

JEE MAIN EQUILIBRIUM — LE CHATELIER'S PRINCIPLE — PYQS

Max. Marks: 12

Questions: 3

Section A (MCQ) — 3 questions

- Q.1** In the following system,
 $\text{PCl}_5(\text{g}) \rightleftharpoons \text{PCl}_3(\text{g}) + \text{Cl}_2(\text{g})$ at equilibrium, upon addition of xenon gas at constant T & p, the concentration of

[JEE Main 2025 (Online) 3rd April Morning Shift]

- (1) PCl_5 , PCl_3 & Cl_2 remain constant
- (2) PCl_3 will increase
- (3) Cl_2 will decrease
- (4) PCl_5 will increase

Scan or tap for the
full solution



- Q.2** Consider the equilibrium
 $\text{CO}(\text{g}) + 3\text{H}_2(\text{g}) \rightleftharpoons \text{CH}_4(\text{g}) + \text{H}_2\text{O}(\text{g})$
 If the pressure applied over the system increases by two fold at constant temperature then
- A. Concentration of reactants and products increases.
 - B. Equilibrium will shift in forward direction.
 - C. Equilibrium constant increases since concentration of products increases.
 - D. Equilibrium constant remains unchanged as concentration of reactants and products remain same.

[JEE Main 2025 (Online) 29th January Evening Shift]

- (1) (A) and (B) only (2) (A), (B) and (D) only
- (3) (B) and (C) only (4) (A), (B) and (C) only

Scan or tap for the
full solution



- Q.3** The following reaction occurs in the Blast furnace where iron ore is reduced to iron metal
 $\text{Fe}_2\text{O}_{3(\text{s})} + 3\text{CO}_{(\text{g})} \rightleftharpoons \text{Fe}_{(\text{l})} + 3\text{CO}_{2(\text{g})}$
 Using the Le Chatelier's principle, predict which one of the following will not disturb the equilibrium.

[JEE Main 2024 (Online) 5th April Morning Shift]

- (1) Addition of CO_2 (2) Removal of CO
- (3) Addition of Fe_2O_3 (4) Removal of CO_2

Scan or tap for the
full solution



ANSWER KEY

Ques.	1	2	3									
Ans.	2	1	3									