

Sample EduNgr.com JAMB Past Questions

JAMB » Chemistry » 2015

*Click EduNgr.com for FREE
educational resources, school
news, past questions, and
more...*

Get the complete **JAMB » Chemistry** past questions & answers, with many years, **including past & recent years past questions at www.eduNgr.com**
OR Install **EduNgr JAMB & Post-UTME App**
(OFFLINE USE, No Internet connect required)

1 The filter in the cigarette reduce the nicotine
construct by

- A burning
 - B absorption
 - C evaporation
 - D absorption
-

2 Which of these require crystallization most?

- A Drug making
 - B Cement making
 - C Paint making
 - D Perfume making
-

3 Iron is often galvanized in order to

- A Make it more malleable
 - B Remove the impurities unit
 - C Protect it against corrosion
 - D Render it passive
-

4 In the industrial production of H_2 is removed by (solution)

- A washing under pressure
 - B drying over phosphorus (V) oxide
 - C passing the mixture to the limewater
 - D using ammonical copper (I) chloride
-

5 The gas that is most useful in protecting humans against solar radiation is

- A chlorine
 - B ozone
 - C carbon IV oxide
 - D hydrogen sulphur
-

EduNgr.com JAMB Past Questions

6 Vulcanization involves the removal of

- A monomer
 - B the single bond
 - C the double bond
 - D a polymer
-

7 The acid in electrolysis of water is dilute

A HNO_3

B CH_3COOH

C H_2SO_4

D HCl

Visit EduNgr.com for FREE educational resources, school news, past questions, and more...

8 A small quantity of solid ammonium chloride

(NH_4Cl) heated gently in a test tube, the solid gradually disappears and produces two gases. Later, a white cloudy deposit was observed on the cooler part of the test tube. The ammonium chloride is to have undergone

A distillation

B sublimation

C precipitation

D evaporation

9 When salt loses its water of crystallization to the atmosphere on exposure, the process is said to be

A efflorescence

B déliquescence

C effervescence

D fluorescence

10 Atomicity of ozone is

A 1

B 2

C 3

EduNgr.com JAMB Past Questions

11 Which of the noble gases has the greatest ionization energy

A He

B Xe

C Ar

D Rr

12 The weakest attractive force that can be observed between two molecules is

A ionic

B covalent

C co-ordinate covalent

D vander Waals

13 An elements used in production of matches is

A nitrogen

B aluminum

C copper

D sulphur

14 Cathode rays cause an object placed behind a

perforated anode to cast a shadow on the screen. This observation shows that the rays

A are positively charged

B are negatively charged

C Have mass

D travel in straight lines

Visit EduNgr.com for FREE educational resources, school news, past questions, and more...

15 Flow of current in electrolytes is due to the movement of

A electrons

B Holes and electron

C Ions

D Charges

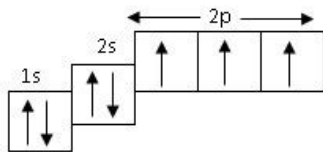
EduNgr.com JAMB Past Questions

16 A suitable reagent for distinguish between ethanoic and ethanol is

- A bromine water
 - B Fehling's solution
 - C sodium hydrogen trioxocarbonate (iv)
 - D Ammoniacal silver trioxonitrate(V)
-

17 In the discovery of protein, the instrument used is

- A cathode ray tube
 - B glass tube and discharge tube
 - C discharge tube with terminal cathode
 - D discharge tube with central cathode
-



The above orbital diagram shown the electronic configuration of

- A** chlorine
 - B** nitrogen
 - C** calcium
 - D** neon
-

19 Which of the following metals burns with brick red

- A** Pb
- B** Ca

C Na

D Mg

20 In the production of soap, concentrated sodium chloride solution is added to

A increase the solubility of soap

B decrease the solubility of the soap

C saponify the soap

D emulsify the soap

EduNgr.com JAMB Past Questions

21 A liquid that will dissolve fat is

A hydrochloric acid

B calcium hydrochloride

C kerosene

D water

Visit EduNgr.com for FREE educational resources, school news, past questions, and more...

