17. An ideal gas is isothermally compressed to half its volume. The internal energy of the gas in this process would

   (A) get doubled.

   (B) get halved.

   (C) remain the same.

   (D) get quadrupled.

18. A spray pump consists of a cylindrical tube of radius R one end of which has n fine holes of radius r. If the speed of flow of the liquid in the tube is V, the speed of ejection of the liquid through the holes is

   (A) $\dfrac{V}{n} \cdot \left(\dfrac{R}{r}\right)^{1/2}$.

   (B) $\dfrac{V}{n} \cdot \left(\dfrac{R}{r}\right)$.

   (C) $\dfrac{V}{n^2} \cdot \left(\dfrac{R}{r}\right)$.

   (D) $\dfrac{V}{n} \cdot \left(\dfrac{R}{r}\right)^{2}$.

19. Two spheres of equal radii but of densities 3 gms/cm^3 and 2 gms/cm^3 are dropped in water. Their terminal velocities will be in the ratio

   (A) $2:1$.

   (B) $3:2$.

   (C) $1:2$.

   (D) $2:3$.

20. Two springs of equal lengths and cross sectional area are made of materials whose Young's modulus are in the ratio 3:2. Their spring constants will be in the ratio

   (A) $1:1$.

   (B) $2:3$.

   (C) $3:2$.

   (D) $\sqrt{3}:\sqrt{2}$.