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Group 1

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Chemistry

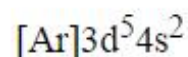
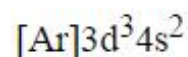
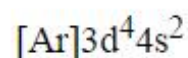
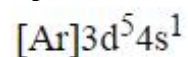
Section Id : 8273478
Section Number : 1
Section type : Online
Mandatory or Optional: Mandatory
Number of Questions: 100
Number of Questions to be attempted: 100
Section Marks: 100

Sub-Section Number: 1
Sub-Section Id: 8273478
Question Shuffling Allowed : Yes

Question Number : 1 Question Id : 827347701 Question Type : MCQ

Electronic configuration of chromium is

Options :



Question Number : 2 Question Id : 827347702 Question Type : MCQ

In their compounds, the maximum oxidation states attained by Fe and Os respectively are

Options :

- +VIII and + VI
- +VI and + VIII
- +II and + VI
- +III and + VIII

Question Number : 3 Question Id : 827347703 Question Type : MCQ

The spin only magnetic moment of $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ in Bohr magneton (BM) unit is

Options :

- 2.83
- 3.87
- 1.73
- 4.90

Question Number : 4 Question Id : 827347704 Question Type : MCQ

Bright orange color of Chromium trioxide (or Chromic acid) arises from

Options :

- Presence of impurities
- f-f transitions
- d-d spectra
- Charge transfer

Question Number : 5 Question Id : 827347705 Question Type : MCQ

$[\text{Mn EDTA}]^{4-}$ Complex has very pale color because d-d transition is forbidden by the *Laporte selection rule*. This states that when promoting an electron the change in the subsidiary quantum number (l) must be

Options :

- +1
- 1
- ± 1
- 0

Question Number : 6 Question Id : 827347706 Question Type : MCQ

Electronic configuration of gadolinium (Gd) is

Options :

- $[\text{Xe}]4f^7 5d^1 6s^2$
- $[\text{Xe}]4f^7 6s^2$
- $[\text{Xe}]4f^8 6s^2$
- $[\text{Xe}]4f^9 6s^2$

Question Number : 7 Question Id : 827347707 Question Type : MCQ

Even though Ln^{3+} dominates the chemistry of lanthanide elements, still Eu^{2+} exists because oxidation number (+II) lead to

Options :

Noble gas configuration

Half filled 'f' shell

Completely filled 'f' level

Completely filled 'd' level

Question Number : 8 Question Id : 827347708 Question Type : MCQ

Yellow colors of Sm^{3+} and Dy^{3+} is because number of unpaired electrons in both are

Options :

3

4

5

6

Question Number : 9 Question Id : 827347709 Question Type : MCQ

Separation of Dy^{3+} and Ho^{3+} is very difficult because they have similar

Options :

Physical state

Color

Charge

sizes

Question Number : 10 Question Id : 827347710 Question Type : MCQ

Cyanides, nitrites and carbonyl compounds can be reduced by using

Options :

B_2H_6

B_4H_{10}

B_6H_{10}

B_9H_{15}

Question Number : 11 Question Id : 827347711 Question Type : MCQ

Borazine is sometimes called inorganic benzene. However, in comparison to benzene, borazine's reactivity is

Options :

Less

More

Equal

Very less

Question Number : 12 Question Id : 827347712 Question Type : MCQ

Total number of three-centre two-electron (3c-2e) 'banana-shaped' bonds in diborane are

Options :

- Zero
- One
- Two
- Three

Question Number : 13 Question Id : 827347713 Question Type : MCQ

Carborane is formed by reaction of decaborane-14 with

Options :

- Methane
- Ethane
- Ethene
- Ethyne

Question Number : 14 Question Id : 827347714 Question Type : MCQ

Cement, ceramic and glass industries are based on the chemistry of

Options :

