

Course :- B.Sc. Physics (H)

Paper :- classical dynamics

UPC :- 32227626

Sem :- VI<sup>th</sup>

Year :- 2023-24

Teacher :- Ms. NEETU VERMA

Deadline  
of Assignment :- 19<sup>th</sup> April, 2024

### Assignment Questions

Max. Marks → 20

Q1 Define pathlines, streamlines & streakline.  
— (3) marks.

Q2 Derive Poiseuille's equation for flow of a liquid through a pipe.  
— (5) Marks.

Q3 Determine rate of liquid flow through capillaries in series and in parallel combination.  
— (10) Marks

Q4 Given the fluid velocity components  
$$V_x = -ay(x^2 + y^2), V_y = ax/(x^2 + y^2), V_z = 0$$
  
Verify that the fluid is incompressible.  
— (2) Marks

Date  
Ms. NEETU VERMA  
ASSISTANT PROFESSOR  
PHYSICS DEPARTMENT