ARJUNA (NEET)

States of Matter

DPP-6

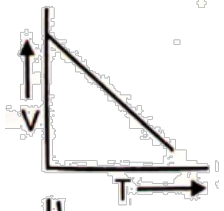
1. A sample of gas occupies 10 L under a pressure of 1 atm. What will be its volume if the pressure is increased to 2 atm? Assuming that temperature of the gas sample does not change
   (A) 2 L (B) 5 L
   (C) 10 L (D) 1 L

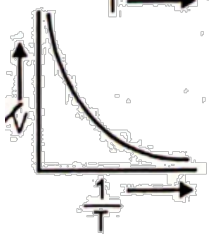
2. A gas at a pressure of 5 atm is heated from 0° to 546°C and simultaneously compressed to 1/3rd of it original volume. Hence final pressure is
   (A) 10 atm (B) 45 atm
   (C) 30 atm (D) 5 atm

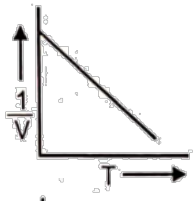
3. How much should the pressure be increased in order to decrease the volume of a gas by 5% at a constant temperature?
   (A) 5% (B) 5.26%
   (C) 10% (D) 4.26%

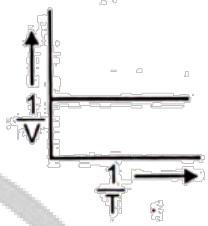
4. When the temperature is raised through 1°C the volume is increased by 1/273th times of the original volume. This is
   (A) Boyle's Law (B) Charles' Law
   (C) Avogadro Law (D) Graham's Law

5. Which curve shows Charle's Law

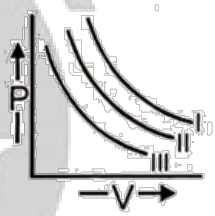
(A) 

(B) 

(C) 

(D) 

6. I, II, III are three isotherms respectively at T_1, T_2, T_3. Temperature will be in order



   (A) $T_1 = T_2 = T_3$. (B) $T_1 < T_2 < T_3$.
   (C) $T_1 > T_2 > T_3$ (D) $T_1 > T_2 = T_3$

7. To what temperature must a neon gas sample be heated to double its pressure if the initial volume of gas at 75°C is decreased by 15.0%?
   (A) 592 K (B) 492 K
   (C) 542 K (D) 642 K

8. When a gas filled in a closed vessel is heated through 1°C, its pressure is increased by 0.4 %. The initial temperature of the gas was
   (A) 250 K (B) 2500 K
   (C) 250°C (D) 25°C

9. "One gram molecules of a gas at N.T.P. occupies 22.4 litres". This fact was derived from
   (A) Dalton's Theory
   (B) Avogadro's hypothesis
   (C) Berzelius hypothesis
   (D) Law of gaseous volume

10. A sample of gas at 1.2 atm and 27°C is heated at constant pressure to 57°C. Its final volume is found to be 4.75 litres. What was its original volume?
   (A) 4.32 litres (B) 5.02 litres
   (C) 4.22 litres (D) None of these

ANSWERS KEY

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