on whatever data might be missing

- Outline problem in Homework Format
- Insert Screen Shots of tables and requested graphs into the exam submission file.
- Upload computer programs used to make the calculations in the exam upload site