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VA—31—2024

FACULTY OF SCIENCE AND TECHNOLOGY

B.Sc. (First Year) (Second Semester) EXAMINATION

NOVEMBER/DECEMBER, 2024

(New Pattern)

PHYSICS

Paper—III

(Heat and Thermodynamics)

(Friday, 6-12-2024)

Time : 10.00 a.m. to 12.00 noon

Time—2 Hours

Maximum Marks—40

N.B. :— (i) All questions are compulsory.

(ii) Figures to the right indicate full marks.

1. What are transport Phenomena ? Explain in detail the viscosity on the basis of kinetic theory of gases. Derive necessary formula. 15

Or

(a) Describe Seebeck effect. 8

(b) Explain platinum-Resistance thermometer. 7

2. What is Joule-Thomson effect ? Explain Joule-Thomson porous plug experiment. 15

Or

(a) State and prove Carnot's theorem. 8

(b) Relation connecting P, V and T in an adiabatic process. 7

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3. Write short notes on (any two) :

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- (i) Types of thermometer
- (ii) Reduced equation of state
- (iii) Inter relation between three transport coefficient
- (iv) Entropy.

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