

Question 3. Which of the following statement is not correct about order of a reaction?

- (a) The order of a reaction can be a fractional number.**
- (b) Order of a reaction is experimentally determined quantity.**
- (c) The order of a reaction is always equal to the sum of the stoichiometric coefficients of reactants in the balanced chemical equation for a reaction.**
- (d) The order of a reaction is the sum of the powers of molar concentration of the reactants in the rate law expression.**

Solution: (c) Out of the given four statements, option (c) is not correct.

Order of reaction is equal to the sum of powers of concentration of the reactants in rate law expression.

For any chemical reaction, Order of reaction can be a fraction also. Order of reaction is not always equal to sum of the stoichiometric coefficients of reactants in the balanced chemical equation. For a reaction it may or may not be equal to sum of stoichiometric coefficient of reactants.