22 Tartaric acid is used industrially to

A make baking powder

B make fruit juice

C remove rust

D dry substance

23 $P_1V_1 = P_2V_2$ supports ?

A Charles's law

- B** Boyles's law
 - C** Graham's law
 - D** Avogadro's law
-

24 A fixed mass of gas a volume of 92cm^3 at 3°C .

When will be its volume at 18°C if the pressure remains constant?

- A** 15.3cm^3
 - B** 87.3cm^3
 - C** 2.0cm^3
 - D** 97.0cm^3
-

25 Which of the following ion's requires the quantity of electricity for discharge at an electrode

A 2.0 mole of Q^{3+}

B 2.5 mole of R^{2+}

C 3.0 mole of T^-

D 4.0 mole of Y^-

EduNgr.com JAMB Past Questions

26 Hydrogen can be displaced from a lot alkaline solution by

A Fe

B Cu

C Cn

D Sn

27 Which of the following types of alkanols undergo oxidation to produce alkanolic acids.

- I. Primary alkanols
- II. Secondary alkanols
- III. Tertiary alkanols

- A** I, II and III
 - B** I and II only
 - C** III only
 - D** I only
-

28 Rare gases are suitable because they

- A** are monoatomic
- B** form ions easily
- C** have duplet or octet electronic configuration in the outermost shells in their atoms

D are volatile gases

Visit EduNgr.com for *FREE* educational resources, school news, past questions, and more...

29 A major source of oxide of oxygen is from the burning of

A coal

B wood

C fuel

D chlorofluorocarbons

30 Which of the activities is commonly used as a nuclear fuel

A uranium

B palladium

C actium

D thorium

EduNgr.com JAMB Past Questions

31 The leachate of a certain ash is used in local soap because it contain

A sodium chloride and potassium hydroxide

B sodium hydroxide

C potassium hydroxide

D soluble carbonates and hydrogen carbonate

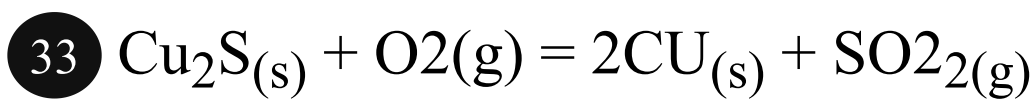
32 All these are electromagnetic waves except

A White light

B Photon

C X-ray

D Infrared



A +1 to 0

B 0 to +2

C +2 to +1

D 0 to +1

34 The number of isomers formed by C_6H_{14} is

A 4

B 5

C 2

D 3

35 There are basic particles from which matter called be made except

A Salt

B Atom

C Ion

D Molecule

Visit EduNgr.com for FREE educational resources, school news, past questions, and more...

EduNgr.com JAMB Past Questions

36 The energy value of petrol can be determined by

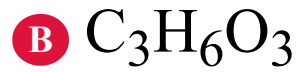
- A** Bomb calorimeter
 - B** Catalytic cracker
 - C** Fractionating column
 - D** Thermometer
-

37 What volume of 0.5mol dm^{-3} H_2SO_4 will exactly neutralize 20cm^3 of 0.1mol dm^{-3} NaOH Solution?

- A** 2.0cm^3
 - B** 5.0cm^3
 - C** 6.8cm^3
 - D** 8.3cm^3
-

38 A compound contains 40.0% carbon, 6.7% hydrogen and 53.3% oxygen. If the molar mass of the

compound is 180, Find the molecular formula [H = 1, C = 12, O = 16)



39 An oxidation state of or in K₂CrO₇

A 7

B 6

C 5

D 4

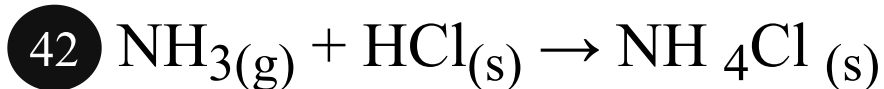
40 The elements that belong to the third period of periodic table are

