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Chemistry Mcq for AEO

Best Of Luck

You Can Not Help Every one But Every One Can Help Someone

1. Isotopes differs in

A. arrangement of electrons in orbitals

B. position in the periodic table

C. properties depend upon mass

D. chemical properties

Answer & Explanation

Answer: Option **D**

Explanation:

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2. The mass of one mole of electron is

A. 1.008

B. 0.55

C. 0.184

D. 1.637

Answer & Explanation

Answer: Option **B**

Explanation:

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3. The volume occupied by 1.4g CO at S.T.P is

A. 22.4 dm3

B. 2.24 dm3

C. 1.12 cm3

D. 1.12 dm3

Answer & Explanation

Answer: Option **D**

Explanation:

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4. The number of atoms in a molecule determines

A. macromolecule **B.** macromolecule

C. molecularity **D.** atomicity

Answer & Explanation

Answer: Option **D**

Explanation:

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5. Which of the following set has all species isoelectronic

A. F - Cl - Br **B.** Li+1 - Na+1 - K+1

C. F - Ne - Na+ **D.** H+ - H- - H

Answer & Explanation

Answer: Option **C**

Explanation:

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6. Which element has same isotopes like palladium

A. Nickel **B.** Calcium

C. Cadmium **D.** Tin

Answer & Explanation

Answer: Option **B**

Explanation:

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7. Water absorber used in combustion analysis is

A. 50% KOH

B. Lime water

C. CaCl2

D. Mg (CIO4)2

Answer & Explanation

Answer: Option **D**

Explanation:

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8. A limiting reactant is one which

A. is taken in lesser quantity in grams as compared to other reactants

B. is taken in lesser quantity in volume as compared to other reactants

C. gives the maximum amount of the product which is required

D. gives the minimum amount of the product under consideration

Answer & Explanation

Answer: Option **D**

Explanation:

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9. The type of filtering media used for filtration depending upon

A. Nature of reactants

B. Nature of crucible

C. Nature of product **D.** Nature of precipitate

Answer & Explanation

Answer: Option **D**

Explanation:

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10. A safe and more reliable method for drying the crystal is

A. Hot air currents **B.** folds of filter paper

C. oven **D.** Vacuum desiccator

Answer & Explanation

Answer: Option **D**

Explanation:

11. A method of separation of components from its solution using Distribution law is

A. Sublimation **B.** Crystallisation

C. Solvent extraction **D.** Distillation

Answer & Explanation

Answer: Option **C**

Explanation:

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12. A real gas obeying vander waals equation will resemble the ideal gas if

A. Both a and b are small **B.** Both a and b are large

C. a is small and b is large **D.** a is large and b is small

Answer & Explanation

Answer: Option **A**

Explanation:

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13. Equal masses of methane and oxygen are mixed in empty container at 250?(C) The fraction of total pressure exerted by oxygen is

A. one / seventeen

B. sixteen / seventeen

C. one / three

D. two / three

Answer & Explanation

Answer: Option **C**

Explanation:

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14. Plasma is used in

A. Fluorescent bulb

B. Neon signs

C. Lasers

D. All of these

Answer & Explanation

Answer: Option **D**

Explanation:

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15. The molecules of CO2 in dry ice form

A. Ionic crystal

B. Covalent crystal

C. Molecular crystal

D. Any type of crystal

Answer & Explanation

Answer: Option **C**

Explanation:

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16. Which of the following is pseudo solid

A. CaF2

B. NaCl

C. Glass

D. Diamond

Answer & Explanation

Answer: Option **C**

Explanation:

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17. Only London dispersion forces are present among the

A. Molecules of water in liquid state

B. Atoms of helium in gaseous state at high temperature

C. Molecules of hydrogen chloride gas

D. Molecules of solid iodine

Answer & Explanation

Answer: Option **D**

Explanation:

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18. Bohrs model is contradicted by

A. Plancks theory

B. Dual nature of matter

C. Heisenbergs uncertainty principle

D. All of these

Answer & Explanation

Answer: Option **C**

Explanation:

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19. Quantum number values for 3p orbitals are

A. n=3 l=2

B. n=3 l=0

C. n=3 l=1

D. n=3 l=3

Answer & Explanation

Answer: Option **C**

Explanation:

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20. When fast neutron strike the nucleus of nitrogen the particles ejected are

A. ? - particles

B. ? - particles

C. ? - rays

D. X - rays

Answer & Explanation

Answer: Option **A**

Explanation:

21. Which specie has unpaired electrons in antibonding molecular orbitals

A. O2+2 **B.** N2-2

C. B2 **D.** O2-2

Answer & Explanation

Answer: Option **B**

Explanation:

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22. Atomic radius can be determined by

A. X - ray diffraction **B.** Spectrophotometer

C. Optical microscope **D.** Electron microscope

Answer & Explanation

Answer: Option **A**

Explanation:

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23. For a given process the heat changes at constant pressure (qp) and at constant volume (qv) are related to each other as

A. qp = qv **B.** qp < qv

C. qp > qv **D.** qp = qv / 2

Answer & Explanation

Answer: Option **C**

Explanation:

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24. For which system does the equilibrium constant Kc has unit of (concentration)-1

A. N2+3H2 <=>2NH3

B. H2+I2 <=>2HI

C. 2NO2 <=> N2H4

D. PCI5 <=> PCI3+CI2

Answer & Explanation

Answer: Option **C**

Explanation:

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25. Solubility product of AgCl is 2.0 x 10-10 mol2 dm-6. Maximum Concentration of Ag+1 ions in the solution is

A. 2.0 x 10-10 mol dm-3

B. 1.414 x 10-5 mol dm-3

C. 1.0 x 10-10 mol dm-3

D. 1.0 x 10-5 mol dm-3

Answer & Explanation

Answer: Option **B**

Explanation:

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26. 18g glucose is dissolved in 90g water the relative lowering in vapour pressure is equal to

A. ?

B. 5.1

C. 6

D. one/fifty one

Answer & Explanation

Answer: Option **D**

Explanation:

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27. Which of the following solution has the highest boiling point?

A. 5.85% NaCl Solution

B. 18.0 % glucose solution

C. 6.0 % urea solution

D. All have same boiling point

Answer & Explanation

Answer: Option **A**

Explanation:

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28. Stronger is the oxidizing agent greater is the

A. Oxidation potential

B. Redox potential

C. e.m.f of cell

D. standard reduction potential

Answer & Explanation

Answer: Option **D**

Explanation:

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29. Which of the following can be used in laptops?

A. Silver oxide battery

B. Fuel cell

C. Nickel cadmium cell

D. Lead accumulator

Answer & Explanation

Answer: Option **C**

Explanation:

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30. Which is true about Zn-Cu galvanic cell?

A. Reduction occurs at anode

B. K+ ion transfer from salt bridge to left beaker of ZnSO4

C. Oxidation occurs at cathode

D. Anode is negatively charged

Answer & Explanation

Answer: Option **D**

Explanation:

31. Which is the unit of (K) rate constant for zero order reaction?

A. s-1

B. mol dm-3 s-1

C. mol-1 dm3 s-1

D. mol-2 dm6 s-1

Answer & Explanation

Answer: Option **B**

Explanation:

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32. Nitrates of which pair gives different products on thermal decomposition

A. Na K

B. Mg Ca

C. Li Na **D.** Li Ca

Answer & Explanation

Answer: Option **C**

Explanation:

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33. Which is carnalite

A. KCI **B.** NaCI

C. KCI MgCl2 6H2O **D.** Na2CO3. 10H2O

Answer & Explanation

Answer: Option **C**

Explanation:

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34. Keeping in view the size of atom which is in correct order

A. Mg > Sr **B.** Ba > Mg

C. Lu > Ce **D.** CI > 1

Answer & Explanation

Answer: Option **B**

Explanation:

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35. Which one does not give borax bead test

A. Copper sulphate **B.** Barium sulphate

C. Cobalt sulphate **D.** Nickel sulphate

Answer & Explanation

Answer: Option **B**

Explanation:

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36. Which one is not the use of silicones

A. Lubricant **B.** Water repellent film

C. Rubber sheet **D.** Medicine

Answer & Explanation

Answer: Option **D**

Explanation:

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37. The most reactive allotropic form of phosphorus is

A. White **B.** Redox potential

C. Black **D.** Violet

Answer & Explanation

Answer: Option **A**

Explanation:

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38. Chemical composition of cinnabar is

A. FeS2 **B.** HgS

C. PbS **D.** ZnS

Answer & Explanation

Answer: Option **B**

Explanation:

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39. Which molecule has the highest bond energy among the halogens

A. Fluorine **B.** Chlorine

C. Iodine **D.** Bromine

Answer & Explanation

Answer: Option **B**

Explanation:

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40. When chlorine is passed through hot solution of caustic soda the reaction is said as

A. Displacement **B.** Reduction

C. Disproportionation reaction **D.** Double displacement reaction

Answer & Explanation

Answer: Option **C**

Explanation:

41. The most paramagnetic element is

A. Iron **B.** Cobalt

C. Chromium **D.** Manganese

Answer & Explanation

Answer: Option **A**

Explanation:

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42. In the complex [Cr(OH)3(H2O)3] the coordination number is

A. 2 **B.** 3

C. 4 **D.** 6

Answer & Explanation

Answer: Option **D**

Explanation:

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43. Which one of the following looks odd

A. H2SO4 **B.** KMnO4

C. H2S **D.** K2CrO4

Answer & Explanation

Answer: Option **C**

Explanation:

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44. A great variety of the organic compounds is due to its property of carbon

A. Show tetravalency

B. Exhibit catenation

C. Show isomerism

D. Can form multiple bonds

Answer & Explanation

Answer: Option **B**

Explanation:

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45. In 1 - pentene -4- yne the carbon exhibit hybridization

A. sp3 - sp2

B. sp2 - sp

C. sp2 - sp

D. sp3 - sp2 - sp

Answer & Explanation

Answer: Option **D**

Explanation:

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46. Vinyl acetylene combines with hydrochloric acid produces

A. Diviny1 acetylene

B. Ethylidine dichloride

C. Chloroprene

D. 1 - 3 - 3 - trichloro butane

Answer & Explanation

Answer: Option **C**

Explanation:

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47. When benzene is heated in air with V2O5 at 450?C yields

A. Phenol

B. Maleic anhydride

C. Glyoxal

D. Benzoic acid

Answer & Explanation

Answer: Option **B**

Explanation:

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48. When toluene reacts with chlorine in sunlight the first major product is

A. Benzy1 chloride

B. Benzal dichloride

C. O-chlorotoluene

D. O-chlorotoluene and P-chlorotoluene

Answer & Explanation

Answer: Option **A**

Explanation:

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49. Which one of the following will be sulphonated readily?

A. Chlorobenzene

B. Toluene

C. Nitrobenzene

D. Benzene

Answer & Explanation

Answer: Option **B**

Explanation:

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50. Which one of the following is not a good leaving group ?

A. HSO4-

B. Cl-

C. OH-

D. Br-

Answer & Explanation

Answer: Option **C**

Explanation:

51. When CO2 is made to react with ethy1 magnesium iodide in dry ether followed by acid hydrolysis yields

A. Carboxylic acid

B. Ethanoic acid

C. Propanoic acid

D. Butanoic acid

Answer & Explanation

Answer: Option **C**

Explanation:

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52. The process of fermentation involves all the enzymes except

A. Diastase

B. Invertase

C. Zymase

D. Sucrase

Answer & Explanation

Answer: Option **D**

Explanation:

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53. Ethy1 chloride on reduction in the presence of Zn/HCI produces

A. n. butane **B.** Ethanol

C. Ethane **D.** Diethy1 ether

Answer & Explanation

Answer: Option **C**

Explanation:

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54. Which one does not exhibit aldol condensation

A. Ethanal **B.** Acetone

C. Benzaldehyde **D.** Butanone

Answer & Explanation

Answer: Option **C**

Explanation:

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55. For industrial preparation of CH3CHO catalytic promoter is

A. PdCl2 **B.** Cu2Cl2

C. CuCl2 **D.** PbCl2

Answer & Explanation

Answer: Option **B**

Explanation:

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56. The common name of propane -1 3-dioic acid is

A. Oxalic acid **B.** Succinic acid

C. Malonic acid **D.** Fumaric acid

Answer & Explanation

Answer: Option **C**

Explanation:

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57. Which of the following is not a fatty acid?

A. Propanoic acid **B.** Acetic acid

C. Phthalic acid **D.** Butanoic acid

Answer & Explanation

Answer: Option **C**

Explanation:

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58. Industrial materials thermal power stations are coated with

A. Polyester resins **B.** Epoxy paints

C. polyamide resins **D.** Polyvinyl chloride

Answer & Explanation

Answer: Option **B**

Explanation:

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59. Which one of the following fertilizers provides the nitrogen and phosphorus to the plant?

A. Urea

B. Calcium superphosphate

C. Diammonium phosphate

D. Potassium nitrate

Answer & Explanation

Answer: Option **A**

Explanation:

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60. Chlorination of water may be harmful if the water contains

A. Ammonia

B. Dissolved oxygen

C. Carbon dioxide

D. All

Answer & Explanation

Answer: Option **C**

Explanation:

1. What is the relative rate of effusion of CO and CO2?

A. CO is 1.25 times faster than CO2

B. CO is 3.75 times faster than CO2

C. CO is 1.25 times faster than CO

D. Both diffuse at the same rate

Answer & Explanation

Answer: Option **A**

Explanation:

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2. Which of these gases diffuse more quickly than oxygen?

A. H2S

B. NO

C. Cl2

D. N2O

Answer & Explanation

Answer: Option **B**

Explanation:

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3. Which of the following is not considered as an intermolecular force between molecules?

A. Coordinate covalent bonds

B. Hydrogen bonds

C. Debye forces

D. London dispersion forces

Answer & Explanation

Answer: Option **A**

Explanation:

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4. The weakest (in strength) of the following intermolecular forces is

A. Hydrogen bonding

B. Vander Waals force

C. Forces among the polar molecules

D. Ionic bond

Answer & Explanation

Answer: Option **B**

Explanation:

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5. Ideal gasses have all the following characteristics except.

A. Absence of intermolecular forces

B. Collisions among the molecules of an ideal gas are perfectly elastic

C. The molecules occupy no space

D. All of the above are correct

Answer & Explanation

Answer: Option **C**

Explanation:

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6. Which of the following statements is true about plasma

A. It may be the first state of matter

B. It is not a phase transition

C. It is a conductor of electricity

D. All of the above

Answer & Explanation

Answer: Option **D**

Explanation:

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7. Which statement is correct

A. PVm?T **B.** P?CT

C. PM?dT **D.** all above

Answer & Explanation

Answer: Option **D**

Explanation:

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8. Under what conditions the gases deviate from the ideal behavior?

A. High temperature **B.** Low temperature

C. High pressure **D.** b and c

Answer & Explanation

Answer: Option **D**

Explanation:

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9. Which one has the lowest density at room temperature?

A. Ne **B.** N2

C. NH3 **D.** CO

Answer & Explanation

Answer: Option **C**

Explanation:

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10. The introduction of Kelvin scale in thermometry is according to

A. Boyles law **B.** Charles law

C. Daltons law **D.** Grahams law

Answer & Explanation

Answer: Option **B**

Explanation:

11. 0.5 mole of nitrogen gas and 0.5 mole of carbon monoxide gas at STP have same

A. Value of a **B.** Mass

C. Atoms **D.** Both b and C

Answer & Explanation

Answer: Option **D**

Explanation:

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12. At constant temperature the pressure of an ideal gas is doubled its density becomes

A. Half **B.** Double

C. Same

D. None

Answer & Explanation

Answer: Option **B**

Explanation:

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13. The diffusion of gases at absolute zero will be

A. Unchanged

B. Slightly decreased

C. Slightly increased

D. Zero

Answer & Explanation

Answer: Option **D**

Explanation:

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14. Which of the following option is incorrect about gases?

A. All molecules move with same speed

B. All molecules behave independently

C. PV / RT = n

D. All gases cannot be liquefied through Linds Method

Answer & Explanation

Answer: Option **A**

Explanation:

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15. Critical temperature for different gases is different and depends upon

A. Size of molecule **B.** Shape of molecule

C. Intermolecular attractions **D.** All of the above

Answer & Explanation

Answer: Option **D**

Explanation:

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16. In how many forms do matter exists?

A. Three **B.** Four

C. Five **D.** Two

Answer & Explanation

Answer: Option **B**

Explanation:

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17. What is the simplest form of matter?

A. Gas **B.** Liquid

C. Solid **D.** Semi solid

Answer & Explanation

Answer: Option **A**

Explanation:

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18. What is the abundant form of matter on earth?

A. Gas **B.** Liquid

C. Solid **D.** Plasma

Answer & Explanation

Answer: Option **C**

Explanation:

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19. Which state of matter has the lowest density?

A. Gas **B.** Liquid

C. Solid **D.** Plasma

Answer & Explanation

Answer: Option **A**

Explanation:

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20. What do we call to sudden expansion of plasma?

A. Avogadros law **B.** Grahams law of diffusion

C. Joule Thompson effect **D.** Daltons law of partial pressure

Answer & Explanation

Answer: Option **C**

Explanation:

21. The solid particles only posses

A. Translational motion **B.** Vibrational motion

C. Rotational motion **D.** All of above motions

Answer & Explanation

Answer: Option **B**

Explanation:

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22. For a gas where volume and pressures are 1dm3 and 2 atm respectively what should be its new volume when pressure is increased to 6 atm at constant temperature?

A. 1/2dm3 **B.** 1/3dm3

C. 1/4dm3 **D.** 2/3dm3

Answer & Explanation

Answer: Option **B**

Explanation:

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23. If 1/V is plotted on X-axis and pressure on Y-axis at constant temperature what should appear

A. Straight line parallel to x-axis **B.** Straight line parallel to y-axis

C. Straight line **D.** Curve

Answer & Explanation

Answer: Option **C**

Explanation:

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24. Which one is the right value for R?

A. 0.0821 atm dm3k-1mol-

B. 0.0821 atm m3k-1mol-1

C. 2 cal k-1 mol-1

D. 8.314 Nm2k-1mol-1

Answer & Explanation

Answer: Option **A**

Explanation:

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25. One mole of an ideal gas at 546.5 K under 2 atm pressure has a volume of

A. 22.414 m3

B. 44.828 dm3

C. 22.414 dm3

D. 11.212 cm3

Answer & Explanation

Answer: Option **C**

Explanation:

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26. The partial pressure exerted by the water vapours is called

A. Surface tension

B. Aqueous tension

C. Vapour pressure

D. Hydraulic pressure

Answer & Explanation

Answer: Option **B**

Explanation:

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27. Which one is not the partial pressure of oxygen in the lungs?

A. 0.1526 atm **B.** 116 mm of Hg

C. 116 torr **D.** 1 atm

Answer & Explanation

Answer: Option **D**

Explanation:

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28. The spreading of fragrance or scent in air is due to

A. Diffusion **B.** Effusion

C. Attraction with air **D.** Low dsensity

Answer & Explanation

Answer: Option **A**

Explanation:

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29. The kinetic molecular theory of gases was put forward in 1738 by

A. Boltzman **B.** Maxell

C. Clausius **D.** Bernoulli

Answer & Explanation

Answer: Option **D**

Explanation:

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30. The highest temperature at which a substance can exist as a liquid is called its

A. Critical temperature **B.** Standard temperature

C. Absolute temperature **D.** Upper consulate temperature

Answer & Explanation

Answer: Option **A**

Explanation:

31. Hydrogen effuses four times more rapidly than volume of an unknown gas molar mass of unknown gas should be

A. 16 gmol-1 **B.** 32 gmol-1

C. 48 gmol-1 **D.** 64 gmol-1

Answer & Explanation

Answer: Option **B**

Explanation:

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32. What will be the pressure of 1 mole of an ideal gas maintained at 300 K and 250cm3 volume?

A. 98.5 atm **B.** 96.7 atm

C. 95.8 atm **D.** 97.1 atm

Answer & Explanation

Answer: Option **A**

Explanation:

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33. The processes of effusion and diffusion are best understand by

A. Daltons law **B.** Avogadros law

C. Grahams law **D.** Charles law

Answer & Explanation

Answer: Option **C**

Explanation:

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34. Who made volume and pressure correction to explain deviation of gases from ideal behaviour?

A. Clausius **B.** Boltzman

C. Charles **D.** Vander waal

Answer & Explanation

Answer: Option **D**

Explanation:

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35. The non-ideal behaviour results chiefly from

A. Intermolecular attraction and infinite volume

B. Elastic collisions and finite volume

C. Intermolecular attractions and finite volume

D. Intermolecular attraction only

Answer & Explanation

Answer: Option **C**

Explanation:

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36. The gases become non-ideal at

A. High temperature and high pressure

B. Low temperature and low pressure

C. High temperature and low pressure

D. Low temperature and high pressure

Answer & Explanation

Answer: Option **D**

Explanation:

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37. Linds method is employed for

A. Separation of gases

B. Expansion of gases

C. Compression of gases

D. Liquefaction of gases

Answer & Explanation

Answer: Option **D**

Explanation:

1. The relative attraction of the nucleus for the electrons in a chemical bond is called

A.	Ionization energy	**B.**	Electron affinity
C.	Electro negativity	**D.**	None of the above

Answer & Explanation

Answer: Option **C**

Explanation:

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2. The ionization energy

A.	Generally increases from left to right in a period	**B.**	Does not change in a period
C.	Increase from top to bottom in a group	**D.**	Does not change in a group

Answer & Explanation

Answer: Option **A**

Explanation:

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3. Which of the following will have highest value of electron affinity

A.	F	**B.**	Cl

C. Br **D.** I

Answer & Explanation

Answer: Option **B**

Explanation:

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4. Which type of bond is formed by overlap of p orbitals

A. Pi (?) **B.** Sigma(?)

C. Both **D.** Neither

Answer & Explanation

Answer: Option **C**

Explanation:

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5. The octet rule does not always hold for which of the following elements

A. C **B.** O

C. F **D.** P

Answer & Explanation

Answer: Option **D**

Explanation:

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6. Which of the solid does not contain covalent bond

A. Copper **B.** Ice

C. Diamond **D.** Graphite

Answer & Explanation

Answer: Option **A**

Explanation:

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7. Which of the following is the best explanation that CO2 is non polar molecule

A. Linear geometry **B.** Dipole moment is zero

C. Sp hybridization **D.** None

Answer & Explanation

Answer: Option **B**

Explanation:

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8. Shielding effect across the period

A. Increases **B.** Decreases

C. Constant **D.** None

Answer & Explanation

Answer: Option **C**

Explanation:

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---

9. Which one is not the absolute term of the element?

A. Ionization energy **B.** Electron affinity

C. Electro negativity **D.** Atomic size

Answer & Explanation

Answer: Option **C**

Explanation:

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10. Which one has maximum number of unpaired electrons?

A. 6X **B.** 7Y

C. 9Z **D.** 13W

Answer & Explanation

Answer: Option **B**

Explanation:

11. The molecule having ?-bond

A. H2O **B.** C2H6

C. O2 **D.** NH3

Answer & Explanation

Answer: Option **C**

Explanation:

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12. When 2 lone pair and 2 bond pair are around the central atom reduction in the

bond angle is up to.

A. 109.5?

B. 104.5?

C. 107.5?

D. 102?

Answer & Explanation

Answer: Option **B**

Explanation:

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13. In O2 each oxygen atom is hybridized

A. sp3

B. sp2

C. sp

D. All

Answer & Explanation

Answer: Option **B**

Explanation:

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14. Molecular orbitals are filled according to

A. Auf bau principle

B. Hunds rule

C. Paulis Exclusion principle

D. All these

Answer & Explanation

Answer: Option **D**

Explanation:

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15. Measurement of the degree of polarity is

A. Electron affinity **B.** Ionic character

C. Ionization energy **D.** Dipole moment

Answer & Explanation

Answer: Option **D**

Explanation:

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16. Which one shows high %age of the ionic character?

A. H2O **B.** HF

C. HCI **D.** HBr

Answer & Explanation

Answer: Option **B**

Explanation:

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17. A specie with maximum number of unpaired electrons.

A. F **B.** H2O

C. HF **D.** NH-2

Answer & Explanation

Answer: Option **D**

Explanation:

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18. Which of the following have their outer most shell complete in atomic form?

A. Noble gases

B. Alkali metals

C. Coinage metals

D. Gun metals

Answer & Explanation

Answer: Option **A**

Explanation:

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19. Force responsible to hold atoms together in a compound is called

A. Bond

B. Attractive force

C. Interaction

D. All of above represent same entity

Answer & Explanation

Answer: Option **A**

Explanation:

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20. Energy of atom in compound is

A. Higher than individual

B. Lesser than individual

C. No change

D. Impossible to predict

Answer & Explanation

Answer: Option **B**

Explanation:

21. In a period the atomic radii

A. Increases **B.** Decreases

C. Remain same **D.** First decreases then increases

Answer & Explanation

Answer: Option **B**

Explanation:

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22. An atom loses or gains electrons to

A. Gain stability **B.** Form a bond

C. Complete its outermost shell **D.** all are accurate justifications

Answer & Explanation

Answer: Option **D**

Explanation:

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23. In a group ionic radii

A. Increases **B.** Decreases

C. No change **D.** Variable trend

Answer & Explanation

Answer: Option **A**

Explanation:

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24. Energy required to remove electron from an atom

A. Ionization potential **B.** Electronegativity

C. Electron affinity **D.** Activation energy

Answer & Explanation

Answer: Option **A**

Explanation:

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25. Ionization energy in a period generally

A. Increases **B.** Decreases

C. No change **D.** Variable trend

Answer & Explanation

Answer: Option **A**

Explanation:

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26. Greater shielding effect corresponds to ionization energy value

A. Greater **B.** Lesser

C. Remain same **D.** No effect

Answer & Explanation

Answer: Option **B**

Explanation:

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27. Elements having high I.P values are

A. Metals

B. Non metals

C. Liquids

D. Solids

Answer & Explanation

Answer: Option **B**

Explanation:

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28. Energy released or absorbed when electrons are added in atom is

A. Ionization potential

B. Electronegativity

C. Electron affinity

D. Activation energy

Answer & Explanation

Answer: Option **C**

Explanation:

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---

29. In a period electronegativity from left to right

A. Increases

B. Decreases

C. Remain constant

D. Variable trend

Answer & Explanation

Answer: Option **A**

Explanation:

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30. Ionic bond is produced after complete transfer of

A. Nucleus

B. Neutrons

C. Electrons

D. Protons

Answer & Explanation

Answer: Option **C**

Explanation:

31. Elements of group IA IIA are

A. Electronegative

B. Electropositive

C. Neutral

D. IA is electropositive while IIA is electronegative

Answer & Explanation

Answer: Option **B**

Explanation:

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32. Bond will beionic when E.N difference of bonded atom is

A. Equal to 1.7

B. Greater than 1.7

C. Less than 1.7

D. No specificity exists

Answer & Explanation

Answer: Option **B**

Explanation:

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33. Mostly ionic compound are produced in between elements of

A. IA and VIA

B. IA IIA and VIIA

C. IB and VIIB

D. IA and IB

Answer & Explanation

Answer: Option **B**

Explanation:

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34. Which one of the following has polar covalent bond?

A. HF

B. CH4

C. H2

D. N2

Answer & Explanation

Answer: Option **A**

Explanation:

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35. The Lewis acids are

A. Electron deficient

B. Electron rich

C. Octet is complete **D.** No such acids exist

Answer & Explanation

Answer: Option **A**

Explanation:

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36. Sharing of 1 electron pair by one specie forms

A. Single covalent bond **B.** Hydrogen bond

C. Double covalent bond **D.** Coordinate covalent bond

Answer & Explanation

Answer: Option **D**

Explanation:

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37. Angle in water molecule is

A. 104.9? **B.** 104.5?

C. 109.5? **D.** 120?

Answer & Explanation

Answer: Option **B**

Explanation:

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38. The geometry of ammonia is

A. Tetrahedral **B.** Square planner

C. Trigonal bipyramidal **D.** Trigonal Pyramidal

Answer & Explanation

Answer: Option **D**

Explanation:

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39. Orbitals of same energy produced after mixing of orbitals of different energy are called

A. Degenerate orbitals **B.** Generate orbitals

C. Hybrid orbitals **D.** Zeeman orbitals

Answer & Explanation

Answer: Option **A**

Explanation:

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40. By combining n atmic orbitals no. of hybrid orbitals will be

A. 2n **B.** n

C. 3n **D.** impossible to predict

Answer & Explanation

Answer: Option **B**

Explanation:

41. on sp3 hybridization

A. All p-orbitals are involved

B. One s and 3 p-orbitals are involved

C. one p-orbital is involved

D. four p-orbitals are involved

Answer & Explanation

Answer: Option **B**

Explanation:

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42. Geometry of simple molecule having sp3 hybrid orbital is

A. Triangular

B. Tetrahedral

C. Square planner

D. Linear

Answer & Explanation

Answer: Option **B**

Explanation:

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43. Geometry of molecule will be pyramidal if the outer post shell of the central atom has

A. 3 bond pair one lone pair

B. 2 bond pair 2 lone pair

C. 1 bond pair 3 lone pair

D. 3 lone pair 1 bond pair

Answer & Explanation

Answer: Option **A**

Explanation:

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44. Pi bonds are produced by overlapping of

A. Un-hybrid orbitals

B. Hybrid orbitals

C. Hybrid and un hybrid orbitals

D. atomic orbital and hybrid orbital

Answer & Explanation

Answer: Option **A**

Explanation:

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45. According to VESPR Model the geometry of molecule having 5 bond pair in outer most shell will be

A. Triangular

B. Square planner

C. Trigonal bipyramidal

D. Octahedral

Answer & Explanation

Answer: Option **C**

Explanation:

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46. Molecular orbital which have higher energy than atomic orbitals is called

A. Bonding molecular orbital

B. Antibonding molecular orbital

C. Hybrid orbital

D. Super atomic orbital

Answer & Explanation

Answer: Option **B**

Explanation:

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47. Unpaired electron in a molecule gives _____ character.

