TEST

Practice Test-1 （8A: Chemical Kinetics ）

10 Questions

10 min

Topics

REACTION KINETICS, Rate of Reaction and Determination of the Rate of Reaction, Energy of Activation, Catalysis, Types of Catalysis, Enzyme catalysis

Start Test

09 : 59

Q 1/10 10 min Hint

Q : The rate of reaction decreases how may times when temperature drops from 150K to 120K.

A Two

B Four

C Eight

D Sixteen

1 2 3 4 5 6 7

09 : 58

Q 2/10 10 min Hint

Q : The value of activation energy of chemical reaction is primarily determined by

A Nature of reacting species

B Temperature

C Number of collisions per unit time

D Concentration of species

09 : 57

Q 3/10 10 min Hint

Q : Which statement is incorrect about activated complex

A Short lived

B Maximum energy

C Unstable combination of atoms

D Less energy than Ea

09 : 56

Q 4/10 10 min Hint

Q : Enzymes are complex protein molecules and catalyze the

A

B

C

D

1 2 3 4 5 6 7

09 : 54

Q 4/10 10 min Hint

Q : Enzymes are complex protein molecules and catalyze the

A Organic reactions in the non-living cells

B Inorganic reactions in the living cells

C Organic reactions in the living cells

D Inorganic reactions in the non-living cells

09 : 52

Q 5/10 10 min Hint

Q : A catalyst is a substance which

A Increases the equilibrium concentration of the product

B Increases the equilibrium constant of the reaction

C Supplies energy to the reaction

D Shortens the time to reach equilibrium

09 : 52

Q 6/10 10 min Hint

Q : Anything which increases rate of reaction without being involved in the reaction

A Promoter

B Catalyst

C Inhibitor

D All of the above

09 : 51

Q 7/10 10 min Hint

Q :

For a chemical reaction A → B it is found that the rate of reaction doubles when the concentration is increased four times. The order of A for this reaction is

A Two

B One

C Zero

D Half

09 : 48

Q 9/10 10 min Hint

Q :
The formation of $SO_3(g)$ from $SO_2(g)$ and $O_2(g)$ in the lead chamber process for the manufacture
of sulphuric acid is the example of

A Homogeneous catalysis

B Heterogeneous catalysis

C Auto catalyses

D Negative catalyses

09 : 47

Q 10/10 10 min Hint

Q : Rate expression of two reactions are given below
(1) rate=$k[A]^2$
(2) rate= $k[A][B]$
which one is correct

A Both have different order

B Both have same order

C Equation 1 is 1st order while equation 2 is 2nd order

D Equation 1 is 2nd order while equation 2 is 1st order

Correct

Unattempted

Incorrect

Q 1/10

Q : The rate of reaction decreases how may times when temperature drops from 150K to 120K.

A Two

B Four

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For a chemical reaction A → B it is found that the rate of reaction doubles when the concentration is increased four times. The order of A for this reaction is

A Two

B One

C Zero

D Half

Correct

Unattempted

Incorrect

Q 8/10

Q : Indicate the enzyme which catalyses the following reaction

$$H_2N-CONH_2 + H_2O \longrightarrow 2NH_3 + CO_2$$

A Zymase

B Invertase

C Urease

D Diastase

Correct
Unattempted
Incorrect
Q 9/10

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The formation of $SO_3(g)$ from $SO_2(g)$ and $O_2(g)$ in the lead chamber process for the manufacture
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Incorrect | Q 10/10

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(1) rate=$k[A]^2$
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which one is correct

A Both have different order

B Both have same order

C Equation 1 is 1st order while equation 2 is 2nd order

D Equation 1 is 2nd order while equation 2 is 1st order

TEST

Practice Test-2 （8A: Chemical Kinetics ）

10 Questions

10 min

Topics

Order of Reaction and Determination of Order of Reaction, Factors Affecting Rates of Reactions including Arrhenius Equation

