Self Assessment

1. A Stirling cycle consist of two _____ processes.

2. In an isothermal process, dQ is given by _____.

3. In a constant volume process, dU is given by ____.

4. COP_{Carnot} and $COP_{Stirling}$ are _____.

5. COP of Stirling cycle is _____.

6. In an actual Stirling cycle, the discontinuous motion is approximated to _____ motion.

7. The volume not swept by piston/displacer is ____.

8. In a _____ type unit, the piston and displacer are housed inside same cylinder.

9. In Schmidt's analysis, instantaneous pressure is assumed to be _____.

Answers

1. Isothermal and Constant volume

2. $dQ = dW = -\Re T_C \ln\left[V_2 / V_1\right]$

3. $dU = +C_V\left(T_E - T_C\right)$

4. Equal.

5. $T_E / \left(T_C - T_E\right)$

6. Sinusoidal

7. Void volume

8. Beta

9. Constant