A. Ferromagnetic **B.** Paramagnetic

C. Diamagnetism **D.** Both a & b

Answer & Explanation

Answer: Option **B**

Explanation:

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48. Bond order for N2 molecule is

A. 2 **B.** 1

C. 3 **D.** 4

Answer & Explanation

Answer: Option **C**

Explanation:

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49. Product of charge and distance is called

A. Pressure **B.** Bond length

C. Work **D.** Dipole moment

Answer & Explanation

Answer: Option **D**

Explanation:

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50. Unit of dipole moment is

A. Debye **B.** Poise

C. Pascal **D.** Newton

Answer & Explanation

Answer: Option **A**

Explanation:

1. Which of the following solutions of H2SO4 is more concentrated?

A. 1 Molar solution **B.** 1 molal solution

C. 1 normal solution **D.** all have same concentration

Answer & Explanation

Answer: Option **A**

Explanation:

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2. Which of the following unit of concertration is independent of temperature?

A. Molarity **B.** Molality

C. Mole fraction **D.** all

Answer & Explanation

Answer: Option **B**

Explanation:

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3. Which of the following is an example of liquid in gas solution.

A. Opals

B. Dust particles in smoke

C. Paints

D. Fog

Answer & Explanation

Answer: Option **D**

Explanation:

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4. The molal boiling point constant is the ration of the elevation of boiling point to

A. Molarity

B. Molality

C. More fraction of solvent

D. Mole fraction of solute

Answer & Explanation

Answer: Option **B**

Explanation:

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5. Which of the following are the conditions of colligative properties

A. Non-electrolye solute

B. Non-volatile solute

C. Dilute solution **D.** All of the above

Answer & Explanation

Answer: Option **D**

Explanation:

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6. Which has the minimum freezing point?

A. One Molal NaCI **B.** One molal KCI solution

C. One molal CaCI2 **D.** One molal urea solution

Answer & Explanation

Answer: Option **C**

Explanation:

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7. Which of the following is not a colligative property?

A. Lowering of vapour pressure **B.** Freezing point

C. Osmotic pressure **D.** Elevation of polling point

Answer & Explanation

Answer: Option **B**

Explanation:

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8. Which of the following substance do not show continuous solubility curve?

A. KCIO4

B. Na2SO4. 10H2O

C. K2Cr2O7

D. PbCl2

Answer & Explanation

Answer: Option **B**

Explanation:

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9. When common salt is dissolved in water?

A. Boiling point of water dicrease

B. Boiling point of water increase

C. Boiling point of water remains same

D. None of the above

Answer & Explanation

Answer: Option **B**

Explanation:

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10. Every sample of matter with uniform properties and fixed composition is called

A. solute

B. solvent

C. solution

D. phase

Answer & Explanation

Answer: Option **D**

Explanation:

11. Homogeneous mixture of two or more than two compounds is called

A. solution **B.** compound

C. radical **D.** ion

Answer & Explanation

Answer: Option **A**

Explanation:

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12. The component of solution which is in smaller amount is called

A. solvent **B.** solute

C. phase **D.** ion

Answer & Explanation

Answer: Option **B**

Explanation:

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13. Solution with maximum concentration of solute at given temperature is called

A. Super saturated solution **B.** unsaturated solution

C. saturated solution **D.** dilute solution

Answer & Explanation

Answer: Option **C**

Explanation:

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14. 10ml of alcohol dissolve in 90ml of water unit of concentration used is

A. % w/w **B.** % w/v

C. % v/v **D.** % v/w

Answer & Explanation

Answer: Option **C**

Explanation:

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15. Number of moles in 1 kg of solvent is called

A. normality **B.** molarity

C. molality **D.** mole fraction

Answer & Explanation

Answer: Option **C**

Explanation:

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16. 58.5g of of NaCl per 1 dm3 of solution of NaCl in water the concentration of solution will be

A. 0.1 M **B.** 1 m

C. 1 M **D.** 0.1 N

Answer & Explanation

Answer: Option **C**

Explanation:

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17. In partially miscible liquids the two layers are

A.	saturated solutions of each liquid	**B.**	unsaturated solutions of each liquid
C.	normal solution of each liquid	**D.**	no layer formation takes place

Answer & Explanation

Answer: Option **A**

Explanation:

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18. If the volume of solution is equal to sum of volumes of its all components then the solution

A.	will be an ideal solution	**B.**	will be non-ideal solution
C.	will show deviations from Raoults law	**D.**	both b & c

Answer & Explanation

Answer: Option **A**

Explanation:

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19. The relative lowering of vapour pressure is

A.	equal to the mole fraction of solvent	**B.**	equal to the mole fraction of solute
C.	directly proportional to the mole fraction of solute	**D.**	both b & c

Answer & Explanation

Answer: Option **D**

Explanation:

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20. The solution which distils over with change in composition

A. ideal solution **B.** zeotropic solution

C. azeotropic solution **D.** non-ideal solution

Answer & Explanation

Answer: Option **B**

Explanation:

21. Mixtures which distill over without change in composition called

A. zeotropic mixture **B.** azeotropic mixture

C. amphoteric mixture **D.** ideal solution

Answer & Explanation

Answer: Option **B**

Explanation:

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22. Concentration of solute molecule when they are in equilibrium with solid substance at particular temperature is called

A. saturated solution **B.** solubility

C. unsaturated solution **D.** super saturated solution

Answer & Explanation

Answer: Option **B**

Explanation:

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23. Solubility of KCIO3 gives

A.	continuous and falling solubility curve	**B.**	discontinuous and falling solubility curve
C.	continuous and rising solubility curve	**D.**	discontinuous and rising solubility curve

Answer & Explanation

Answer: Option **C**

Explanation:

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24. The determination of correct molecular weight from Raoults law is applicable to

A.	a volatile solute in dilute solution	**B.**	a non-electrolyte & non volatile solute in concentrated solution
C.	a non-electrolyte & non volatile solute in concentrated solute	**D.**	non volatile solute in a dilute solution

Answer & Explanation

Answer: Option **D**

Explanation:

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25. Boiling point elevations can be measured by

A. Beckmanns method **B.** Landsbergers method

C. Linds method **D.** none of the above

Answer & Explanation

Answer: Option **B**

Explanation:

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26. Beckmanns apparatus is used to measure

A. boiling point elevation **B.** depression in freezing point

C. lowering of vapour pressure **D.** lowering of osmotic pressure

Answer & Explanation

Answer: Option **B**

Explanation:

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27. Water molecules surrounds more around

A. ve ion **B.** complex ion

C. ?ve ion **D.** neutral atom

Answer & Explanation

Answer: Option **A**

Explanation:

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28. The compounds in which water molecules are added are called

A. Hydrated ions

B. double salts

C. hydrates

D. complexes

Answer & Explanation

Answer: Option **C**

Explanation:

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29. Hydration is a process in which

A. Molecules are surrounded by solvent molecules

B. Ions are surrounded by solvent molecules

C. Both ions and molecules are surrounded by solvent molecules

D. Both ions and molecules are surrounded by water molecules

Answer & Explanation

Answer: Option **D**

Explanation:

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30. Solution of Na2SO4 will be

A. basic

B. acidic

C. neutral

D. cannot be presicted without

data

Answer & Explanation

Answer: Option **C**

Explanation:

31. ppm means

A.	parts of solute in 1000 parts of solvent	**B.**	parts of solvent in 1000 parts of solute
C.	parts of solute in one million parts of solution	**D.**	parts of solvent in one million parts of solute

Answer & Explanation

Answer: Option **C**

Explanation:

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32. 1 molar solution of glucose in water contains weight of glucose

A.	180g/dm3	**B.**	170g/dm3
C.	190g/dm3	**D.**	195g/dm3

Answer & Explanation

Answer: Option **A**

Explanation:

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33. Water of crystallization can be removed by

A. drying **B.** heating

C. evaporation **D.** All of the above

Answer & Explanation

Answer: Option **B**

Explanation:

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34. The relative lowering of vapour pressure is directly proportional to molality if the solution is

A. concentrated **B.** dilute

C. saturated solution **D.** all of the above

Answer & Explanation

Answer: Option **B**

Explanation:

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35. Which one of the following salt does not hydrolyzed

A. Na2SO4 **B.** AlCl3

C. CuSO4 **D.** NH4Cl

Answer & Explanation

Answer: Option **A**

Explanation:

1. Elements in the same vertical group of the periodic table have same

A. Number of valence electrons **B.** Atomic number

C. Atomic mass **D.** Atomic volume

Answer & Explanation

Answer: Option **A**

Explanation:

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2. An element having low value of ionization energy and low value of electron affinity is likely to belong to

A. Group IA **B.** Group IB

C. Group VIIA **D.** Group VIII

Answer & Explanation

Answer: Option **A**

Explanation:

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3. Which set of elements is listed in order of increasing ionization energy?

A. Sb < As < S < P < Cl **B.** Cl < Sb < P < As < S

C. As < Cl < P < S < Sb **D.** Sb < As < Cl < S < P

Answer & Explanation

Answer: Option **A**

Explanation:

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4. Which of the following always increases on going from top to bottom in a group?

A. Metallic character **B.** Electronegativity

C. Oxidizing power **D.** Tendency to get reduced

Answer & Explanation

Answer: Option **A**

Explanation:

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5. Which of the p-block elements are not representative elements?

A. Alkali metals (I-A) **B.** Group-14 elements (IV-A)

C. Group-18 elements (VIII-A) **D.** Halogens (VII-A)

Answer & Explanation

Answer: Option **C**

Explanation:

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6. Among halogens the highest boiling point is of

A. Flrorine **B.** Chlorine

C. Bromine **D.** Iodine

Answer & Explanation

Answer: Option **D**

Explanation:

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7. Which of the following will not form crystalline structure with opporitely charged ions

A. H+ **B.** H-

C. Mg2+ **D.** Ca2+

Answer & Explanation

Answer: Option **A**

Explanation:

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8. Which statement is incorrect?

A. All the metals are good conductor of electricity. **B.** All the metals are good conductor of heat

C. All the metals form positive ions **D.** All the metals form acidic oxides

Answer & Explanation

Answer: Option **D**

Explanation:

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9. Periodic table provides a basic framework to study elements with respect to their

A. Physical properties **B.** Chemical properties

C. Properties of their compounds **D.** All

Answer & Explanation

Answer: Option **D**

Explanation:

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10. The scientist who did not contribute in the construction of periodic table?

A. Al-Razi **B.** Moseley

C. Dobereiner **D.** Democritus

Answer & Explanation

Answer: Option **D**

Explanation:

11. Concept of Triads was introduced by

A. Dobereiner **B.** Newland

C. Mendeleev **D.** Al-Razi

Answer & Explanation

Answer: Option **A**

Explanation:

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12. Which element was not known when Mendeleev proposed his classification?

A. Hydrogen **B.** Sodium

C. Copper **D.** Germanium

Answer & Explanation

Answer: Option **D**

Explanation:

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13. Elements with similar chemical properties appear in the

A.	Same family	**B.**	Same period
C.	p block elements	**D.**	Right upper corner

Answer & Explanation

Answer: Option **A**

Explanation:

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14. Noble gases are named so because they are

A.	less reactive	**B.**	Zero group elements
C.	Having completely filled valence shell	**D.**	All

Answer & Explanation

Answer: Option **D**

Explanation:

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15. In modern periodic table all the leements are arranged in ascending order of

A.	Valency	**B.**	Atomic mass

C. Atomic number **D.** Valence electrons

Answer & Explanation

Answer: Option **C**

Explanation:

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16. The longest period in the modern periodic table is

A. 6th **B.** 7th

C. 2nd and 3rd both **D.** 5th

Answer & Explanation

Answer: Option **A**

Explanation:

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17. Inner transition elements are called

A. Lanthanides **B.** Actinides

C. Rare earth metals **D.** All

Answer & Explanation

Answer: Option **D**

Explanation:

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18. Seventh period contains _____ normal elements

A. 2 **B.** 4

C. 6 **D.** 8

Answer & Explanation

Answer: Option **A**

Explanation:

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19. Modern periodic table has been divided in _____ blocks

A. 2 **B.** 4

C. 8 **D.** 7

Answer & Explanation

Answer: Option **B**

Explanation:

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20. Non-metals usually form _____ oxides

A. Acidic **B.** Amphoteric

C. Neutral **D.** All of the above

Answer & Explanation

Answer: Option **A**

Explanation:

21. Amphoteric exides are those which possess _____ properties

A. Acidic

B. Basic

C. Acidic and basic

D. Neutral and acidic

Answer & Explanation

Answer: Option **C**

Explanation:

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22. Best position of hydrogen in the periodic table is above I.A Group which is mainly due to

A. Both are electropositive

B. Similar outer most shell electronic configuration

C. Both form ionic compounds

D. All

Answer & Explanation

Answer: Option **D**

Explanation:

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23. Hydrogen resembles with carbon because of having

A. Same number of electrons in the valence shell

B. Similar physical state

C. Remarkable reducing properties

D. Homovalent (show same valency)

Answer & Explanation

Answer: Option **C**

Explanation:

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24. Which one of the following sets consists of all coinage metals?

A. Cu Hg Au

B. Cu Ag Au

C. Ag Au Hg

D. Cu Fe Au

Answer & Explanation

Answer: Option **B**

Explanation:

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25. In which of the following pairs are elements belonging to the same group?

A. Boron & Beryllium

B. Nitrogen & Phosphorous

C. Magnesium & Aluminium

D. Gallium & Helium

Answer & Explanation

Answer: Option **B**

Explanation:

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26. Many properties of an element and its compounds can be predicted from the position of the element in the periodic table. What property could not be predicted in this way?

A. The nature of its oxides

B. The charge on its ions

C. The formula of its oxide

D. Its number of isotopes

Answer & Explanation

Answer: Option **D**

Explanation:

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27. Which one of the following is not a periodic property?

A. Melting point of elements

B. Boiling point of elements

C. Ionization energy of elements

D. Coordination number of ions

Answer & Explanation

Answer: Option **D**

Explanation:

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28. The atomic radii decreases by increasing atomic number in

A. Alkali metal

B. Alkaline earth metal

C. Elements from Li to Ne

D. Halogens

Answer & Explanation

Answer: Option **C**

Explanation:

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29. Which discovery caused a revision in the periodic law as stated by Mendeleev?

A. Location of nucleus by Rutherford

B. Atomic number by Moseley

C. X-rays by Roentgen

D. Natural radioactivity by Henry Bacquerel.

Answer & Explanation

Answer: Option **B**

Explanation:

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30. An element has electronic conviguration 1s2 2s2 2p2. It belongs to

A. Group II-A

B. Group IV-A

C. Group VII-A

D. Group VI-A

Answer & Explanation

Answer: Option **B**

Explanation:

31. The property which increases upto group IV-A then decreases onwards

A. Ionization energy

B. Atomic radii

C. Melting & boiling points

D. Atomic volume

Answer & Explanation

Answer: Option **C**

Explanation:

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32. Which of the following ion is stable in aqueous solution?

A. H+

B. H-

C. Cl-

D. All are stable

Answer & Explanation

Answer: Option **C**

Explanation:

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33. The atoms of same element having same atomic number but different mass number are called

A. Isobars

B. Isomers

C. Isotopes

D. Isotropes

Answer & Explanation

Answer: Option **C**

Explanation:

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34. Deuterium reacts with oxygen to form

A. Hard water

B. Heavy water

C. Soft water

D. Water gas

Answer & Explanation

Answer: Option **B**

Explanation:

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35. Which order of ionization energy is correct

A. Mg < A1

B. Si > P

C. Mg > A1

D. both b & c

Answer & Explanation

Answer: Option **C**

Explanation:

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36. Ionization energy depends upon

A. Nuclear charge

B. Atomic size

C. Shielding effect

D. I.E depends upon all of the above and nature of orbital

Answer & Explanation

Answer: Option **D**

Explanation:

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37. Shielding effect across the period

A. Increases

B. Decreases

C. Can not be predicted

D. Remains constant

Answer & Explanation

Answer: Option **D**

Explanation:

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38. Addition of 2nd electron to a uninegative ion is always

A. Exothermic

B. Endothermic

C. Data is insufficient

D. Unpredictable

Answer & Explanation

Answer: Option **B**

Explanation:

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39. Higher value of electron affinity means

A. Atom will lose electron easily

B. Atom will gain electron easily

C. Atom may form di-positive ion

D. The reason is unknown

Answer & Explanation

Answer: Option **B**

Explanation:

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40. Metallic characters of alkali metals

A. Increase down the group

B. Decrease down the group

C. No regular trend

D. Remain same

Answer & Explanation

Answer: Option **A**

Explanation:

41. Melting points of VII-A group elements down the group

A. Increase

B. Decrease

C. Remain constant

D. No regular trend

Answer & Explanation

Answer: Option **A**

Explanation:

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42. Oxidation state of an atom represents

A. Number of electrons gained

B. Number of electrons lost

C. Apparent charge in compound

D. Its vacancies

Answer & Explanation

Answer: Option **C**

Explanation:

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43. Which of the following possesses maximum hydration energy?

A. Na+

B. K+

C. Mg+2

D. Ca+2

Answer & Explanation

Answer: Option **C**

Explanation:

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44. Halides in which halogen atoms act as a bridge between two atoms of the other element are called

A. Covalent halides

B. Electronegative halides

C. Polymeric halides

D. Polymeric hydrides

Answer & Explanation

Answer: Option **C**

Explanation:

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45. Less electronegative elements such as Be Ga A? etc form

A. Polymeric halide

B. Covalent halide

C. Ionic halide

D. All

Answer & Explanation

Answer: Option **A**

Explanation:

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46. Iodine is solid due to

A. Strong covalent bond

B. Large value of dipole moment

C. High polarizability

D. Strong hydrogen bonding

Answer & Explanation

Answer: Option **C**

Explanation:

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47. True increasing order of acidity of the oxides of Mn is

A. MnO < MnO2 < Mn2O7

B. Mn2O7 > MnO2 > MnO

C. MnO2 > MnO > Mn2O7

D. MnO2 > Mn2O7 > MnO

Answer & Explanation

Answer: Option **A**

Explanation:

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48. Keeping in view the size of atom which order is correct one?

A. Mg > Sr

B. Ba > Mg

C. Lu > Ce

D. C1 > I

Answer & Explanation

Answer: Option **B**

Explanation:

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49. Which one of the following element has highest exidation state in its compounds?

A. Cr

B. Mn

C. Sn **D.** O

Answer & Explanation

Answer: Option **B**

Explanation:

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50. Which of the following cannot exist in solution

A. O-2 **B.** H+

C. Cl- **D.** Na+

Answer & Explanation

Answer: Option **A**

Explanation:

1. Which of the following is different with respect to physical appearance?

A. Arsenic **B.** Phosphorus

C. Antimony **D.** Bismuth

Answer & Explanation

Answer: Option **B**

Explanation:

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2. Which one of the followings possesses melting point below 0?C?

A. Nitrogen **B.** Phosphorus

C. Carbon **D.** Bismuth

Answer & Explanation

Answer: Option **A**

Explanation:

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3. Compounds of nitrogen and phosphorus are mostly

A. ionic **B.** covalent

C. polar **D.** all varieties are possible

Answer & Explanation

Answer: Option **B**

Explanation:

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4. The most electronegative element among the following is

A. Sb **B.** N

C. As **D.** P

Answer & Explanation

Answer: Option **B**

Explanation:

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5. SO3 is not absorbed in water directly because

A. Reaction is exothermic **B.** It is insoluble in water

C. Dilute acid is produced **D.** All of above

Answer & Explanation

Answer: Option **A**

Explanation:

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6. Phosphene gas will be produced if phosphorous acid is subjected to

A. Oxidation **B.** Reduction

C. Decomposition **D.** Both b & c

Answer & Explanation

Answer: Option **D**

Explanation:

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7. Which of the following will give phosphoric acid one reaction with water

A. PCI5 **B.** P2O3

C. P2O5 **D.** All of the above

Answer & Explanation

Answer: Option **D**

Explanation:

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8. Which one of following is not a property of pure quartz?

A. Coloured solid **B.** Brittle

C. Hard **D.** All of above

Answer & Explanation

Answer: Option **A**

Explanation:

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9. Phosphorus is a Greek word and it means

A. Light bearing **B.** Fire

C. Impure **D.** Tetrahedral

Answer & Explanation

Answer: Option **A**

Explanation:

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10. Which of the following does not contain phosphorus?

A. Yolk of egg **B.** Bone

C. Nerves **D.** Steel

Answer & Explanation

Answer: Option **D**

Explanation

11. Allotropic form of phosphorus that is poisonous is

A. White **B.** Red

C. Black **D.** Violet

Answer & Explanation

Answer: Option **A**

Explanation:

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12. Which one of the following is not the use of graphite?

A. Lead pencils **B.** Abrasive

C. Lubricant **D.** Electrode of electrolytic cell

Answer & Explanation

Answer: Option **B**

Explanation:

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13. Acetic anhydride can be obtained by treating ethyl alcohol with

A. P2O5 **B.** H2SO4

C. Both a and b **D.** PCI5

Answer & Explanation

Answer: Option **C**

Explanation:

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14. The composition of brown ring in nitrate test is

A. FeSO4.No

B. FeSO4.No2

C. FeSO4.No3

D. FeSO4.N2o

Answer & Explanation

Answer: Option **A**

Explanation:

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15. Phosphorous acid upon thermal decomposition yields phosphoric acid and

A. Phosphine

B. Phosphorus

C. Water

D. Phosphorus pentoxide

Answer & Explanation

Answer: Option **A**

Explanation:

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16. Which one of the following compounds usually smells like garlic?

A. P2O3

B. P2O5

C. H3PO3

D. All have same smell

Answer & Explanation

Answer: Option **A**

Explanation:

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17. P2O5 is a hygroscopic powder which sublimes at

A. 260?C **B.** 360?C

C. 630?C **D.** 620?C

Answer & Explanation

Answer: Option **B**

Explanation:

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18. The element of group VIA which is a non-metal is

A. S **B.** Se

C. Te **D.** Po

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19. Phosphoric acid is a weak acid and its basicity is

A. 1 **B.** 3

C. zero **D.** 2

Answer & Explanation

Answer: Option **B**

Explanation:

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20. All the elements in group VIA are _____ in nature.

A. hygroscopic **B.** metals

C. polymeric **D.** all of above

Answer & Explanation

Answer: Option **C**

Explanation:

21. Which of the elements show passivity when treated with conc. HNO3.

A. Fe **B.** A?

C. Cr **D.** All of the above

Answer & Explanation

Answer: Option **D**

Explanation:

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22. Which allotropic form of phosphorous is the most stable?

A. White **B.** black

C. red **D.** Violet

Answer & Explanation

Answer: Option **B**

Explanation:

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23. The gas which cannot be dried by conc. H2SO4

A. SO2 **B.** H2S

C. CO_2 **D.** C_2H_4

Answer & Explanation

Answer: Option **B**

Explanation:

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24. The chemical composition of cinnabar is

A. ZnS **B.** PbS

C. HgS **D.** FeS

Answer & Explanation

Answer: Option **C**

Explanation:

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25. $FeSO_4$ forms brown ring with

A. N_2O_3 **B.** NO_2

C. NO **D.** N_2O

Answer & Explanation

Answer: Option **C**

Explanation:

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26. Oxygen and sulphur resemble in all except

A. Electronic conviguration of valence shell electrons

B. Show allotropy

C. Polymeric

D. Show same oxidation state

Answer & Explanation

Answer: Option **D**

Explanation:

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27. Oxygen does not react with all except

A. Alkali

B. Acid

C. Water

D. Metals

Answer & Explanation

Answer: Option **D**

Explanation:

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28. Arsenic oxides are removed by passing through

A. Ferric hydroxide

B. Sodium hydroxide

C. Calcium hydroxide

D. Aluminium hydroxide

Answer & Explanation

Answer: Option **A**

Explanation:

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29. In which compound nitrogen has maximum oxidation state

A. N2O **B.** NO2

C. HNO2 **D.** HNO3

Answer & Explanation

Answer: Option **D**

Explanation:

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30. When sulphuric acid is treated with ethanol sulphuric acid behaves like

A. an acid **B.** a dehydrating agent

C. an oxidizing agent **D.** as sulphonating agent

Answer & Explanation

Answer: Option **B**

Explanation:

1. Main source of organic compounds is

A. Animal **B.** Fossil

C. Coal **D.** Plants

Answer & Explanation

Answer: Option **A**

Explanation:

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2. Octane number can be improved by

A. Isomerization **B.** Adding (C2H5)4 Pb

C. Adding (CH3)4 Pb **D.** All

Answer & Explanation

Answer: Option **D**

Explanation:

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3. Hydro carbons which burn with smoky flame are called

A. Aliphatic **B.** Alicyclic

C. Aromatic **D.** Aldehyde

Answer & Explanation

Answer: Option **C**

Explanation:

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4. Octane number 2 2 4-trimethyl pentane is

A. 100 **B.** 90

C. 80 **D.** 70

Answer & Explanation

Answer: Option **A**

Explanation:

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5. Propene can exhibit

A. cis-trans isomerism **B.** geometric isomerism

C. both a & b **D.** none of the above

Answer & Explanation

Answer: Option **D**

Explanation:

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6. Geometric isomerism is usually found in

A. Alkanes **B.** Alkenes

C. Alkynes **D.** Esters

Answer & Explanation

Answer: Option **B**

Explanation:

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7. Pentane and 2-methyl butance have the same

A. Boiling point **B.** Melting point

C. Percentage composition **D.** Structural formula

Answer & Explanation

Answer: Option **C**

Explanation:

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8. Organic compounds that are essentially nonpolar and exhibit weak intermolecular forces have

A. Low melting points

B. Low vapour pressure

C. High boiling points

D. High electrical conductivity

Answer & Explanation

Answer: Option **A**

Explanation:

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9. The first organic compound was synthesized in laboratory by

A. Wohler

B. Kolbe

C. Berzilius

D. Berthelot

Answer & Explanation

Answer: Option **A**

Explanation:

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10. According to vital force theory

A. Oorganic compounds can be synthesized from inorganic compounds

B. organic compounds cannot be synthesized from inorganic compounds

C. organic compounds can be synthesized by animals

D. organic compounds can be synthesized by plants

Answer & Explanation

Answer: Option **B**

Explanation:

11. First organic compound synthesized in laboratory was

A. tartaric acid **B.** ethyl alcohol

C. methanol **D.** urea

Answer & Explanation

Answer: Option **D**

Explanation:

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12. A double bond consists of

A. Two sigma bonds **B.** Two Pi bonds

C. One sigma and one Pi bonds **D.** One sigma and two Pi bonds

Answer & Explanation

Answer: Option **C**

Explanation:

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13. The property of carbon chain formation is called

A. catenation **B.** hybridization

C. polymerization **D.** solvation

Answer & Explanation

Answer: Option **A**

Explanation:

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14. Chemical properties of first member of homologous series with respect to other members are

A.	same	**B.**	different
C.	depends upon number of C atoms	**D.**	depends upon number of H atoms

Answer & Explanation

Answer: Option **A**

Explanation:

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15. The organic compounds having very high molecular weight are called

A.	carboxylic acids	**B.**	ketones
C.	aldehydes	**D.**	polymers

Answer & Explanation

Answer: Option **D**

Explanation:

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16. Compounds having same molecular formula but differ in structural formula are called

A. polymer **B.** monomer

C. isomer **D.** allotropes

Answer & Explanation

Answer: Option **C**

Explanation:

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17. Rate of reactions of most organic compounds are

A. very slow **B.** very fast

C. slow **D.** no regular character present

Answer & Explanation

Answer: Option **C**

Explanation:

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18. Organic compounds are soluble in

A. polar solvent **B.** non-polar solvent

C. alkalies **D.** water

Answer & Explanation

Answer: Option **B**

Explanation:

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19. Coal is produced after a long time decay of

A. animals **B.** fossils

C. wood **D.** all of the above

Answer & Explanation

Answer: Option **C**

Explanation:

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20. Methane is used in power generation in chemical industries being a

A. natural gas **B.** good caloric value

C. cheaper **D.** All

Answer & Explanation

Answer: Option **C**

Explanation:

21. Crude oil is blackish coloured liquid produced after the decay of organic matter present between

A. earth layer **B.** mountains

C. sedimentary rocks **D.** rocks

Answer & Explanation

Answer: Option **C**

Explanation:

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22. The precess in which larger molecule with higher molecular weight breaks down into smaller moleucles with lower molecular weight

A. polymerization **B.** pyrolysis

C. isomerism **D.** no such process occurs

Answer & Explanation

Answer: Option **B**

Explanation:

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23. At low temperature and pressure cracking can be done in presence of catalyst

A. Al2O3 **B.** Fe2O3

C. Al2O3 and SiO2 **D.** Fe2O3 and SiO2

Answer & Explanation

Answer: Option **C**

Explanation:

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24. The metallic sound produced by engine due to the pre-ignition of fuel is called

A. knocking **B.** reforming

C. cracking **D.** a and c

Answer & Explanation

Answer: Option **A**

Explanation:

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25. Which one of the following compounds shows intense knocking?