Start Test

09 : 59

Q 1/10 10 min Hint

Q : The half-life of following first order reaction A → B + C is 10min. The concentration of A would be reduced to 12.5% of original concentration in

A 30 min

B 40 min

C 70 min

D 90 min

1 2 3 4 5 6 7

09 : 58

Q 2/10 10 min Hint

Q : Factor which does not generally affect the rate of reaction

A Surface area

B Light

C Temperature

D Pressure

1 2 3 4 5 6 7

09 : 57

Q 3/10 10 min Hint

Q : The rate constant 'k' is 6.93 min^{-1}. The half life for the 1^{st} order reaction will be

A 1 min

B 0.1 min

C 6.93 min

D 0.693min

09 : 52

Q :

Equation for formation of $CC\ell_4$ is shown below

$CHC\ell_3 + C\ell_2 \longrightarrow CC\ell_4 + HC\ell$. The rate equation is Rate=$k[CHC\ell_3]\,[C\ell_2]^{1/2}$ for CCl_4 formation. The order of reaction may be

A $-\frac{1}{2}$

B $\frac{3}{2}$

C 2

D $\frac{-3}{2}$

09 : 50

Q 5/10 10 min Hint

Q : The SI unit of slope of Arrhenius equation has same dimension as

A Energy

B Temperature

C Work

D It has no units

09 : 49

Q 6/10 10 min Hint

Q : Photosynthesis a photochemical reaction has order of reaction

A 0

B 1

C 2

D Fractional

09 : 48

Q 7/10 10 min Hint

Q : For a given equation

$2H_2 + 2NO \longrightarrow 2H_2O + N_2$ the rate equation is $\frac{dx}{dt} = k[H_2][NO]^2$ then what is order or reaction

A Zero order

B First order

C Second order

D Third order

1 2 3 4 5 6 7

09 : 46

Q 9/10 10 min Hint

Q : The quantitative relationship between rate and concentration is given by

A law of mass action

B rate law

C both of these

D none of these

09 : 45

Q 10/10 10 min Hint

Q : Half life period of first order reaction is

A Independent of the initial concentration of the reactant

B Depend upon the initial concentration of the reactant

C Independent of initial concentration of the product

D Depend upon the initial concentration of the product

Correct Unattempted

Incorrect Q 1/10

Q : The half-life of following first order reaction A → B + C is 10min. The concentration of A would be reduced to 12.5% of original concentration in

A 30 min

B 40 min

C 70 min

D 90 min

Correct

Unattempted

Incorrect

Q 2/10

Q : Factor which does not generally affect the rate of reaction

A Surface area

B Light

C Temperature

D Pressure

Correct | Unattempted

Incorrect | Q 3/10

Q : The rate constant 'k' is 6.93 min^{-1}. The half life for the 1^{st} order reaction will be

A 1 min

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Correct | Unattempted

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Equation for formation of $CC\ell_4$ is shown below

$CHC\ell_3 + C\ell_2 \longrightarrow CC\ell_4 + HC\ell$. The rate equation is Rate=$k[CHC\ell_3]\,[C\ell_2]^{1/2}$ for CCl_4 formation. The order of reaction may be

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Unattempted

Incorrect

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C Work

D It has no units

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A Zero order

B First order

C Second order

D Third order

Correct | Unattempted

Incorrect | Q 8/10

Q : In a reaction $2X + Y \longrightarrow M + N$
if the concentration of Y kept constant and that of X is trippled. The reaction will be

A increase 3 times

B increase 27 times

C increase 9 times

D increase 27 times

Correct

Unattempted

Incorrect

Q 9/10

Q : The quantitative relationship between rate and concentration is given by

A law of mass action

B rate law

C both of these

D none of these

Correct

Unattempted

Incorrect

Q 10/10

Q : Half life period of first order reaction is

A Independent of the initial concentration of the reactant

B Depend upon the initial concentration of the reactant

C Independent of initial concentration of the product

D Depend upon the initial concentration of the product

Test Level-1 (8A: Chemical Kinetics)