- Silicates
- Diborane
- Borazine
- Silicones

Question Number : 15 Question Id : 827347715 Question Type : MCQ

To detect end point in acid-base neutralization reactions occurring in aqueous solvent (H_2O) and non-aqueous solvents (liquid ammonia), suitable indicator is

Options :

- Calmagite
- Phenolphthalein
- Erio-chrome black T
- $KMnO_4$

Question Number : 16 Question Id : 827347716 Question Type : MCQ

In N_2O_4 as solvent, $NOCl$ is an acid since it produces

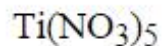
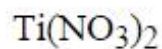
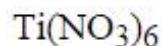
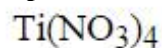
Options :

- H^+
- H_3O^+
- NO^+
- NO_3^-

Question Number : 17 Question Id : 827347717 Question Type : MCQ

Reaction of TiBr_4 and N_2O_4 give following nitrate complex

Options :



Question Number : 18 Question Id : 827347718 Question Type : MCQ

Mineral acids (HNO_3 , H_2SO_4 and HCl) in HF (non-aqueous solvent) behave as

Options :

Solvents

Solutes

Acids

bases

Question Number : 19 Question Id : 827347719 Question Type : MCQ

Using $\text{AlEt}_3/\text{TiCl}_4$ catalyst, polymerization of propene produces polymer which is

Options :

Stereo regular

Atactic

Random

Cross-linked

Question Number : 20 Question Id : 827347720 Question Type : MCQ

In vanadocene, the number of carbon atoms in each ring bonded to vanadium are

Options :

4

5

3

10

Question Number : 21 Question Id : 827347721 Question Type : MCQ

Reaction of ferrocene with an equimolar amount of acetyl chloride gives a product in which cyclopentadienyl rings undergo

Options :

Diels-Alder reaction

Catalytic hydrogenation

Friedel-Crafts acylation

Hydroformylation

Question Number : 22 Question Id : 827347722 Question Type : MCQ

Reaction of 1 mole of organocadmium compound with 2 moles of acetyl chloride gives 2 moles of

Options :

- Alcohols
- Carboxylic acids
- Aldehydes
- Ketones

Question Number : 23 Question Id : 827347723 Question Type : MCQ

As per the liquid drop model for the nuclear model, the range of attractive forces is

Options :

- 1 fm to 2 fm
- 2 fm to 3 fm
- 3 fm to 4 fm
- 4 fm to 5 fm

Question Number : 24 Question Id : 827347724 Question Type : MCQ

The nuclei of C atoms which have had the orbital electrons removed are called

Options :

- Carbene
- Carbocation
- Stripped carbon
- Carboanion

Question Number : 25 Question Id : 827347725 Question Type : MCQ

The total mass of the fission products is some 0.22 mass units less than the mass of the uranium atom and neutron. This corresponds to an energy release of over

Options :

- 100 MeV
- 200 MeV
- 300 MeV
- 400 MeV

Question Number : 26 Question Id : 827347726 Question Type : MCQ

Mass of proton is

Options :

- 1.008 665 amu
- 1.007 825 amu
- 1.007 277 amu
- 1.009 235 amu

Question Number : 27 Question Id : 827347727 Question Type : MCQ

Which one of the following is not the application of radioisotopes

Options :

Estimation of the age of various objects

Estimation of the age of mineral deposits

Determination of solubility of sparingly soluble materials

Preparation of detergents

Question Number : 28 Question Id : 827347728 Question Type : MCQ

Presence of which one of the following salt does not contribute hardness in water

Options :

Sodium bicarbonate

Calcium bicarbonate

Magnesium sulphate

Magnesium chloride

Question Number : 29 Question Id : 827347729 Question Type : MCQ

Which one of the following is not used to soften water

Options :

Ion-exchange methods

Addition of Grahams salt (Calgon)

Addition of sodium carbonate

Addition of sugar

Question Number : 30 Question Id : 827347730 Question Type : MCQ

In water, harmful concentration of fluoride ions is

Options :

