Thermodynamics (MEL2020)
Indian Institute of Technology Jodhpur

Assignment-2 Date: 14th January 2022

Maximum points: 1 **Instructions:**

- *Answer all the questions*
- *Please write your solutions/explanations on a paper with your handwriting*
- *Scan all pages as a single pdf file and upload in google classroom before 17th-01-22*
- *This will give you **1 point** towards your total evaluation,*
- *Late submission lead to deduction of **half point.***

1. The molar specific volume of a system V is defined as the ratio of the volume of the system to the number of moles of substance contained in the system. Is this an extensive or intensive property? (**0.2 P**)

2. Define the isothermal, isobaric, and isochoric processes. (**0.2 P**)

3. What is steady flow process? (**0.2 P**)

4. When a hydrocarbon fuel is burned, almost all of the carbon in the fuel burns completely to form CO_2 (carbon dioxide), which is the principal gas causing the greenhouse effect and thus global climate change. On average, 0.59 kg of CO_2 is produced for each kWh of electricity generated from a power plant that burns natural gas. A typical new household refrigerator uses about 700 kWh of electricity per year. Determine the amount of CO_2 production that is due to the refrigerators in a city with 300,000 households. (**0.2 P**)

5. If you would like do a metabolism (energy) analysis of a person. How would you define the system for this purpose? (**0.2 P**)