Question 8. For a complex reaction
(a) order of overall reaction is same as molecularity of the slowest step
(b) order of overall reaction is less than the molecularity of the slowest step
(c) order of overall reaction is greater than molecularity of the slowest step
(d) molecularity of the slowest step is never zero or non-integer .

Solution: (a, d)
(a) For a complex reaction, order of overall reaction = molecularity of slowest step.
As rate of overall reaction depends upon total number of molecules involved in slowest step of the reaction. Hence, molecularity of the slowest step is equal to order of overall reaction.
(b) Since the completion of any chemical reaction is not possible in the absence of reactants. Hence, slowest step of any chemical reaction must
contain at least one reactant. Thus, molecularity'of the slowest step is never zero or non-integer.