Above 2 ppm

Below 1 ppm

Below 0.5 ppm

Below 0.7 ppm

Question Number : 31 Question Id : 827347731 Question Type : MCQ

Completely biodegradable detergent is

Options :

Linear alkylbenzene sulphonates

Teepol

Branched chain alkylbenzene sulphonates

Calcium stearate

Question Number : 32 Question Id : 827347732 Question Type : MCQ

Which one of the following does not occur by the use of biodegradable detergents

Options :

Decrease in concentration of dissolved dioxygen

Deaths of fish or plants

Unpleasant smells

Formation of insoluble precipitate or 'scum' when water is hard

Question Number : 33 Question Id : 827347733 Question Type : MCQ

'Soda glass' is made by fusing the SiO_2 , CaCO_3 and

Options :

Na_2CO_3

K_2CO_3

CaO

PbO

Question Number : 34 Question Id : 827347734 Question Type : MCQ

Borosilicate glasses are less prone to chemical attack because they contain less

Options :

CaCO_3

Alkali

SiO_2

B_2O_3

Question Number : 35 Question Id : 827347735 Question Type : MCQ

Alloys of Nb_3Sn , Nb_3Ge , Nb_3Al and V_3Si all show superconductivity and have critical temperature (T_c) values of about

Options :

10 K

20 K

30 K

40 K

Question Number : 36 Question Id : 827347736 Question Type : MCQ

The compound $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ was the first superconductor which worked at 93K. The temperature was important because it allows liquid nitrogen to be used as coolant rather than the more expensive liquid helium. This Y-Ba-Cu-O system is called

Options :

1-2-3 system

2-3-4 system

3-4-5 system

4-5-6 system

Question Number : 37 Question Id : 827347737 Question Type : MCQ

The IUPAC name of *tert*-Butyl alcohol is

Options :

2-methyl-2-propanol

2-methyl-2-propanal

2-methyl-1-propanol

2-methyl-1-propanal

Question Number : 38 Question Id : 827347738 Question Type : MCQ

That part of the science which deals with the molecular structure in three dimensions is called

Options :

Organic chemistry

stereo chemistry

Inorganic chemistry

Physical chemistry

Question Number : 39 Question Id : 827347739 Question Type : MCQ

To specify a particular configuration in some simpler, easier way than by always having to draw its picture, prefix R or S is used. As per sequence rules, the complete sequence of priority for *sec*-butyl chloride is

Options :

H, CH₃, C₂H₅, Cl

CH₃, H, Cl, C₂H₅

Cl, C₂H₅, CH₃, H

Cl, H, CH₃, C₂H₅

Question Number : 40 Question Id : 827347740 Question Type : MCQ

The maximum number of stereoisomers that can exist for compounds like glucose which contain five chiral centers is

Options :

Four

Eight

Sixteen

Thirty two

Question Number : 41 Question Id : 827347741 Question Type : MCQ

Resolution of a racemic modification means the separation of a racemic modification into

Options :

Enantiomers
Diastereomers
Conformers
Stereoisomers

Question Number : 42 Question Id : 827347742 Question Type : MCQ

Photolysis of diazomethane in liquid cis-2-butene gives only cis-1,2-dimethylcyclopropane, and in liquid trans-2-butene gives only trans-1,2-dimethylcyclopropane. Cycloaddition in this example is not

Options :
Stereoselective
Stereospecific
Syn
Anti

Question Number : 43 Question Id : 827347743 Question Type : MCQ

The simultaneous making of two bonds on the opposite faces of a component is known as

Options :
Suprafacial addition
Antarafacial addition
Cycloreversion
Cyclosubtraction

Question Number : 44 Question Id : 827347744 Question Type : MCQ

The cope rearrangement of hexa-1,5-diene is sigmatropic reaction of the type designated as

Options :
[1,3]
[1,6]
[3,3]
[6,6]