20 Questions

20 min

Topics

REACTION KINETICS, Rate of Reaction and Determination of the Rate of Reaction, Order of Reaction and Determination of Order of Reaction, Factors Affecting Rates of Reactions including Arrhenius Equation, Energy of Activation, Catalysis, Types of Catalysis, Characteristics of a Catalyst, Enzyme catalysis

Start Test

19 : 58

Q 1/20 20 min Hint

Q : Arrhenius equation describes the effect of

A Temperature on rate of reaction

B Volume on rate of reaction

C Pressure on rate of reaction

D Number of moles on rate of reaction

19 : 57

Q 2/20 20 min Hint

Q : The collision frequency is

A Inversely proportional to the concentration of the reacting molecules

B Proportional to the concentration of reacting molecules

C Equal to the concentration of reactants

D Equal to the concentration of products

19 : 56

Q 3/20 20 min Hint

Q : When a product acts as catalyst then it is called

A Autocatalysis

B Negative catalysis

C Promotor

D Activator

19 : 55

Q 4/20 20 min Hint

Q : Spectrometry is applied for rate determining when

A Reactants or products absorb U.V / VIS or I.R radiations

B Reaction involve ion

C Reaction involve change in volume

D One of the substance is optically active

19 : 54

Q 5/20 20 min Hint

Q : For endothermic reaction, Ea is activation energy in KJ/mole. The maximum value of enthalpy of reaction (ΔH) will be

A Less than Ea

B More than Ea

C Equal to Ea

D Zero

19 : 53

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Q : Decrease in the rate of reaction is denoted by

A dx/dt

B $-dx/dt$

C dt/dx

D $-dt/dx$

19 : 51

Q 8/20 20 min Hint

Q : Which one is not an example of heterogeneous catalysis

A Formation of NH_3 by Haber's process

B Ester formation

C Formation of SO_3 in contact process

D Formation of ghee from edible oil

19 : 50

Q 9/20 20 min Hint

Q : In homogeneous catalysis, what are in same phase

A Reactants and products

B Reactants and catalyst

C Catalyst and products

D Reactant, products and catalyst

19 : 48

Q 10/20 20 min Hint

Q :
The rate expression of a reaction is, Rate = k[A][B]
What happens to rate of reaction if concentrations of A and B are doubled?

A Increases two times

B Increase four times

C Increases six time

D Increases eight times

19 : 48

Q 11/20 20 min Hint

Q : The catalytic activity of enzymes is greatly enhanced by the presence of

A Coenzyme

B Apoenzyme

C Retarder

D Without any substance

19 : 46

Q 12/20 20 min Hint

Q :

The power to which the concentration of a substance appear in the rate expression is known as

A Rate of reaction

B Molecularity of reaction

C Order of reaction

D Rate constant of reaction

19 : 44

Q 14/20 20 min Hint

Q : Which one is incorrect about rate of reaction

A At start instantaneous rate is greater than average rate

B At start average rate is greater than instantaneous rate

C If time approaches to zero instantaneous and average rate become equal

D Rate of reaction decreases progressively

19 : 43

Q 15/20 20 min Hint

Q : If temperature of a reaction is raised from 0°C to 30°C of rate of reaction generally with

A Decrease four time

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C Increase two time

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9 10 11 12 13 14 15

19 : 42

Q 16/20 20 min Hint

Q : Which one of the following statements is incorrect?

A Enzymes are protein in nature

B Enzymes can act as a catalyst

C Enzymes can catalyse any reaction

D Urease is an enzyme

19 : 41

Q 17/20 20 min Hint

Q : A substance which itself is not a catalyst but increase the activity of a catalyst is called

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Q 18/20 20 min Hint

Q : Activation energy of a reaction is usually

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B Low for reaction that takes place slowly

C Different for forward and backward reaction

D Zero for exothermic reaction

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B 2nd order

C 3rd order

D both a and b

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A Rate of reaction

B Molecularity of reaction

C Order of reaction

D Rate constant of reaction

Correct

Unattempted

Incorrect

Q 13/20

Q :

