**NAME……………………………………………………STREAM…………….**

**END OF TERM ONE EXAMINATIONS 2022**

**CHEMISTRY PAPER ONE**

**SENIOR THREE**

**TIME: 1 HOUR 30 MINUTES**

**INSTRUCTIONS**

Answer all questions

You are required to write correct answer A,B,C or D against each in the box on the right-hand side of each page.

1.Which one of the following allotropes of carbon conduct electricity?

A. Diamond B. Graphite

C .Coal D. Coke

2. Which one of the following substances when heated undergoes a chemical change?

A. Candle wax B. Ammonium chloride

C. Zinc oxide D. Sodium nitrate

3.Which one of the following ion make hard water?

A .Na+ B. K+

C. Zn2+ D. Mg2+

4.Which one of the following is observed when magnesium is heated with copper(II) oxide?

A. A green solid is formed

B. A black solid is formed

C. A grey solid is formed

D. A white solid is formed

5.Which one of the following allotropes of carbon is used during the manufacture of sugar?

A. Lamp black

B. Wood charcoal

C. Sugar charcoal

D. Animal charcoal

6.Which one of the following salts can be prepared by direct synthesis?

A. Lead(II) iodide

B. Ammonium nitrate

C. Sodium carbonate

D. Iron (II) chloride

7.Which one of the following gases is produced when Lead(II) nitrate is heated strongly?

A. Nitrogen

B. Dinitrogen oxide

C. Nitrogen monoxide

D. Nitrogen dioxide

8.Which of the following metal oxides cannot be converted to the metal by heating the oxide together with coke?

A. Zinc oxide

B. Iron (II) oxide

C. Aluminium oxide

D. Lead (II) oxide

9.The full symbol of an atom is .The number of protons ,electrons and neutrons in the ion forms by Z are

Electrons Protons Neutrons

A 19 19 20

B 18 19 20

C 19 18 20

D 18 20 19

10.Which of the following substances will dissolve in water to give a solution that turns blue litmus red?

A. (NH4)2SO4

B. NaCl

C.CH3CH2OH

D.K2CO3

11.The best method that can be used to separate a mixture of alcohol and paraffin is

A.filtration B. crystallization

C. distillation D. chromatography

12.The ease with which calcium ,iron ,magnesium and zinc react with dilute hydrochloric acid to produce hydrogen is in the order

A.Ca>Mg>Zn>Fe B.Mg>Ca>Fe>Zn

C.Fe>Zn>Mg>Ca D.Ca>Zn>Fe>Mg

13.The atomic number of elements Q,W,X and Y are 4,9,10 and 14 respectively .Which one of the elements can from positively charged ions.

A. Q B.W

C. X D.Y

14.When carbon dioxide is bubbled through lime water ,the latter turns milky and finally clears because

A. the reaction between lime water and carbon dioxide is reversible.

B. lime water is a good solvent for the milky substance formed.

C. the milky substance reacts to form a soluble compound.

D. carbon dioxide eventually dissolves in limewater to form carbonic acid.

15.Which one of the following is true about group VII elements?

A. They form ions of formula X-

B. They form ions of formula X+

C. They are colourless

D. They exist as monoatomic molecules

16.Sodium carbonate and sodium hydrogen carbonate can be separated by functional distillation because the two salts have

A. Densities

B. Melting point

C. Solubilities

D. Boiling point

17.Which one of the following carbonate decompose to leave a metal?

A. Potassium carbonate

B. Zinc carbonate

C. Magnesium carbonate

D. Silver carbonate

18.The best method for separating a mixture of ammonium chloride and sodium chloride is

A. decantation

B. distillation

C. filtration

D. sublimation

19.The white solid formed when lime water is left exposed to air for some time is;

A. calcium carbonate

B. calcium hydroxide

C. calcium oxide

D. calcium chloride

20.Which one of the following salts is soluble in water?

A.Lead chloride

B.Calcium sulphate

C. sodium nitrate

D.Barium carbonate

21.Chlorine atom has electronic configuration 2:8:7.The electronic configuration of a chloride ion Cl- is

A. 2:8:7 B.2:8:8

C. 2:8:6 D.2:8:5

22. The electronic configuration of element W and X are 2:8:3 and 2:6 respectively. The formula of the compound formed between W and X is

A. W3X2 C. W2X

B. W2X3 D.WX3

23.Graphite is used as an electrode in electrolysis because it

A. has hexagonal carbon rings

B. is soft

C. has mobile electrons

D.is opaque

24.Which one of the following electronic structure will indicate the least reactive element