A. n-pentane **B.** iso-heptane

C. iso-octane **D.** n-heptane

Answer & Explanation

Answer: Option **D**

Explanation:

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26. Which of the following can be used as anti-knocking agent.

A. PbCl2 **B.** (C2H5)4 Pb

C. (C2H5)2 Pb **D.** all of the above

Answer & Explanation

Answer: Option **B**

Explanation:

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27. Ether functional group can be represented as

A. ?OH **B.** R-CO-R

C. R-O-R **D.** R-COOH

Answer & Explanation

Answer: Option **C**

Explanation:

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28. Isomerism which is present only in alkene is

A. structural isomerism **B.** metamerism

C. cis-trans isomerism **D.** both b and c

Answer & Explanation

Answer: Option **C**

Explanation:

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29. A single atom or group of atoms which gives characteristic properties to a compound is called

A. radical **B.** hydrocarbon

C. functional group **D.** ion

Answer & Explanation

Answer: Option **C**

Explanation:

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30. Compound containing benzene ring in their structure are

A. aliphatic **B.** aromatic

C. carboxylic acid **D.** carbohydrates

Answer & Explanation

Answer: Option **B**

Explanation:

31. 2-propanol and 1-propanol show the isomerism

A. metamerism

B. functional group isomerism

C. geometric isomerism

D. position isomerism

Answer & Explanation

Answer: Option **D**

Explanation:

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32. Which of the following is an amide

A. R-NH2

B. RCONH2

C. R - NH - R

D. C6H5NH2

Answer & Explanation

Answer: Option **B**

Explanation:

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33. In sp3 hybridization the expected geometry of molecules will be

A. square planar

B. trigonal pyramidal

C. tetrahedral

D. linear

Answer & Explanation

Answer: Option **C**

Explanation:

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34. Only sigma bonds are present in

A. propene

B. butanoic acid

C. butanal

D. ethoxy ethane

Answer & Explanation

Answer: Option **D**

Explanation:

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35. In cyano group the carbon atom shows which kind of hybridization

A. sp2

B. sp

C. sp3

D. none of the above

Answer & Explanation

Answer: Option **B**

Explanation:

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36. The structure of ethyne is

A. angular

B. trigonal

C. linear

D. trigonal planar

Answer & Explanation

Answer: Option **C**

Explanation:

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37. the fractional distillation of petroleum produces gasoline up to

A. 10% **B.** 15%

C. 20% **D.** 30%

Answer & Explanation

Answer: Option **C**

Explanation:

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38. The general formula of cycloalkene is

A. CnH2n **B.** CnH2n+2

C. CnH2n-1 **D.** CnH2n-2

Answer & Explanation

Answer: Option **D**

Explanation:

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39. Which is not heterocyclic compound

A. Furan **B.** Thiophene

C. Aniline **D.** Pyridine

Answer & Explanation

Answer: Option **C**

Explanation:

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40. C5H12 has the number of isomers

A. one **B.** two

C. three **D.** four

Answer & Explanation

Answer: Option **C**

Explanation:

1. What will be the products when reactants are alcohol & thionyl chloride in the presence of pyridine?

A. RC?+S+HC? **B.** RC?+SO2+HC?

C. RC?+SO2+H2O **D.** RC?+S+H2O

Answer & Explanation

Answer: Option **B**

Explanation:

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2. Which C-X bond has the highest bond energy per mole?

A. C-F **B.** C-C?

C. C-Br **D.** C-I

Answer & Explanation

Answer: Option **A**

Explanation:

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3. Which alkyl halide has the highest reactivity for a particular alkyl group?

A. R-F **B.** R-C?

C. R-Br **D.** R-I

Answer & Explanation

Answer: Option **D**

Explanation:

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4. Ethyl chloride with nascent hydrogen produces

A. methane **B.** ethane

C. propane **D.** butane

Answer & Explanation

Answer: Option **B**

Explanation:

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5. Which one is not a nucleophile?

A. C2H5O-

B. SCN-

C. NH3

D. H3C+

Answer & Explanation

Answer: Option **D**

Explanation:

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6. The number of molecules taking part in the rate determining step is called

A. Order of reaction

B. Rate of reaction

C. Mole of a reaction

D. Extent of a reaction

Answer & Explanation

Answer: Option **A**

Explanation:

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7. During SN2 mechanism carbon atom changes its state of hybridization as

A. sp?sp2

B. sp2?sp3

C. sp3?sp

D. sp3?sp2

Answer & Explanation

Answer: Option **D**

Explanation:

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8. What will be the order of reaction of a reaction whose rate can be expressed as R = K [A] [B]?

A. Zero **B.** One

C. Two **D.** Three

Answer & Explanation

Answer: Option **C**

Explanation:

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9. Which one among the following is not a good leaving group?

A. HSO4 **B.** C?-

C. OH- **D.** Br-

Answer & Explanation

Answer: Option **C**

Explanation:

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10. What is the order of kinetics in the SN1 mechanism?

A. Zero **B.** First

C. Second **D.** Third

Answer & Explanation

Answer: Option **B**

Explanation:

11. Which alkyl halide out of the following may follow both SN1 and SN2 mechanism?

A. CH3-X

B. (CH3)3 C-CH2 - X

C. (CH3)2 CH - X

D. (CH3)3 C - X

Answer & Explanation

Answer: Option **C**

Explanation:

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12. In elimination reactions of alkyl halide which site is more susceptible for the attack of base

A. ? - carbon

B. ? - carbon

C. ? - hydrogen

D. ? - hydrogen

Answer & Explanation

Answer: Option **D**

Explanation:

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13. When two moles of ethyl chloride react with two moles of sodium in the presence of ether what will be formed?

A. 2 moles of ethane

B. 1 mole of ethane

C. 2 moles of butane

D. 1 mole of butane

Answer & Explanation

Answer: Option **D**

Explanation:

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14. The ether used in Wurtz synthesis is

A. acidic **B.** basic

C. aqueous **D.** dry

Answer & Explanation

Answer: Option **D**

Explanation:

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15. When CO2 is made to react with ethyl magnesium iodide followed by acid hydrolysis the product formed is

A. propane **B.** propanoic acid

C. propanal **D.** propanol

Answer & Explanation

Answer: Option **B**

Explanation:

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16. Grignard reagent is reactive due to

A. the presence of halogen atom **B.** the presence of magnesium atom

C. the polarity of C-Mg bond **D.** all

Answer & Explanation

Answer: Option **C**

Explanation:

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17. SN2 reaction can be best carried out with

A. primary alkyl halide **B.** secondary alkyl halide

C. tertiary alkyl halide **D.** all

Answer & Explanation

Answer: Option **A**

Explanation:

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18. Elimination bimolecular reactions involve

A. first order kinetics **B.** second order kinetics

C. third order kinetics **D.** zero order kinetics

Answer & Explanation

Answer: Option **B**

Explanation:

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19. For which mechanisms the first step involved is the same?

A. E1 + E2 **B.** E2 + SN2

C. E1 and SN1 **D.** SN1 and SN2

Answer & Explanation

Answer: Option **C**

Explanation:

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20. The rate of E1 reaction depends upon

A. the concentration of substrate

B. the concentration of nucleophile

C. the concentration of substrate as well as nucleophile

D. base the concentration of substrate as well as nucleophile

Answer & Explanation

Answer: Option **A**

Explanation

11. Which alkyl halide out of the following may follow both SN1 and SN2 mechanism?

A. CH3-X

B. (CH3)3 C-CH2 - X

C. (CH3)2 CH - X

D. (CH3)3 C - X

Answer & Explanation

Answer: Option **C**

Explanation:

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12. In elimination reactions of alkyl halide which site is more susceptible for the attack of base

A. ? - carbon

B. ? - carbon

C. ? - hydrogen

D. ? - hydrogen

Answer & Explanation

Answer: Option **D**

Explanation:

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13. When two moles of ethyl chloride react with two moles of sodium in the presence of ether what will be formed?

A. 2 moles of ethane **B.** 1 mole of ethane

C. 2 moles of butane **D.** 1 mole of butane

Answer & Explanation

Answer: Option **D**

Explanation:

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14. The ether used in Wurtz synthesis is

A. acidic **B.** basic

C. aqueous **D.** dry

Answer & Explanation

Answer: Option **D**

Explanation:

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15. When CO2 is made to react with ethyl magnesium iodide followed by acid hydrolysis the product formed is

A. propane **B.** propanoic acid

C. propanal **D.** propanol

Answer & Explanation

Answer: Option **B**

Explanation:

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16. Grignard reagent is reactive due to

A. the presence of halogen atom **B.** the presence of magnesium atom

C. the polarity of C-Mg bond **D.** all

Answer & Explanation

Answer: Option **C**

Explanation:

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17. SN2 reaction can be best carried out with

A. primary alkyl halide **B.** secondary alkyl halide

C. tertiary alkyl halide **D.** all

Answer & Explanation

Answer: Option **A**

Explanation:

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18. Elimination bimolecular reactions involve

A. first order kinetics

B. second order kinetics

C. third order kinetics

D. zero order kinetics

Answer & Explanation

Answer: Option **B**

Explanation:

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19. For which mechanisms the first step involved is the same?

A. E1 + E2

B. E2 + SN2

C. E1 and SN1

D. SN1 and SN2

Answer & Explanation

Answer: Option **C**

Explanation:

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20. The rate of E1 reaction depends upon

A. the concentration of substrate

B. the concentration of nucleophile

C. the concentration of substrate as well as nucleophile

D. base the concentration of substrate as well as nucleophile

Answer & Explanation

Answer: Option **A**

Explanation

21. Alkyl halides are considered to be very reactive compounds towards nucleophile because

A.	they have an electrophilic carbon	**B.**	they have an electrophilic carbon & a good leaving group
C.	they have an electrophilic carbon & a bad leaving group	**D.**	they have a nucleophilic carbon & a good leaving group

Answer & Explanation

Answer: Option **B**

Explanation:

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22. Which one of the following species is not an electrophile?

A.	NH3	**B.**	Br+
C.	H+	**D.**	BF3

Answer & Explanation

Answer: Option **A**

Explanation:

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23. Which one of the following reactants will be required to form straight chain alcohol by using Grignard reagent

A. formaldehyde **B.** ketone

C. ethylene epoxide **D.** both a & c

Answer & Explanation

Answer: Option **D**

Explanation:

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24. Which one of the following alcohols will be formed when ethyl magnesium bromide reacts with acetone?

A. primary alcohol **B.** secondary alcohol

C. tertiary alcohol **D.** dihydric alcohol

Answer & Explanation

Answer: Option **C**

Explanation:

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25. Which one of the following molecules does not form alcohol when reacts with Grignard reagent?

A. formaldehyde **B.** acetaldehyde

C. propanone **D.** carbondioxide

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26. In primary alkyl halides the halogen atom is attached to a carbon which is further attached to how many carbon atoms

A. two **B.** three

C. one **D.** four

Answer & Explanation

Answer: Option **C**

Explanation:

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27. Ethylene epoxide treated with Grignards reagent followed by acid hydrolysis yield

A. primary alcohol **B.** secondary alcohol

C. tertiary alcohol **D.** dihydric alcohol

Answer & Explanation

Answer: Option **A**

Explanation:

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28. The best method of preparation of alkyl halides is a reaction of alcohol with

A. Zn / HCI **B.** SOCl2 / Pyridine

C. PCI3 **D.** PCI5

Answer & Explanation

Answer: Option **B**

Explanation:

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29. Alkyl halides undergo a type of reaction

A. Nucleophilic substitution **B.** Nucleophilic addition

C. Elimination **D.** both a & c

Answer & Explanation

Answer: Option **D**

Explanation:

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30. 50% inversion of configuration of molecules take place in a

A. E1 - reaction **B.** E2 - reaction

C. SN1 - reaction **D.** SN2 - reaction

Answer & Explanation

Answer: Option **C**

Explanation:

1. When - COOH is attached directly to the benzene ring the acid is called

A. Aliphatic **B.** Alicyclic

C. Carboxylic **D.** Aromatic

Answer & Explanation

Answer: Option **D**

Explanation:

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2. The common name of propane 1 3-dioic is

A. Oxalic acid **B.** Aromatic acid

C. Malonic acid **D.** Fumaric acid

Answer & Explanation

Answer: Option **C**

Explanation:

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3. The common thing in phthalic acid and oxalic acid is that both are

A. Aromatic **B.** Dicarboxylic

C. Hydrocarbons **D.** Strong acids

Answer & Explanation

Answer: Option **B**

Explanation:

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4. The irritation caused by red ants bite is due to

A. Lactic acid **B.** Formic acid

C. Uric acid **D.** Acetic acid

Answer & Explanation

Answer: Option **B**

Explanation:

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5. The acid which is used as ink remover is

A. Oxalic acid **B.** Succinic acid

C. Adipic acid **D.** Acetic acid

Answer & Explanation

Answer: Option **A**

Explanation:

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6. Which of the following is the strongest acid?

A. Water **B.** Formic acid

C. Acetic acid **D.** Propanoic acid

Answer & Explanation

Answer: Option **B**

Explanation:

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7. Which acid is the manufacture of synthetic rubber?

A. Acetic acid **B.** Formic acid

C. Carbonic acid **D.** Benzoic acid

Answer & Explanation

Answer: Option **A**

Explanation:

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8. Acidic amino acids have

A. 2 amino groups and 1 carboxylic group

B. 1 amino and 1 carboxylic groups

C. 2 carboxylic groups and 1 amino group

D. 2 amino and 2 carboxylic groups

Answer & Explanation

Answer: Option **C**

Explanation:

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9. In the formation of Zwitter ions proton goes from

A. Carboxyl to amino group

B. Amino to carboxyl group

C. Amino group only

D. Carboxyl group only

Answer & Explanation

Answer: Option **A**

Explanation:

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10. The term internal salt refers to

A. Acidic character of amino acids

B. Basic character of amino acids

C. Dipolar character of amino acids

D. Non-polar structure of amino acids

Answer & Explanation

Answer: Option **C**

Explanation:

11. The organic acid that does not has COOH group is

A. phthalic acid

B. carbolic acid

C. Maleic acid

D. Succinic acid

Answer & Explanation

Answer: Option **B**

Explanation:

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12. Which one of the following acids is present in lemon juice?

A. Citric acid

B. Benzoic acid

C. Tartaric acid

D. Oxalic acid

Answer & Explanation

Answer: Option **A**

Explanation:

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13. The test which is used for the identification of amino-acids is

A. Ninhydrin test

B. Molisch test

C. Biuretic test

D. Benedict test

Answer & Explanation

Answer: Option **A**

Explanation:

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14. Which one of following amino acid is neither acidic nor a basic in nature?

A. Lysine **B.** Histidine

C. Proline **D.** Glutamic acid

Answer & Explanation

Answer: Option **C**

Explanation:

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15. Carboxylic acid reacts with ammonia to form ammonium salts which on heating produces

A. CO2 **B.** Alkane

C. Ester **D.** Acidamide

Answer & Explanation

Answer: Option **D**

Explanation:

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16. Glycine is the name of an amino acid because

A. Sweet taste **B.** Bitter taste

C. Shining appearance **D.** Green colour

Answer & Explanation

Answer: Option **A**

Explanation:

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17. The complete reduction carboxylic acid results in the formation of

A. Alkyne **B.** Alkene

C. Alkane **D.** Alcohol

Answer & Explanation

Answer: Option **C**

Explanation:

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18. The organic acid that can be made from ethanol is

A. Acetic acid **B.** Formic acid

C. Butanoic acid **D.** Citric acid

Answer & Explanation

Answer: Option **A**

Explanation:

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19. Picric acid is

A. monocarboxylc acid **B.** dicarboxylic acid

C. aromatic carboxylic acid **D.** none of these

Answer & Explanation

Answer: Option **D**

Explanation:

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20. The formula of palmitic acid

A. C15H31COOH **B.** C13H27COOH

C. C17H33COOH **D.** C17H35COOH

Answer & Explanation

Answer: Option **A**

Explanation:

21. Essential amino acids are

A. 5 **B.** 10

C. 15 **D.** 20

Answer & Explanation

Answer: Option **B**

Explanation:

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22. The aliphatic monocarboxylic acids are obtained by the hydrolysis of

A. proteins and oild **B.** fats and proteins

C. fats and oils **D.** all above

Answer & Explanation

Answer: Option **C**

Explanation:

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23. Which of the following is not a fatty acid?

A. Propanoic acid **B.** Acetic acid

C. Phthalic acid **D.** Butanoic acid

Answer & Explanation

Answer: Option **C**

Explanation:

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---

24. An acid with unpleasant smell

A. formic acid **B.** acetic acid

C. propionic acid **D.** butyric acid

Answer & Explanation

Answer: Option **D**

Explanation:

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25. The basic hydrolysis of ethyl acetate produces

A. ethanol **B.** acetic acid

C. ethanol and acetic acid **D.** ethanol and sodium acetate

Answer & Explanation

Answer: Option **D**

Explanation:

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26. Carboxylic acid on reduction with HI / phosphorous yields

A. alkane

B. alcohols

C. aldehydes

D. ketones

Answer & Explanation

Answer: Option **A**

Explanation:

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27. Which of the following is not an ester

A. amyl acetate

B. sodium butyrate

C. isobutyle formate

D. octyl acetate

Answer & Explanation

Answer: Option **B**

Explanation:

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28. The reaction of carboxylic acids with alcohols in presence of cone. H2SO4 is called

A. esterification

B. neutralization

C. hydrolysis **D.** saponification

Answer & Explanation

Answer: Option **A**

Explanation:

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29. Which of the following has orange flavour

A. isobutyl formate **B.** octyl acetate

C. ethyl butyrate **D.** amyl lactate

Answer & Explanation

Answer: Option **B**

Explanation:

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30. Which of the following is not an amino acids

A. glumatic acid **B.** lactic acid

C. aspartic acids **D.** glycine

Answer & Explanation

Answer: Option **B**

Explanation:

31. Amino acids present in cheese

A. lysine **B.** alanine

C. tyrosine **D.** proline

Answer & Explanation

Answer: Option **C**

Explanation:

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32. ? - amino succinic acid is also called

A. lysine **B.** aspartic acid

C. alanine **D.** glutamic acid

Answer & Explanation

Answer: Option **B**

Explanation:

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33. Which of the following is an unsaturated carboxylic acid

A. malonic acid **B.** oxalic acid

C. succinic acid **D.** maleic acid

Answer & Explanation

Answer: Option **D**

Explanation:

1. Which of the following is not a heavy industry?

A. iron **B.** fertilizer

C. paper **D.** none

Answer & Explanation

Answer: Option **D**

Explanation:

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2. Which of the following is a macronutrient?

A. boron **B.** iron

C. copper **D.** carbon

Answer & Explanation

Answer: Option **D**

Explanation:

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3. Requirement of macronutrient per acre of the land is

A. 5 to 200 kg **B.** 20-200 kg

C. 200-400 kg **D.** 30-400 kg

Answer & Explanation

Answer: Option **A**

Explanation:

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4. Three elements needed for the healthy growth of plants are

A. N P K

B. N K C

C. N S P

D. N Ca P

Answer & Explanation

Answer: Option **A**

Explanation:

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5. Which of the following is not a secondary pollutant

A. ozone

B. carbonic acid

C. sulphuric acid

D. carbon dioxide

Answer & Explanation

Answer: Option **D**

Explanation:

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6. Residence time of methane in the atmosphere is

A. 3 - 7 days

B. 2 -3 days

C. 3 - 7 years

D. 2 - 3 years

Answer & Explanation

Answer: Option **C**

Explanation:

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7. Major cause of SO2 on global scale is

A. volcanoes **B.** electric sparks

C. combustion **D.** all

Answer & Explanation

Answer: Option **A**

Explanation:

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8. Hypochlorous acid is used for disinfecting the water it reacts with the dissolved ammonia producing

A. NH2Cl **B.** NHCI2

C. NCI2 **D.** all of the above

Answer & Explanation

Answer: Option **D**

Explanation:

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9. Acid present in acid rain may be

A. H2SO4 **B.** HNO3

C. both a and b **D.** none

Answer & Explanation

Answer: Option **C**

Explanation:

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10. The yellow colour in photochemical smog is due to presence of

A. dinitrogen oxide **B.** nitrogen dioxide

C. chlorine gas **D.** chlorine dioxide

Answer & Explanation

Answer: Option **B**

Explanation

11. Which of the following is not a condition for the formation of smog?

A. sufficient NO **B.** sunlight

C. less movement of air **D.** winds

Answer & Explanation

Answer: Option **D**

Explanation:

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12. Incineration of muncipal waste is carried out in the temperature range of

A. 250 to 500?C **B.** 500 to 900?C

C. 950 to 1300?C **D.** 900 to 1000?C

Answer & Explanation

Answer: Option **D**

Explanation:

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13. In which of the following layer of atmosphere there is more thickness of ozone layer?

A. troposphere **B.** stratosphere

C. mesosphere **D.** photosphere

Answer & Explanation

Answer: Option **B**

Explanation:

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14. Which of the following is not primary pollutant

A. SO3 **B.** CO

C. NO **D.** H2SO4

Answer & Explanation

Answer: Option **D**

Explanation:

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15. Which of the following air pollutants is more dangerous for ozone layer?

A. CFC **B.** CO2

C. CO **D.** Oxides of nitrogen

Answer & Explanation

Answer: Option **A**

Explanation:

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16. Which of the following gases is the main cause of acid rain?

A.	CO	**B.**	NO2
C.	both a & b	**D.**	none of the above

Answer & Explanation

Answer: Option **B**

Explanation:

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17. Which statement is wrong?

A.	the amount of ozone layer is greater in the region close to the equator	**B.**	ozone acts as filter for UV radiations
C.	in the equatorial region it acts as pollutant	**D.**	CFCs play effective role in removing O3 in the stratosphere

Answer & Explanation

Answer: Option **A**

Explanation:

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18. Which of the following factors help to measure quallity of water?

A.	DO	**B.**	BOD

C. COD **D.** all of the above

Answer & Explanation

Answer: Option **D**

Explanation:

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19. In the purification of portable water the coagulant used is

A. alum **B.** nickel sulphate

C. copper sulphate **D.** barium sulphate

Answer & Explanation

Answer: Option **A**

Explanation:

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20. Newspaper can be recycled again and again how many times?

A. 2 **B.** 3

C. 4 **D.** 5

Answer & Explanation

Answer: Option **D**

Explanation:

21. The main pollutant of leather tanneries in the waste water is

A. chromium III **B.** chromium IV

C. chromium V **D.** chromium VI

Answer & Explanation

Answer: Option **B**

Explanation:

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22. A single chlorine free radical can destroy how many ozone molecules?

A. 10 **B.** 100

C. 10000 **D.** 100000

Answer & Explanation

Answer: Option **D**

Explanation:

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23. Which substance can be used for disinfecting water?

A. KMnO4 **B.** Alums

C. Ozone **D.** All

Answer & Explanation

Answer: Option **A**

Explanation:

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24. Chlorination of water may be harmful if the water contains

A. Ammonia **B.** Dissolved oxygen

C. Carbon dixide **D.** All

Answer & Explanation

Answer: Option **A**

Explanation:

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25. Which one of the following makes the bulk of hydrospheres content?

A. oceans **B.** glaciers & icecaps

C. fresh water lakes and ponds **D.** All have equal distribution

Answer & Explanation

Answer: Option **A**

Explanation:

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26. Which of the following is used as water disinfectant to avoid the formation of toxic compounds

A. Cl2 **B.** O3

C. ClO2 **D.** both b & c

Answer & Explanation

Answer: Option **D**

Explanation:

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27. The percentage of suspended solid waste in raw water is removed by coagulation is

A. 60 **B.** 70

C. 80 **D.** 90

Answer & Explanation

Answer: Option **C**

Explanation:

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28. Ozone hole is substantial depletion of ozone in every year during

A. Aug - Nov **B.** Sep - Nov

C. Nov - Dec **D.** Dec - Jan

Answer & Explanation

Answer: Option **B**

Explanation:

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29. The main product of bacterial action is

A. Nox **B.** NO2

C. N2O3 **D.** NO

Answer & Explanation

Answer: Option **D**

Explanation:

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30. Pollutants have adverse effect over

A. Biosphere **B.** Ecosystem

C. Both a & b **D.** Hydrosphere

Answer & Explanation

Answer: Option **B**

Explanation:

1. Diameter of an atom is in the order of

A. 0.2m **B.** 0.2mm

C. 0.2nm **D.** 0.2pm

Answer & Explanation

Answer: Option **C**

Explanation:

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2. Which of the following are isoelectronic species?

A. H+ H H- **B.** Li+ Na+ K+

C. C1- Br- I **D.** F- Ne Na+

Answer & Explanation

Answer: Option **D**

Explanation:

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3. Mass spectrometer is used to determine Mass number of isotopes and

A. Atomic number **B.** Relative abundance

C. Electronic configuration **D.** All of the above

Answer & Explanation

Answer: Option **B**

Explanation:

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4. Molecular ions are formed by passing

A. High energy electron beam **B.** ? - particle

C. X-rays **D.** All of the above

Answer & Explanation

Answer: Option **D**

Explanation:

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5. The number of peaks obtained in mass spectrometry shows

A. Relative abundance **B.** Average mass of element

C. Number of isotopes **D.** Relative isotopic mass

Answer & Explanation

Answer: Option **C**

Explanation:

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6. Empirical formula of chloroform is

A. CH2 C12 **B.** CH3C1

C. CC14 **D.** CHC13

Answer & Explanation

Answer: Option **D**

Explanation:

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7. Which one is true about isotope?

A. Same number of neutrons **B.** Same mass number

C. Same physical properties **D.** Same chemical properties

Answer & Explanation

Answer: Option **D**

Explanation:

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8. Molecular mass of water (18g) means

A. 1-mole molecules of water **B.** 1-gram molecule of water

C. 3-gram atoms **D.** all

Answer & Explanation

Answer: Option **D**

Explanation:

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9. Which of the following ion formation is always exothermic?

A.	Uni-negative	**B.**	Uni-positive
C.	Di-negative	**D.**	Di-positive

Answer & Explanation

Answer: Option **A**

Explanation:

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10. Which of the following statements about isotopes is correct?

A.	Isotopes with odd atomic number are abundant	**B.**	Isotopes with odd atomic number and even mass number are abundant
C.	Isotopes with even atomic number and even mass number are abundant	**D.**	Isotopes with even atomic number and odd mass no are abundant

Answer & Explanation

Answer: Option **C**

Explanation:

11. The sample of isotopes of an element which needs not to be vaporized in the vaporization chamer

A. Gas **B.** Liquid

C. Volatile solid **D.** All

Answer & Explanation

Answer: Option **A**

Explanation:

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12. One mole of CO2 contains.

A. 6.022 x 1023 atoms of oxygen **B.** 22-gram electrons

C. 6.022 x 1023 atms of carbon **D.** both b & c

Answer & Explanation

Answer: Option **D**

Explanation:

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13. Avogadros number may represent

A. volume of particles **B.** number of particles

C. mass of particles **D.** All of the above

Answer & Explanation

Answer: Option **D**

Explanation:

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14. The number of isotopes of elements with even mass number and even atomic number are.

A. 280 **B.** 300

C. 154 **D.** 54

Answer & Explanation

Answer: Option **C**

Explanation:

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15. Size of molecule depends upon

A. Atomicity **B.** Shape of molecule

C. Both a and b **D.** Difficult to predict

Answer & Explanation

Answer: Option **C**

Explanation:

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16. Which of the following terms is not used for ionic compound?

A. formula unit **B.** empirical formula

C. molecular formula **D.** formula mass

Answer & Explanation

Answer: Option **C**

Explanation:

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17. 0.36 moles of each aluminium and oxygen react with each other to produce aluminium oxide. The amount of product formed is

A. 0.18 mole **B.** 0.27 mole

C. 0.24 mole **D.** 0.09 mole

Answer & Explanation

Answer: Option **A**

Explanation:

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18. Which of the following terms is used for the mass of chlorine 35.5?

