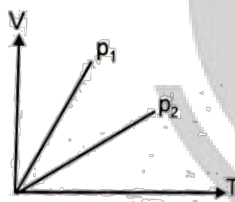# ARJUNA (NEET)

States of Matter

1. The numerical value of N/n (Where N is the number of molecules in a given sample of the gas and n is the number of moles of the gas) is
   (A) 8.314
   (B) 1.66×10^{-19}
   (C) 6.023×10^{23}
   (D) 0.082

2. Which one of the following is not correct about universal gas constant R?
   (A) $R = 0.0821$ m^3 atm. K^{-1} mol^{-1}
   (B) $R = 8.314$ kJ.K$^-$1 mol^{-1}
   (C) $R = 1.987$ k.cal °C^{-1} mol^{-1}
   (D) All of these

3. Which one is correct?

   (A) $p_1 > p_2$
   (B) $p_1 < p_2$
   (C) $p_1 = p_2$
   (D) All of these

4. The partial pressure of a dry gas is
   (A) Less than that of wet gas
   (B) Greater than that of wet gas
   (C) Equal to that of wet gas
   (D) None of these

5. A cylinder was filled with gaseous mixture containing CO and N_2 (equal masses). The ratio of their partial pressure in cylinder are
   (A) 1:1   (B) 1:2
   (C) 2:1   (D) 1:3

6. A gas in an open container is heated from 27°C to 127°C. The fraction of the original amount of gas remaining in the container will be
   (A) $\dfrac{3}{4}$ (B) $\dfrac{1}{4}$
   (C) $\dfrac{1}{2}$ (D) $\dfrac{1}{8}$

7. Absolute zero is
   (A) -273°C
   (B) zero K
   (C) Temperature at which no substance exists in gaseous state
   (D) All of these

8. A gas occupies 20 litre of volume under STP. What will be its volume if the pressure is increased four times, keeping the temperature constant?
   (A) 20 L   (B) 80 L
   (C) 5 L   (D) 4 L

9. Density of a gas at 300 K and 210 torr is 0.434 gL^{-1}. What is its molar mass?
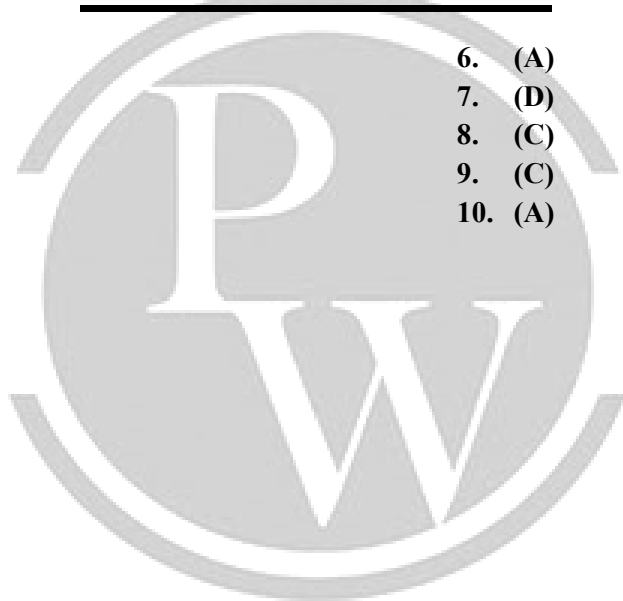   (A) 14.78 g/mol   (B) 73.43 g/mol
   (C) 38.68 g/mol   (D) 43.28 g/mol

10. 400 mL of CO_2 gas at 0.892 bar pressure and 800 mL CH_4 gas at 0.921 bar pressure are put into a 2 L flask. Calculate the total pressure of the mixture, assuming temperature is kept constant.
    (A) 0.546 bar   (B) 2.0 bar
    (C) 3.8 bar   (D) 4.9 bar

ANSWERS KEY

1.	(C)	6.	(A)
2.	(D)	7.	(D)
3.	(B)	8.	(C)
4.	(A)	9.	(C)
5.	(A)	10.	(A)