

20/10/2023

INTERNAL TEST

Name of Course - B.Sc (PS)

Semester - III

Name of Paper - Heat and Thermodynamics

Duration - 1 hr.

Maximum Marks - 08

- Q.1 Calculate the change in Entropy when 10 gm. of ice at 0°C is converted into steam at 100°C ($S_{\text{ice}} = 0.5$, $L_{\text{ice}} = 80 \text{ cal/gm}$, $L_{\text{steam}} = 540 \text{ cal/gm}$) (3)
- Q.2. A Carnot engine has an efficiency of 30% when the temperature of the sink is 27°C . What must be the change in temperature of the source to make its efficiency 50%. (2)
- Q.3. Derive the expression for thermal conductivity (κ) of a gas on the basis of kinetic theory of gases. What is the effect of temperature and Pressure on thermal conductivity? (3)

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