A. relative atomic mass **B.** mass number

C. atomic weight **D.** relative isotopic mass

Answer & Explanation

Answer: Option **A**

Explanation:

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19. Which one of the following has the maximum number of isotopes?

A. oxygen **B.** carbon

C. tin **D.** chlorine

Answer & Explanation

Answer: Option **C**

Explanation:

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20. Which one of the following is not the mono isotopic element?

A. arsenic **B.** uranium

C. iodine **D.** nickel

Answer & Explanation

Answer: Option **B**

Explanation:

21. The volume occupied by 2.8 g of N2 at STP

A. 2.24 dm3 **B.** 22.4 dm3

C. 1.12 dm3 **D.** 112 dm3

Answer & Explanation

Answer: Option **A**

Explanation:

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22. The mass of decimole of electrons (NA) is

A. 1.008 mg **B.** 0.184 mg

C. 0.054 mg **D.** 5.4 mg

Answer & Explanation

Answer: Option **C**

Explanation:

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23. The number of moles of CO2 which contains 16 g of oxygen is

A. 0.25 **B.** 0.5

C. 0.75 **D.** 1

Answer & Explanation

Answer: Option **B**

Explanation:

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24. Which of the following statements is wrong about isotopes?

A. they possess different mass number **B.** they possess different physical properties

C. they possess same chemical properties **D.** they possess different position in the periodic table

Answer & Explanation

Answer: Option **D**

Explanation:

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25. How many isotopes have odd atomic number?

A. 154 **B.** 280

C. 86 **D.** 300

Answer & Explanation

Answer: Option **C**

Explanation:

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26. Qualitative analysis is carried out for

A. identification of elements

B. estimation of amounts of elements

C. molar ration of elements

D. molar volume of elements

Answer & Explanation

Answer: Option **A**

Explanation:

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27. Percentage of calcium in calcium carbonate is

A. 80%

B. 30%

C. 40%

D. 20%

Answer & Explanation

Answer: Option **C**

Explanation:

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28. Combustion analysis is performed to determine

A. Empirical formula

B. Molecular mass

C. Molecular formula

D. Formula mass

Answer & Explanation

Answer: Option **A**

Explanation:

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29. Mostly elements have fractional atomic masses because of

A. mass of an atom itself is in fraction

B. atomic masses are average masses of isobars

C. atmoic masses are average masses of isotopes proportional to their relative abundance

D. atmoic masses are average masses of isotopes

Answer & Explanation

Answer: Option **C**

Explanation:

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30. Isotopes differ in

A. properties which depend upon mass

B. arrangement of electrons in orbitals

C. chemical properties

D. all of the above

Answer & Explanation

Answer: Option **A**

Explanation:

31. Which of the following is not a macromolecule?

A. sand

B. haemoglobin

C. diamond

D. maltose

Answer & Explanation

Answer: Option **D**

Explanation:

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32. Which of the following methods is used to estimate hydrogen in an organic compound?

A. Combustion method

B. Dumas method

C. Kjeldahls method

D. All of the above methods are for different purposes

Answer & Explanation

Answer: Option **A**

Explanation:

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33. Isotopes of the same elements has

A. different number of protons

B. same number of neutrons

C. different number of neutrons

D. same mass number (nucleon number)

Answer & Explanation

Answer: Option **C**

Explanation:

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34. The nucleus of an atom of every element will always contain

A. neutrons

B. protons and electrons

C. protons

D. protons and neutrons

Answer & Explanation

Answer: Option **C**

Explanation:

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35. When cationic molecular ions are allowed to pass through strong magnetic field in mass spectrometer which of the following ions is fallen

A. lighter

B. intermediate

C. heavier

D. are collected at same time

Answer & Explanation

Answer: Option **A**

Explanation:

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36. When 0.5 mole of phosphoric acid is dissolved in aqueous solution how many moles of -ve and +ve ions are collected altogether?

A. 0.5

B. 1

C. 1.5

D. 2

Answer & Explanation

Answer: Option **D**

Explanation:

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37. For which of the following compounds the term empirical formula cannot be applied?

A.	NaCl	**B.**	H2O
C.	CCI4	**D.**	It can be applied to all mentioned above

Answer & Explanation

Answer: Option **D**

Explanation:

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38. Dempsters mass spectrometer has number of zones / parts

A.	5	**B.**	4
C.	3	**D.**	2

Answer & Explanation

Answer: Option **A**

Explanation:

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39. The properties of an element mosly corresponds to that isotope which has greater

A. Mass number **B.** Atomic mass

C. Relative abundance **D.** all of the above

Answer & Explanation

Answer: Option **C**

Explanation:

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40. 1 a.m.u =

A. 1.6 x 10-27 kg **B.** 1.6 x 10-24 kg

C. 1.6 x 10-26 kg **D.** 1.6 x 10-28 kg

Answer & Explanation

Answer: Option **A**

Explanation:

1. Which of the following has strongest intermolecular forces of attraction?

A. Hydrogen (H2) **B.** Chlorine (Cl2)

C. lodine (I2) **D.** Methane (CH4)

Answer & Explanation

Answer: Option **C**

Explanation:

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2. Which has strongest bonding in the solid state?

A. Hydrogen Chloride (HCI)

B. Chlorine (Cl2)

C. Xenon(Xe)

D. Sodium Chloride (NaCI)

Answer & Explanation

Answer: Option **D**

Explanation:

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3. When substance moves from a solid to a liquid state all of the following changes occur except

A. Molecules become more disordered

B. K.E of the molecules decreases

C. Intermolecular forces become weaker

D. Molecule become further separated

Answer & Explanation

Answer: Option **B**

Explanation:

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4. When the atoms of third layer are arranged in such a way that they directly lie above the atoms of first layer then this arrangement is called

A. ABAB (hexagonal)

B. ABCABC (Cubic)

C. Orthor hombic

D. Rhombohedral

Answer & Explanation

Answer: Option **A**

Explanation:

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5. In order to mention the boiling point of water at 110?C the external pressure should be

A. Between 760 torr and 1200 torr

B. Between 200 torr and 760 torr

C. 765 torr

D. any value of pressure

Answer & Explanation

Answer: Option **A**

Explanation:

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6. Which one is false for evaporation?

A. Surface phenomenon

B. Continuous

C. Exothermic

D. Cause cooling

Answer & Explanation

Answer: Option **C**

Explanation:

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7. Vapour pressure of water at 100?C is

A. 55 mm Hg

B. 760 mm Hg

C. 355 mm Hg

D. 1489 mm Hg

Answer & Explanation

Answer: Option **B**

Explanation:

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8. Which one of the following does not show hydrogen bonding ?

A. Water **B.** Ethyl alcohol

C. Phenol **D.** Diethyl ether

Answer & Explanation

Answer: Option **D**

Explanation:

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9. Liquid crystal is discovered by

A. William Crooks **B.** Fredrack Reinitzer

C. J.J Thomson **D.** Bravis

Answer & Explanation

Answer: Option **B**

Explanation:

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10. Which one is a conductor but is not malleable?

A. Iron **B.** Graphite

C. Silver **D.** Platinum

Answer & Explanation

Answer: Option **B**

Explanation:

11. Hydrogen bonding is involved in

A. Solubility

B. Cleansing action of detergents

C. Biological molecules

D. All

Answer & Explanation

Answer: Option **D**

Explanation:

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12. Actually the vapour pressure on the surface of liquid in the flask is equal to

A. ? h

B. Pa - ?h

C. Pa + ?h

D. Pt = Pa - ?h

Answer & Explanation

Answer: Option **C**

Explanation:

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13. Forces of attraction which may be present between all kinds of atoms and molecules are

A. intramolecular

B. intermolecular

C. van der Waal **D.** Dipole-induced dipole

Answer & Explanation

Answer: Option **C**

Explanation:

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14. The density of water may be

A. Equal to that of ice **B.** Greater than that of ice

C. Less than that of ice **D.** All are possible

Answer & Explanation

Answer: Option **B**

Explanation:

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15. The quantity of heat required to convert one mole of liquid into its vapours at its boiling point is called molar heat of

A. vaporization **B.** evaporation

C. crystallization **D.** sublimation

Answer & Explanation

Answer: Option **A**

Explanation:

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16. Steam causes more sever burn than the boiling water because it possesses.

A. Latent heat of fusion **B.** Latent heat of vaporization

C. Latent heat of sublimation **D.** All of the above

Answer & Explanation

Answer: Option **B**

Explanation:

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17. Water has maximum density at

A. 0?C **B.** 2?C

C. 4?C **D.** 100?C

Answer & Explanation

Answer: Option **C**

Explanation:

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18. The conversion of vapours back into their liquid state is called

A. crystallization **B.** evaporization

C. vaporization **D.** condensation

Answer & Explanation

Answer: Option **D**

Explanation:

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19. Formation of vapours from the surface of a liquid is called

A. vapourization **B.** evaporation

C. condensation **D.** cracking

Answer & Explanation

Answer: Option **B**

Explanation:

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20. When water freezes at 0?C its density decreases due to

A. Change of bond angles **B.** Cubic structure of ice

C. Empty space present in the structure of ice **D.** Change of bond length

Answer & Explanation

Answer: Option **C**

Explanation:

21. The ttractive forces between the partial positive end of one molecule and partial negative end of other molecule are called

A. Dipole-dipole forces **B.** Ion dipole-dipole forces

C. London dispersion forces **D.** Debye forces

Answer & Explanation

Answer: Option **A**

Explanation:

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22. The boiling point increases down the zero group element due to

A. Ion dipole forces **B.** London forces

C. Hydrogen bonding **D.** Dipole dipole forces

Answer & Explanation

Answer: Option **B**

Explanation:

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23. Vapour pressure is not affected by

A. Surface area **B.** temperature

C. intermolecular forces **D.** atmospheric pressure

Answer & Explanation

Answer: Option **A**

Explanation:

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24. Rising of a wetting liquid in a capillary tube is due to

A. Surface tension **B.** Cohesive forces

C. Adhesive forces **D.** viscosity

Answer & Explanation

Answer: Option **C**

Explanation:

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25. Table salt crystallizes with a

A. Face centered cubic lattice **B.** body centered cubic lattice

C. simple cubic lattice **D.** othorhombic lattice

Answer & Explanation

Answer: Option **B**

Explanation:

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26. The number of formula units in 29.25g of common salt

A. 6.022 x 1023 **B.** 3.01 x 1023

C. 2 x NA **D.** 4 x 6.022 x 1023

Answer & Explanation

Answer: Option **B**

Explanation:

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27. During which process empty spaces between particles become minimum?

A. ionization **B.** condensation

C. fusion **D.** evaporation

Answer & Explanation

Answer: Option **B**

Explanation:

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28. Liquid gets the shape of the container when it is poured into it. Which one of the following reasons justifies it?

A.	Liquid do not have definite shape	**B.**	Liquid do not have definite volume
C.	Lieuid is highly compressible	**D.**	Liquid molecules can slide over each other

Answer & Explanation

Answer: Option **D**

Explanation:

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29. Which one of the following has highest volatility

A.	Diethyl ether	**B.**	Ethyl alcohol
C.	Water	**D.**	Ethylene glycol

Answer & Explanation

Answer: Option **A**

Explanation:

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30. Molar heat of vaporization of water is

A.	40.7 KJ/mole	**B.**	40.7 J/mole
C.	40.7 cal/mole	**D.**	40.7 Kcal/mole

Answer & Explanation

Answer: Option **A**

Explanation:

31. If we provide very high amount of heat to a liquid its boiling point will

A. increase

B. remains constant

C. decrease

D. there will be no boiling

Answer & Explanation

Answer: Option **B**

Explanation:

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32. Crystallites are present in

A. crystalline solids

B. amorphous solids

C. liquid crystals

D. all of the above

Answer & Explanation

Answer: Option **B**

Explanation:

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33. A solid may be made up of

A. Atoms

B. Ions

C. Molecules

D. a b and c

Answer & Explanation

Answer: Option **D**

Explanation:

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34. A malleable solid is one which can be

A. Converted into wires

B. Converted into thin sheets

C. Melted easily

D. All of the above

Answer & Explanation

Answer: Option **B**

Explanation:

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35. Amorphous substances posses

A. No definite geometry

B. No definite heat of fusion

C. No sharp melting points

D. All of the above

Answer & Explanation

Answer: Option **C**

Explanation:

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36. Crystalline solids can be identified easily from their

A. Sharp melting point

B. Definite geometry

C. Transition temperature

D. Colour

Answer & Explanation

Answer: Option **A**

Explanation:

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37. Boiling points of hydrocarbons increase with the increase in number of carbon atoms. It is mainly due to

A. More strength of H-bonding

B. More strength of London forces

C. Less polarizability

D. All of the above

Answer & Explanation

Answer: Option **B**

Explanation:

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38. Ice is _____ crystal

A. Metallic

B. Molecular

C. Covalent

D. Ionic

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39. Select a pair of compounds which are isomorphic in nature.

A. NaCI and KNO3

B. MgO and NaF

C. KNO3 and MgO

D. NaF and CaCO3

Answer & Explanation

Answer: Option **B**

Explanation:

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40. The viscosity of solids is

A. Infinite

B. Negligible

C. Medium

D. No concept of viscosity in solid

Answer & Explanation

Answer: Option **A**

Explanation:

41. a?b?c ?????#90? is representation of crystal system

A. Monoclinic

B. Triclinic

C. Hexagonal

D. Trigonal

Answer & Explanation

Answer: Option **B**

Explanation:

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42. The phenomenon in which a compound exists in two or more crystalline forms is called

A. Isomorphism

B. Polymorphism

C. Anisotropy

D. Allotropy

Answer & Explanation

Answer: Option **B**

Explanation:

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43. Which solids are called true solids?

A. Metallic

B. Amorphous

C. Crystalline

D. Vitreous

Answer & Explanation

Answer: Option **C**

Explanation:

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44. Bucky balls is an allotropic from of

A. Sulphur

B. Carbon

C. Silica

D. Tin

Answer & Explanation

Answer: Option **B**

Explanation:

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45. The number amino acid units for each turn of helix on average are

A. 21

B. 23

C. 25 **D.** 27

Answer & Explanation

Answer: Option **D**

Explanation:

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46. Isomorphic substances have

A. Same physical and chemical properties

B. Same physical and different chemical properties

C. Different physical and same chemical properties

D. Different physical and chemical properties

Answer & Explanation

Answer: Option **D**

Explanation:

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47. If a physical and chemical change takes place at a constant pressure then the heat change during the process is called

A. Heat of transition

B. Heat of fusion

C. Enthalpy change

D. All of above

Answer & Explanation

Answer: Option **C**

Explanation:

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48. The pressure during the molar heat of fusion is kept

A. 0 atmosphere **B.** one atmosphere

C. 2 atmosphere **D.** 10 atmosphere

Answer & Explanation

Answer: Option **B**

Explanation:

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49. The amount of heat absorbed when one mole of a liquid is changed into gas at its boiling point is

A. Molar heat of sublimation **B.** Molar heat of fusion

C. Molar heat of vapourization **D.** Latent heat of that liquid

Answer & Explanation

Answer: Option **C**

Explanation:

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50. All the enthalpy changes are

A. Negative **B.** Positive

C. May or may not be a or b **D.** none

Answer & Explanation

Answer: Option **C**

Explanation:

1. Which one is not state function

A. Internal energy

B. Enthalpy

C. Gibbs free energy

D. Work

Answer & Explanation

Answer: Option **D**

Explanation:

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2. If ?H value is less than zero than reaction will be

A. Exothermic

B. Endothermic

C. May or may not be Exothormic or Endothermic

D. None of these

Answer & Explanation

Answer: Option **A**

Explanation:

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3. If internal energy of the system is increased

A. Change in state of the system is increased

B. Temperature of the ystem may rise

C. Chemical reaction may take place

D. All

Answer & Explanation

Answer: Option **D**

Explanation:

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4. Which is true for a spontaneous endothermic process?

A. ?H<0 **B.** ?G<0

C. ?S<0 **D.** ?G>0

Answer & Explanation

Answer: Option **B**

Explanation:

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5. A reaction has values of ?H and ?S which are both positive. The reaction

A. Is spontaneous **B.** Spontaneity is temperature dependent

C. Has an increasing free energy **D.** Is non-spontaneous

Answer & Explanation

Answer: Option **D**

Explanation:

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6. _____ is study about energy of a chemical system

A. thermochemistry **B.** thermodynamics

C. chemical kinetics **D.** stoichiometry

Answer & Explanation

Answer: Option **A**

Explanation:

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7. The environment in which a system is studied is

A. State function **B.** phase

C. surrounding **D.** state

Answer & Explanation

Answer: Option **C**

Explanation:

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8. Unit of heat in SI system is

A. J **B.** KCaL

C. Cal **D.** GJ

Answer & Explanation

Answer: Option **A**

Explanation:

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9. Anything which depends upon initial and final state of a system is

A. environment **B.** surrounding

C. state function **D.** enthalpy

Answer & Explanation

Answer: Option **C**

Explanation:

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10. Total energy of a system is

A. P.E + K.E

B. P.E + heat energy

C. K.E + heat energy

D. P.E + mechanical energy

Answer & Explanation

Answer: Option **A**

Explanation

11. Mathematical form of first law of thermodynamics is

A. ?H=qp

B. ?E = q + W

C. ?E = q x v

D. all of the above

Answer & Explanation

Answer: Option **B**

Explanation:

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12. Reaction in which heat evolves is called

A. endothermic

B. spontaneous

C. non-spontaneous

D. exothermic

Answer & Explanation

Answer: Option **D**

Explanation:

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13. CuSO4 + Zn?ZnSO4+Cu is

A. Spontaneous reaction

B. Non-spontaneous reaction

C. Endothermic

D. Exothermic

Answer & Explanation

Answer: Option **A**

Explanation:

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14. Pumping of water uphill is

A. spontaneous process

B. non-spontaneous process

C. irreversible process

D. reversible process

Answer & Explanation

Answer: Option **B**

Explanation:

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15. State function the macroscopic property of system depends upon

A. path of reaction

B. initial state

C. final state

D. initial and final state

Answer & Explanation

Answer: Option **D**

Explanation:

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16. Which one of the following is a state function?

A. pressure

B. temperature

C. enthalpy

D. all of the above

Answer & Explanation

Answer: Option **D**

Explanation:

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17. When enthalpy of reactants is higher than product then reaction will be

A. endothermic

B. spontaneous

C. non-spontaneous

D. exothermic

Answer & Explanation

Answer: Option **D**

Explanation:

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18. Enthalpy of a reaction can be measured by

A. glass calorimeter

B. manometer

C. Barometer **D.** thermometer

Answer & Explanation

Answer: Option **A**

Explanation:

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19. Enthalpy of combustion for food fuel and other compounds can be measured accurately by

A. glass calorimeter **B.** bomb calorimeter

C. thermometer **D.** manometer

Answer & Explanation

Answer: Option **B**

Explanation:

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20. The attice energy of NaCl is

A. ?787 KJ/mole **B.** 787 J/mole

C. 780 KJ/mole **D.** 790 KJ/mole

Answer & Explanation

Answer: Option **A**

Explanation:

21. Most of thermodynamic parameters are

A. system **B.** surrounding

C. phase **D.** state functions

Answer & Explanation

Answer: Option **D**

Explanation:

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22. ?H of a system can be calculated by which of following relationship

A. q=m x s x ?T **B.** q=?E

C. q=m x v x ?T **D.** q = pv

Answer & Explanation

Answer: Option **A**

Explanation:

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23. Change in enthalpy (H) of a system can be calculated by following relationship

A. ?H=?E+P?V **B.** ?H=?E-PV

C. ?H=?E-q **D.** ?H=?E+q

Answer & Explanation

Answer: Option **A**

Explanation:

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24. Which of the following is correct

A. qp>qv

B. ?E < ?H

C. ?E>?H

D. Both a & b

Answer & Explanation

Answer: Option **A**

Explanation:

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25. Two fundamental ways to transfer energy are

A. pressure and temperature

B. pressure and volume

C. heat and work

D. heat and volume

Answer & Explanation

Answer: Option **C**

Explanation:

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26. Which of the following processes has always ?H = -ve

A. formation of compound

B. combustion

C. dissolution of ionic compound

D. dilution of a solution

Answer & Explanation

Answer: Option **B**

Explanation:

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27. Enthalpy change can be

A. calculated by Hess law

B. can be measured by calorimeter

C. both a and b

D. none

Answer & Explanation

Answer: Option **C**

Explanation:

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28. If there is interconversion of solid and liquid states then

A. ?V = 0

B. ?H= ?E

C. ?H > ?E

D. both a & b

Answer & Explanation

Answer: Option **B**

Explanation:

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29. In order to determine ?hlatt of ionic compound which is correct relationship

A. ?hlatt = ?Hf - ?Hx

B. ?hlatt = ?Hf + ?Hx

C. ?hlatt = ?Ha + ?Hv

D. ?hlatt = ?Hf - ?hsol

Answer & Explanation

Answer: Option **A**

Explanation:

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30. Hess law can be applied to determine

A. ?Hf

B. ?Hlatt

C. ?Hcomb

D. All of the above

Answer & Explanation

Answer: Option **D**

Explanation:

1. Which of the following element act as inert electrode

A. Cu

B. Ag

C. Pt

D. None

Answer & Explanation

Answer: Option **C**

Explanation:

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2. If electricity is passed through CuSO4 solution by using Pt electrode then which of the following possible change occurs?

A. H2 is deposited at cathode

B. Colour of the solution becomes fade

C. Cu is deposited at anode

D. All are possible

Answer & Explanation

Answer: Option **B**

Explanation:

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3. Stronger the oxidizing agent greater is the

A. Oxidation potential **B.** Reduction potential

C. Redox potential **D.** emf of cell

Answer & Explanation

Answer: Option **B**

Explanation:

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4. Which has maximum oxidation number?

A. N **B.** Cr

C. S **D.** Mn

Answer & Explanation

Answer: Option **D**

Explanation:

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5. Which of the following cell is not rechargeable?

A. Lead storage battery **B.** Silver oxide cell

C. Fuel cell **D.** Ni-Cd cell

Answer & Explanation

Answer: Option **B**

Explanation:

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6. In an electrolytic cell current flows ?

A.	From cathode to anode in outer circuit	**B.**	From anode to cathode outside the cell
C.	From cathode to anode inside the cell	**D.**	both b & c

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7. Which of the following is true in the case of Zn-Cu cell?

A.	The flow of electrons takes place from copper to zinc	**B.**	E0red of copper electrode is less than that of zinc electrode
C.	Zinc acts as an anode and copper as cathode	**D.**	All are correct

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8. In a galvanic cell

A.	Chemical energy is converted into electricity	**B.**	Chemical energy is converted into heat
C.	Electrical energy is converted into chemical energy	**D.**	Electrical energy is converted into heat

Answer & Explanation

Answer: Option **A**

Explanation:

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9. The degree of dissociation of week electrolyte increases as

A. Pressure increases **B.** Dilution decreases

C. Dilution increases **D.** None

Answer & Explanation

Answer: Option **C**

Explanation:

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10. Molten NaCl conducts electricity due to the presence of

A. Free electrons **B.** Free molecules

C. Free ions **D.** Atoms of Na and Cl

Answer & Explanation

Answer: Option **C**

Explanation:

11. In which of the following reactions occur at cathode?

A. Cu2++2e-? Cu **B.** Cu+2e-? Cu2+

C. Hg + O2 ? HgO **D.** Mg + O2 ? MgO

Answer & Explanation

Answer: Option **A**

Explanation:

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12. Electricity in voltaic cell is produced due to

A. neutralization **B.** oxidation

C. reduction **D.** both b & c

Answer & Explanation

Answer: Option **D**

Explanation:

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13. In electrolytic solution conductance of electricity is due to

A. free electrons **B.** ions

C. metals **D.** electrodes

Answer & Explanation

Answer: Option **B**

Explanation:

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14. In electrolytic cell electricity carries

A. spontaneous reaction **B.** non-wpontaneous reaction

C. neutralization **D.** all of above

Answer & Explanation

Answer: Option **B**

Explanation:

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---

15. Reaction at anode is called

A. oxidation

B. reduction

C. redox

D. decomposition

Answer & Explanation

Answer: Option **A**

Explanation:

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---

16. In an electrolytic cell cathode provides electrons to

A. ve ion

B. ?ve ion

C. neutral atom

D. does not provide any electron

Answer & Explanation

Answer: Option **A**

Explanation:

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17. In Galvanic cell electrons flow from anode to cathode through

A. external electric circuit

B. salt bridge

C. movement of ions

D. all of the above

Answer & Explanation

Answer: Option **A**

Explanation:

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18. Decrease in oxidation number is called

A.	oxidation	**B.**	reduction
C.	oxidation-reduction	**D.**	all of above represent same entity

Answer & Explanation

Answer: Option **B**

Explanation:

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19. For the measurement of standard electrode potential Zn is dipped in

A.	1 M ZnO solution	**B.**	1 M ZnSO4 solution
C.	1.5 M ZnSO4 solution	**D.**	0.1 M ZnSO4 solution

Answer & Explanation

Answer: Option **B**

Explanation:

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20. Right half cell contains _____ electrode

A.	A1	**B.**	Zn

C. Cu **D.** Fe

Answer & Explanation

Answer: Option **C**

Explanation:

21. Zn(s)/Zn+2(aq) 1M | | Cu+2(aq) 1M/Cu(s) is representation of reaction in

A. Daniel cell **B.** Downs cell

C. Voltaic cell **D.** Nelsons cell

Answer & Explanation

Answer: Option **C**

Explanation:

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---

22. Salt bridge transfers

A. electrons **B.** anion

C. current **D.** ions

Answer & Explanation

Answer: Option **D**

Explanation:

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23. Voltaic cell can be recharged by

A. by addition of fresh solution **B.** by replacing external circuit with external source of

electricity

C. by removal of solution **D.** by heating it

Answer & Explanation

Answer: Option **B**

Explanation:

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24. E0red of an element cab be calculated by comparing it with

A. New electrode of same element **B.** SHE

C. 1M solution of ions of respective element **D.** 2M solution of HCI

Answer & Explanation

Answer: Option **B**

Explanation:

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25. Temperature for the measurement of standard electrode potential is

A. 298K **B.** 300K

C. 30?C **D.** 310K

Answer & Explanation

Answer: Option **A**

Explanation:

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26. H2 gas in SHE is filled at pressure of

A. 760mm of Hg **B.** 750mm of Hg

C. 780mm of Hg **D.** 800mm of Hg

Answer & Explanation

Answer: Option **A**

Explanation:

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27. Potential of SHE is considered as

A. zero **B.** unity

C. constant **D.** multiple of 1

Answer & Explanation

Answer: Option **A**

Explanation:

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28. Chemical used in salt bridge is

A. KOH **B.** KCI

C. KNO3 **D.** KBr

Answer & Explanation

Answer: Option **B**

Explanation:

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29. Electrode potential of Zn is

A. oxidation

B. reduction

C. oxidation-reduction

D. depends on the nature of the coupled electrode

Answer & Explanation

Answer: Option **D**

Explanation:

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30. List of elements based on hydrogen scale is called

A. periodic table

B. groups

C. periods

D. electrochemical series

Answer & Explanation

Answer: Option **D**

Explanation:

31. The element that act as anode always have _____ position in electrochemical cell

A. higher

B. lower

C. in middle

D. no effect of position

Answer & Explanation

Answer: Option **A**

Explanation:

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32. In galvanic cell Zn acts as an anode so its value of standard reduction potential in comparison to coupled electrode would be

A.	greater	**B.**	lesser
C.	sum of reduction and oxidation potentials	**D.**	none

Answer & Explanation

Answer: Option **A**

Explanation:

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33. Greater value of standard reduction potential greater will be tendency

A.	to get oxidized	**B.**	to get reduced
C.	to accept electrons	**D.**	both b and c

Answer & Explanation

Answer: Option **D**

Explanation:

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34. Greater value of standard reduction potential smaller will be tendency

A.	to form positive ions	**B.**	to form negative ions

C. gain electrons **D.** all are possible

Answer & Explanation

Answer: Option **A**

Explanation:

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35. Secondary cell is

A. rechargeable **B.** non rechargeable

C. electrolytic cell **D.** Daniel cell

Answer & Explanation

Answer: Option **A**

Explanation:

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36. Lead accumulators are

A. secondary cell **B.** primary cell

C. voltaic cell **D.** both a & c

Answer & Explanation

Answer: Option **D**

Explanation:

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37. Density of H2SO4 in lead accumulator is

A. 1.25g/cm3 **B.** 1.3g/cm3

C. 1.20g/cm3 **D.** 1.15g/cm3

Answer & Explanation

Answer: Option **A**

Explanation:

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38. Capacity of one lead accumulator cell is

A. 1.5 volts **B.** 2 volts

C. 3 volts **D.** 1 volts

Answer & Explanation

Answer: Option **B**

Explanation:

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39. In alkaline battery the anode is made up of

A. MnO2 **B.** Zn

C. AgO2 **D.** cadmium

Answer & Explanation

Answer: Option **B**

Explanation:

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40. The strength of solution of an element whose electrode potential is to be measured is

A. 2M **B.** 1N

C. 1m **D.** 1M

Answer & Explanation

Answer: Option **D**

Explanation:

41. Apparent charge on atom in molecule is

A. valency **B.** coordination number

C. oxidation number **D.** charge number

Answer & Explanation

Answer: Option **C**

Explanation:

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42. Voltaic cell is a

A. irreversible cell **B.** reversible cell

C. alkaline cell **D.** all of the above

Answer & Explanation

Answer: Option **D**

Explanation:

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43. In K2Cr2O7 the oxidation number of chromium is

A. 7 **B.** 6

C. -7 **D.** -6

Answer & Explanation

Answer: Option **B**

Explanation:

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44. Percentage of sulphuric acid in lead accumulator is

A. 40% **B.** 25%

C. 30% **D.** 50%

Answer & Explanation

Answer: Option **C**

Explanation:

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45. The reduction potential Zn is

A. 0.76 **B.** -0.76

C. -0.55 **D.** 0.55

Answer & Explanation

Answer: Option **B**

Explanation:

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46. The half cells are interconnected through

A. wire

B. salt bridge

C. electric circuit

D. no connection exists

Answer & Explanation

Answer: Option **B**

Explanation:

1. I ? A elements are named as alkali metals because

A. Their oxides are basic

B. Their oxide and hydroxides are water soluble

C. Both a & b

D. They are found in earth

Answer & Explanation

Answer: Option **C**

Explanation:

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2. The word Alkali means

A. Base

B. Basic salt

C. Ashes

D. Spirit

Answer & Explanation

Answer: Option **C**

Explanation:

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3. Formula of Chile saltpetre is

A. NaNO3 **B.** CaCO3

C. Ba (NO3)2 **D.** NH4Cl

Answer & Explanation

Answer: Option **A**

Explanation:

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4. The elements which are very abundant in earth crust are

A. Si & A? **B.** Ca & Mg

C. B & A? **D.** All

Answer & Explanation

Answer: Option **A**

Explanation:

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5. The oxides of beryllium BeO is

A. Acidic **B.** Basic

C. Amphoteric **D.** Neutral

Answer & Explanation

Answer: Option **C**

Explanation:

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6. Which element is necessary for normal leaf development?