- A Li, Be, Al and D
 - B Na, P, O and Cl
 - C B, C, N, and O
 - D N₂, Mg, S and Ar
-

EduNgr.com JAMB Past Questions

41 When sugar is dissolve in ten, the reaction is accomplished by

- A positive change
- B negative entropy change
- C no entropy change
- D a minimum entropy change



The entropy change in the system above is

- A positive
- B zero
- C negative
- D intermediate

Visit EduNgr.com for FREE educational resources, school news, past questions, and more...

43 Detergents are manufacture with strength hydrocarbon chains is to make them

- A soluble
- B biodegradable

C cheaper

D foamy

44 Which of the following results in the fall of acid rain

A oxide of lead

B particulate matter

C oxides of carbon

D gaseous hydrocarbon

45 The fuming of kettles is caused by the presence in the water of

A calcium tetraoxosulphate (IV)

B calcium hydrogentrionocarbonate (IV)

- C** calcium hydroxide
 - D** calcium trioxocarbonate (IV)
-

EduNgr.com JAMB Past Questions

46 A difference between chemical and physical change is that in a chemical change

- A** oxygen is consumed
 - B** heat is supplied
 - C** the reversible process occurs
 - D** a new substance is formed
-

47 According to the kinetic theory an absence in temperature causes the kinetic energy of particles to

- A** decrease

B increase

C remain constant

D be zero



In the reaction above, a decrease in pressure will

A Decelerate the reaction

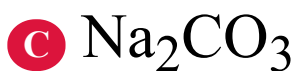
B Increase yield of Pcl3

C Increase the yield of Pcl5

D Accurate the reaction

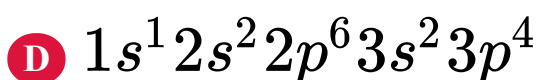
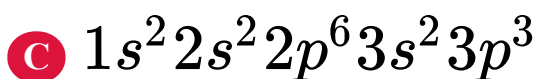
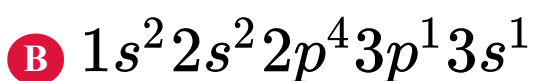
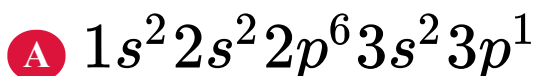
49 Which of the following gives a precipitation when treated with NaOH Solution?

A AlCl_3



Visit EduNgr.com for FREE educational resources, school news, past questions, and more...

50 Electronic configuration of an element 13x in the subsidiary energy level is



51 Alloys are best prepared by

A electroplating

B Arc-welding

C reducing and mixture of their metallic

D cooking a molten of the metals

52 In countries where the temperature fall below 273k, salt always spilled on the ray road in order to

A increase the making point office

B increase the density of the ice

C make the ice impure

D rinse the making point of the ice

53 What is the volume of energy required to burn 45cm³ of mixture at S.T.P

A 135.0cm³

B 150.0cm³

C 45.0cm³

D 90.0cm³

54 The substance that is used in the steel industry for the removal of carbon. Sulphur and phosphorus impurities from pig iron is

A oxygen

B chlorine

C nitrogen

D hydrogen

55 If glucose is heated on the concentration tetraoxosulphate(iv)acid, it will be dehydrated

- A carbon
 - B carbon(iv)oxide
 - C ethane
 - D ethanol
-

EduNgr.com JAMB Past Questions

56 Rare gases are suitable because they

- A are monoatomic
- B form ions easily
- C have duplet or octet electronic configuration in the outermost shells in their atoms

D are volatile gases

Visit EduNgr.com for *FREE* educational resources, school news, past questions, and more...

