

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai - 600 044.

B.Sc.Physics - END SEMESTER EXAMINATIONS - NOV'2024

SEMESTER - I

22UPHCT1002 - Thermal Physics

Total Duration : 2 Hrs.30 Mins.

Total Marks : 60

Section B

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. Explain the working of platinum resistance thermometer.
2. Give the statement and derivation of Dulong and Petits law.
3. What is adiabatic lapse rate?
4. Differentiate between thermal conductivity and thermal diffusivity.
5. Explain the energy distribution in blackbody radiation.
6. Discuss about the effects of CF_2Cl_2 on ozone layer.
7. Explain Barton's correction. State the reason for using this correction.
8. State and explain Kirchhoff's law of radiation.

Section C

Answer any **THREE** questions ($3 \times 10 = 30$ Marks)

9. Explain Joule Thomson Effect. Discuss the theory of porous plug experiment.
10. Explain the method of determining C_p by Regnault's method.
11. Discuss in detail the convective equilibrium of the atmosphere.
12. Describe the Lee's Disc method to determine Thermal conductivity of bad conductor.
13. Show the derivation of Plank's law from the postulates.