A. Si **B.** Ba

C. Mg **D.** Ca

Answer & Explanation

Answer: Option **D**

Explanation:

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7. Li is different from its family members due to

A. small size **B.** high charge density

C. less electropositivity **D.** all of the above

Answer & Explanation

Answer: Option **D**

Explanation:

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8. Carbonates of lithium are not stable like that of sodium due to

A. Low electronegativity **B.** Low electropositivity

C. Low charge density **D.** Not known yet

Answer & Explanation

Answer: Option **B**

Explanation:

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9. Nitrates of which pair of elements give different products on thermal decomposition?

A. Na K **B.** Mg Ca

C. Li Na **D.** Li Ca

Answer & Explanation

Answer: Option **C**

Explanation:

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10. Which one of the following is not an alkali metal?

A. Francium **B.** Caesium

C. Rubidium **D.** Radium

Answer & Explanation

Answer: Option **D**

Explanation

11. Which of the following sulphates is not soluble in water?

A. Sodium sulphate **B.** Potassium sulphate

C. Zinc sulphate **D.** Barium sulphate

Answer & Explanation

Answer: Option **D**

Explanation:

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12. The element cesium bears resemblance with

A. Ca **B.** Cr

C. Both of the above **D.** None of the above

Answer & Explanation

Answer: Option **D**

Explanation:

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13. The ore CaSO4.H2O has the general name

A. Gypsum **B.** Dolomite

C. Calcite **D.** Plaster of Paris

Answer & Explanation

Answer: Option **A**

Explanation:

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14. Downs cell is used to prepare

A. Sodium carbonate **B.** Sodium bicarbonate

C. Sodium metal **D.** Sodium hydroxide

Answer & Explanation

Answer: Option **C**

Explanation:

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15. Which element is produced at the cathode during the electrolysis of brine in Nelsons cell?

A. H2 **B.** Na

C. C?2 **D.** O2

Answer & Explanation

Answer: Option **A**

Explanation:

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16. Ammonia may be prepared by heating ammonium chloride with

A. Water **B.** NaCl

C. Aqueous sodium hydroxide **D.** H2SO4

Answer & Explanation

Answer: Option **C**

Explanation:

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17. Calcium carbide is prepared by heating lime with coke at

A. 2500?C **B.** 2600?C

C. 2700?C **D.** 2800?C

Answer & Explanation

Answer: Option **D**

Explanation:

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18. Crystals of Na2CO3. 10H2O when exposed to air

A. Lose water and remain solid **B.** Gain water and remain solid

C. Gain water and become liquid **D.** Remains unchanged

Answer & Explanation

Answer: Option **A**

Explanation:

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19. Which one of the following substances conducts electricity by the movement of ions?

A. Graphite **B.** Copper

C. Molten sodium chloride **D.** Mercury

Answer & Explanation

Answer: Option **C**

Explanation:

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20. Which one of the following gives white precipitate with aqueous solution of

BaC?2?

A. NaHCO3

B. NaNO3

C. Na2CO3

D. Na2CrO4

Answer & Explanation

Answer: Option **C**

Explanation:

21. Which one of the following carbonate is water insoluble?

A. Na2CO3

B. K2CO3

C. (NH4)2CO3

D. CaCO3

Answer & Explanation

Answer: Option **D**

Explanation:

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22. The deliquescence is a property in which a solid

A. Absorbs moisture and remains solid

B. Absorbs moisture and turns to liquid form

C. Loses water of crystallization

D. Increases the number of water of crystallization

Answer & Explanation

Answer: Option **B**

Explanation:

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23. In diaphragm cell hydrogen is discharged by the reduction of

A. Water

B. HCI

C. Na+

D. NaCl

Answer & Explanation

Answer: Option **A**

Explanation:

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24. In diaphragm cell level of brine in anode compartment is kept slightly higher which prevents

A. Hydroxide ions to reach anode

B. Chlorine gas to mix

C. Cathode to decay

D. All of the above

Answer & Explanation

Answer: Option **A**

Explanation:

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25. Gypsum is applied to the soil as a source of

A. Ca and P

B. S and P

C. Ca and S

D. we could not apply

Answer & Explanation

Answer: Option **C**

Explanation:

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26. Alkali and alkaline earth metals impart colours when heated over burner. It is due to

A.	Smaller electronegativity of alkali metals	**B.**	Smaller ionic radius of these metals
C.	De-excitation of electrons from higher energy levels to low energy level	**D.**	Excitation of electrons from low energy levels to higher energy levels

Answer & Explanation

Answer: Option **C**

Explanation:

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27. Which one of the following alkali metals forms only normal oxide when it reacts with O2?

A.	Lithium	**B.**	Sodium
C.	Potassium	**D.**	Rubidium

Answer & Explanation

Answer: Option **A**

Explanation:

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28. First ionization potential of alkaline earth metal is greater than alkali metals because

A. They are more reactive

B. They have greater atomic radii

C. They have smaller atomic sizes

D. All

Answer & Explanation

Answer: Option **C**

Explanation:

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29. Which one of the following pairs shown diagonal relationship in the periodic table?

A. Sodium and Lithium

B. Lithium and magnesium

C. Lithium and beryllium

D. Boron and Beryllium

Answer & Explanation

Answer: Option **B**

Explanation:

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30. NaOH is named as caustic soda because

A. It corrodes the organic tissues

B. It is used in soda water

C. It reacts with chlorine gas

D. It reacts with fats to form soap

Answer & Explanation

Answer: Option **A**

Explanation:

31. Sodium is not observed in +2 oxidation state because of its

A. high first ionization potential

B. high second ioniation potential

C. high ionic radius

D. high electronegativity

Answer & Explanation

Answer: Option **B**

Explanation:

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32. Carnalite has chemical formula

A. KCI

B. KCI.MgCl2.6H2O

C. Na2B4O7.10H2O

D. CaCO3.MgCO3

Answer & Explanation

Answer: Option **B**

Explanation:

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33. Magnesium metal does not burn in the vessel containing

A. N2

B. O2

C. N2 and O2

D. Ne

Answer & Explanation

Answer: Option **D**

Explanation:

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34. Electrolysis of dilute solution of NaCl results at the anode

A. sodium

B. hydrogen

C. chlorine

D. oxygen

Answer & Explanation

Answer: Option **D**

Explanation:

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35. Second ionization potential of alkali metals are very high due to

A. being s-block elements

B. inert gas configurations

C. ns1 electronic configuration

D. being metals

Answer & Explanation

Answer: Option **B**

Explanation:

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36. Which ion will have maximum value of heat of hydration?

A. A1+3

B. Cs+

C. Ba+

D. Mg+2

Answer & Explanation

Answer: Option **A**

Explanation:

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37. Which one can form complex?

A. Na

B. Cr

C. Li

D. K

Answer & Explanation

Answer: Option **C**

Explanation:

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38. Which one is natron?

A. Na2CO3

B. Na2CO3.10H2O

C. Na2CO3.H2O

D. NaHCO3

Answer & Explanation

Answer: Option **C**

Explanation:

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39. Addition of 2% gypsum in cement

A. Triggers hydration

B. Triggers hydrolysis

C. Prevents rapid hardening

D. all of the above

Answer & Explanation

Answer: Option **C**

Explanation:

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40. Which one is least ionic in nature and decompose on heating.

A. LiOH **B.** NaOH

C. KOH **D.** CsOH

Answer & Explanation

Answer: Option **A**

Explanation:

1. Among the halogens the rare element is

A. Fluorine **B.** Chlorine

C. Astatine **D.** Iodine

Answer & Explanation

Answer: Option **C**

Explanation:

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2. The colour of chlorine gas is

A. pale yellow **B.** freenish yellow

C. reddish brown **D.** grayish black

Answer & Explanation

Answer: Option **B**

Explanation:

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3. Vander Waals forces are stronger in

A. F2 **B.** Cl2

C. Br2 **D.** I2

Answer & Explanation

Answer: Option **D**

Explanation:

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4. The most powerful oxidizing agent among the halogens is

A. F2 **B.** Cl2

C. Br2 **D.** I2

Answer & Explanation

Answer: Option **A**

Explanation:

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5. Which of the following statements is incorrect about fluorine

A. fluorine is restricted to -1 oxidation state **B.** fluorine follows octet rule and as well as extended octet rule

C. fluorine has lowest dissociation energy among the halogens

D. both b and c

Answer & Explanation

Answer: Option **D**

Explanation:

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6. The halogen which reacts spontaneously with gold (Au) to form Au+3 is

A. F2

B. Cl2

C. Br2

D. I2

Answer & Explanation

Answer: Option **B**

Explanation:

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7. Which one of the following is the weakest acid in water

A. HF

B. HCI

C. HBr

D. HI

Answer & Explanation

Answer: Option **A**

Explanation:

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8. The halogen which reacts very slowly with halogen is

A. Fluorine **B.** Chlorine

C. Bromine **D.** Iodine

Answer & Explanation

Answer: Option **D**

Explanation:

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9. Which of the following represents the correct electronic configuration of VII A group elements in the ground state?

A. ns2p2 **B.** ns2p4

C. ns2p5 **D.** ns2p6

Answer & Explanation

Answer: Option **C**

Explanation:

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10. The halogen having highest electron affinity is

A. Fluorine **B.** Chlorine

C. Bromine **D.** Iodine

Answer & Explanation

Answer: Option **B**

Explanation:

11. Which is the strongest acid?

A. HCIO **B.** HCIO2

C. HCIO3 **D.** HCIO4

Answer & Explanation

Answer: Option **D**

Explanation:

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12. Bromine can be liberated from KBr solution by the action of

A. Iodine solution **B.** Chlorine

C. NaCl **D.** Ki

Answer & Explanation

Answer: Option **B**

Explanation:

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13. Bleaching powder is an example of

A. Normal salt **B.** Double salt

C. Mixed salt **D.** Complex

Answer & Explanation

Answer: Option **C**

Explanation:

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14. Consider the following reaction- $2KClO_3 + H_2C_2O_4 + H_2SO_4$? $K_2SO_4 + 2H_2O + 2CO_2$ + Oxide Which oxide of chlorine is produced in the above reaction?

A. Cl_2O **B.** ClO_2

C. Cl_2O_6 **D.** Cl_2O_7

Answer & Explanation

Answer: Option **B**

Explanation:

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15. Which of the following oxides of iodine is used for quantitative analysis of CO?

A. I_2O_4 **B.** I_4O_2

C. I_2O_5 **D.** All are equally useful

Answer & Explanation

Answer: Option **C**

Explanation:

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16. Consider the following reaction- $3Cl_2 + 6NaOH$? $NaClO_3 + 5NaCl + 3H_2O$ This reaction is

A. Displacement reaction **B.** Double displacement reaction

C. Disproportionation reaction **D.** Reduction reaction

Answer & Explanation

Answer: Option **C**

Explanation:

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17. Which of the halogen has highest electronegativity?

A. Fluorine

B. Chlorine

C. Bromine

D. Iodine

Answer & Explanation

Answer: Option **A**

Explanation:

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18. Which of the halogen can displace other three elements?

A. Flourine

B. Chlorine

C. Iodine

D. Bromine

Answer & Explanation

Answer: Option **A**

Explanation:

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19. Which of the following statements is incorrect about halogens?

A. All are non-metals

B. All the halogens have electronic conviguration ns2p5

C. They have high electron attinity and ionization energy

D. All the halogens react with noble gases to form their halides

Answer & Explanation

Answer: Option **D**

Explanation:

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20. The chemical formula of sodium hypochlorite is

A. NaCLO

B. NaClO2

C. NaClO3

D. NaClO4

Answer & Explanation

Answer: Option **A**

Explanation:

21. Fluorine can react with

A. Xe

B. Kr

C. Rn

D. All of the above

Answer & Explanation

Answer: Option **D**

Explanation:

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22. Bleaching powder is not used for bleaching

A. Cotton

B. Costly fabrics

C. Linen

D. Paper pulb

Answer & Explanation

Answer: Option **B**

Explanation:

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23. Which of the following is the weakest reducing agent?

A. HF

B. HBr

C. HC?

D. HI

Answer & Explanation

Answer: Option **A**

Explanation:

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24. Which of the following is not use of compounds of Fluorine

A. SbF3 is used for manufacture of pottery

B. Sodium fluoroacetate is a rat poison

C. Cu F2 is used in ceramic industry

D. None of the above

Answer & Explanation

Answer: Option **D**

Explanation:

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25. In which compound of Xenon the oxidation state of Xenon is + 6.

A. XeF_4 **B.** $XeOF_4$

C. $XeOF_2$ **D.** Na_4XeO_6

Answer & Explanation

Answer: Option **B**

Explanation:

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26. Photographic plates are coated with a thin film of :

A. $AgNO_3$ **B.** AgI

C. AgCl **D.** AgBr

Answer & Explanation

Answer: Option **D**

Explanation:

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27. The anhydride of $HClO_4$ is:

A. Cl_2O **B.** Cl_2O_6

C. ClO_2 **D.** Cl_2O_7

Answer & Explanation

Answer: Option **D**

Explanation:

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28. Indicate the correct statement:

A. Cl2 is the strongest oxidizing agent

B. I2 is a volatile solid

C. Br2 is more reactive than Cl2

D. Cl2 is insoluble in water

Answer & Explanation

Answer: Option **B**

Explanation:

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29. Which one of the following halogens is present in Teflon:

A. I2

B. Br2

C. Cl2

D. F2

Answer & Explanation

Answer: Option **D**

Explanation:

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30. Which is the paramagnetic oxide of chlorine:

A. Cl2O7

B. Cl2O6

C. ClO2

D. all

Answer & Explanation

Answer: Option **C**

Explanation:

1. Alkanes containing a methyl group on main chain at 2nd carbon are called

A. iso-alkane **B.** normal-alkane

C. neo-alkane **D.** branched-alkane

Answer & Explanation

Answer: Option **A**

Explanation:

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2. When one hydrogen atom of alkane is removed then it is called

A. alkene **B.** alkyl

C. aldehyde **D.** saturated hydrocarbon

Answer & Explanation

Answer: Option **B**

Explanation:

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3. Alkanes are also known as

A. saturated hydrocarbon **B.** unsaturated hydrocarbon

C. paraffins **D.** both a & c

Answer & Explanation

Answer: Option **C**

Explanation:

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4. Sabatier Senderns reaction involve _____ in presence of Ni

A. Aalkene & H2

B. alkene & O2

C. alkene & N2

D. alkyne & Cl2

Answer & Explanation

Answer: Option **A**

Explanation:

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5. Hydrogenolysis results in the formation of

A. alkane

B. alkene

C. alkyne

D. aldehydes

Answer & Explanation

Answer: Option **A**

Explanation:

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6. Clemmensens reduction infolves the reduction of

A. ketone

B. aldehyde

C. alkane

D. all of the above

Answer & Explanation

Answer: Option **A**

Explanation:

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7. Removal of CO2 is called

A. carboxylation **B.** decarboxylation

C. esterification **D.** hydroxylation

Answer & Explanation

Answer: Option **B**

Explanation:

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8. Soda lime is a mixture of

A. CaO and KOH **B.** CaO and NaOH

C. NaOH and Na2O **D.** Na2O and KOH

Answer & Explanation

Answer: Option **B**

Explanation:

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9. Molozonide is unstable and changes into ozonide on

A. reduction **B.** oxidation

C. hydrolysis **D.** rearrangement

Answer & Explanation

Answer: Option **D**

Explanation:

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10. Dehalogenation of ethyl tetrahalide will give

A. ethene **B.** ethyne

C. ethyl halide **D.** all of the above are possible

Answer & Explanation

Answer: Option **B**

Explanation:

11. R-Mg-Br is called

A. Grignard reagent **B.** Metallic alkyl halide

C. Both a & b **D.** Alkyl

Answer & Explanation

Answer: Option **C**

Explanation:

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12. Upto _____ C atoms alkanes are gases

A. 2 **B.** 3

C. 4 **D.** 6

Answer & Explanation

Answer: Option **C**

Explanation:

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13. Which of the following is the most reactive

A. ethane **B.** ethyne

C. ethene **D.** benzene

Answer & Explanation

Answer: Option **C**

Explanation:

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14. Incomplete oxidation of methane in the limited supply of air forms.

A. CO2 and H2O **B.** CH3OH

C. CO + H2 + C **D.** CO + H2O + C

Answer & Explanation

Answer: Option **B**

Explanation:

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15. Introduction of nitro group in a molecule is called

A. nitration

B. halogenation

C. sulphonation

D. amination

Answer & Explanation

Answer: Option **A**

Explanation:

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16. Order of ease of halogenation in alkane is

A. I2>Cl2>Br2>F2

B. F2>Cl2>I2>Br2

C. F2>Cl2>Br2>I2

D. Cl2>F2>Br2>I2

Answer & Explanation

Answer: Option **C**

Explanation:

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17. The gas used in manufacturing of urea fertilizer

A. C2H6

B. C2H4

C. C2H2

D. CH4

Answer & Explanation

Answer: Option **D**

Explanation:

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18. General formula of alkyne is

A. CnH2n + 2 **B.** CnH2n - 2

C. CnH2n **D.** CnH2n + 2

Answer & Explanation

Answer: Option **B**

Explanation:

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19. Which of the following will be acidic

A. propyne **B.** 1-butyne

C. ethyne **D.** all of the above

Answer & Explanation

Answer: Option **D**

Explanation:

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20. Removal of halogen and hydrogen atom is

A. halogenation **B.** dehalogenation

C. dehydrohalogenation **D.** hydrohalogenation

Answer & Explanation

Answer: Option **C**

Explanation:

21. Alkenes are produced from dehalogenation of

A. dihalo alkane **B.** trihalo alkane

C. vicinal dihalo alkane **D.** vicinal trihalo alkane

Answer & Explanation

Answer: Option **C**

Explanation:

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22. Reactivity due to pi-electrons is present in

A. alkane **B.** alkene

C. alkyne **D.** both b & c

Answer & Explanation

Answer: Option **D**

Explanation:

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23. In unsaturated hydro carbons ?-electrons favour

A. less reactivity **B.** addition reactions

C. substitution reactions **D.** none

Answer & Explanation

Answer: Option **B**

Explanation:

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24. Raney nickel is prepared from _____ by treating with caustic soda

A. Ni-Cu alloy **B.** Ni-Fe alloy

C. Ni-Al alloy **D.** Ni-Mg alloy

Answer & Explanation

Answer: Option **C**

Explanation:

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25. Which one is Chloroform

A. CH2Cl2 **B.** CH3Cl

C. CHCl3 **D.** CCl4

Answer & Explanation

Answer: Option **C**

Explanation:

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26. Vinylacetylene combines with HCI to form

A. polyacetylene **B.** benzene

C. chloroprene **D.** divinyl acetylene

Answer & Explanation

Answer: Option **C**

Explanation:

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27. ? ? -dichloroethyl sulphide is commonly known as

A. laughing gas **B.** bio-gas

C. mustard gas **D.** phosgene gas

Answer & Explanation

Answer: Option **C**

Explanation:

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28. Which is used for artificial ripening of fruit?

A. ethane **B.** ethene

C. ethyne **D.** methane

Answer & Explanation

Answer: Option **B**

Explanation:

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29. Preparation of vegetable ghee involves

A. halogenation **B.** hydroxylation

C. hydrogenation **D.** hydration

Answer & Explanation

Answer: Option **C**

Explanation:

View Answer Workspace Report Discuss in Forum

---

30. Which is methyl cyanide

A. CH3NH2 **B.** CH3NO2

C. CH3CN **D.** CH2 = CH - CN

Answer & Explanation

Answer: Option **C**

Explanation:

1. Which one of the following is termed as benzul alcohol?

A. C6H5OH **B.** C6H5CH(OH)2

C. C6H5CH2OH **D.** C6H5COOH

Answer & Explanation

Answer: Option **C**

Explanation:

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2. Which one of the following is also known as lactic acid?

A. 3-Hydroxy propanoic acid **B.** 2-Hydroxy propanoic acid

C. 2-hydroxy butanoic acid **D.** 3-hydroxy butanoic acid

Answer & Explanation

Answer: Option **B**

Explanation:

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3. Which one of the following is also known as tartaric acid?

A. 2 3-dihydroxy butance 1 4 -dioic acid

B. 2 3 -dihydroxy butanedioic acid

C. 2 3 -dihydroxy butanioc acid

D. 2 2 -dihydroxy butanoic acid

Answer & Explanation

Answer: Option **A**

Explanation:

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4. Water gas heated at 450?C and 200 atm pressure in the presence of ZnO+Cr2O3 will produce

A. methanal

B. methanol

C. carbonic acid

D. methane

Answer & Explanation

Answer: Option **B**

Explanation:

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5. The residue obtained after the crystallization of sugar from concentrated sugar cane juice is called

A. Mother liquor

B. Filterate

C. Extract

D. Molasses

Answer & Explanation

Answer: Option **D**

Explanation:

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6. The formula of starch is

A. C12H22O11 **B.** C6H10O5

C. (C6H10O5)n **D.** C6H12O6

Answer & Explanation

Answer: Option **C**

Explanation:

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7. The process of fermentation of starch involve many enzymes the sequence of enzymes used are

A. Diastase-maltase-zymase **B.** Zymase-maltase-diastase

C. Maltase-diastase-zymase **D.** Diastase-zymase-maltase

Answer & Explanation

Answer: Option **A**

Explanation:

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8. The rectified spirit contains

A. 12% alcohol **B.** 90% alcohol

C. 95% alcohol **D.** 100% alcohol

Answer & Explanation

Answer: Option **C**

Explanation:

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9. K2Cr2O7/H2SO4 generate

A. Oxygen **B.** Hydrogen

C. Nascent oxygen[O] **D.** Nascent hydrogen[H]

Answer & Explanation

Answer: Option **C**

Explanation:

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10. The oxidation of isopropyl alcohol will yield

A. propane **B.** Propanol

C. Propanone **D.** Propanoic acid

Answer & Explanation

Answer: Option **C**

Explanation:

11. Which alcohol will undergo elimination reaction to give alkene in the presence of acidic potassium dichromate?

A. Primary alcohol

B. Secondary alcohol

C. Tertiary alcohol

D. All of above

Answer & Explanation

Answer: Option **C**

Explanation:

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12. The distinction test for primary secondary and tertiary alcohol required to react each of them is

A. Cone. HCI and anhydrous SOCl2

B. Cone. HCI and anhydrous CaCl2

C. Cone. HCI and anhydrous PCl2

D. Cone. HCI and anhydrous ZnCl2

Answer & Explanation

Answer: Option **D**

Explanation:

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13. Which compound is also known by the name of carbolic acid?

A. C2H2OH

B. H2CO3

C. C6H5OH **D.** H3PO3

Answer & Explanation

Answer: Option **C**

Explanation:

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14. The given dissociation constant (Ka) value 1.3x10-10 is of

A. Alcohol **B.** Acetic acid

C. Water **D.** Phenol

Answer & Explanation

Answer: Option **D**

Explanation:

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15. Heating phenol with Zn will yield

A. Benzene **B.** Benzoic acid

C. Phenoxide **D.** Cyclohexane

Answer & Explanation

Answer: Option **A**

Explanation:

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16. When phenol is heated with concentrated nitric acid the product is

A. Picric acid **B.** o-nitrophenol

C. 1 3 5 -trinitro benzene **D.** p-nitrophenol

Answer & Explanation

Answer: Option **A**

Explanation:

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17. Treating phenol with formaldehyde in the presence of dilute base forms Bakelite. The process involved is

A. oxidation **B.** elimination

C. condensation polymerization **D.** additional polymertization

Answer & Explanation

Answer: Option **C**

Explanation:

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18. Which compound shows hydrogen bonding?

A. C2H6 **B.** C2H5Cl

C. CH3OCH3 **D.** C2H5OH

Answer & Explanation

Answer: Option **D**

Explanation:

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19. Ethanol can be converted into ethanoic acid by

A. Hydrogenation

B. Hydration

C. Oxidation

D. Fermentation

Answer & Explanation

Answer: Option **C**

Explanation:

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20. Methyl alcohol is not used

A. As a solvent

B. As an antifreezing agent

C. As a substitute for petrol

D. For denaturing of ethyl alcohol

Answer & Explanation

Answer: Option **C**

Explanation:

21. Methanol can be obtained from

A. water gas

B. destructive distillation of wood

C. methane

D. all

Answer & Explanation

Answer: Option **D**

Explanation:

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22. An alcohol which can be prepared by fermentation is

A. CH3OH **B.** C3H7OH

C. CH3 - CH2 - OH **D.** C6H5OH

Answer & Explanation

Answer: Option **C**

Explanation:

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23. Absolute alcohol is obtained when rectified spirit is treated with

A. Ca(OH)2 **B.** CaCO3

C. CaCl2 **D.** CaO

Answer & Explanation

Answer: Option **D**

Explanation:

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24. When alcohol reacts with phosphorous halides it geive

A. alkyl halides **B.** alkyl amine

C. alkanes **D.** alkynes

Answer & Explanation

Answer: Option **A**

Explanation:

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25. Phenol was isolated by Runge from

A. vegetable oil **B.** coaltar

C. wood **D.** none of these

Answer & Explanation

Answer: Option **B**

Explanation:

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26. Which one of the following compound does not have - OH group

A. ethylene glycol **B.** glycerol

C. picric acid **D.** ethyl acetate

Answer & Explanation

Answer: Option **D**

Explanation:

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27. The hydrogenation of phenol in the presence of Ni and heat gives

A. cyclohexane **B.** n - hexane

C. 1 - hexanol **D.** cyclohexanol

Answer & Explanation

Answer: Option **D**

Explanation:

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28. Ethers show functional group isomerism with

A. aldehydes **B.** ketones

C. alcohols **D.** carboxylic acid

Answer & Explanation

Answer: Option **C**

Explanation:

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29. Ethanol and methanol can be distinguished by a

A. Iodoform test **B.** Lucas test

C. Benedicts test **D.** Tollens test

Answer & Explanation

Answer: Option **A**

Explanation:

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30. Which one of the following alcohol has greater boiling point

A. ethanol **B.** ethylene glaycol

C. glycerol **D.** methanol

Answer & Explanation

Answer: Option **C**

Explanation:

1. Polymers described as large molecules built up from small repeating units called

A. Biopolymers **B.** Dimers

C. Monomers **D.** metamers

Answer & Explanation

Answer: Option **C**

Explanation:

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2. A polymer in which three different monomers combine called.