57 Which of the following compounds can be represented by the molecular formula C_2H_6O ?

A propanal

B ethanol

C methanoic acid

D glucose

58 Two equal bulbs, one containing ammonia and the other one opened mouth-to-mouth to each other at temperature the entropy in the mixture of gases is likely to

A remain unchanged

B increase

C decrease

D charge

59 what is the pH of 0.001mol dm^{-3} solution of sodium hydroxide

A 14

B 13

C 12

D 11

60 According to the kinetic theory an absence in temperature causes the kinetic energy of particles to

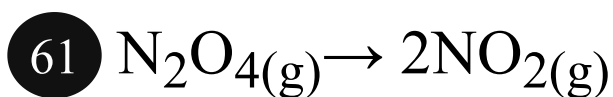
A decrease

B increase

C remain constant

D be zero

EduNgr.com JAMB Past Questions



In the endothermic reaction above, more products formed will be favored by

A A constant values

B an increase in pressure

C a decrease pressure

D a decrease volume

62 Chlorine gas turns damp starch-iodide paper

A pink

B colourless

C red

D dark blue

63 Chlorine consisting of two isotope of mass

number 35 and 37 in the ratio 3:1 has an atomic mass of 35.5. Calculate the relative abundance of the isotope of mass number 37

A 20

B 25

C 60

D 75

64 The principal constituent of natural gas is

A methane

B ethane

C propane

D Butane

65 One note of a hydrocarbon 36g of carbon and its density is 20. The structure of hydrocarbon is (organic chemical)

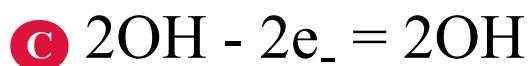
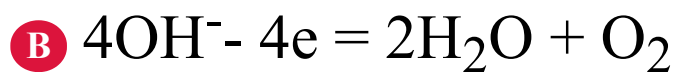
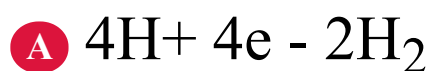
A $\text{CH}_3\text{C} = \text{CH}$

B $\text{CH}_3\text{CH} = \text{CH}_2$

C $\text{CH}_3\text{CH}_2\text{C} = \text{CH}$

EduNgr.com JAMB Past Questions

66 In the electrolysis of $\text{CuSO}_4(\text{g})$ using platinum electrode the reaction at the anode is



67 5 block elements of the periodic table one made up of



B groups 1, and 2

C group 3

D group 3 to 7

68 The oxidation state of oxygen on tetraoxosulphate iv acid is

A -4

B -2

C 4

D -8

69 In the electrolysis of brine the anode is

A platinum

B copper

C zinc

D carbon

70 Calculate the relative molecular mass of
Limestone CaCO_3 , (Ca = 40, C = 12, O = 16)

A 56

B 100

C 76

D 90

*Visit EduNgr.com for FREE educational resources,
school news, past questions, and more...*

EduNgr.com JAMB Past Questions

71 When steam is passed over red hot carbon the substances produced are

- A hydrogen and trioxocarbonate (IV) acid
 - B hydrogen, oxygen and carbon (IV) oxide
 - C hydrogen and carbon (ii) oxide
 - D hydrogen and carbon (IV) oxide
-

**Answers: JAMB Past
Questions: JAMB » Chemistry
» 2015**

1. A

Nicotine is a substance in cigarette which makes difficult to make one stop smoking. This can be derived by burning. Options B,C,D will not reduce this nicotine

2. A

Crystallization is required the most in industries where the purity of their products is important e.g in the manufacture of drugs and in sugar production. Options B,C and D do not undergo crystallization

3. C

Iron is galvanized with zinc covering to protect it against corrosion. Option A, B, D are the main reasons iron is galvanized

4. A

Washing under pressure is an action in the industrial production of H. Options B,C,D will not yield Co and H

5. B

The ozone layer or ozone shield refers to a region of Earth's stratosphere that absorbs most of the Sun's ultraviolet (UV) radiation. It contains high concentrations of ozone (O₃) relative to other parts of the atmosphere, although still very small relative to other gases in the stratosphere