Measurement of rate of reaction involving change in ionic concentration is followed by

A Spectrometric method

B Dilatometric method

C Refractometric method

D Conductometric method

Correct
Unattempted
Incorrect
Q 14/20

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TEST

Test Level-2 (Topic 8A)

30 Questions

25 min

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Rate of Reaction and Determination of the Rate of Reaction, Order of Reaction and Determination of Order of Reaction, Factors Affecting Rates of Reactions including Arrhenius Equation, Types of Catalysis, Characteristics of a Catalyst

Start Test

24 : 58

Q 1/30 25 min Hint

Q : Which change will never happens to a catalyst during a reaction

A Appearance

B Surface area

C Chemical composition

D Physical state

1 2 3 4 5 6 7

Q 2/30 25 min Hint

Q : If during reaction, there is rotation in plane polarized light, then its rate can be determined by

A Spectrometry method

B Electrical conductivity method

C **Optical rotation method**

D Dilatometric method

24 : 55

Q 3/30 25 min Hint

Q : One of the following is not a physical method for determination of rate of reaction

A Spectrometry

B Refractrometry

C Electrical Conductivity

D Titrimetry

24 : 54

Q 4/30 25 min Hint

Q : For third order reaction, rate constant has units

A $moldm^{-3}s^{-1}$

B s^{-1}

C $mol^{-1}dm^{3}s^{-1}$

D $mol^{-2}dm^{+6}s^{-1}$

24 : 53

Q 5/30 25 min Hint

Q : Slowest step in the reaction is called

A Elementary step

B Rate law

C Rate determining step

D Order of reaction

24 : 52

Q 6/30 25 min Hint

Q : The rate of a chemical reaction doubles for every 10°C rise of temperature. If the temperature is raised by 50°C, the rate of the reaction increases by about

A 16

B 64

C 32

D 08

Q 7/30 25 min Hint

Q : A certain reaction has the rate equation, Rate = $k[A][B]^2$. The rate is $2.5x10^{-3}$ mol $dm^{-3}s^{-1}$. When [A] is 0.2 mol dm^{-3} and [B] is 0.050 mol dm^{-3}. Calculate the numerical value of rate constant

A 50

B 5.0

C 2

D 0.05

24 : 49

Q 8/30 25 min Hint

Q : Half life of radioactive isotope is 10days. Days required when 12.5% concentration is left behind

A 10

B 20

C 30

D 40

Q 9/30 25 min Hint

Q : The mechanism below has been proposed for the reaction of $CHCl_3$ with Cl_2

Step 1: $Cl_{2(g)} \rightleftharpoons 2Cl_{(g)}$

Step 2: $Cl_{(g)} + CHCl_{3(g)} \longrightarrow CCl_{3(g)} +$

Step 3: $CCl_{3(g)} + Cl_{(g)} \longrightarrow CCl_{4(g)}$

Rate law for the reaction is

A Rate = $[CHCl_3][Cl]^2$

B Rate = $[CHCl_3][Cl_2]^{1/2}$

C Rate = $[CCl_3][Cl]$

D Rate = $[Cl_2]$

24 : 47

Q 10/30 25 min Hint

Q : The order of reaction may be determined by:

A Differential

B Half-life method

C Graphical method

D All of these

24 : 46

Q 11/30 25 min Hint

Q : Half-life of the reaction becomes half when initial concentrations of reactants are doubled. The order of the reaction will be

A First order

B Second order

C Third order

D Zero order

Q 12/30 25 min Hint

Q :

In the hydrolysis of an organic chloride in the presence of large excess of water