A. Copolymer **B.** Terpolymer

C. Homopolymer **D.** Biopolymer

Answer & Explanation

Answer: Option **B**

Explanation:

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3. The important monomers of acryclic resins is

A. Vinyl chloride **B.** Styrene

C. Methylmethacrylate **D.** Hexamethylenediamine

Answer & Explanation

Answer: Option **C**

Explanation:

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4. Polyester resins are the product of the reaction of

A.	Dihydric alcohol and dicarboxylic aromatic acids	**B.**	Polyamines with aliphatic dicarboxylic acids
C.	Styrene in the presence of catalyst	**D.**	Epichlorohydrin with diphenylol propane

Answer & Explanation

Answer: Option **A**

Explanation:

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5. Industrial materials and thermal power stations are coated with

A.	Polyester resins	**B.**	Epoxy paints
C.	Polyamide resins	**D.**	Polyvinyl chloride

Answer & Explanation

Answer: Option **B**

Explanation:

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6. Carbohydrates are polyhydroxy compounds of

A. Glucose

B. Glyceraldehydes

C. Oligosaccharides

D. Aldehydes and ketones

Answer & Explanation

Answer: Option **D**

Explanation:

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7. Common example of carbohydrates are

A. Cellulose glycogen galactose

B. Glyceraldehydes glucose peptone

C. Glycerol phospho lipids collagen

D. Legumin amylopectin albumin

Answer & Explanation

Answer: Option **A**

Explanation:

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8. Nylon is obtained by heating

A. Acrylic acid

B. Epichlorohydrin

C. Vinyl chloride

D. Adipic acid with hexamethylene diamine

Answer & Explanation

Answer: Option **D**

Explanation:

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9. Hydrolysis of an oligosaccharide in the presence of acid yields

A. one monosaccharide unit **B.** No monosaccharide unit

C. 2-9 monosaccharide unit **D.** many monosaccharide

Answer & Explanation

Answer: Option **C**

Explanation:

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10. Amylose is

A. Soluble in water **B.** Insoluble in water

C. Soluble in alcohol **D.** Partially soluble in alcohol

Answer & Explanation

Answer: Option **A**

Explanation:

11. The process of polymerization was classified by

A. Strecker **B.** Sabatier

C. Runge **D.** W. H. Carothers

Answer & Explanation

Answer: Option **D**

Explanation:

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12. All proteins yield _____ upon complete hydrolysis.

A. Nitrogen **B.** Amino acids

C. Carbon and hydrogen **D.** Sulphur

Answer & Explanation

Answer: Option **B**

Explanation:

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13. Protein attached to some non protein group is called

A. Derived protein **B.** Sample protein

C. Proteoses **D.** Conjugated protein

Answer & Explanation

Answer: Option **D**

Explanation:

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14. Regular coiling or zigzagging of polypeptide through hydrogen bonding is its.

A. Quantum structure **B.** Secondary structure

C. Tertiary structure **D.** Primary structure

Answer & Explanation

Answer: Option **B**

Explanation:

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15. Orgosterol is

A. Orgocalciferol

B. Vitamin D2

C. Sterol

D. all of the above

Answer & Explanation

Answer: Option **C**

Explanation:

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16. Lipids are soluble in

A. Organic solvents

B. Organic and inorganic solvents

C. Inorganic solvents

D. Solubility has nothing to do with lipids

Answer & Explanation

Answer: Option **A**

Explanation:

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17. Animal fats are located particularly in

A. Skeleton tissues

B. Cardiac tissues

C. Connective tissues

D. Adipose tissues

Answer & Explanation

Answer: Option **D**

Explanation:

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18. Animal and vegetable fats are

A. Glycerols

B. Fatty acids

C. Triesters formed from glycerol and fatty acids

D. Tetraesters formed from glycerol and fatty acids

Answer & Explanation

Answer: Option **C**

Explanation:

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19. Lipopolysaccharides are examples of

A. Derived lipids

B. Simple lipids

C. Compound lipids

D. Not a type of lipids

Answer & Explanation

Answer: Option **C**

Explanation:

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20. Triglycerides are easily hydrolyzed by enzymes called

A. Lyases

B. Ligases

C. Lipases **D.** Hydrolases

Answer & Explanation

Answer: Option **C**

Explanation:

21. Saponification is the hydrolysis of fat or oil with an

A. Acid **B.** Alkali

C. Enzyme and alkali **D.** Enzyme and acid

Answer & Explanation

Answer: Option **B**

Explanation:

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22. Enzynies that catalyze the transfer of groups within molecule are called

A. Isomerases **B.** Lyases

C. Transferases **D.** Ligases

Answer & Explanation

Answer: Option **A**

Explanation:

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23. Enzymes from the same organism which catalyze same reaction but are chemically and physically distinct from each other are called

A. Oxidoreductases **B.** Hydrolases

C. Isoenzymes **D.** Isomerases

Answer & Explanation

Answer: Option **C**

Explanation:

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24. Rate of enzymatic reaction is directly proportional to the concentration of

A. Enzyme **B.** Substrate

C. Enzyme and substrate **D.** Enzyme and product

Answer & Explanation

Answer: Option **B**

Explanation:

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25. Enzyme proved useful in cancer treatment is

A. Lactic dehydrogenase **B.** Alkaline phosphatase

C. L-asparaginase **D.** Cellulase

Answer & Explanation

Answer: Option **C**

Explanation:

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26. Purines and pyrimidines are

A. Enzymes **B.** Nitrogenous bases

C. Carbohydrates **D.** Lipids

Answer & Explanation

Answer: Option **B**

Explanation:

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27. Nucleic acids were first demonstrated in

A. Pus cells **B.** Sperm heads

C. 1872 **D.** all of the above

Answer & Explanation

Answer: Option **A**

Explanation:

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28. Nucleic acids direct the synthesis of

A. Glucose **B.** Triglycerides

C. Proteins **D.** All

Answer & Explanation

Answer: Option **C**

Explanation:

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29. The mechanism by which the genetic information can be duplicated is called

A. Duplication **B.** Transcription

C. Replication **D.** Mutation

Answer & Explanation

Answer: Option **C**

Explanation:

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30. The nitrogenous base different in RNA as compared to DNA is

A. Cytosine **B.** Thymine

C. Adenine **D.** Guanine

Answer & Explanation

Answer: Option **B**

Explanation:

1. All the following variables are used to describle gases except

A. pressure **B.** volume

C. moles **D.** density

Answer & Explanation

Answer: Option **D**

Explanation:

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2. In the van der Waals equation (P + n2a / v2) (v - nb) = nRT which of the

following statement is not true?

A. n2a/v correct for the intermolecular forces.

B. nb correct for the volume occupied by gas molecules.

C. at high densities the equation reduces to the ideal gas law

D. all of the above statements are correct.

Answer & Explanation

Answer: Option **C**

Explanation:

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3. Methyl alcohol is not used as

A. a solvent

B. an anti freezing agent

C. a substitute for petrol

D. for denaturing of ethyl alcohol

Answer & Explanation

Answer: Option **C**

Explanation:

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4. The inhaled breath of diabetics patient contain acetone. A medical student wishes to test for diabetes by asking patient to bubble their breath through a reagent.

A. alkaline aquenous iodine

B. aqueous bromine

C. Fehling solution

D. aqueous NaOH

Answer & Explanation

Answer: Option **A**

Explanation:

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5. Oxygen (molecular weight = 32) diffuses at a rate of 10cm3/min under the same conditions of temperature and pressure how fast will hydrogen (molecular weight = 2) diffuse?

A.	20cm3/min	**B.**	40cm3/min
C.	160cm3/min	**D.**	2.5cm3/min

Answer & Explanation

Answer: Option **B**

Explanation:

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6. When aquious bromine is added to aqueous phenol a creamy white ppt is obtained. What does this reaction show?

A.	phenol is unsaturated	**B.**	2-bromophenol is insoluble in water
C.	a hydroxy group makes the benzene ring more susceptible to electrophilic attack	**D.**	acid-base reaction

Answer & Explanation

Answer: Option **C**

Explanation:

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7. As a substance moves from a solid to a liquid all of the following changes occur except:

A.	molecules become more disordered.	**B.**	K.E of the molecules decreases
C.	intermolecular forces become weaker.	**D.**	molecules move more frequently.

Answer & Explanation

Answer: Option **B**

Explanation:

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8. If a graph is plotted between temperature on x-axis and volume on y-axis for 1 mole of gas then we get straight line which cuts the temperature exis at

A.	0?C	**B.**	273.16K
C.	?273.16 K	**D.**	?273.16?C

Answer & Explanation

Answer: Option **D**

Explanation:

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9. The rectified spirit is

A.	12% alcohol	**B.**	90% alcohol
C.	95% alcohol	**D.**	100% alcohol

Answer & Explanation

Answer: Option **C**

Explanation:

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10. Benzene is a good solvent for

A. fats

B. resins

C. iodine

D. all the above

Answer & Explanation

Answer: Option **D**

Explanation:

11. Which of the following solids show anisotropy

A. Plastic

B. Glass

C. Rubber

D. None of the above

Answer & Explanation

Answer: Option **D**

Explanation:

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12. Which of the following element doesnot show allotropy

A. Carbon

B. Arsenic

C. Nitrogen

D. Sulphur

Answer & Explanation

Answer: Option **C**

Explanation:

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13. Butyl chloride gives possible isomers.

A. 2 **B.** 3

C. 4 **D.** 5

Answer & Explanation

Answer: Option **C**

Explanation:

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14. Purines and pyrimidines are

A. Enzymes **B.** Nitrogenous bases

C. Carbohydrates **D.** Lipids

Answer & Explanation

Answer: Option **B**

Explanation:

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15. Metallic crystals are soluble in

A. Polar solvent **B.** Non polar solvent

C. Fused metal **D.** None

Answer & Explanation

Answer: Option **C**

Explanation:

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16. All the transition elements show

A. Similar physical properties

B. Similar chemical properties

C. Both a and b

D. None

Answer & Explanation

Answer: Option **C**

Explanation:

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17. Paramagnetic behaviour of substance is measured by a balance called

A. Analytical balance

B. Guoys balance

C. Electrical balance

D. Single beam balance

Answer & Explanation

Answer: Option **B**

Explanation:

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18. In solids the temperature is the measure of

A. Average kinetic energy of molecules

B. Vibrational kinetic energy

C. Translational kinetic energy **D.** None of the above

Answer & Explanation

Answer: Option **B**

Explanation:

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19. Which of the following properties prove that cathode rays are material in nature

A. they cast shadow **B.** they possess momentum

C. they are negatively charged **D.** all of the above

Answer & Explanation

Answer: Option **B**

Explanation:

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20. Fruit juices and fizzy drinks such as lemonade are often sold in aluminium cans. What is the most important reason aluminium is a suitable metal?

A. aluminium can be recycled **B.** aluminium has very low density

C. aluminium is the most abundant metal in the earth crust **D.** aluminium is resistant to corrosion by organic acids.

Answer & Explanation

Answer: Option **D**

Explanation:

31. The hardest of the following solids is

A. sodium **B.** diamond

C. graphite **D.** magnesium

Answer & Explanation

Answer: Option **B**

Explanation:

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32. Which of the following elements has greater 1st ionization energy

A. B **B.** C

C. N **D.** O

Answer & Explanation

Answer: Option **C**

Explanation:

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33. Which of the solid does not contain covalent bond

A. copper **B.** ice

C. diamond **D.** graphite

Answer & Explanation

Answer: Option **A**

Explanation:

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34. Which of the following molecule is polar

A. CCI4 **B.** CO2

C. BF3 **D.** none of the above

Answer & Explanation

Answer: Option **D**

Explanation:

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35. The balanced chemical equation for the reaction which occurs when Be is added to water is

A. Be+2H2O?Be (OH)2+H2 **B.** Be+H2O?Be (OH)2+H2

C. Be+H2O?[Be (OH)4]+2+H2 **D.** no reaction

Answer & Explanation

Answer: Option **D**

Explanation:

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36. The number of bonds in nitrogen molecule is

A. one ? one ? bond **B.** two ? one ? bond

C. one ? and two ? bond **D.** three ? bonds only

Answer & Explanation

Answer: Option **C**

Explanation:

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37. Which of the following theories is superior to others

A. VSEPR

B. VBT

C. MOT

D. none of the above

Answer & Explanation

Answer: Option **C**

Explanation:

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38. Which of the following relation is not possible

A. ?H = ?H1 + ?H2 = ?H3

B. ?E = E1 + E2 = E3

C. q = q1 + q2 = q3

D. ??H (cycle) = 0

Answer & Explanation

Answer: Option **B**

Explanation:

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39. Which of the following is not characteristics of reversible reaction

A. whole amount of reactant does not change into product

B. chemical equilibrium is established

C. a catalyst changes the direction of reaction

D. rate of forward reaction decreases as reaction proceeds

Answer & Explanation

Answer: Option **C**

Explanation:

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40. Which of the following points are important in connection with equilibrium constant.

A.	Kc is constant at given temperature	**B.**	Kc is unaffected by change in concentration of reactants or products
C.	Kc indicates the extent of reaction but not about the rate of reaction.	**D.**	All of the above

Answer & Explanation

Answer: Option **D**

Explanation:

41. A solution has pH = 0 its H+ ion concentration is

A.	1 x 10-1	**B.**	1 x 10-14
C.	1 x 10-7	**D.**	1

Answer & Explanation

Answer: Option **D**

Explanation:

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42. Solubility of CaF2 is 2.0x10-4 gdm-3 then Ksp of CaF2 is

A. 4.0 x 10-8 **B.** 3.2 x 10-11

C. 2.0 x 10-8 **D.** 4.0 x 10-12

Answer & Explanation

Answer: Option **B**

Explanation:

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43. 1 mole of electron has mass in microgram

A. 1.008 x 10-3 **B.** 5.5 x 10-4

C. 1.84 x 10-4 **D.** 1.673 x 10-3

Answer & Explanation

Answer: Option **B**

Explanation:

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44. The unit of molality is

A. moles dm-3 **B.** moles kg-1

C. gram dm-3 **D.** none

Answer & Explanation

Answer: Option **B**

Explanation:

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45. The use of antifreeze in the automobile radiator is an important application of

A. constitutive property **B.** additive property

C. colligative property **D.** intrinsic property

Answer & Explanation

Answer: Option **C**

Explanation:

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46. A solution can be both

A. dilute and concentrated **B.** dilute and saturated

C. saturated and unsaturated **D.** saturated and super saturated

Answer & Explanation

Answer: Option **A**

Explanation:

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47. At which electrode the reduction of the solution is occurring in Al-Ag cell

A. A? **B.** Ag

C. Both **D.** Neither

Answer & Explanation

Answer: Option **B**

Explanation:

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48. Consider the following redox reaction. Zn+dil HNO3? Zn (NO3)2 + N2O + H2O The coefficient number of HNO3 in the equation is

A. 6 **B.** 8

C. 10 **D.** 4

Answer & Explanation

Answer: Option **C**

Explanation:

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49. In which of the following type of reactions energy of reactant is greater than energy of product

A. endothermic **B.** exothermic

C. unpredictable **D.** same

Answer & Explanation

Answer: Option **B**

Explanation:

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50. Which of the following elements react with steam to produce H2 gas.

A. Pd **B.** Ni

C. Sn **D.** All of the above

Answer & Explanation

Answer: Option **D**

Explanation:

51. Which of following metals can be displaced by all other metals from its solution

A. Ag **B.** A?

C. Au **D.** Cu

Answer & Explanation

Answer: Option **C**

Explanation:

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52. The unit of the rate constant (k) is same as that of rate of reaction

A. First order reaction **B.** Second order reaction

C. Zero order reaction **D.** Third order reaction

Answer & Explanation

Answer: Option **C**

Explanation:

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53. Which of the elements do not fall in stair case of the modern periodic table

A. Si **B.** As

C. Te **D.** None of the above

Answer & Explanation

Answer: Option **D**

Explanation:

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54. Acid present in acid rain may be

A. H2SO4 **B.** HNO3

C. both a and b **D.** none of the above

Answer & Explanation

Answer: Option **C**

Explanation:

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55. Across short period the melting and boiling point increase upto

A. IIIA group **B.** IVA group

C. VA group **D.** VIA group

Answer & Explanation

Answer: Option **B**

Explanation:

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56. Which of the following elements conduct electricity and also melts below 100?C

A. Aluminium **B.** Sodium

C. Carbon **D.** Sulphur

Answer & Explanation

Answer: Option **B**

Explanation:

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57. Which of the following is the formula of chrome red.

A. Pb3 O4

B. 2Pb CO3 - Pb (OH)2

C. Pb Cr O4 - Pb (OH)2

D. Pb2O

Answer & Explanation

Answer: Option **A**

Explanation:

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58. The compound which is added to leaded gasoline to save engine from lead oxide and lead sulphate deposits is

A. Ethylene iodide

B. Ethylene bromide

C. Ethylene chloride

D. Ethylene fluoride

Answer & Explanation

Answer: Option **B**

Explanation:

View Answer Workspace Report Discuss in Forum

---

59. Regular coiling or zigzagging of polypeptide through hydrogen bonding is its

A. Quantum structure

B. Secondary structure

C. Tertiary structure **D.** Primary structure

Answer & Explanation

Answer: Option **B**

Explanation:

1. Which of the following technique is used for the separation of insoluble particles from liquids?

A. Filtration **B.** Crystallization

C. Solvent extraction **D.** Chromatography

Answer & Explanation

Answer: Option **A**

Explanation:

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2. Which of the following way in used for classification of chromatography?

A. Shape **B.** Phase

C. Mechanism **D.** All

Answer & Explanation

Answer: Option **D**

Explanation:

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3. Fluted filter paper is used to

A. Filter hot solution **B.** Avoid premature

crystallization

C. Increase the rate of filtration **D.** Decrease the area

Answer & Explanation

Answer: Option **C**

Explanation:

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4. Safe and the most reliable method of drying crystals is through

A. Filter paper **B.** Vacuum desiccators

C. Oven **D.** None of these

Answer & Explanation

Answer: Option **B**

Explanation:

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5. A substance having very high vapour pressure at its melting point on heating will show

A. Melting **B.** Sublimation

C. Decomposition **D.** Condensation

Answer & Explanation

Answer: Option **B**

Explanation:

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6. A process controlled by Distributive law is

A. Crystallization **B.** Sublimation

C. Solvent extraction **D.** Filtration

Answer & Explanation

Answer: Option **C**

Explanation:

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7. A technique of partition chromatography in which the solvent is in a pool at the bottom of container

A. Adsorption chromatography **B.** Ascending chromatography

C. Radial chromatography **D.** Descending chromatography

Answer & Explanation

Answer: Option **B**

Explanation:

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8. Different components of a mixture have different Rf values due to

A. Polar solvent used **B.** Combination of solvents used

C. Their different distribution coefficients in the solvent **D.** Distributive law

Answer & Explanation

Answer: Option **C**

Explanation:

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9. Branch of chemistry that deals with the complete qualitative and quantitative analysis of a substance is

A. Stoichio chemistry **B.** Physical chemistry

C. Analytical chemistry **D.** Quantum chemistry

Answer & Explanation

Answer: Option **C**

Explanation:

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10. Identification of the components of a sample is

A. Quantitative analysis **B.** Qualitative analysis

C. Stoichiometry **D.** Physical chemistry

Answer & Explanation

Answer: Option **B**

Explanation:

11. Estimation of amounts of different components in a sample is

A. Quantitative analysis **B.** Qualitative analysis

C. Stochiometery **D.** Physical chemistry

Answer & Explanation

Answer: Option **A**

Explanation:

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12. The technique used to separate components of mixture in solid phase.

A. Crystallization **B.** Filtration

C. Sublimation **D.** Solvent extraction

Answer & Explanation

Answer: Option **C**

Explanation:

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13. The solid which is left over the filter paper as a result of filtration

A. Insoluble particles **B.** residue

C. crystals **D.** mud

Answer & Explanation

Answer: Option **B**

Explanation:

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14. Size of filter paper is selected according to the amount of

A. solution **B.** amount of insoluble solute

C. amount of soluble solute **D.** Amount of solvent

Answer & Explanation

Answer: Option **B**

Explanation:

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15. Gooch Crucibles are made up of

A. plastic **B.** fibre

C. porcelain **D.** steel

Answer & Explanation

Answer: Option **C**

Explanation:

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16. Rate of filtration can be increased by applying gentle suction

A. Gooch crucible **B.** Filter paper

C. Sintered crucible **D.** All of the above

Answer & Explanation

Answer: Option **B**

Explanation:

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17. Sintered crucible is made up of

A. Plastic **B.** glass

C. porcetain **D.** fiber

Answer & Explanation

Answer: Option **B**

Explanation:

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18. The tip of funnel should touch the wall of the breaker in order to avoid

A. Inconsistent flow of filtration **B.** splashing

C. premature crystallization **D.** all of above

Answer & Explanation

Answer: Option **B**

Explanation:

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19. Separation of a solid from its hot saturated solution by cooling is called

A. vapourization **B.** solvent extraction

C. filtration **D.** crystallization

Answer & Explanation

Answer: Option **D**

Explanation:

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20. In crystallization if the solvent is inflammable then direct heating is

A. needed **B.** avoided

C. depends on temperature

D. crystallization does not involve heating

Answer & Explanation

Answer: Option **B**

Explanation:

21. Which of the following technique is simple and efficient to purify a substance

A. Filtration

B. Sublimation

C. Crystallization

D. Solvent extraction

Answer & Explanation

Answer: Option **D**

Explanation:

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22. In solvent extraction ether is used to separate products of organic synthesis from

A. water

B. iodine

C. hydrochloric acid

D. gases

Answer & Explanation

Answer: Option **A**

Explanation:

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23. 95% ethanol is called

A. methylated spirit

B. wood spirit

C. rectified spirit

D. absolute alcohol

Answer & Explanation

Answer: Option **C**

Explanation:

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24. The use of CaCl2 and PCl5 in the process of crystallization is as a

A. oxidizing agent

B. reducing agent

C. drying agent

D. colouring agent

Answer & Explanation

Answer: Option **C**

Explanation:

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25. Ratio of the amount of solute in organic and aqueous solvent is

A. Retardation factor

B. Distribution co-efficient

C. Distribution in aqueous solution

D. All statements are wrong

Answer & Explanation

Answer: Option **B**

Explanation:

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26. Without suction pump filtration is

A. Fast process **B.** Slow process

C. Rapid process **D.** All are possible

Answer & Explanation

Answer: Option **B**

Explanation:

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27. Animal charcoal adsorbs the coloured

A. impurities **B.** crystals

C. solvents **D.** both a & b

Answer & Explanation

Answer: Option **A**

Explanation:

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28. Direct conversion of solids into vapours is called

A. Solvent extraction **B.** sublimation

C. crystallization **D.** vaporization

Answer & Explanation

Answer: Option **B**

Explanation:

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29. Crystallization does not involve

A. heating **B.** sublimation

C. cooling **D.** vaporization

Answer & Explanation

Answer: Option **B**

Explanation:

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30. In CCI4 I2 shows

A. Red colour **B.** Purple colour

C. Blue colour **D.** Yellow colour

Answer & Explanation

Answer: Option **B**

Explanation:

31. Repeated extraction using small portions of solvents is more

A. Reliable **B.** Efficient

C. Rapid **D.** slow

Answer & Explanation

Answer: Option **B**

Explanation:

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32. Silica gel and alumina are used as

A. Mobile phase **B.** Stationary phase

C. Mixed phase **D.** Single phase

Answer & Explanation

Answer: Option **B**

Explanation:

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33. Shaking two immiscible liquids increases

A. Length of contact **B.** Volume of contact

C. Area of contact **D.** all of above

Answer & Explanation

Answer: Option **C**

Explanation:

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34. The solvent or mixture of solvents used for separation of compounds is called

A. Stationary phase **B.** Mobile phase

C. Dynamic phase **D.** Static phase

Answer & Explanation

Answer: Option **B**

Explanation:

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35. Which is not a sublime material

A. Iodine **B.** Benzoic acid

C. Ammonium chloride **D.** Potash alum

Answer & Explanation

Answer: Option **D**

Explanation:

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36. Sintered glass is a porous material used for

A. absorption **B.** adsorption

C. filtration **D.** sublimation

Answer & Explanation

Answer: Option **C**

Explanation:

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37. Selection of filter paper depends on size of particles to be

A. filtered **B.** dried

C. decolorized **D.** decanted

Answer & Explanation

Answer: Option **A**

Explanation:

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38. The solution remaining after the formation of crystals is called

A. Mother liquor

B. Dilute solution

C. Residue

D. both a & b

Answer & Explanation

Answer: Option **A**

Explanation:

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39. Which is not related pair of term used in analytical techniques

A. Filtrate residue

B. Sublimate sublimation

C. Drying desiccator

D. Separating funnel mother liquor

Answer & Explanation

Answer: Option **B**

Explanation:

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40. The major steps involved in complete quantitative analysis are

A. 2

B. 3

C. 4 **D.** 5

Answer & Explanation

Answer: Option **C**

Explanation:

1. All of the following were theorized by Bohr in his description of the atom except

A. Angular momentum of electrons in multiples of h/2?

B. Electrons revolve in discrete circular orbits

C. Energy of each electron is directly proportional to n2

D. Electrons radiate energy continuously in a given orbit.

Answer & Explanation

Answer: Option **D**

Explanation:

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2. The letters s p d and f are used to represent which quantum numbers

A. Principal

B. Azimuthal

C. Magnetic

D. Spin

Answer & Explanation

Answer: Option **B**

Explanation:

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3. The magnetic quantum number (QN) has its values determined directly by the

value of

A. Principal (QN) **B.** Azimuthal (QN)

C. Spin (QN) **D.** Both a & b

Answer & Explanation

Answer: Option **B**

Explanation:

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4. The atomic number of an element having maximum number of unpaired electrons in p-subshell is

A. 7 **B.** 10

C. 12 **D.** 16

Answer & Explanation

Answer: Option **A**

Explanation:

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5. The maximum number of electron in a sub shell with ? = 3fs

A. 6 **B.** 10

C. 14 **D.** 18

Answer & Explanation

Answer: Option **C**

Explanation:

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6. Radius of the third shell of H-atom is

A. 5.761 A?

B. 4.761 A?

C. 6.671 A?

D. 3.716 A?

Answer & Explanation

Answer: Option **B**

Explanation:

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7. When an atom absorbs energy the lines in the spectrum will appear which are

A. Brighter

B. Darker

C. Colourless

D. Hard to locate

Answer & Explanation

Answer: Option **B**

Explanation:

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8. Colour of fluorescene produced by cathode rays depends upon

A. Temperature

B. Pressure

C. Volume

D. Composition of glass

Answer & Explanation

Answer: Option **D**

Explanation:

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9. Which one is not true about cathode rays?

