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 **F.M. - 15**

DURATION – 30 mins **DATE -18.06.20**

1.1 **In a reaction, A + B → 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) Rate = k[A] [B] b) Rate = $k[A]^2[B]$ c) Rate = $k[A][B]^2$ d) 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) $2N_2O_5 = 2N_2O_4 + O_3$ (b) $NO + O_3 \rightarrow NO_2 + O_2$ (c) $2FeCl_3 + 6KI \rightarrow 2FeI_2 + 6KCl + I_2$ (d) None of these

1.8 **In the following reaction, which has the maximum rate with respect to the rate of disappearance of NH_3?**
$4NH_3 + 5O_2 = 4NO + 6H_2O$
a) O_2 b) NO c) H_2O d) Equal

1.9 **Rate of formation of SO_3 in the following reaction-**
$2SO_2 + O_2 = 2SO_3$, 100 $Kgmin^{-1}$. Hence, the rate of disappearance of SO_2 will be-
a) 100 $Kgmin^{-1}$ b) 80 $Kgmin^{-1}$ c) 64 $Kgmin^{-1}$ d) 32 $Kgmin^{-1}$

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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