

B.Sc 3rd sem (CBCS) Sessional Exam, 2021

Sub: Physics (Honours)

Paper: PHY-HC-3026

Thermal Physics

Time: 1 hour

Fullmarks: 20

1. Answer any five from the following questions: (1x5 = 5)

a) What kind of motion the molecules of perfect gas possess?

b) How mean free path of a gas molecule depend with temperature?

c) What is the degree of freedom of a monoatomic gas molecule?

d) Define compressibility co-efficient.

e) Write Kelvin-Planck statement of second law of thermodynamics.

f) What are extensive variables. Give example.

g) Write one necessary condition for a process to be reversible.

2. Answer any three from the following questions: (5x3 = 15)

a) State and Prove Carnot's Theorem.

b) Calculate the amount of work done during an adiabatic expansion of an ideal gas.

c) Derive an expression for mean free path.