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GA—65—2023

FACULTY OF SCIENCE

B.Sc. (Third Semester) EXAMINATION

APRIL/MAY, 2023

(New Course)

PHYSICS

Paper VII

(Statistical Physics, Electromagnetics and Theory of Relativity)

(Tuesday, 02-05-2023)

Time : 2.00 p.m. to 4.00 p.m.

Time— Two Hours

Maximum Marks—40

N.B. :—All questions are compulsory.

1. Derive an expression for Maxwell-Boltzmann distribution law. 15

Or

(a) State and explain permutations and combinations with suitable example. 8

(b) Macro and Micro state. 7

2. Derive an expression for electromagnetic energy and Poynting vector. 15

Or

(a) Explain variation of mass with velocity. 8

(b) Obtain an expression for Einstein's energy-mass relation. 7

P.T.O.

3. Write short notes on (any *two*) :

10

- (a) Probability and frequency
- (b) Photon gas
- (c) Ampere's Law
- (d) Time dilation