Question Number : 45 Question Id : 827347745 Question Type : MCQ

In electrocyclic reaction, cis-3,4-dimethylcyclobutene gives

Options :
cis,trans-2,4-hexadiene
trans,trans-2,4-hexadiene
cis,cis-2,4-hexadiene
2,4-hexadiene

Question Number : 46 Question Id : 827347746 Question Type : MCQ

Conrotatory motion in thermal cyclization of cis,trans-2,4-hexadiene gives

Options :

3,4-Dimethylcyclobutene

cis-3,4-Dimethylcyclobutene

trans-3,4-Dimethylcyclobutene

1,2-Dimethylcyclobutene

Question Number : 47 Question Id : 827347747 Question Type : MCQ

2-methyl-2-butene on hydroboration-oxidation gives

Options :

3-methyl-2-butanol

2-methyl-2-butanol

2-methyl-butane

3,3-dimethyl-1-butanol

Question Number : 48 Question Id : 827347748 Question Type : MCQ

n-propyl alcohol can be converted to propionaldehyde by using

Options :

Pyridinium chlorochromate

Potassium permanganate

Potassium dichromate

CrO₃

Question Number : 49 Question Id : 827347749 Question Type : MCQ

Hydrolysis of m-chlorobenzene diazonium hydrogen sulfate gives

Options :

o-Chlorophenol

m-Chlorophenol

p-Chlorophenol

phenol

Question Number : 50 Question Id : 827347750 Question Type : MCQ

Reaction of phenol with propionyl chloride gives phenyl propionate. The product on heating with aluminium chloride undergoes Fries rearrangement to produce

Options :

o-Hydroxyphenyl ethyl ketone

p-Hydroxyphenyl ethyl ketone

Mixture of o- and p- Hydroxyphenyl ethyl ketone

m-Hydroxyphenyl ethyl ketone

Question Number : 51 Question Id : 827347751 Question Type : MCQ

Clemmensen reduction of n-pentyl phenyl ketone with amalgamated zinc and conc. HCl gives

Options :

Hexane

Benzene

n-hexylbenzene

n-pentyltoluene

Question Number : 52 Question Id : 827347752 Question Type : MCQ

Wolff-Kishner reduction of n-propyl m-tolyl ketone using hydrazine and base gives

Options :

Butane

Toluene

Benzene

m-(n-butyl) toluene

Question Number : 53 Question Id : 827347753 Question Type : MCQ

Lithium dimethylcuprate react easily with p-nitrobenzoyl chloride to give

Options :

Methyl phenyl ketone

Methyl p-nitrophenyl ketone

Acetophenone

p-nitrobenzene

Question Number : 54 Question Id : 827347754 Question Type : MCQ

In the presence of Conc. NaOH, a mixture of p-methoxybenzaldehyde and formaldehyde gives

Options :

p-methoxybenzyl alcohol

Sodium formate

Mixture of p-methoxybenzyl alcohol and Sodium formate

methanol

Question Number : 55 Question Id : 827347755 Question Type : MCQ

Reaction of phenylmagnesium bromide with ethylene oxide gives a product which on addition of water gets converted into

Options :

2-phenylethanol

Phenol

Ethanol
2-cyclohexylethanol

Question Number : 56 Question Id : 827347756 Question Type : MCQ

The strongest acid amongst acetic acid, chloroacetic acid, dichloroacetic acid, and trichloroacetic acid is

Options :
acetic acid,
chloroacetic acid
dichloroacetic acid
trichloroacetic acid

Question Number : 57 Question Id : 827347757 Question Type : MCQ

Oxidation of p-nitrotoluene with hot acidic $K_2Cr_2O_7$ gives

Options :
Benzaldehyde
Benzoic acid
p-nitrobenzoic acid
p-nitrobenzaldehyde

Question Number : 58 Question Id : 827347758 Question Type : MCQ

Hydrolysis of o-Tolunitrile using 75% H_2SO_4 at 150-160 °C gives

Options :
o-Toluene
o-Toluic acid
Benzene
Benzoic acid

Question Number : 59 Question Id : 827347759 Question Type : MCQ

Reduction of m-Toluic acid using $LiAlH_4$ gives

Options :
m-methylbenzyl alcohol
Benzyl alcohol
Toluene
m-methyl phenol

Question Number : 60 Question Id : 827347760 Question Type : MCQ

Ethyl acetoacetate can be converted to 5-methyl-2-hexanone by acetoacetic ester synthesis of ketone using

