This question paper contains **2** printed pages]

PA—25—2024

FACULTY OF SCIENCE

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

MARCH/APRIL, 2024

(New Course)

PHYSICS

Paper I

(Mechanics and Properties of Matter)

(Saturday, 13-04-2024) **Time : 10.00 a.m. to 12.00 noon**

Time—2 *Hours* *Maximum Marks*—40

Note :—All questions are compulsory.

1. Explain Jaeger's method for determination of surface tension of liquid. 15

Or

(*a*) Explain Kepler's laws of planetory motion. 7

(*b*) Explain work energy theorem. 8

P.T.O.

2 Derive an expression for Poiseuille's equation for the flow of tube. 15

Or

(*a*) Derive an expression for period of torsional pendulum. 7

(*b*) Derive an expression for twisting couple on a cylinder or wire. 8

3. Write short notes on (any *two*) : 10

(*a*) Newton's law of gravitation

(*b*) Excess pressure across a spherical drop

(*c*) Streamline flow

(*d*) Bending of beam.