

Summer Final Examination 2020

Subject: Physics I :: Code: Phy 111

Program: B.Sc. (Engg.) in CSE, Batch: 50

1st-year 2nd semester

1. What is the effect of convection on climate change?
2. What is an Adiabatic process? Give one example of the process and find work done by the gas in this process.
3. What is the constant volume process? Give one example of the process. Apply the first law of thermodynamics for the constant volume process.
4. When the pressure of a gas inside a cylinder is reduced to half of its initial value ($p_f = \frac{1}{2} p_i$) then the volume is doubled its initial value. ($v_f = 2v_i$). Draw the change in volume and pressure on a PV diagram and show the work done by the gas.
5. Draw a graph of the oscillator's acceleration with time and identify the time where the acceleration is minimum.
6. A piece of copper weighing 250 gm is heated to 100°C and then dropped into 1250 gm of water at 27°C . Calculate the final temperature of copper+water. The specific heat of copper and water is 400 J/Kg-K and 4200 J/Kg-K respectively.
7. The temperature of 100 c.c. freon gas is changed from 37°C to 27°C during a constant volume process. If the pressure is lowered from 10 bar to 5 bar, calculate the work done by the gas.