Options :
Butyl bromide

Isobutyl bromide
Propyl bromide
Ethyl bromide

Question Number : 61 Question Id : 827347761 Question Type : MCQ

The increasing order of basic strength amongst following amines (methylamine, dimethylamine, trimethylamine and aniline) is

Options :

Aniline < Trimethylamine < methylamine < Dimethylamine
Aniline < methylamine < Dimethylamine < Trimethylamine
Aniline < Trimethylamine < Dimethylamine < methylamine
methylamine < Dimethylamine < Trimethylamine < Aniline

Question Number : 62 Question Id : 827347762 Question Type : MCQ

Reduction of p-nitroaniline using Sn, HCl and heat gives

Options :

p-nitrobenzene
p-phenylenediamine
Aniline
benzene

Question Number : 63 Question Id : 827347763 Question Type : MCQ

Reductive amination of acetone with NH_3 , H_2 and Ni gives

Options :

Methylamine
Propylamine
Isopropylamine
Ethylamine

Question Number : 64 Question Id : 827347764 Question Type : MCQ

Hofmann degradation of m-bromobenzamide using KOBr gives

Options :

Aniline
Bromobenzene
Benzene
m-bromoaniline

Question Number : 65 Question Id : 827347765 Question Type : MCQ

To produce the molecular ion (or parent ion) in a mass spectrum, the number of electrons removed from the parent molecule are

Options :

1
2
3
4

Question Number : 66 Question Id : 827347766 Question Type : MCQ

In the infrared spectrum, a strong, broad band in the $3200-3600\text{ cm}^{-1}$ region {due to O-H stretching} and another strong, broad band, {due to C-O stretching} were observed in the $1000-1200\text{ cm}^{-1}$ region. The organic molecule is

Options :

- Phenol
- Hydrogen-bonded alcohol
- Ether
- Carboxylic acid

Question Number : 67 Question Id : 827347767 Question Type : MCQ

The correct increasing order w.r.t. energy required for $\pi \rightarrow \pi^*$ transition in the ultraviolet spectrum amongst ethylene, 1,3-butadiene and β -carotene is

Options :

- Ethylene < 1,3-butadiene < β -carotene
- 1,3-butadiene < ethylene < β -carotene
- β -carotene < 1,3-butadiene < ethylene
- β -carotene < ethylene < 1,3-butadiene

Question Number : 68 Question Id : 827347768 Question Type : MCQ

One should look at which aspect of the NMR spectrum to find out how many protons of each kind are there in a molecule

Options :

- The number of signals
- The positions of signals
- The splitting of a signal
- The intensities of the signals

Question Number : 69 Question Id : 827347769 Question Type : MCQ

Photochemistry is the study of chemical reactions resulting from the exposure of

Options :

- Light radiations
- Swift heavy ions
- Nuclear radiations
- Ultrasonic waves

Question Number : 70 Question Id : 827347770 Question Type : MCQ

Upon absorption of radiation, changes occurring in molecular energy levels is schematically represented by

Options :

Norrish diagram

Jablonski diagram

Barton diagram

Paterno-Buchi diagram

Question Number : 71 Question Id : 827347771 Question Type : MCQ

Non-radiative transition so that energy of activated molecule may be lost is

Options :

Fluorescence

Phosphorescence

Internal conversion

chemiluminescence

Question Number : 72 Question Id : 827347772 Question Type : MCQ

Wavelengths of the emitted radiations in fluorescence compared to the wavelength of exciting radiations are

Options :

Equal

Much shorter

Shorter

greater

Question Number : 73 Question Id : 827347773 Question Type : MCQ

Analysis of the X-ray diffraction pattern makes it possible to measure the interatomic distance between any two nearby atoms in a crystal. When a beam of light is scattered by an object containing regularly spaced atoms in a crystal, diffraction of electromagnetic radiation occurs. This scattering can happen only if the wavelength of the radiation is "A" the spacing between the atoms.