$R_3C\text{-}Cl + H_2O \rightarrow R_3C\text{-}OH + HCl$, order of reaction is

A Second order

B First order

C Third order

D Pseudo First order

24 : 44

Q 13/30 25 min Hint

Q : All are correct about zero order except

A All photochemical reactions are zero order

B Rate is independent of concentration

C Radioactive decay follows zero order

D Half life is directly proportional to initial concentration

24 : 41

Q 15/30 25 min Hint

Q : 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 $[A]^3[B]$

D Rate = k $[A][B]^2$

24 : 41

Q 16/30 25 min Hint

Q : Which will change for first order reaction with time

A Rate constant

B Rate of reaction

C Half-life

D All of these

24 : 40

Q 17/30 25 min Hint

Q : Half life of certain reaction decreases with decrease in concentration. Order of reaction is

A Zero order

B First order

C Second order

D Third order

24 : 39

Q 18/30 25 min Hint

Q : For endothermic reaction, the minimum value for the energy of activation will be

A Less than ΔH

B More than ΔH

C Zero

D Equal to ΔH

24 : 36

Q 19/30 25 min Hint

Q : Yield of ammonia in Haber's process can be increased by all except

A Decreasing temperature

B Adding catalyst

C Adding nitrogen

D Increasing pressure

24 : 35

Q 20/30 25 min Hint

Q : In Arrhenius equation $k = Ae^{-Ea/RT}$, _____ depends upon collision frequency

A k

B A

C e

D Ea

24 : 34

Q 21/30 25 min Hint

Q : Unit of slope in Arrhenius equation is

A Kelvin

B $Kelvin^{-1}$

C $Jmol^{-1}$

D mol^{-1}

24 : 34

Q 22/30 25 min Hint

Q : Difference of energy between reactants and transition state is called

A Enthalpy of reaction

B Kinetic energy

C Activation energy

D Internal energy

24 : 32

Q 23/30 25 min Hint

Q : Following is an exothermic reaction

$A+B \rightleftharpoons C+D$ Which is correct statement?

A Rate of reaction will increase by increasing temperature

B Yield of C can be increased by increasing pressure

C Rate of reaction will decrease by increasing temperature

D Rate is not affected by adding catalyst

Q 24/30 25 min Hint

Q : Autocatalysis is the phenomenon in which product formed acts as catalyst, which is autocatalyst in the following reaction

$2KMnO_4 + 3H_2SO_4 + 5(COOH)_2 \rightarrow K_2SO_4 + 2MnSO_4 + 5CO_2 + 8H_2O$

A K_2SO_4

B Mn^{+2}

C CO_2

D H_2O

Q 25/30 25 min Hint

Q : Hydrogenation of vegetable oils is accelerated by nickel. Catalytic activity of nickel can be increased by using

A Co and Cu

B Cr and Te

C Cu and Te

D Fe and Cu

24 : 29

Q 26/30 25 min Hint

Q : Catalyst can change

A K_c

B ΔH

C Yield

D Ea

24 : 28

Q 27/30 25 min Hint

Q : A catalyst works by

A Decreasing activation energy

B Providing alternate pathway

C Forming stable transition state

D All of these

Q 28/30 25 min Hint

Q : Rate of exothermic reaction is increased by increasing all except

A Temperature

B Surface area of reactants

C Volume of vessel

D Concentration of reactants

Q 29/30 25 min Hint

Q : Rate of following reaction can be expressed as $PCl_5 \longrightarrow PCl_3 + Cl_2$

A $\text{Rate} = -\frac{d[PCl_5]}{dt}$

B $Rate = -\frac{d[PCl_3]}{Cl_2}$

C $Rate = -\frac{d[PCl_3]}{dt}$

D $Rate = -\frac{d[Cl_2]}{dt}$

Q 30/30 25 min Hint

Q : Homogeneous process among the following is

A

B

C

D

24 : 22

Q 30/30 25 min Hint

Q : Homogeneous process among the following is

A $2SO_2 + O_2 \overset{NO}{\rightleftharpoons} 2SO_3$

B $HCOOH \overset{Cu}{\longrightarrow} H_2 + CO_2$

C $4NH_3 + 5O_2 \overset{Pt}{\rightleftharpoons} 4NO + 6H_2O$

D $CH_2 = CH_2 + H_2 \overset{Ni}{\rightleftharpoons} CH_3 - CH_3$

Correct
Unattempted
Incorrect
Q 1/30

Q : Which change will never happens to a catalyst during a reaction

A Appearance

B Surface area

C Chemical composition

D Physical state

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C **Optical rotation method**