6. C

Vulcanizer is the removal of double bond in a chemical reaction. Option A,B,D can not be removed by vulcanizer

7. C

H_2SO_4 is the acid used in the electrolysis of water. Option A,B,D are concentrated acid and they will react with the water

8. B

Sublimation is the transformation of solid gaseous state without passing through the liquid state. Options A,C,D do not show case these character of sublimation as they do not by pass states. They are in a particular order

9. A

Efflorescence is a process of long exposure to the atmosphere which favors salt loss of water. Options B, C, D are not related to loss of water

10. C

Ozone means O_3 as the atomicity is 3. Option A,B,D cannot give ozone because their atomicity is not 3

11. A

Helium has the greatest ionization energy because they are less stable. Options B,C,D have low ionization energy because one more stable and do not react easily

12. D

Vander Waals are the weakest attractive forces that exist between two molecules. Option A,B,C are not weak forces because the force attraction that exist between their interested molecule are very strong

13. D

Sulphur is an element that burns with a strongly explosive smell, as a result it is explosive smell

14. D

Rays travels in straight lines and finds its way through any opening available. It could be refracted, reflected or transmitted based on any obstacle. Option A,B,C are not the reason why the cathode are coasted shadows

15. C

16. C

Sodium hydrogen trionocarbonate iv is the only distinguishing reagent between ethanoic and ethanol. Option A, B, D are not conspicuous in distinguishing between ethanoic and ethanol

17. D

Discharge tube with central cathode is an apparatus for producing cathode rays and positive rays. Option A,B,C will not yield cathode rays and positive rays

18. B

Nitrogen has an electronic configuration of 7 i.e $1s^2 2s^2 2p^3$. option A,C,D are chlorine 17, calcium 20, neon 10

19. B

Calcium is the only metal that burn with brick red flame. Option A,C,D will not burn with brick red flame rather burn with brick blue flame

20. B

Concentrated sodium chloride solution will the solubility of soap along the course of soap production. Options A,C,D are not appropriate

21. C

Kerosene is only liquid that will dissolve fat. Option A,B,D will not dissolve fat because of their chemical composition

22. A

A is the correct answer. Tartaric acid is found in cream of tartar, which is used in cooking candies and frostings for cakes. Tartaric acid is also found in baking powder, where it serves as the source of acid that reacts with sodium bicarbonate (baking soda)

23. B

$$V = 1/P$$

cross multiply

$$K = VP$$

$$V_1P_1 = V_2P_2$$

For a fixed amount of an ideal gas kept at a fixed temperature, pressure and volume are inversely proportional. Or Boyle's law is a gas law, stating that the pressure and volume of a gas have an inverse relationship, when temperature is held constant. The equations supports only Boyle's law. Option A,C,D are not in support of the equation...

24. D

$$V_1 \div T_1 = V_2 \div T_2$$

$$T_1 = 3 \times 273 = 276\text{k}$$

$$T_2 = 18 + 273 = 291\text{k}$$

$$V_1 = 92\text{cm}^3$$

$$V_2 = ?$$

$$V_2 = (V_1 T_2) \div T_1 = (92 \times 291) \div 276$$

$$= 97.0\text{cm}^3$$

25. A

2.0 mole of Q^{3+} ions require the largest quantity of electricity for discharge at an electric. option B,C,D are all carrying a smaller quantity of electricity which not be proven for ant discharge

26. A

Fe displaces hydrogen from hot alkaline solution.
Options B,C,d will not displace hydrogen

27. D

Only primary alkanols undergo oxidation to produce alkanonic acid. Option A,B,C will not produce alkanonic acid

28. C

Rare gases are stable because they have duplet or octet electronic configurations in the outermost shells in their atoms, as a result they don't go into solution easily. option A, B, D are not because they go into solution easily (unstable)

29. A

Coal is a major source of oxide of nitrogen. Option B,C, D do not contribute to the anode Nitrogen either. They are sources of oxides of carbon of sulphur etc