What is "A" in the above statement?

Options :

Comparable to

Greater than

Less than

Not equal to

Question Number : 74 Question Id : 827347774 Question Type : MCQ

Unit cell of NaCl and KCl is of the following type

Options :

bcc
fcc
hcc
Primitive-cubic

Question Number : 75 Question Id : 827347775 Question Type : MCQ

Graphite is a covalent network solid consisting of two-dimensional sheets of carbon atoms organized into six-membered rings. The hybridization of carbon atoms in graphite is

Options :

sp
sp³
sp²
sp³d

Question Number : 76 Question Id : 827347776 Question Type : MCQ

It is the hardest known substance. In addition to its use in jewelry, it is widely used industrially for the tips of saw blades and drilling bits. It is an electrical insulator. It is one of the carbon allotropes. What is the name of this allotrope of carbon?

Options :

C₆₀
Fullerene
Graphite
Diamond

Question Number : 77 Question Id : 827347777 Question Type : MCQ

When hot water is discharged from industrial plants, thermal pollution in lakes and rivers take place. The important consequence is the damage to aquatic life that can result from this thermal pollution. What happens to the concentration of dissolved oxygen [DO], when hot water is discharged in lakes and rivers?

Options :

[DO] decreases
[DO] increases
[DO] remains unaffected
[DO] becomes zero

Question Number : 78 Question Id : 827347778 Question Type : MCQ

At a given temperature, the solubility of a gas in a liquid is directly proportional to the partial pressure of the gas over the solution. This is known as

Options :

Raoult's law

Henry's law

Nernst distribution law

Joule's law

Question Number : 79 Question Id : 827347779 Question Type : MCQ

Which of the following practical uses is not based on colligative properties

Options :

Melting of snow by salt

The desalination of sea water by reverse osmosis

Continuous bubbling of carbonated drinks as they warm up to room temperature after being refrigerated

The separation & purification of volatile liquids by fractional distillation.

Question Number : 80 Question Id : 827347780 Question Type : MCQ

If a solution contains a non-volatile solute, its vapor pressure is equal to the product of vapor pressure of the pure solvent with the mole fraction of the solvent. This law is known as

Options :

Raoult's law

Henry's law

Nernst distribution law

Joules law

Question Number : 81 Question Id : 827347781 Question Type : MCQ

The sign of entropy change for the process of sublimation of dry ice is

Options :

Positive

Negative

Zero

Uncertain

Question Number : 82 Question Id : 827347782 Question Type : MCQ

According to third law of thermodynamics, at zero Kelvin, the entropy of a crystalline, perfectly ordered substance is

Options :

4

2

1

0

Question Number : 83 Question Id : 827347783 Question Type : MCQ

“Energy can never be created nor be destroyed, but it can be changed from one form to another”. This statement is known as

Options :

First law of thermodynamics

Second law of thermodynamics

Third law of thermodynamics

Fourth law of thermodynamics

Question Number : 84 Question Id : 827347784 Question Type : MCQ

Entropy change is negative for which one of the following processes:

Options :

Phase transitions that convert a solid to a liquid

Reactions that increase the number of gaseous molecules

Lowering the temperature of a substance

Dissolution of molecular solids in water

Question Number : 85 Question Id : 827347785 Question Type : MCQ

A wave function contains all the dynamical information about a system and is found by solving the appropriate

Options :

Schrodinger equation

Debye-Huckel-Onsager equation

Bragg's equation

Arrhenius equation

Question Number : 86 Question Id : 827347786 Question Type : MCQ

The energy levels of a particle of mass 'm' in a box of length 'L' are

Options :