A. 9.11x10-31 Kg

B. Cast shadow

C. Heat up the platinum foil

D. Cannot ionize

Answer & Explanation

Answer: Option **D**

Explanation:

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10. Positive rays are produced

A. By burning of gas

B. By cooling of the gas

C. By the bombardment of cathode rays on gas molecules

D. From anode like cathode rays produced from cathode

Answer & Explanation

Answer: Option **C**

Explanation:

11. A fast moving neutron can eject from nitrogen

A. ? = rays

B. ? = rays

C. ? = rays

D. electrons

Answer & Explanation

Answer: Option **B**

Explanation:

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12. Rutherfords planet like structure was defective and unsatisfactory because

A.	Moving e- accelerate towards the nucleus	**B.**	Continuous spectrum
C.	behavior of electron remain unexplained	**D.**	all

Answer & Explanation

Answer: Option **D**

Explanation:

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13. The relationship between energy of a photon of light and its frequency is given by

A.	de-Broglie duel nature of matter	**B.**	Bohrs model
C.	Plancks Quantum theory	**D.**	Rutherfords atomic model

Answer & Explanation

Answer: Option **C**

Explanation:

View Answer Workspace Report Discuss in Forum

---

14. Splitting of spectral lines when atom is subjected to magnetic field is called

A. Zeemans effect **B.** Starks effect

C. Photo electric effect **D.** Compton effect

Answer & Explanation

Answer: Option **A**

Explanation:

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15. The velocity of the photon

A. Is independent of wavelength **B.** Depends upon source

C. Depends upon its frequency **D.** Equals to the square of amplitude

Answer & Explanation

Answer: Option **A**

Explanation:

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16. Which one of the following explain the shape of orbitals

A. Principal of quantum number **B.** Azimuthal quantum number

C. Magnetic quantum number **D.** Spin quantum number

Answer & Explanation

Answer: Option **B**

Explanation:

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17. Atom cannot be divided into simple unitstheorized by

A. Rutherford **B.** Dalton

C. Bohr **D.** Schrodinger

Answer & Explanation

Answer: Option **B**

Explanation:

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18. Pressure in gas discharge tube was kept

A. 10 torr **B.** 1 torr

C. 0.1 torr **D.** 0.01 torr

Answer & Explanation

Answer: Option **D**

Explanation:

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19. The number of fundamental particles in an atom of the lightest isotope carbon are

A. 6 **B.** 12

C. 18 **D.** 20

Answer & Explanation

Answer: Option **C**

Explanation:

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20. Angle of deflection was studied by

A. Hitorff **B.** Stoney

C. William Crookes **D.** J.Perrin

Answer & Explanation

Answer: Option **D**

Explanation

21. Increase in atomic number is observed during

A. Alpha emission **B.** Beta emission

C. Both a & b **D.** Radioactivity

Answer & Explanation

Answer: Option **B**

Explanation:

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22. Positive rays give flash on

A. AgNO3 plate **B.** AgCl plate

C. ZnO **D.** ZnS

Answer & Explanation

Answer: Option **D**

Explanation:

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23. Free neutron changes into proton with the emission of

A. Neutrino **B.** Electron

C. Both a & b **D.** Meson

Answer & Explanation

Answer: Option **C**

Explanation:

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24. The value of e/m ratio of electron is

A. 6.02 x 1023 C/kg **B.** 1.7588 x 1020 C/kg

C. 9.1095 x 10-31 C/kg **D.** 1.7588 x 1011 C/kg

Answer & Explanation

Answer: Option **D**

Explanation:

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25. Charge of electron was measured by

A. J.J Thomson **B.** Millikan

C. Rutherford **D.** Perrin

Answer & Explanation

Answer: Option **B**

Explanation:

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26. Rutherford bombarded _____ particles in discovery of nucleus

A. Gamma-rays **B.** Alpha-rays

C. Beta-rays **D.** X-rays

Answer & Explanation

Answer: Option **B**

Explanation:

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27. Planks theory says energy is emitted

A. In continuous manner **B.** Discontinuous manner

C. Simultaneously **D.** In the form of heat

Answer & Explanation

Answer: Option **B**

Explanation:

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28. Angular momentum of an electron

A. n2h/2? **B.** nk2/2?

C. nh/4? **D.** nh/2?

Answer & Explanation

Answer: Option **D**

Explanation:

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29. 2nd orbit is _____ away from nucleus of H-atom as compared to 1st orbit is

A. 2-times **B.** 3-times

C. 4-times **D.** 6 times

Answer & Explanation

Answer: Option **C**

Explanation:

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30. The maximum number of orbitals present in a subshell that is represented by Azimuthal quantum number = 3 will be

A. 1 **B.** 3

C. 5 **D.** 7

Answer & Explanation

Answer: Option **D**

Explanation:

31. The correct electronic configuration of Cu is

A. [Ar]4s1 **B.** [Ar]4s2

C. [Ar]3d104s1 **D.** [Ar]3d94s2

Answer & Explanation

Answer: Option **C**

Explanation:

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32. Pfund series are produced in the spectrum of hydrogen atom

A.	when electrons jump down to 2nd- orbit	**B.**	when electrons jump down to 3rd- orbit
C.	when electrons jump down to 4th- orbit	**D.**	when electrons jump down to 5th- orbit

Answer & Explanation

Answer: Option **D**

Explanation:

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33. Atomic orbits having same evergy are called

A.	Degenerate orbitals	**B.**	Bonding molecular orbitals
C.	Anti bonding molecular orbitals	**D.**	Half filled orbitals

Answer & Explanation

Answer: Option **A**

Explanation:

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34. Sommerfelds modification in Bohrs model is

A. Orbit is cylindrical

B. Orbit is elliptical

C. Orbit is longitudinal

D. Orbit is asymmetrical

Answer & Explanation

Answer: Option **B**

Explanation:

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35. When electrons collide with heavy metals than _____ are produced.

A. Beta-rays

B. Alpha-rays

C. X-rays

D. Gamma-rays

Answer & Explanation

Answer: Option **C**

Explanation:

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36. Plancks equation is

A. E = mc2

B. mvr = nh/2?

C. E = h?

D. ? = h/mv

Answer & Explanation

Answer: Option **C**

Explanation:

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37. Atom with higher atomic number produces X-rays of

A. Shorter wavelength **B.** Larger wavelength

C. X-ray not produced **D.** All are possible

Answer & Explanation

Answer: Option **A**

Explanation:

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38. Wavelength of electron was verified by

A. Moseley **B.** Davisson and Germer

C. Einstein **D.** Roentgen

Answer & Explanation

Answer: Option **B**

Explanation:

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39. Space around nucleus where finding probability of electrons is maximum is called

A. Orbital **B.** Orbit is elliptical

C. subshell **D.** Electron cloud

Answer & Explanation

Answer: Option **A**

Explanation:

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40. Quantum number which tells the energy of electron is

A. n

B. 1

C. m

D. s

Answer & Explanation

Answer: Option **A**

Explanation:

41. Electronic configuration of K is

A. [Ar]4s2

B. [Ar]4s1

C. [Kr]5s1

D. [He]2s1

Answer & Explanation

Answer: Option **B**

Explanation:

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42. _____ can expel proteons from paraffins

A. Electron

B. Positron

C. Neutron

D. None of above has such capability

Answer & Explanation

Answer: Option **C**

Explanation:

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43. Milikan used _____ in his atomizer

A. Milk **B.** Honey

C. Oil **D.** Water

Answer & Explanation

Answer: Option **C**

Explanation:

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44. Centrifugal forces are balanced in atom by

A. Attractive forces **B.** Repulsive force

C. Electrons **D.** Neutrons

Answer & Explanation

Answer: Option **A**

Explanation:

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45. Spectrum is produced due to

A. Different wavelength **B.** Different colours

C. Different intensities **D.** all have little contribution

Answer & Explanation

Answer: Option **A**

Explanation:

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46. When 6d orbital is complete the entering electron goes into

A. 7f **B.** 7s

C. 7p **D.** 7d

Answer & Explanation

Answer: Option **C**

Explanation:

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47. When electron jump into orbit 1 then series obtained is

A. Lyman **B.** Paschen

C. Pfund **D.** Brackett

Answer & Explanation

Answer: Option **A**

Explanation:

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48. Neutrons moving with an energy of 1.2 MeV are called

A. Fast neutrons **B.** Slow neutrons

C. Moderate neutrons **D.** All are possible

Answer & Explanation

Answer: Option **A**

Explanation:

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49. Splitting of spectral lines when atoms are subjected to strong electric filed is called

A. Zeeman effect **B.** Stark effect

C. Photoelectric effect **D.** Compton effect

Answer & Explanation

Answer: Option **B**

Explanation:

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50. Three quantum number have been derived from equation of

A. de-Broglie **B.** Plancks

C. Schrodinger **D.** Heisenberg

Answer & Explanation

Answer: Option **C**

Explanation:

1. The pH of 10-3 mol dm-3 of an aqueous solution of H2SO4 is

A. 3 **B.** 2.7

C. 2 **D.** 1.5

Answer & Explanation

Answer: Option **B**

Explanation:

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2. Kc value has

A. No units

B. Units

C. Both a & b

D. None

Answer & Explanation

Answer: Option **C**

Explanation:

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3. If a buffer solution of higher pH than seven is to be made we use

A. Strong acid and strong base

B. Weak acid and strong base

C. Weak acid and strong base

D. Weak acid and its salt with strong base

Answer & Explanation

Answer: Option **D**

Explanation:

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4. Sodium benzoate and benzoic acid are mixed in equimolar ration to form buffer if pKa is 2 what will be the pH?

A. 0

B. 1

C. 2 **D.** any one

Answer & Explanation

Answer: Option **C**

Explanation:

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5. AgCl dissolved with conc (2x10-2) Ksp will be

A. 3.6 x 10-6 **B.** 3.6 x 10-5

C. 7.2 x 10-6 **D.** 4 x 10-4

Answer & Explanation

Answer: Option **D**

Explanation:

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6. In which of the following equilibria will Kc and Kp have the same value?

A. PCI5 = PCI3 + Cl2 **B.** N2 + 3H2 = 2NH

C. 2CO + O2 = CO2 **D.** N2 + O2 = 2NO

Answer & Explanation

Answer: Option **D**

Explanation:

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7. Which of the following will not change the concentration of ammonia at the equilibrium ?

A. Increase of pressure

B. Increase of volume

C. Addition of catalyst

D. Decrease of temperature

Answer & Explanation

Answer: Option **C**

Explanation:

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8. pH of an aqueous solution is 5.5. The hydroxyl ion conc. In the solution would be

A. ?5.5

B. ?8.5

C. 10-8.5

D. 10

Answer & Explanation

Answer: Option **C**

Explanation:

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9. For a reaction involving only gases at 25?C the equilibrium constant can be expressed in terms of molarity Ke or partial pressure Kp. Which is true about the numerical value of Kp?

A. Kc is generally greaer than Kp

B. Kc is generally less than Kp

C. Kc is generally equal to Kp

D. Kc is equal to Kp if the total moles of reactants and products are equal

Answer & Explanation

Answer: Option **D**

Explanation:

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10. Which of following is not a base

A.	KOH	**B.**	NH3
C.	PH3	**D.**	BF3

Answer & Explanation

Answer: Option **D**

Explanation:

11. Which set of solutes will form a buffer when dissolved in water to make 1 litter of solution?

A.	0.0002M HCI	**B.**	0.2 mole of NaCI with 0.2 mole of HNO3
C.	0.4 mole of CH3COOH with 0.4 mole of NaOH	**D.**	0.4 mole of NH3 with 0.2 mole of HCI

Answer & Explanation

Answer: Option **D**

Explanation:

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12. Which one of the following aqueous solutions will be basic?

A.	NaCI	**B.**	Na2SO4

C. Na2CO3 **D.** FeCl3

Answer & Explanation

Answer: Option **C**

Explanation:

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13. The value of Kw in an acidic aquueous solution at 298 K is

A. >10-14 **B.** <10-14

C. 101? **D.** 10-1?

Answer & Explanation

Answer: Option **D**

Explanation:

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14. Reaction which proceeds in both directions is called

A. reversible **B.** irreversible

C. spontaneous **D.** non-spontaneous

Answer & Explanation

Answer: Option **A**

Explanation:

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15. Chemical equilibrium state is

A. dynamic state **B.** static state

C. free state **D.** unidirectional state

Answer & Explanation

Answer: Option **A**

Explanation:

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16. Conversion of reactant into product in unit time is called

A. rate of forward reaction **B.** rate of backward reaction

C. rate constant **D.** rate co-efficient

Answer & Explanation

Answer: Option **A**

Explanation:

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17. At start of reaction the concentration of reactants is

A. high **B.** low

C. according to Kc **D.** constant

Answer & Explanation

Answer: Option **A**

Explanation:

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18. Unit of Kc is

A. moles2dm+6

B. moles-2dm+6

C. moles+2dm-6

D. Kc may or may not have units

Answer & Explanation

Answer: Option **D**

Explanation:

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19. In case of gases Kc is replaced by

A. Ka

B. Kb

C. Kp

D. K

Answer & Explanation

Answer: Option **C**

Explanation:

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20. Rate expression for ammonia synthesis is

A. Kc=x2/(a-x)(b-x)

B. Kc=x2/v(a-x)

C. Kc=4x2/(a-2x)2(b-x)

D. Kc=4x2v2/(a-x)(b-3x)3

Answer & Explanation

Answer: Option **D**

Explanation:

21. When the value of Kc is very small then

A. reaction is at start

B. product conc. Is maximum

C. reactant conc. Is minimum

D. reaction is completed

Answer & Explanation

Answer: Option **B**

Explanation:

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22. Catalyst used to speed up the reaction of ammonia synthesis is

A. V2O5

B. V2O5 and Pt

C. Fe

D. Pieces of Fe crystals are embedded in fused mixture of MgO Al2O3 and SiO2

Answer & Explanation

Answer: Option **D**

Explanation:

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23. Temperature for preparation of SO3 is

A. 400-500?C

B. 400?C

C. 600?C

D. 200?C

Answer & Explanation

Answer: Option **A**

Explanation:

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24. By the addition of base in waterpH will be

A. more than 7 **B.** less than 7

C. equal to 7 **D.** no effect

Answer & Explanation

Answer: Option **A**

Explanation:

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25. Idea of pH and pOH was put forward by

A. Gibbs **B.** Einstein

C. Sorenson **D.** Chadwick

Answer & Explanation

Answer: Option **C**

Explanation:

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26. Negative log of mular concentration of H+ ions is called

A. pH **B.** pOH

C. pKa **D.** pKw

Answer & Explanation

Answer: Option **A**

Explanation:

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27. Ka<10-3 means

A. Very strong base

B. Very weak acid

C. Very strong acid

D. Very strong salt

Answer & Explanation

Answer: Option **B**

Explanation:

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28. Any substance which accepts H+ is base favours the concept

A. Lowrys

B. Lewis

C. Arrhenius

D. None of these

Answer & Explanation

Answer: Option **A**

Explanation:

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29. Conjugated base of a weak acid is

A. weak

B. strong

C. moderately weak

D. unstable

Answer & Explanation

Answer: Option **B**

Explanation:

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30. When sparingly soluble salt is in equilibrium with molar concentration of its oppositely charged ion when the product is called

A. common ion effect

B. solubility product

C. dissociation constant

D. dissociation constant for an acid

Answer & Explanation

Answer: Option **B**

Explanation:

31. Solution having the property of a very little change in pH on adding a small amount of strong acid or base is called

A. buffer solution

B. normal solution

C. standard solution

D. neutral solution

Answer & Explanation

Answer: Option **A**

Explanation:

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32. Addition of CH3COOH and CH3COONa gives in water

A. Standard solution

B. buffer solution

C. acidic buffer solution **D.** both b & c

Answer & Explanation

Answer: Option **D**

Explanation:

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33. Which one of the following is a buffer solution?

A. brine **B.** blood

C. glue **D.** solution of CuSO4

Answer & Explanation

Answer: Option **B**

Explanation:

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34. Solubility of any salt can be determined from

A. Ka **B.** Kb

C. Kc **D.** Ksp

Answer & Explanation

Answer: Option **D**

Explanation:

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35. The pH of human blood is

A. 7 **B.** 7.35

C. 7.5 **D.** 7.8

Answer & Explanation

Answer: Option **B**

Explanation:

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36. By decreasing the pressure the reaction will go to that direction where

A. volume is decreased **B.** volume increased

C. heat absorbed **D.** no. of moles of specie decreased

Answer & Explanation

Answer: Option **B**

Explanation:

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37. Equilibrium state is achieved quickly by the addition of.

A. reactants **B.** acid

C. base **D.** catalyst

Answer & Explanation

Answer: Option **D**

Explanation:

1. The rate of reaction

A. Increases as the reaction proceeds

B. Decreases as the reaction proceeds

C. Remains the same as the reaction proceeds

D. May decrease or increase as the reaction proceeds

Answer & Explanation

Answer: Option **B**

Explanation:

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2. The addition of a catalyst to the reaction system

A. Increases the rate of forward reaction only

B. Increases the rate of reverse reaction

C. Increases the rate of forward but decreases the rate of backward reaction

D. Increases the rate of forward as well as backward reaction equally

Answer & Explanation

Answer: Option **D**

Explanation:

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3. The specific rate constant of a first order reaction depends on the

A. Time

B. Concentration of the reactant

C. Temperature

D. Concentration of the product

Answer & Explanation

Answer: Option **C**

Explanation:

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4. On increasing the temperature the rate of reaction increases mainly because

A.	The activation energy of the reaction increases	**B.**	Concentration of the reacting molecules increases
C.	Collision frequency increases	**D.**	None of these

Answer & Explanation

Answer: Option **C**

Explanation:

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5. ?d[N2O5]/dt represents

A.	Rate of formation of N2O5	**B.**	Rate of decomposition of N2O5
C.	order of the reaction	**D.**	none

Answer & Explanation

Answer: Option **B**

Explanation:

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6. The value of activation energy is primarily determined by

A.	Temperature	**B.**	Effective collision

C. Concentration of reactants

D. Chemical nature of reactants and products

Answer & Explanation

Answer: Option **B**

Explanation:

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7. Sum of exponents of molar concentration is called

A. Order of reaction

B. Molecularity

C. Rate of reaction

D. Average of reaction

Answer & Explanation

Answer: Option **A**

Explanation:

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8. Spontaneous reactions are

A. Moderate

B. Slow

C. Fast

D. not natural

Answer & Explanation

Answer: Option **C**

Explanation:

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9. In rate expression the concentration of reactants is negative. It shows

A.	Concentration of reactant does not change	**B.**	Concentration of product increases
C.	Concentration of reactant decreases	**D.**	Concentration of reactant increases

Answer & Explanation

Answer: Option **C**

Explanation:

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10. Unit of rate of reaction is

A.	Moles dm-3 sec-1	**B.**	Moles dm-3
C.	Moles sec-1	**D.**	Mol-1 dm3 sec-1

Answer & Explanation

Answer: Option **A**

Explanation:

11. When a graph is plotted between 1/T on X-axis and log k on y-axis a straight line is obtained with a negative slope which has two end in

A.	I and II quadrant	**B.**	II and III quadrant
C.	III and IV quadrant	**D.**	II and IV quadrant

Answer & Explanation

Answer: Option **D**

Explanation:

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12. Rate of disappearance of reactant is equal to

A. Rate of reaction

B. Rate of formation of product

C. Energy released during reaction

D. a and b

Answer & Explanation

Answer: Option **A**

Explanation:

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13. Rate of reaction when concentration of reactants are taken as unity is called

A. Arrhenius constant

B. Molecularity

C. Specific rate constant

D. Ideal rate constant

Answer & Explanation

Answer: Option **C**

Explanation:

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14. Order of reaction of 2N2O5 ? 2N2O4+O2 is

A. First order

B. Second order

C. Third order

D. zero order

Answer & Explanation

Answer: Option **A**

Explanation:

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15. For 3rd order reaction the hhalf life is inversely proportional to initial concentration of reactants

A. Single

B. Square

C. Cube

D. Raise to power four

Answer & Explanation

Answer: Option **B**

Explanation:

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16. Which order of reaction obeys the relation t1/2 = 1/Ka

A. First order

B. Second order

C. Third order

D. Zero order

Answer & Explanation

Answer: Option **B**

Explanation:

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17. Radiations are absorbed in

A. Spectrophotometer method

B. Dilatometric method

C. Optical relation method

D. Refractometric method

Answer & Explanation

Answer: Option **A**

Explanation:

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18. Activated complex is formed due to

A. Pressure

B. Effective collision

C. Ineffective collisions

D. Temperature

Answer & Explanation

Answer: Option **B**

Explanation:

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19. Energy of reactant higher than energy of product favours

A. Endothermic

B. Exothermic

C. Moderate reaction

D. No reaction

Answer & Explanation

Answer: Option **B**

Explanation:

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20. Energy required to form transition state is called

A. Ea

B. P.E

C. V

D. K.E

Answer & Explanation

Answer: Option **A**

Explanation:

21. Which of the following will have very high rate of reaction?

A.	Double decomposition reaction	**B.**	Neutralization reaction
C.	Ionic reactions	**D.**	all of above

Answer & Explanation

Answer: Option **D**

Explanation:

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22. Greater the conc. Of reactant

A.	Greater will be dx/dt	**B.**	Lesser will be dx/dt
C.	dx/dt will be moderate	**D.**	any of above

Answer & Explanation

Answer: Option **A**

Explanation:

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23. Anything which increases rate of reaction without being involved in the reaction

A.	Promoter	**B.**	Catalyst
C.	Inhibitor	**D.**	All of the above

Answer & Explanation

Answer: Option **B**

Explanation:

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24. The substances that reduces the effectiveness of a catalyst are called

A. Promoters

B. Poisoning catalysts

C. Inhibitors

D. pro-catalysts

Answer & Explanation

Answer: Option **B**

Explanation:

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25. When catalysts and reactants are in more than one phase it is

A. Homogeneous catalysis

B. Heterogeneous catalysis

C. Catalysis

D. Ea

Answer & Explanation

Answer: Option **B**

Explanation:

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26. Each catalyst has

A. Specificity

B. Special structure

C. Its own Ea **D.** all of above

Answer & Explanation

Answer: Option **D**

Explanation:

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27. Biocatalytical proteins are

A. Enzymes **B.** Substrate

C. Lipids **D.** any of above

Answer & Explanation

Answer: Option **A**

Explanation:

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28. A catalyst can not effect

A. Products **B.** Chemical equilibrium

C. Reactants **D.** both a & b

Answer & Explanation

Answer: Option **D**

Explanation:

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29. An enzyme has its specificity due to

A. Substrate **B.** Structure

C. Temperature **D.** Pressure

Answer & Explanation

Answer: Option **B**

Explanation:

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30. Co-enzymes are

A. Non proteineous **B.** Proteineous

C. sugars **D.** lipids

Answer & Explanation

Answer: Option **A**

Explanation:

31. A substance which increases the reactivity of enzyme is called

A. Promoters **B.** Inhibitors

C. Stimulators **D.** Non-activators

Answer & Explanation

Answer: Option **A**

Explanation:

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32. Addition of tetraethyl lead in petrol is example of

A. ve catalysis **B.** ?ve catalysis

C. auto catalysis **D.** anti catalysis

Answer & Explanation

Answer: Option **B**

Explanation:

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33. When a product acts as catalyst then it is called

A. Autocatalsis **B.** ?ve catalysis

C. ve catalysis **D.** self catalysis

Answer & Explanation

Answer: Option **A**

Explanation:

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34. End name of enzyme is

A. yl **B.** ase

C. one **D.** al

Answer & Explanation

Answer: Option **B**

Explanation:

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35. When the reaction completes in more than one steps rate of reaction will be determined by

A. Fast step

B. Slowest step

C. All steps

D. Molecularity of the reaction

Answer & Explanation

Answer: Option **B**

Explanation:

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36. For determining the order of reaction we use

A. Refractometric method

B. Dilatometric method

C. Optical activity method

D. Half life method

Answer & Explanation

Answer: Option **D**

Explanation:

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37. Energy of activation for backward reaction is less than forward reaction for _____ reaction

A. Endothermic

B. Exothermic

C. Moderate

D. Fast

Answer & Explanation

Answer: Option **A**

Explanation:

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38. The unit of slope in Arrhenius plot to calculate the energy of activation is

A. K-1

B. ?F

C. K

D. ?C

Answer & Explanation

Answer: Option **C**

Explanation:

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39. Which statement is incorrect about catalyst

A. it is used in smaller amount

B. decrease activation energy

C. specific in action

D. it affects specific rate constant

Answer & Explanation

Answer: Option **D**

Explanation:

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40. Which of the following type of reaction is 3rd order reaction

A. 2N2O5 = 2N2O4 + O3

B. NO + O3 ? NO2 + O2

C. 2FeCl3 + 6KI ? 2FeI2 + 6KCl + I2

D. None of these

Answer & Explanation

Answer: Option **C**

Explanation:

1. Boron is non-netal whereas A1 is metal. It is due to

A.	Small size	**B.**	High nuclear charge
C.	Both a and b	**D.**	No authorized justification yet

Answer & Explanation

Answer: Option **C**

Explanation:

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2. Boron in soil has been considered micronutrient for

A.	Soil porocity	**B.**	Proper growth of plants
C.	Alkalinity of soil	**D.**	All

Answer & Explanation

Answer: Option **B**

Explanation:

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3. One of the outstanding features of boron is its ability to form

A.	Molecular addition compounds	**B.**	Molecular crystals
C.	Semiconductors	**D.**	Ionic compounds

Answer & Explanation

Answer: Option **A**

Explanation:

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---

4. Substance which is found in dried up lakes of Tibet and California is

A. Tincal

B. Boric acid

C. Calcium carbonate

D. Colemanite

Answer & Explanation

Answer: Option **A**

Explanation:

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5. Borax is a white crystalline solid and it is

A. More soluble in cold water

B. More soluble in hot water

C. Insoluble in water

D. Soluble only in organic solvents

Answer & Explanation

Answer: Option **B**

Explanation:

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6. Which of the following does not give Borax bead test?

A. Cu

B. Cr

C. Ni **D.** A1

Answer & Explanation

Answer: Option **D**

Explanation:

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7. Special features of borate glass is that it is

A. Heat resistant **B.** Low melting

C. Used to prepare chemical garden **D.** Green in colour

Answer & Explanation

Answer: Option **A**

Explanation:

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8. The metal which is used in thermite process because of its activity is

A. iron **B.** copper

C. aluminium **D.** zinc

Answer & Explanation

Answer: Option **C**

Explanation:

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9. Aluminium oxide is

A. Acidic oxide **B.** Basic oxide

C. Amphoteric oxide **D.** It does not exists

Answer & Explanation

Answer: Option **C**

Explanation:

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10. Which of the following shows inert pair effect?

A. boron **B.** carbon

C. silicon **D.** tin

Answer & Explanation

Answer: Option **D**

Explanation:

11. Which electronic configuration corresponds to an element of group IIIA?

A. 1s2 2s2 2p3 **B.** 1s2 2s2 2p6 3s2 3p1

C. 1s2 2s2 2p4 **D.** 1s2 2s2 2p6 3s2 3p6 4s2 3d1

Answer & Explanation

Answer: Option **B**

Explanation:

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12. Tincal is a mineral of

A. A1 **B.** Si

C. B **D.** C

Answer & Explanation

Answer: Option **C**

Explanation:

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13. In network of silica (SiO2) each silicon atom is surrounded by _____ atoms of osygen

A. 4 **B.** 2

C. 1 **D.** 6

Answer & Explanation

Answer: Option **A**

Explanation:

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14. Which one of the following is not a semiconductor?

A. Si **B.** Ge

C. Se **D.** Sn

Answer & Explanation

Answer: Option **D**

Explanation:

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15. Orthoboric acid is 2.6% soluble in water at 40?C and _____at 107?C.

A. 26%

B. 27%

C. 37%

D. <2.6%

Answer & Explanation

Answer: Option **C**

Explanation:

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16. The process of aluminium extraction is called

A. Hall process

B. Thermite process

C. Haber process

D. Contact process

Answer & Explanation

Answer: Option **A**

Explanation:

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17. Because of its ability to combine with both oxygen and nitrogen aluminium metal is used

A. As nitrometer

B. To remove air bubbles from molten metal

C. To produce alloy

D. As insulator

Answer & Explanation

Answer: Option **B**

Explanation:

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18. Aqueous solution of borax above 62?C gives crystals of

A. Na2B4O7.4H2O **B.** Na2B4O7.5H2O

C. Na2B4O7.2H2O **D.** Na2B4O7.10H2O

Answer & Explanation

Answer: Option **B**

Explanation:

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19. Silicon differ from silica by a group of

A. Ch3 **B.** ?OH

C. OCH3 **D.** O2

Answer & Explanation

Answer: Option **A**

Explanation:

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20. Which of the following is not a use of silicon?

A. Lubricants **B.** Hydraulic brakes

C. Antifreeze **D.** Water repellent

Answer & Explanation

Answer: Option **C**

Explanation:

21. Boron is non metal while other elements of IIIA group are metals. This is because

A.	it has small size	**B.**	it has high nuclear charge
C.	it forms molecular addition compounds	**D.**	all of the above

Answer & Explanation

Answer: Option **D**

Explanation:

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22. CO_2 is gas while SiO_2 is solid at room temperature.

A.	carbon is non-metal while silicon is semi-metal	**B.**	CO_2 is an independent molecule while SiO_2 has network covalent structure
C.	CO_2 forms multiple bond while silicon does not form multiple bonds	**D.**	Silicon has all sigma bonds

Answer & Explanation

Answer: Option **B**

Explanation:

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23. The coloured glassy mass in borax bead test is due to the formation of

A. metal borate

B. metal meta borate

C. metal boride

D. metal silicate

Answer & Explanation

Answer: Option **B**

Explanation:

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24. Identify the correct statement regarding CO

A. it combines with H2O to form carbonic acid

B. it reacts with red blood cells of haemoglobin

C. it is powerful oxidizing agent

D. it is used to prepare aerated drinks

Answer & Explanation

Answer: Option **B**

Explanation:

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25. The chief ore of A? is:

A. Na3A?F6

B. A?2O32H2O

C. A?2O3H2O

D. A?2O33H2O

Answer & Explanation

Answer: Option **B**

Explanation:

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26. If temperature of gallium arsenide is increased then its conductivity will

A. decrease

B. increase

C. remains constant

D. first decreases then increases

Answer & Explanation

Answer: Option **B**

Explanation:

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27. Boric acid cannot be used

A. As antiseptic in medicine

B. For washing eyes

C. In soda bottles

D. For enamel and glazes

Answer & Explanation

Answer: Option **C**

Explanation:

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28. Which of the following will decompose to produce litharge

A. Pb2O

B. Pb3O4

C. PbO2

D. All of the above

Answer & Explanation

Answer: Option **B**

Explanation:

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29. Which element can form tripositive ion?

A. Beryllium **B.** Carbon

C. Silicon **D.** Aluminium

Answer & Explanation

Answer: Option **D**

Explanation:

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30. Which of the following is metasilicic acid?