30. A

Uranium is common nuclear because of its less stability as a result has a great tendency to increase energy than. Options B,C,D which are not stable

31. B

Sodium hydroxide (NaOH) is made suitable for soap production locally. Option A, C, D will not contribute to soap making

32. B

Photon is unit of energy that carries light and has zero mass. A, C and D are all electromagnetic waves of higher mass

33. A

The oxidation number is from +2 to +3 as a result of release of sulphur. Option B, C, D are not the actual oxidation number for copper

34. B

The number of isomers of C_6H_{14} is 5. It will not form options A, C, D

35. A

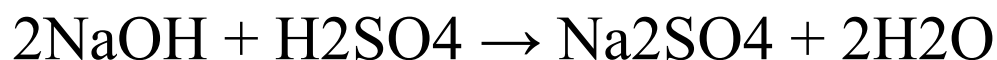
Salt is a chemical used for varieties of purposes, so it's not part of matter, Atom being the smallest part of

molecule and ion are charge which are part of matter

36. C

Fractionating column contains petrol with different densities.

37. A



$\text{CaVa} \div (\text{CbVb}) = \text{ratio of acid} / \text{ratio of base}$

$$0.5\text{Va} \div (0.1 \times 20) = \frac{1}{2}$$

$$\text{Va} = 2.0\text{cm}^3$$

38. C

$$\text{C} = 40\%, 40/12 = 3.33$$

$$\text{H} = 6.7\%, 6.7/1 = 6.7$$

$$\text{O} = 53.3\%, 53.3/16 = 3.33$$

$$\text{C} = 3.33/3.33 = 1$$

$$\text{H} = 6.7/3.33 = 2$$

$$\text{O} = 3.33/3.33 = 1$$

$$(\text{CH}_2\text{O})_n = 180$$

$$(12 + 2 + 16)_n = 180$$

$$30n = 180$$

$$n = 6$$

$$= \text{C}_6\text{H}_{12}\text{O}_6$$

39. B

The oxidation state of $K_2Cr_2O_7$ is +6. option A,C,D are the oxidation state of other elements like O7,C14, etc.

40. D

Na, Mg, s and Ar one elements that belong to third period of the periodic table. Option A,B,C belong to the other period in the periodic table, second period

41. C

No entropy change because the sugar will not change the chemical equivalent of the tea. Options A,B,D are not appropriate because they will change the chemical combination of the tea

42. C

Entropy s is a measure of the degree of disorder or randomness of a substance. The entropy charge in the system is negative. Options B, C, D will not give negative but the result into positive

43. B

Biodegradable because the straight hydrocarbons are natural and slightly soluble in water. Options A,C,D do not have strength hydrocarbon chains and they could harm the environment if they are made with the detergent

44. C

Oxide of sulphur is formed as a result of acid rain. Options A,B, D are not formed as a result of the pressure of acid

45. B

Calcium hydrogen trionocarbonate (iv) will cause the forming of kettles whenever water is present. Options A, C, D will not react under the presence of water

46. D

In chemical change a new substance is formed while in physical change no new substance is formed. Options A,B,C are all properties of a physical change

47. D

48. B

If we decrease the pressure in the reaction, there will be rapid breakage spilling of PCl_5 . And these follows a principle that molecule of gases tends to move from a region of higher pressure to low pressure. Option A,C,D will not be affected by pressure decrease

49. A

AlCl_3 will give a precipitate when treated with solution. Option B,C,D will not give a precipitate when treated with NaOH solution

50. A

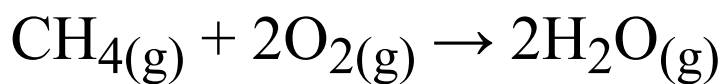
51. D

Alloy is a metal that consist of two or more metals mixed together e.g. is brass which is an alloy of copper and zinc. Are not prepared with option A,B,C, and the do not result in mixture and metals together

52. A

Salt is good chemical agent that lowers the melting of an ice only it temperature below 0°C options B,C,D will not have the melting point except is above the 0°C . only salt does that.