A. 2:8:1 C. 2:8:2

B. 2:8:7 D. 2:8:8

25. Isotopes of an element have got

A. same number of protons and neutrons

B. same number of neutrons and electrons

C. different number of protons and electrons

D. same number of electrons and protons

26.The following are acid salts, except

A. sodium carbonate

B. sodium hydrogen carbonate

C. calcium hydrogen sulphate

D. calcium hydrogen sulphite

27. The following salts dissolves in water to form acidic solutions except;

A.Sodium chloride

B. Ammonium chloride

C. Ammonium nitrate

D. Ammonium sulphate

28.Ammonium chloride dissolves in water to form a solution that;

A. is acidic

B. turns litmus paper red

C. has a PH below 7

D. PH of 7

29.Carbon burns in steam to produce

A. carbon dioxide and hydrogen

B. carbon monoxide and hydrogen

C. carbon dioxide

D. carbon dioxide gas

30.Carbon dioxide gas dissolves in water to form

A. carbonic acid C. carbon

B. carbon monoxide D. water gas

31.Carbon monoxide is produced when

A. carbon burns in limited supply of air

B. carbon dioxide is burnt in lime stone

C. carbon dioxide is passed over copper

D. Calcium carbonate reacts with dilute sulphuric acid

32.Brass is an alloy of

A. lead and tin

B. iron and carbon

C. copper and zinc

D. magnesium and aluminium

33.Which one of the following substances is formed when sodium is burnt in a limited amount of air?

A. Sodium oxide C. Sodium carbonate

B. Sodium peroxide D. Sodium nitrate

34.The atomic number of an element T is 15.Which one of the following is the nature of the oxide T

A. acidic B. neutral C. basic D. amphoteric

35.Which one of the following carbonates when heated decomposes without leaving a solid residue?

A. Ammonium carbonate

B. Copper(II) carbonate

C. Magnesium carbonate

D. Lead(II) carbonate

36.Which one of the following metals is used in a laboratory preparation of hydrogen?

A. Iron

B. Zinc

C. Magnesium

D. Potassium

37. The atomic numbers of elements T,U,V and Z are 11,16,17 and 20 respectively. Which one of the elements form an ion with a charge of negative two.

A.T

B. U

C.V

D. Z

38.Which one of the following pairs of substances will react when strongly heated together?

A. Magnesium oxide and iron

B. Zinc and aluminium oxide

C. Iron (II) oxide and copper

D. Lead (II) oxide and magnesium

40.Which one of the following metals can react with steam?

A. Copper C. Silver

B. Lead D. Iron

In each of the questions 41 to 44, one or more of the answers given may be correct .Read each question carefully and then indicate the correct answer according to the following

**A. If 1,2and 3 only are correct**

**B. If 1 and 3 only are correct**

**C. if 2 and 4 only are correct**

**D. If 4 only is correct**

41.Which of the following gases is/are used as a coolants in refrigerators

1.Carbon dioxide

2. Sulphur dioxide

3. Ammonia

4. Chlorine

42.Whichof the following carbonates is /are soluble in water?

1.Sodium carbonate

2.Potassium carbonate

3.Ammonium carbonate

4.Calcium carbonate

43.Which of the following is/are true about all halogens? They are

1.diatomic elements

2. reducing agents

3. coloured elements

4.gases at room temperature

44.Which of the following substances can cause water pollution?

1.Insecticides

2.Fertilizers

3.Detergents

4. Carbon monoxide

45. Which of the following statements is/are true about elements in group II in the periodic table.

1. They have similar chemical properties

2. They have same number of electron shells

3. Their ions carry same number of charge

4. Their reactive increases as you go up the group

Each of the questions 46 to 50 consist of an assertion (statement) on the left hand side and a reason on the right hand side.

**A. If both the assertion and the reason are true statement and the reason is a correct explanation of the assertion.**

**B. If both the assertion and the reason are true statements but the reason is not a correct explanation of the assertion .**

**C. If the assertion is true but the reason is not a correct statement.**

**D.If the statement is not correct but the reason is a correct statement.**

**INSTRUCTION SUMMARISED**

Assertion Reason

A True True (Reason is a correct explanation)

B True True (Reason is not a correct explanation)

C True Incorrect

D Incorrect Correct

46.Sodium react vigorously because sodium is highly

with water to produce hydrogen electro positive

47.A piece of magnesium

continue to burn in a gas because carbon dioxide

jar of carbon dioxide contains two atom

of oxygen

48.When sodium peroxide is sodium peroxide reacts

dissolved in water, a gas is because with water to form

evolved hydrogen

49.Hydrogen gas can be collected because it is denser than

by upward delivery during preparation water

50. Carbon dioxide and carbon because both of them are

monoxide are pollutants reducing agent

**END**