A. H2SnO3 **B.** H2SiO3

C. H3AsO4 **D.** H3SbO4

Answer & Explanation

Answer: Option **B**

Explanation:

1. Coordination number of the transition element in [Pt Cl NO2 (NH3)4]2- is

A. 2 **B.** 6

C. 4 **D.** 8

Answer & Explanation

Answer: Option **B**

Explanation:

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2. K2 (Cu(CN)4) which one is correct

A. Potassium tetra cyano cupperate

B. Co-ordination number is 2

C. Ligand is positively charged

D. Central atom is present in avionic sphere

Answer & Explanation

Answer: Option **D**

Explanation:

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3. The oxidation number of central metal atom in [Ni(CO)4] is

A. 0

B. 2

C. 4

D. 6

Answer & Explanation

Answer: Option **C**

Explanation:

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4. Group VIB of transition elements contains

A. Zn Cd Hg

B. Fe Ru Os

C. Cr Mo W

D. Mn Te Re

Answer & Explanation

Answer: Option **C**

Explanation:

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5. The leements in which d or f orbitals are in the process of completion are

A. outer transition elements

B. inner transition elements

C. typical transition elements

D. transition elements

Answer & Explanation

Answer: Option **D**

Explanation:

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6. The location of transition elements is in between

A. lanthanides & actinides

B. s and p block elements

C. chalcogens and halogens

D. d and f block elements

Answer & Explanation

Answer: Option **B**

Explanation:

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7. The melting points and boiling points upto meddle of 3d- series

A. increases

B. decreases

C. remain same

D. no regular trend

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8. Pure metal

A. corrode slowly

B. corrode rapidly

C. does not corrode easily

D. none of these

Answer & Explanation

Answer: Option **C**

Explanation:

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9. Compounds attracted by applied strong magnetic field are called

A. diamagnetic

B. paramagnetic

C. good conductor

D. ferromagnetic

Answer & Explanation

Answer: Option **B**

Explanation:

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10. The correct electronic configuration of Cr is

A. [Ar]4s23d4

B. [Ar] 4s23d4

C. [Ar]4s03d5

D. [Ar]4s13d5

Answer & Explanation

Answer: Option **D**

Explanation:

11. The oxidation state of transition elements is usually

A. variable **B.** constant

C. single **D.** infinite

Answer & Explanation

Answer: Option **A**

Explanation:

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12. When light is exposed to transition element then electrons jump from lower orbitals to higher orbitals in

A. orbitals of f-subshell **B.** orbitals of d-subshell

C. orbitals of p-subshell **D.** both a & b

Answer & Explanation

Answer: Option **D**

Explanation:

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13. Non-stoichiometric compounds of transition elements are called

A. hydrates **B.** hydrides

C. binary compounds **D.** interstitial compounds

Answer & Explanation

Answer: Option **D**

Explanation:

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14. When a compound of transition element is dissolved in a solution of salt then it produces

A. simples ions **B.** complex ions

C. double salts **D.** strong anions

Answer & Explanation

Answer: Option **B**

Explanation:

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15. The specie which donates electrons to central metal atom in coordination sphere is called

A. anion **B.** cation

C. Ligand is positively charged **D.** acid

Answer & Explanation

Answer: Option **C**

Explanation:

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16. The species which donate two electron pairs in a coordination compound is called

A. ligand **B.** mono-dentate ligand

C. poly-dentate ligand **D.** bi-dentate ligand

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17. Which of the following can form a chealate

A. ammine **B.** oxalato

C. carbonyl **D.** cyano

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18. The central atom along with ligands is called

A. complex ion **B.** coordination sphere

C. ligand **D.** complex compound

Answer & Explanation

Answer: Option **B**

Explanation:

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19. The compound or complex ion which has a ring in its structure

A. polydentate ligand **B.** chelate

C. monodentate ligand **D.** hydrate

Answer & Explanation

Answer: Option **B**

Explanation:

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20. In complex compounds the oxidation number is written in

A. English **B.** Greek

C. Roman numeral **D.** Hebrew

Answer & Explanation

Answer: Option **C**

Explanation

21. Geometry of the complex compounds usually depends upon

A. type of ligands

B. types of hybridization in the elements of ligands

C. hybridization of central metal

D. All of above

Answer & Explanation

Answer: Option **C**

Explanation:

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22. When the central atom of coordination compound is sp3d2 hybridization the expected geometry will be

A. tetrahedral

B. square planar

C. trigonal bipyramidal

D. octahedral

Answer & Explanation

Answer: Option **D**

Explanation:

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23. In pig iron the concentration of C-atom is

A. 0.12 --- 0.25%

B. 2.5 --- 4.5%

C. 2.0 --- 4.0% **D.** 0.25 --- 2.5%

Answer & Explanation

Answer: Option **B**

Explanation:

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24. In the production of wrought iron Mg Si and P are removed in the form of

A. oxides **B.** silicates

C. slag **D.** carbonates

Answer & Explanation

Answer: Option **C**

Explanation:

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25. With impurities like P and S the open hearth furnace is lined with.

A. SiO2 **B.** Fe2O3

C. FeO **D.** CaO MgO

Answer & Explanation

Answer: Option **D**

Explanation:

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26. The oxidation number in [MnO4]-2

A. 7 **B.** ?7

C. 6 **D.** ?6

Answer & Explanation

Answer: Option **C**

Explanation:

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27. Which is sold as fertilizer

A. CaSiO3 **B.** Na2SiO3

C. Ca3(PO4)2 **D.** MnSiO3

Answer & Explanation

Answer: Option **C**

Explanation:

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28. Any process of chemical decay of metals due to the action of surrounding medium is called

A. activation **B.** enameling

C. corrosion **D.** coating

Answer & Explanation

Answer: Option **C**

Explanation:

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29. When an active metal like Al comes in contact with less active element like Cu then it produces

A. dry cell **B.** galvanic cell

C. electrolytic cell **D.** a and b

Answer & Explanation

Answer: Option **B**

Explanation:

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30. Which of the following is typical transition metal?

A. Sc **B.** Y

C. Cd **D.** Co

Answer & Explanation

Answer: Option **D**

Explanation:

1. The molecular formula of toluene is

A. C7H7 **B.** C7H8

C. C8H8 **D.** C8H7

Answer & Explanation

Answer: Option **B**

Explanation:

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2. In benzene sulphonic acid the sulphonic group is attached with benzene ring through

A. Hydrogen **B.** Oxygen

C. Sulphur **D.** ?OH

Answer & Explanation

Answer: Option **C**

Explanation:

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3. Phenanthrene is a fused polycyclic compound contains _____ benzene rings

A. Two **B.** Three

C. Four **D.** Five

Answer & Explanation

Answer: Option **B**

Explanation:

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4. Aniline is a derivative of benzene which contains

A. Imino group **B.** Amino group

C. Amide group **D.** Nitro group

Answer & Explanation

Answer: Option **B**

Explanation:

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5. How many ? electrons are there in benzene to form delocalized electronic cloud

A. 3 **B.** 4

C. 6 **D.** 8

Answer & Explanation

Answer: Option **C**

Explanation:

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6. Nitration of chlorobenzene gives

A. o - chloronitrobenzene **B.** p - chloronitrobenzene

C. m - chloronitrobenzene **D.** a & b

Answer & Explanation

Answer: Option **D**

Explanation:

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7. When two or more different substituents are attached with a benzene ring the number 1 position in the ring is given to a high priority group. Which one of the following groups has highest - priority?

A. ?NH2 **B.** ?CHO

C. ?COOH **D.** ?CN

Answer & Explanation

Answer: Option **C**

Explanation:

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8. When benzene is substituted by halogens only which one of the following halogens only which one of the following halogens is given the number one position in the ring while writing the name of compound?

A. Bromine **B.** Chlorine

C. Fluorine **D.** Iodine

Answer & Explanation

Answer: Option **D**

Explanation:

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9. Which one of the following is not a meta directing group?

A. ?CN **B.** ?OH

C. ?COOH **D.** ?CHO

Answer & Explanation

Answer: Option **B**

Explanation:

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10. Which pair of groups contains both ortho & para directing groups

A. ?OH ?RCO **B.** ?NR3 ?CN

C. ?OCH3 ?CHO **D.** ?N (CH3)2 -NH2

Answer & Explanation

Answer: Option **D**

Explanation:

11. Michael Faraday discovered benzene in the gas which was produced by destructive distillation of vegetable oil that is done in

A. The presence of Oxygen **B.** The presence of Hydrogen

C. The absence of Oxygen **D.** The presence of excessive Oxygen

Answer & Explanation

Answer: Option **C**

Explanation:

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12. By which method the molecular mass of benzene was determined as 78.108?

A. Specific gravity method **B.** Vapour density method

C. X-ray diffraction method **D.** Distillation methos

Answer & Explanation

Answer: Option **B**

Explanation:

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13. How many moles of H2 are added up when benzene is heated with hydrogen in the presence of platinum?

A. Two **B.** Three

C. Four **D.** Six

Answer & Explanation

Answer: Option **B**

Explanation:

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14. Chlorination of toluene in the presence of sublight produces

A. Benzyl chloride **B.** o - chlorotoluene

C. p - chlorotoluene **D.** benzoic acid

Answer & Explanation

Answer: Option **A**

Explanation:

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15. The heat of hydrogenation of cyclohexene is

A. ?239 kJ mol-1 **B.** ?208 kJ mol-1

C. ?119.5 kJ/mol **D.** ?119.5 kcal/mol

Answer & Explanation

Answer: Option **C**

Explanation:

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16. The resonance energy of benzene is

A. 150.5 kJ/mol **B.** 250.5 kJ/mol

C. 150.5 Cal/mol **D.** 250.5 Cal/mol

Answer & Explanation

Answer: Option **A**

Explanation:

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17. What catalyst is employed when benzene is prepared from acetylene at 70?C?

A. Cr2O3 + A?2O3 + SiO2 **B.** Raney nickel

C. Organo-nickel **D.** Ni 250 - 300?C

Answer & Explanation

Answer: Option **C**

Explanation:

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18. Mixture of catalysts Cr2O3 + A?2O3 + SiO2 at 500?C are used when benzene is prepared from

A. acetylene **B.** N-hexane

C. Benzene sulphonic acid **D.** Sodium benzoate

Answer & Explanation

Answer: Option **B**

Explanation:

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19. Which one of the following methods will not give benzene?

A. Heating sod. Salt of Benzoic acid with soda lime

B. Distilling phenol with Zn dust

C. Chlorobenzene with NaOH at 360?C & 150atm.

D. Hydrolysis of benzene sulphonic acid with super heated steam.

Answer & Explanation

Answer: Option **C**

Explanation:

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20. Which is fused cyclic aromatic compound

A. diphenyl amine

B. diphenyl methane

C. naphthalene

D. biphenyl

Answer & Explanation

Answer: Option **C**

Explanation:

21. In Friedel Craft Alkylation A?C?3 is used to generate

A. Strong nucleophile

B. Weak nucleophile

C. Strong electrophile

D. Weak electrophile

Answer & Explanation

Answer: Option **C**

Explanation:

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22. Acetophenone is a

A. Ether **B.** Ketone

C. Aldehyde **D.** Ester

Answer & Explanation

Answer: Option **B**

Explanation:

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23. Reacting bromine with benzene in the presence of sunlight will result in

A. The rupturing of benzene ring **B.** Substitution reaction

C. Addition reaction **D.** No-reaction

Answer & Explanation

Answer: Option **C**

Explanation:

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24. Benzene does not undergo

A. Substitution reaction **B.** Addition reaction

C. Polymerization reactions **D.** Oxidation reactions

Answer & Explanation

Answer: Option **C**

Explanation:

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25. During sulphonation of benzene H2SO4 generates the electrophile

A. HSO4-

B. SO2

C. SO3

D. H+

Answer & Explanation

Answer: Option **C**

Explanation:

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26. Nitronium ion is

A. NO3

B. NO

C. NO2-

D. NO2+

Answer & Explanation

Answer: Option **D**

Explanation:

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27. Which compound will readily undergo sulphonation?

A. Benzene

B. Nitro benzene

C. Toluene **D.** Chlorobenzene

Answer & Explanation

Answer: Option **C**

Explanation:

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28. Benzene is heated in air with V2O5 at 450?C it undergoes

A. Substitution reaction **B.** Addition reaction

C. Elimination reaction **D.** Oxidation reaction

Answer & Explanation

Answer: Option **D**

Explanation:

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29. Which one of the following statement is not correct about benzene?

A. On hydrogenation 208 KJ/mole is liberated **B.** C-H bond length in benzene is 1.09 A?

C. Molecular mass of benzene is 78.108 **D.** Resonance energy of benzene is 150.5 K Cal/mole

Answer & Explanation

Answer: Option **D**

Explanation:

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30. The preparation of benzene from acetylene can also be said as

A. Oxidation

B. Polymerization

C. Dehydration

D. Condensation

Answer & Explanation

Answer: Option **B**

Explanation:

31. What is required other than anhydrous A?C?3 when toluene is prepared by Friedal craft reaction?

A. C6H6

B. C6H6 + CH3C?

C. C6H5C2H5

D. C6H5C? & CH3Cl

Answer & Explanation

Answer: Option **B**

Explanation:

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32. Replacement of hydrogen of benzene by alkyl group in the presence of alkyl halide & aluminum chloride is known as

A. Dows process

B. Friedel & Craft acylation

C. Friedel & Craft alkylation

D. Clemmenson reduction

Answer & Explanation

Answer: Option **C**

Explanation:

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33. Which one of the following radical is called benzyl radical?

A. C6H5?

B. C6H5?C

C. C6H5?CH-

D. C6H5?CH2-

Answer & Explanation

Answer: Option **D**

Explanation:

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34. Which compound form benzoic acid on oxidation with acidified KMnO4 or K2Cr2O7

A. Toluene

B. Ethyl benzene

C. n-propyl benzene

D. All

Answer & Explanation

Answer: Option **D**

Explanation:

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35. Ozonolysis of benzene produces

A. Glycol

B. Glyoxal

C. Vicinal diol

D. Both b & c

Answer & Explanation

Answer: Option **B**

Explanation:

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36. Which one of the following is benzal chloride?

A. C6H5 CH2C?

B. C6H5 CHC?2

C. C6H5 -CH = CHC?

D. None of the above

Answer & Explanation

Answer: Option **B**

Explanation:

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37. What is the molecular formula of Benzenetriozonide?

A. C6H6O9

B. C6H5O8

C. C6H5O9

D. C6H6O6

Answer & Explanation

Answer: Option **A**

Explanation:

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38. The hydrolysis of Benzenetrizonide will yield three moles of

A. Glyoxime

B. Benzaldehyde

C. Glycol

D. Glyoxal

Answer & Explanation

Answer: Option **D**

Explanation:

1. Which of the following substance produce acetaldehyde on dry distillation?

A. (CH3COO)2Ca

B. (HCOO)2Ca

C. both (a) and (b)

D. none

Answer & Explanation

Answer: Option **C**

Explanation:

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2. Which of the following will have the highest boiling point?

A. methanal

B. ethanal

C. propanal

D. hexanone

Answer & Explanation

Answer: Option **D**

Explanation:

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3. Which of the following reaction is not shown by ketones?

A. reaction with HCN

B. reaction with NaHSO3

C. reaction with 2 4 dinitrophenyl hydrazine

D. reaction with Fehling solution

Answer & Explanation

Answer: Option **D**

Explanation:

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4. The carbon atom of carbonyl group is

A. sp hybridized **B.** sp2 hybridized

C. cp3 hybridized **D.** dsp2 hybridized

Answer & Explanation

Answer: Option **B**

Explanation:

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5. Which of the following substances does not give iodoform test?

A. acetaldehyde **B.** ethyl alcohol

C. methyl alcohol **D.** acetone

Answer & Explanation

Answer: Option **C**

Explanation:

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6. Formalin is _____ % solution of formaldehyde in water

A. 10% **B.** 20%

C. 40% **D.** 60%

Answer & Explanation

Answer: Option **C**

Explanation:

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7. Which of the following aldehydes shows rapid reaction with sodium nitroprusside?

A. formaldehyde **B.** accetaldehyde

C. benzaldehyde **D.** acetone

Answer & Explanation

Answer: Option **D**

Explanation:

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8. Acetone reacts with HCN to form a cyanohydrin. It is an example of

A. electronphilic addition **B.** electrophilic substitution

C. nucleophilic addition **D.** nucleophilic substitution

Answer & Explanation

Answer: Option **C**

Explanation:

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9. Which of the following compounds will react with Tollens reagent?

A. CH3-CHO **B.** CH3-CH-CH3

C. CH3-COOH **D.** CH3-CO-CH2-CH3

Answer & Explanation

Answer: Option **A**

Explanation:

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10. Which of the following reactions may be assoclated with aldehyde and ketone?

A. nucleophile addition **B.** polymerization

C. oxidation **D.** all of the above

Answer & Explanation

Answer: Option **D**

Explanation:

11. Cannizzaros reaction is not given by

A. formaldehyde **B.** acetaldehyde

C. benzaldehyde **D.** trimethyl acetaldehyde

Answer & Explanation

Answer: Option **B**

Explanation:

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12. Which of the following reagents will react with both aldehydes and ketones?

A. Grignard reagent **B.** Tollens reagent

C. Fehlings reagent **D.** Benedicts reagent

Answer & Explanation

Answer: Option **A**

Explanation:

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13. Ketones are comparatively less reactive than aldehdye. It is due to

A. alkyl groups are electron donating **B.** steric hindrance

C. both (a) and (b) **D.** none

Answer & Explanation

Answer: Option **C**

Explanation:

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14. Which of the following do not give aldol condensation reactions?

A. formaldehyde **B.** acetaldehyde

C. diemthyl ketone **D.** propionaldehyde

Answer & Explanation

Answer: Option **A**

Explanation:

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15. Which of the following is not a use of formaldehyde?

A. in silvery mirror

B. in making medicine urotropine

C. in making throat lozenges

D. in making acetic acid

Answer & Explanation

Answer: Option **D**

Explanation:

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16. Formaldehyde and lactose are combined to produce throat lozenges named as

A. formamint

B. lactomint

C. aldomint

D. formalactose

Answer & Explanation

Answer: Option **A**

Explanation:

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17. Which of the following is not a use of acetaldehyde?

A. formation of phenolic resins

B. formation of mirror

C. antiseptic inhalant

D. formation of throat lozenges

Answer & Explanation

Answer: Option **D**

Explanation:

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18. Formula of haloform is

A. HCOX **B.** CX4

C. CHX3 **D.** CH3X

Answer & Explanation

Answer: Option **C**

Explanation:

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19. Formaldehyde condenses with phenol in the presence of dilute H2SO4 to yield

A. Nylon 66 **B.** urotropine

C. Aniline formaldehyde plastic **D.** Bakelite

Answer & Explanation

Answer: Option **D**

Explanation:

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20. Formalin consists of mixture of formaldehyde methyl alcohol and water. Percentage of water in it is

A. 60% **B.** 50%

C. 52% **D.** 8%

Answer & Explanation

Answer: Option **C**

Explanation:

21. Which of the following will not give addition reaction with NaHSO3

A. HCHO

B. CH3CHO

C. CH3-CH2-CHO

D. None of the above

Answer & Explanation

Answer: Option **C**

Explanation:

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22. On heating aldehydes with Fehlings solution we get a precipitate whose colour is

A. pink

B. black

C. yellow

D. brick red

Answer & Explanation

Answer: Option **D**

Explanation:

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23. Which of the following compounds has the empirical formula CH2O and reacts with sodium hydroxide?

A. carbonic acid

B. ethanol

C. acetic acid

D. methanoic acid

Answer & Explanation

Answer: Option **C**

Explanation:

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24. Aldehyde and ketone have same general formula for homologous series

A. CnH2nO2n **B.** CnH2n

C. CnH2nO **D.** CnH2nOn+1

Answer & Explanation

Answer: Option **C**

Explanation:

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25. Oxidation of primary alcohol gives

A. ketone **B.** Aldehyde

C. Alkene then - COOH **D.** Ester

Answer & Explanation

Answer: Option **B**

Explanation:

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26. Ethanal is prepared industrially by air oxidation of ethylene using palladium chloride as catalyst and _____ as promoter

A. PdCl2 **B.** Cu2Cl2

C. CuCl2 **D.** PbCl2

Answer & Explanation

Answer: Option **C**

Explanation:

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27. Ncleophilic addition reactions are catalysed

A. Acid

B. Base

C. Both a and b

D. None

Answer & Explanation

Answer: Option **C**

Explanation:

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28. Acetaldehyele cyanohydrin on acid hydrolysis yields

A. Tartaric acid

B. Propanoic acid

C. Lactic acid

D. Valeric acid

Answer & Explanation

Answer: Option **C**

Explanation:

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29. Acetal on acid hydrolysis generates

A. Alcohol

B. Ketone

C. Both a & b

D. None of the above

Answer & Explanation

Answer: Option **C**

Explanation:

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30. Which one exhibits aldol condensation

A. HCHO

B. C6H5CHO

C. Cl3CCHO

D. CH3COCH3

Answer & Explanation

Answer: Option **D**

Explanation:

31. For aldol condensation the conditions necessary

A. ?-C

B. ?-H

C. Basic medium

D. All

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32. Aldehydes are reduced to

A. P? alcohol

B. S? alcohol

C. T? alcohol

D. Not possible

Answer & Explanation

Answer: Option **A**

Explanation:

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33. Tetrahydroborate ion is the source of

A. proton **B.** H+

C. both a & b **D.** H-

Answer & Explanation

Answer: Option **D**

Explanation:

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34. Which of the following is a symmetrical ketone

A. 3 - hexanone **B.** acetone

C. butanone **D.** 2-pentanone

Answer & Explanation

Answer: Option **B**

Explanation:

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35. Dry distillation of calcium acetate results in the formation of

A. formaldehyde **B.** acetaldehyde

C. methane **D.** acetone

Answer & Explanation

Answer: Option **D**

Explanation:

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36. In base catalyzed reaction of carbonyl compound the catalyst

A.	increases the nucleophilic character of reagent	**B.**	increases electrophilic character of carbonyl compound
C.	acidic character of reagent	**D.**	both a and b

Answer & Explanation

Answer: Option **A**

Explanation:

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37. Cannizaros reaction takes place through the transfer of _____ from complex anion.

A.	hydrogen ion	**B.**	hydride ion
C.	oxide ion	**D.**	methoxide ion

Answer & Explanation

Answer: Option **B**

Explanation:

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38. Iodoform test can be used to distinguish between

A.	ethanol and methanol	**B.**	acetaldehyde and methanal
C.	acetone and diethyl ketone	**D.**	all of the above

Answer & Explanation

Answer: Option **D**

Explanation:

1. The fertility of the soil is improved by

A.	Rotation of the crops	**B.**	Adding lime to the acid salts
C.	Adding manure and growing legumes	**D.**	All

Answer & Explanation

Answer: Option **D**

Explanation:

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2. Which of the following is incorrect statement about nitrogen importance?

A.	It enhances plant growth	**B.**	It is involved in the synthesis of protein and nucleic acids
C.	it accelerates fruits and flowers growth	**D.**	It is involved in the chlorophyll synthesis

Answer & Explanation

Answer: Option **C**

Explanation:

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3. The fertilizers which provide single nutrient from NPK are called _____ fertilizer.

A. straight **B.** compound

C. both a and b **D.** none of the above

Answer & Explanation

Answer: Option **A**

Explanation:

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4. Which of the following is macronutrient?

A. Cu **B.** Cl

C. H **D.** Zn

Answer & Explanation

Answer: Option **C**

Explanation:

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5. Addition of urea to the soil is _____ reaction.

A. endothermic **B.** exothermic

C. both a and b **D.** no heat energy is involved

Answer & Explanation

Answer: Option **B**

Explanation:

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6. Which of the following is the most suitable catalyst for ammonia synthesis?

A. Pt

B. ZnO + Cr2O3

C. Fe in fused mixture of Al2O3 + SiQ2 + MgO

D. All of the above

Answer & Explanation

Answer: Option **C**

Explanation:

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7. The cooling of molten urea by air in the tower is called

A. prilling

B. evaporation

C. condensation

D. crystallization

Answer & Explanation

Answer: Option **A**

Explanation:

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8. Which of the following fertilizers is not useful for paddy rice?

A. urea

B. DAP

C. Ammonium sulphate

D. Ammonium nitrate

Answer & Explanation

Answer: Option **D**

Explanation:

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9. DAP (Diammonium hydrogen phosphate) contains _____ plant nutrients.

A. 60% **B.** 65%

C. 70% **D.** 75%

Answer & Explanation

Answer: Option **D**

Explanation:

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10. Which of the following potassium fertilizers are more useful for horticultural crops tobacco & potatoes?

A. KCI **B.** KNO3

C. K2SO4 **D.** KMnO4

Answer & Explanation

Answer: Option **B**

Explanation:

11. Calcarious material includes

A. lime stone **B.** marble

C. chalk **D.** all of the above

Answer & Explanation

Answer: Option **D**

Explanation:

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12. Argillaceous material does not include

A. vlay **B.** marine shells

C. slate **D.** blast furnace slag

Answer & Explanation

Answer: Option **B**

Explanation:

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13. Which of the following processes is used for the synthesis of cement?

A. dry process **B.** wet process

C. both **D.** none

Answer & Explanation

Answer: Option **C**

Explanation:

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14. Phosphorus helps in the growth of

A. root **B.** leave

C. stem **D.** seed

Answer & Explanation

Answer: Option **D**

Explanation:

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15. How many zones through which the charge passes in a rotary kiln?

A. 4 **B.** 3

C. 2 **D.** 5

Answer & Explanation

Answer: Option **A**

Explanation:

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16. The nutrients which are required in very small amount for the normal growth of plants are called

A. nitrogenous fertilizers **B.** micronutrients

C. phosphorus fertilizer **D.** all of the above

Answer & Explanation

Answer: Option **B**

Explanation:

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17. Which one of the following set of raw material is most suitable for manufacture of urea?

A. CH4 N2 and CO2 **B.** H2 N2 and CO

C. H2 CO2 and H2O **D.** H2O N2 and H2

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18. Which one of the following statement is correct for urea?

A. it is a synthetic fertilizer

B. it is a natural fertilizer

C. it provides micronutrients to the plants

D. it is an inorganic water soluble compound

Answer & Explanation

Answer: Option **A**

Explanation:

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19. The percentage of nitrogen in urea is

A. 36%

B. 46%

C. 56%

D. 66%

Answer & Explanation

Answer: Option **B**

Explanation:

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20. Which one of the following is an inorganic fertilizer?

A. manure

B. urea

C. ammonium nitrate

D. All

Answer & Explanation

Answer: Option **C**

Explanation:

21. Which one of the following fertilizers provides the nitrogen and phosphorus to the plant?

A.	urea	**B.**	calcium superphosphate
C.	diammonium phosphate	**D.**	potassium nitrate

Answer & Explanation

Answer: Option **C**

Explanation:

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22. The potassium present in plant help the plant to

A.	form starch sugar and fibrous material	**B.**	ripen the seeds and fruits
C.	increase the resistance against disease	**D.**	all the above statements are correct

Answer & Explanation

Answer: Option **D**

Explanation:

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23. Cement is a mixture of

A.	clay and clinker	**B.**	clay lime stone and gypsum
C.	lime stone and gypsum	**D.**	lime stone and clay

Answer & Explanation

Answer: Option **B**

Explanation:

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24. What is clinker?

A. roasted calcareous material

B. roasted argillaceous material

C. roasted calcareous and argillaceous material

D. roasted gypsum

Answer & Explanation

Answer: Option **C**

Explanation:

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25. Cement is a mixture of so many compounds roasted in rotary kiln. Which substances has greater percentage?

A. Lime (CaO)

B. Silica (SiO2)

C. Alumina (Al2O3)

D. Magnesia (MgO)

Answer & Explanation

Answer: Option **A**

Explanation:

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26. Which one of the following raw material is not present in the cement?

A. lime stone

B. gypsum

C. KNO3

D. iron oxide

Answer & Explanation

Answer: Option **D**

Explanation:

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27. Which sequence of steps is correct for the manufacture of cement?

A. crushing heating mixing grinding

B. crushing mixing heating grinding and mixing

C. crushing grinding mixing heating

D. mixing heating grinding crushing

Answer & Explanation

Answer: Option **C**

Explanation:

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28. The sequence of zones in the rotary kiln are as

A. dry zone burning zone decomposition zone cooling zone

B. cooling zone burning zone decomposition zone dry zone

C. burning zone cooling zone decomposition zone

D. dry zone decomposition zone burning zone cooling zone

Answer & Explanation

Answer: Option **D**

Explanation:

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29. The composition of mixture of clay and lime stone in the raw for cement material is

A. 75% lime stone and 25% clay

B. 25% lime stone and 75% clay

C. 15% lime stone and 55% clay

D. 55% lime stone and 15% clay

Answer & Explanation

Answer: Option **A**

Explanation:

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30. The important function of burning zone in the rotary kilm is

A. to dry the moisture of slurry

B. to decompose lime stone to unslaked lime

C. combination of different oxides like CaO SiO2 Fe2O3 and Al2O3

D. to reduce the impurities

Answer & Explanation

Answer: Option **C**

Explanation: