2. For which of the following processes, ΔS is negative?
A) H<sub>2</sub>(g) → 2H(g)
B) N<sub>2</sub>(g, 1 atm) → N<sub>2</sub>(g, 5 atm)
C) C(diamond) → C(graphite)
D) N<sub>2</sub>(g, 273 K) → N<sub>2</sub>(g, 300 K)

(Mains'18)

Ans: **B**)

**Explanation**:

 $N_2(g,\,1 \text{ atom}) \longrightarrow N_2(g,\,5 \text{ atom})$ 

Here pressure increases. When pressure increases, the molecules will come closer and intermoleculer distance decreases, so entropy will also decrease and  $\Delta S < 0$ .