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Unattempted
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B Refractrometry

C Electrical Conductivity

D Titrimetry

Correct | Unattempted

Incorrect | Q 4/30

Q : For third order reaction, rate constant has units

A $moldm^{-3}s^{-1}$

B s^{-1}

C $mol^{-1}dm^{3}s^{-1}$

D $mol^{-2}dm^{+6}s^{-1}$

Correct
Unattempted
Incorrect
Q 5/30

Q : Slowest step in the reaction is called

A Elementary step

B Rate law

C Rate determining step

D Order of reaction

Correct Unattempted

Incorrect Q 6/30

Q : The rate of a chemical reaction doubles for every 10°C rise of temperature. If the temperature is raised by 50°C, the rate of the reaction increases by about

A 16

B 64

C 32

D 08

Correct | Unattempted

Incorrect | Q 7/30

Q : A certain reaction has the rate equation, Rate = $k[A][B]^2$. The rate is $2.5x10^{-3}$ mol $dm^{-3}s^{-1}$. When [A] is 0.2 mol dm^{-3} and [B] is 0.050 mol dm^{-3}. Calculate the numerical value of rate constant

A 50

B 5.0

C 2

D 0.05

Correct
Unattempted
Incorrect
Q 8/30

Q : Half life of radioactive isotope is 10days. Days required when 12.5% concentration is left behind

A 10

B 20

C 30

D 40

Correct | Unattempted

Incorrect | Q 9/30

Q : The mechanism below has been proposed for the reaction of $CHCl_3$ with Cl_2

Step 1: $Cl_{2(g)} \rightleftharpoons 2Cl_{(g)}$

Step 2: $Cl_{(g)} + CHCl_{3(g)} \longrightarrow CCl_{3(g)} +$

Step 3: $CCl_{3(g)} + Cl_{(g)} \longrightarrow CCl_{4(g)}$

Rate law for the reaction is

A Rate = $[CHCl_3][Cl]^2$

B Rate = $[CHCl_3][Cl_2]^{1/2}$

C Rate = $[CCl_3][Cl]$

Correct | Unattempted

Incorrect | Q 9/30

Q : The mechanism below has been proposed for the reaction of $CHCl_3$ with Cl_2

Step 1: $Cl_{2(g)} \rightleftharpoons 2Cl_{(g)}$

Step 2: $Cl_{(g)} + CHCl_{3(g)} \longrightarrow CCl_{3(g)} +$

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Rate law for the reaction is

A Rate = $[CHCl_3][Cl]^2$

B Rate = $[CHCl_3][Cl_2]^{1/2}$

C Rate = $[CCl_3][Cl]$

Correct
Unattempted
Incorrect
Q 10/30

Q : The order of reaction may be determined by:

A Differential

B Half-life method

C Graphical method

D All of these

Correct Unattempted

Incorrect Q 11/30

Q : Half-life of the reaction becomes half when initial concentrations of reactants are doubled. The order of the reaction will be

A First order

B Second order

C Third order

D Zero order

Correct | Unattempted

Incorrect | Q 12/30

Q :

In the hydrolysis of an organic chloride in the presence of large excess of water

$R_3C\text{-}Cl + H_2O \rightarrow R_3C\text{-}OH + HCl$, order of reaction is

A Second order

B First order

C Third order

D Pseudo First order

Correct | Unattempted

Incorrect | Q 13/30

Q : All are correct about zero order except

A All photochemical reactions are zero order

B Rate is independent of concentration

C Radioactive decay follows zero order

D Half life is directly proportional to initial concentration

Correct | Unattempted | Incorrect | Q 14/30

Q : For a reaction like $X + 2Y \rightarrow Z$ Rate = $k[X]^0[Y]^2$
If concentration of X and Y is doubled, then rate of reaction will increase