53. D



1 volume of methane will react with 90cm³ of oxygen at S.T.P

54. A

Oxygen is a substance that is used to remove impurities from pig iron. Options B, C, D will be effective in removing impurities positive]

55. A

Carbon concentration of 4 will not give a precipitate heating. Option B,C,D will not be dehydrated

56. C

Rare gases are stable because they have duplet or octet electronic configurations in the outermost shells in their atoms, as a result they don't go into solution easily. option A, B, Dare not because they go into solution easily (unstable)

57. B

Ethanol has the molecular formula C₂H₆O. Option A, C, D are not because their molecular are not

different

58. A

The bubble remain the same because entropy favors the mixture as it is the degree of randomness or disorderliness. Option B,C,D will not favors the entropy

59. D

$$[\text{H}^+][\text{OH}^-] = 10^{-14}$$

$$[\text{H}^+] = 10^{-14} \div [\text{OH}^-]$$

$$= 10^{-14} \div (1 \times 10^{-3}) = 10^{-11}$$

$$\text{pH} = -\log_{10}[\text{H}^+]$$

$$= -\log_{10}[10^{-11}] = -1 \times -11$$

$$\log_{10}[10^{-11}] = -11$$

$$= -1 \times -11 = 11$$

$$= 11$$

60. C

61. C

A decrease in pressure will result in the breaking or splitting of a larger molecule into a simpler ones.

Options A, B, D are not in conformance to the reaction

62. D

Chlorine turns a damp starch iodide paper into dark blue or blue black.

63. B

Let the relative abundance of the isotope with mass 37 be

Total relative abundance of the isotope of mass 37 is x

Total mass of isotope of mass 37 is $37x$, while that of 35 is $35(100-x)$

$$37x + 35(100-x) = 35.5 \times 100$$

$$37x + 3500 - 35x = 3550$$

$$\text{Mean mass of chlorine atom} = \frac{2x + 3500}{100} = 35.5$$

$$2x + 3500 = 3550 \Rightarrow x = 50/2$$

64. A

Methane CH_4 . A. is the principal and commercial constituent natural gas. Option B, C, D are also constituent of natural gas but they are not commercial and of economic importance

65. A

$$2VD = R_{mm}$$

VD = Vapour Density, R_{mm} = relative

$2 \times 20 = 40$ molecular mass

Mole of carbon = $36/12$

$$= 3$$

Mole of H_2 = $40 - 36$

$$= 4$$

The compound contains 3mole of carbon and 4 hydrogen

66. B

$4H - 4e \rightarrow 2H_2O + O_2$ is the reaction of sun at the anode in the electrolysis of $CuSO_4$ (g) using platinum particles. Option A,C,D are not formed as a result of the equation

67. B

5 block elements only are made up of group 1 and 2 options A,C,D takes place of the other blocks in the periodic table p,d,f etc.

68. B

In SO_4 . The state of oxygen oxidation number is -2. Options A,C,D do not belong to the oxidation state in

SO₄

69. D

In the industrial of brine carbon is the anode while mercury is the cathode. Options of A, B, C are not used in brine solution because they are alloy of mercury

70. B

One molecule of CaCO has 1Ca, 1C and 3O atom
relative molecular mass of CaCO₃

$1 \times \text{Ar of Ca} + 1 \times \text{Ar of C} + 3 \times \text{Ar of O}$

$(1 \times 40 + 1 \times 12 + 3 \times 16)$

$40 + 12 + 48$

$=100$

Option A,C and D will not give 100

71. C

Hydrogen and carbon (ii) oxide will be formed when red steam is passed over red-hot carbon. Option A,B,D are not produced through this process

Get the complete **JAMB » Chemistry** past questions & answers, with many years, **including past & recent years past questions** at **www.eduNgr.com**
OR Install **EduNgr JAMB & Post-UTME App**
(OFFLINE USE, No Internet connect required)