

Uganda Certificate of Education

End of term one

CHEMISTRY

Paper 1

1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES

This paper consists of 50 objective type questions

*Answer **all** questions.*

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

*Do not **use** pencil*

For examiner's Use Only

1. A greenish yellow gas that forms dense white fumes with ammonia is
 - A. Hydrogen
 - B. Carbon dioxide
 - C. Chlorine
 - D. carbon monoxide
2. The following form acidic oxide when burnt in oxygen except
 - A. Calcium
 - B. Sulphur
 - C. Carbon
 - D. Phosphorus
3. When testing for lead ions with potassium iodide solution, the precipitate is
 - A. Black
 - B. Yellow
 - C. Pink
 - D. Red
4. In preparation of oxygen gas in the laboratory, manganese oxide is a
 - A. Reactant
 - B. Catalyst
 - C. Product
 - D. Gas
5. A hydrocarbon X has 25% hydrogen, its empirical formula is
 - A. CH_4
 - B. CH_3
 - C. C_2H_4
 - D. C_3H_4
6. Methane is an
 - A. Alkane
 - B. Alkyne
 - C. Alkene
 - D. Alcohol
7. An atom has electronic configuration 2:8:3, to which group and period does the atom belong
 - A. ii and 4 respectively
 - B. iii and 3 respectively
 - C. 3 and iii respectively
 - D. 2 and i
8. Potassium reacts vigorously with water than calcium because
 - A. Calcium is smaller than potassium
 - B. Potassium gains one electron while calcium gains two electrons

- C. Potassium is stronger than calcium
D. Calcium is more reactive than potassium
9. In fractional distillation, the criteria is
A. The components are immiscible
B. The components have very different boiling points
C. The components are miscible and volatile and have very close boiling points
D. The components are nonvolatile
10. What is false about potassium
A. It's a metal
B. It's very reactive
C. It has valency 3
D. It forms a basic oxide
11. When soot is burnt in excess oxygen, the products are
A. Carbon monoxide and water
B. Carbondioxide and water
C. Oxygen and water
D. Carbondioxide alone
12. What is the function of soap?
A. To improve the washing properties of water
B. To wash the cloth
C. To clean the cloth
D. To form lather
13. The chemical formula of the marble chips is
A. $CaCl_2$
B. $CaSO_4$
C. $CaCO_3$
D. CaI_2
14. The protons in lithium ion (Li^+) of atomic number 3 are
A. 1 B. 2 C. 3 D. 4
15. Bronze is a mixture of
A. Sulphur and zinc
B. Zinc and tin
C. Zinc and carbon
D. Lead and tin
16. Duralumin is used to make aircrafts due to its
A. Hardness
B. Flammability
C. Softness
D. Lightness
17. $NaOH_{(aq)} + 2HCl_{(aq)} \rightarrow 2NaCl_{(aq)} + H_2O_{(l)}$

From the equation above, 0.002L of 0.2M sodium hydroxide reacted with moles of hydrochloric acid.

- A. $\frac{2 \times 0.002}{0.2} \text{ moles}$
- B. $\frac{2 \times 0.2}{0.002} \text{ moles}$
- C. $\frac{2 \times 0.002 \times 0.2}{1} \text{ moles}$
- D. $\frac{0.002}{2 \times 0.2} \text{ moles}$

18. The following are amphoteric oxides except

- A. Zinc oxide
- B. Sodium oxide
- C. Aluminum oxide
- D. Lead oxide

19. The confirmatory test for give oxygen give this observation

- A. Relights a burning splint
- B. Relights a burnt out splint
- C. Relights a glowing splint
- D. Relights a small splint

20. A mixture has the following property

- A. It contains only on component
- B. It is soluble
- C. It is formed by physical combination of components
- D. It is formed by chemical combination of components

