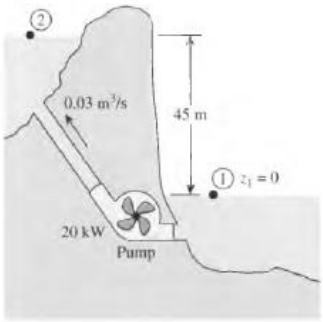
Thermodynamics (MEL2020)
Indian Institute of Technology Jodhpur

Assignment-3 Date: 21st 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 23rd-01-22*
- *This will give you **1 point** towards your total evaluation,*
- ***Late submission lead to deduction of half mark. (Very Important)***

1. Water is pumped from a lower reservoir to a higher reservoir by a pump that provides 20 kW of shaft power. The free surface of the upper reservoir is 45 m higher than that of the lower reservoir. If the flow rate of water is measured to be 0.03 m^3/s, determine mechanical power that is converted to thermal energy during this process due to frictional effects.



2. A well-insulated electric oven is being heated through its heating element. If the entire oven, including the heating element, is taken to be the system determine whether this is heat or work interaction? Describe it.