



# ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

## WORKSHEET-23(CLASS-12)

### TOPIC- CHEMICAL KINETICS



### SUBTOPIC-RATE LAW, MOLECULARITY AND ORDER OF REACTION

SUBJECT – CHEMISTRY

DURATION – 30 mins

F.M. - 15

DATE -18.06.20

1.1 In a reaction,  $A + B \rightarrow \text{Product}$ , rate is doubled when the concentration of B is doubled, and rate increases by a factor of 8 when the concentrations of both the reactants (A and B) are doubled, rate law for the reaction can be written as-

a)  $\text{Rate} = k[A][B]$  b)  $\text{Rate} = k[A]^2[B]$  c)  $\text{Rate} = k[A][B]^2$  d)  $\text{Rate} = k[A]^2[B]^2$

1.2 Which of the following factors affect the rate of chemical reaction?

(a) Concentration (b) Temperature (c) Nature of reactants (d) all of these

1.3 Chemical kinetics deals with the-

a) Equilibrium b) Concentration c) Rate of a chemical reaction d) Feasibility of a chemical reaction

1.4 Order of a chemical reaction may be-

(a) Zero (b) Fraction (c) Integer (d) all of these

1.5 In general Order and reaction coefficients are-

a) Same b) Different c) Can't be predicted d) None of these

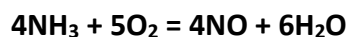
1.6 When the reaction completes in more than one steps rate of reaction will be determined by-

a) Last step b) Slowest step c) considering all steps d) Molecularity of the reaction

1.7 Which of the following type of reaction is 3rd order reaction-

(a)  $2\text{N}_2\text{O}_5 = 2\text{N}_2\text{O}_4 + \text{O}_2$  (b)  $\text{NO} + \text{O}_3 \rightarrow \text{NO}_2 + \text{O}_2$  (c)  $2\text{FeCl}_3 + 6\text{KI} \rightarrow 2\text{FeI}_2 + 6\text{KCl} + \text{I}_2$  (d) None of these

1.8 In the following reaction, which has the maximum rate with respect to the rate of disappearance of  $\text{NH}_3$ ?



a)  $\text{O}_2$  b)  $\text{NO}$  c)  $\text{H}_2\text{O}$  d) Equal

1.9 Rate of formation of  $\text{SO}_3$  in the following reaction-

$2\text{SO}_2 + \text{O}_2 = 2\text{SO}_3$ ,  $100 \text{ Kgmin}^{-1}$ . Hence, the rate of disappearance of  $\text{SO}_2$  will be-

a)  $100 \text{ Kgmin}^{-1}$  b)  $80 \text{ Kgmin}^{-1}$  c)  $64 \text{ Kgmin}^{-1}$  d)  $32 \text{ Kgmin}^{-1}$

**1.10 Rate of a chemical reaction can be divided into-**

a) Instantaneous rate b) Average rate b) Overall rate d) all of them are correct

**1.11 Molecularity of a chemical reaction may be-**

a) Zero (b) Fraction (c) Integer (d) all of these

**1.12 Molecularity and order are same for-**

a) Single step elementary reaction b) are not same c) can't be predicted d) None of these

**1.13 With increase in molecularity the feasibility of a chemical reaction-**

a) Increases b) Decreases c) remains same d) can't be predicted

**1.14 The slope of the curve of concentration vs time plot of a chemical reaction indicates-**

a) Rate b) Order c) Molecularity d) None of these

**1.15 According to the Rate law, the rate of a chemical reaction is related to the-**

a) Concentration b) Mole number c) Active mass d) Both a and c

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