21. What is the right formula of copper(i)oxide

- A. CuO
- B. Cu_2O
- C. CuO_2
- D. Cu_2O_2

22. The components in ink are separated by

- A. Chromatography
- B. Distillation
- C. Fractional distillation
- D. Sorting

23. When 4g of ethane where burnt to produce g of gaseous product

- A. 4 g
- B. 11.733 g
- C. 0.133g
- D. 0.266g

24. What type of bond exists between sodium atoms

- A. Ionic
- B. covalent
- C. dative
- D. metallic

25. Examples of synthetic polymers are listed below except

- A. Artificial rubber
- B. Polypropene
- C. PVC
- D. Polyethene

26. Graphite can conduct current because
- A. It is a metal
 - B. It has ions
 - C. It has electrons
 - D. It has free electrons
27. Which of the following is the drying agent for ammonia gas?
- A. Calcium oxide
 - B. Conc. Sulphuric acid
 - C. Anhydrous Calcium chloride
 - D. Sunlight
28. Alkanes can be used as fuels because
- A. They are many
 - B. They burn to produce energy
 - C. They conduct electricity
 - D. They are more reactive than sodium
29. Nitrogen dioxide gas is
- A. Colourless
 - B. Yellow
 - C. Reddish brown
 - D. White
30. The fountain experiment shows that
- A. Ammonia is a gas
 - B. Ammonia is insoluble
 - C. Ammonia is very soluble in water
 - D. Ammonia is blue
31. In the laboratory, protection against fire outbreaks can be one by using
- A. Gloves
 - B. Fire extinguishers
 - C. Bunsen burner
 - D. Blanket
32. Vulcanization of rubber makes it
- A. Very sticky
 - B. Very hard
 - C. Dirty
 - D. Soft and elastic
33. What is the valency of the phosphate is
- A. 1 B. 2 C. 3 D. 4
34. Sodium chloride
- A. Conducts electricity in molten form only
 - B. Conducts electricity in any state

- C. Conducts electricity in crystal form
D. Does not conduct electricity in any form
35. Is an acid salt
A. Sodium chloride
B. Sodium hydrogen carbonate
C. Sodium sulphate
D. Sodium oxide
36. Rusting will occur in presence of
A. Iron alone
B. Iron and water alone
C. Iron, water and oxygen
D. Only water and oxygen
37. What is the correct symbol of silver
A. Ag
B. ag
C. aG
D. AG
38. Electrolysis is
A. Decomposition of a solid
B. Decomposition of a solution when current is passed through it
C. Decomposition of an electrolyte when current is passed through it
D. Decomposition of a solution due to rotting
39. Air is a
A. Mixture of liquids
B. Compound of gases
C. Mixture of gases
D. Compound of liquids
40. The number of electron in the ion of aluminium and ion of fluorine is.... (Al=13, F=9)
A. 9 B.10 C.13 D. 21

For the questions 41-45, the instructions are summarized below.

alternative	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

41. Ethene and ethane are saturated hydrocarbons because

They have two carbon atoms joined by a covalent bond

42. A solution of because

Chlorine is a bleaching

chlorine in water turns blue
litmus paper red

agent

43. When sodium peroxide is dissolved in water, a gas is evolved

Because

Sodium peroxide reacts with water to form hydrogen

44. Sodium reacts vigorously with water to produce hydrogen

Because

Sodium is highly electro positive

45. When dilute Sulphuric acid is added to marble chips, there is effervescence in a few seconds but the reaction quickly stops.

Because

Calcium sulphate forms a coating on the marble, stopping the reaction.

For questions 46 -50, the instructions are summarized below:

- A. If 1,2 and 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

46. Which of the following elements has/have allotropes?

1. Carbon 2. Phosphorus 3. Sulphur 4. Chlorine

47. Which of the following is/ are natural polymers

1. Cellulose 2. Terylene 3. Protein 4. Nylon

48. Which of the following is/ are formed when potassium nitrate is heated?

1. Potassium oxide 3. Nitrogen dioxide
2. Potassium nitrite 4. Oxygen

49. Chlorine gas was bubbled into a cold solution of sodium hydrogen. The resultant solution contained.

1. $NaOCl$ 2. $NaClO_3$ 3. $NaCl$ 4. $HOCl$

50. An aqueous solution of X forms a precipitate which dissolves in excess ammonia solution. The likely cations in X are

1. Pb^{2+} 2. Zn^{2+} 3. Al^{3+} 4. Cu^{2+}

END