CLASS: XI	**INDIAN SCHOOL MUSCAT** **SECOND PERIODIC TEST**	SUBJECT: PHYSICS
	SET - B	
QP.NO.	VALUE POINTS	SPLIT UP MARKS
1.	Modulus of elasticity	1
2.	This spreads force due to the weight of the train on larger area and hence reduces the pressure considerably.	1
3.	If two streamlines cross each other, there will be two directions of flow at the point of intersection which is impossible.	1
4.	When the two boats come closer to each other, the velocity of water between the narrow gap increases and so pressure decreases. The pressure on the outer surfaces of both the row boats becomes greater than the pressure in the gap. Therefore, the two boats are pulled towards each other.	1
5.	Definition of coefficient of viscosity of a liquid.	1
6.	Energy density $u = ½ \times Y \times (\text{strain})^2$ $= 2.5 \times 10^4 \text{ J/m}^3$ Elastic potential energy U = Energy density x volume = 0.2 J	 1 1
7.	Stress vs strain graph Representation of (a) Hooke's law region (b) Breaking point	1 ½ , ½
8.	$A = 25 \times 10^{-4} \text{ m}^2$, $dx = 10^{-3}$ m , $\eta = 1.55 \text{ Nsm}^{-2}$, $dv = 2 \times 10^{-2}$ m/s $F = \eta A (dv/dx)$ substitution of values F = 0.0775 N	½ ½ 1
9.	Radius of small drop r = 0.1 cm Terminal velocity v = 5 m/s Volume of bigger drop = 8 x volume of small drops $4/3 \pi R^3 = 8 \times 4/3 \pi r^3$ R = 2 rn = 0.2 cm Terminal velocity of bigger drop $V = v \times (R/r)^2$ V = 20 cm/s	 ½ 1 ½
10.	Statement of Stokes's law Derivation of $F = 6\pi\eta rv$ by dimension method	½ 1½
11.	Statement of Bernoulli's theorem Proof with diagram	½ ½ , 1½