A 8 times

B 6 times

C 4 times

D 16 times

Correct | Unattempted

Incorrect | Q 15/30

Q : 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 $[A]^3[B]$

D Rate = k $[A][B]^2$

Correct
Unattempted
Incorrect
Q 16/30

Q : Which will change for first order reaction with time

A Rate constant

B Rate of reaction

C Half-life

D All of these

Correct
Unattempted
Incorrect
Q 17/30

Q : Half life of certain reaction decreases with decrease in concentration. Order of reaction is

A Zero order

B First order

C Second order

D Third order

Correct
Unattempted
Incorrect
Q 18/30

Q : For endothermic reaction, the minimum value for the energy of activation will be

A Less than ΔH

B More than ΔH

C Zero

D Equal to ΔH

Correct
Unattempted
Incorrect
Q 19/30

Q : Yield of ammonia in Haber's process can be increased by all except

A Decreasing temperature

B Adding catalyst

C Adding nitrogen

D Increasing pressure

Correct | Unattempted

Incorrect | Q 20/30

Q : In Arrhenius equation $k = Ae^{-Ea/RT}$, _____ depends upon collision frequency

A k

B A

C e

D Ea

Correct | Unattempted

Incorrect | Q 21/30

Q : Unit of slope in Arrhenius equation is

A Kelvin

B $Kelvin^{-1}$

C $Jmol^{-1}$

D mol^{-1}

Correct | Unattempted

Incorrect | Q 23/30

Q : Following is an exothermic reaction

$A+B \rightleftharpoons C+D$ Which is correct statement?

A. Rate of reaction will increase by increasing temperature

B. Yield of C can be increased by increasing pressure

C. Rate of reaction will decrease by increasing temperature

D. Rate is not affected by adding catalyst

Correct | Unattempted | Incorrect | Q 24/30

Q : Autocatalysis is the phenomenon in which product formed acts as catalyst, which is autocatalyst in the following reaction

$2KMnO_4 + 3H_2SO_4 + 5(COOH)_2 \rightarrow K_2SO_4 + 2MnSO_4 + 5CO_2 + 8H_2O$

A K_2SO_4

B Mn^{+2}

C CO_2

D H_2O

Correct | Unattempted

Incorrect | Q 25/30

Q : Hydrogenation of vegetable oils is accelerated by nickel. Catalytic activity of nickel can be increased by using

A Co and Cu

B Cr and Te

C Cu and Te

D Fe and Cu

Correct | Unattempted

Incorrect | Q 26/30

Q : Catalyst can change

A K_c

B ΔH

C Yield

D Ea

Correct
Unattempted
Incorrect
Q 27/30

Q : A catalyst works by

A Decreasing activation energy

B Providing alternate pathway

C Forming stable transition state

D All of these

Correct Unattempted

Incorrect Q 28/30

Q : Rate of exothermic reaction is increased by increasing all except

A Temperature

B Surface area of reactants

C Volume of vessel

D Concentration of reactants

Correct | Unattempted | Incorrect | Q 29/30

Q : Rate of following reaction can be expressed as $PCl_5 \longrightarrow PCl_3 + Cl_2$

A $\text{Rate} = -\frac{d[PCl_5]}{dt}$

B $Rate = -\frac{d[PCl_3]}{Cl_2}$

C $Rate = -\frac{d[PCl_3]}{dt}$

D $Rate = -\frac{d[Cl_2]}{dt}$

Correct | Unattempted

Incorrect | Q 30/30

Q : Homogeneous process among the following is

A $2SO_2 + O_2 \overset{NO}{\rightleftharpoons} 2SO_3$

B $HCOOH \overset{Cu}{\longrightarrow} H_2 + CO_2$

C $4NH_3 + 5O_2 \overset{Pt}{\rightleftharpoons} 4NO + 6H_2O$

D $CH_2 = CH_2 + H_2 \overset{Ni}{\rightleftharpoons} CH_3 - CH_3$