Non-quantized

Quantized

Similar

Dissimilar

Question Number : 87 Question Id : 827347787 Question Type : MCQ

When a particle is subjected to a restoring force proportional to the displacement, it undergoes harmonic motion. This is known as

Options :

Bragg's law

Nernst law

Hooke's law

Arrhenius's law

Question Number : 88 Question Id : 827347788 Question Type : MCQ

The energy levels of a harmonic oscillator are equally spaced and specified by the quantum number whose values are

Options :

0, 5, 10,

2, 4, 6,

1, 3, 5,

0, 1, 2,

Question Number : 89 Question Id : 827347789 Question Type : MCQ

Hydrogen electrode is the type of electrode best described as a

Options :

Gas electrode

Metal-insoluble-salt electrode

Redox electrode

Glass electrode

Question Number : 90 Question Id : 827347790 Question Type : MCQ

What range should a voltmeter have (in volts) to display changes of pH from 1 to 14 at 25 °C if it is arranged to give a reading of zero when pH =7?

Options :

A range of 0.66 V

A range of 0.77 V

A range of 0.88 V

A range of 0.99 V

Question Number : 91 Question Id : 827347791 Question Type : MCQ

According to Nernst equation, if the reaction quotient for the cell reaction is decreased, then the tendency of a reaction to form products becomes

Options :

Zero

10 times

Greater

Smaller

Question Number : 92 Question Id : 827347792 Question Type : MCQ

For calcium hydroxide, solubility (S) and Solubility product (K) are related as

Options :

$K = 4S^3$

$K = 4S$

$K = S^2$

$$K = 2S^3$$

Question Number : 93 Question Id : 827347793 Question Type : MCQ

For a unimolecular reaction, ten times as many reactant molecules decay in a given time interval when there are initially 50 reactant molecules as when there are only 5 reactant molecules present. This unimolecular reaction is

Options :

- Zero order
- First order
- Second order
- Third order

Question Number : 94 Question Id : 827347794 Question Type : MCQ

According to Michaelis Menten kinetics for enzyme catalysed reaction, the rate of formation of product is maximum when concentration of substrate is

Options :

- Low
- High
- Unity
- fractional

Question Number : 95 Question Id : 827347795 Question Type : MCQ

Suppose 'c' is the intercept and 'm' is the slope of a straight line when a graph of the reciprocal of the reaction rate is plotted against the reciprocal of the substrate concentration. The value of Michaelis constant can be calculated by using the equation

Options :

- m/c
- c/m
- mc
- m

Question Number : 96 Question Id : 827347796 Question Type : MCQ

Reactions in which an intermediate formed in one step generates a reactive intermediate in the next step, then that intermediate generates another reactive intermediate, and so on, are known as

Options :

- Enzyme catalyzed reactions
- First order reactions
- Chain reactions
- Unimolecular reactions

Question Number : 97 Question Id : 827347797 Question Type : MCQ

The source of chlorofluoro carbons is

Options :

- Vehicle's exhaust
- Fossil fuel burning
- Deforestation
- Refrigerants

Question Number : 98 Question Id : 827347798 Question Type : MCQ

In water, presence of energy or any foreign substance in such concentration and for such duration that tends to degrade the quality of water so that users (humans, animals or any other organism) cannot enjoy the beneficial qualities of water but the use constitutes a hazard is known as

Options :

- Air pollution
- Water pollution
- Thermal pollution
- Noise pollution

Question Number : 99 Question Id : 827347799 Question Type : MCQ

Which one of the following is not a green house gas

Options :

- CO₂
- CH₄
- N₂
- CFC

Question Number : 100 Question Id : 827347800 Question Type : MCQ

pH value of acid rain is

Options :

- 10.2-10.4
- 8.2-8.3
- 7.2-7.6
- 4.1-4.3