REPUBLIQUE DU CAMEROUN
Paix-Travail-Patrie

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TEACHERS' RESOURCE UNIT TRU-RIP-STA MOCK EXAMS CAMP BAMENDA NORTH WEST REGION

REPUBLIC OF CAMEROON
Peace-Work-Fatherland

MINISTRY OF SECONDARY EDUCATION

TEACHERS' RESOURCE UNIT
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MARCH 2022

The Teachers' Resource Unit and the Regional Inspectorate of Pedagogy, in collaboration with NWCTA	SUBJECT CODE NUMBER **0515**	PAPER NUMBER **1**
GENERAL CERTIFICATE OF EDUCATION REGIONAL MOCK EXAMINATION	CHEMISTRY	
CANDIDATE NAME: .. CANDIDATE NUMBER: ..... CENTRE NUMBER:		
ORDINARY LEVEL		

Time Allowed: One and a half hours

INSTRUCTIONS TO CANDIDATES:

Mobile phones are **NOT ALLOWED** in the examination room.

1. USE A SOFT HB PENCIL THROUGHOUT THIS EXAMINATION.
2. DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

Before the Examination begins:

3. Check that this question booklet is headed "Ordinary level –0515 code and subject title—Chemistry -Paper 1".
4. Insert the information required in the spaces above.
5. Without opening the booklet, pull out the answer sheet carefully from inside the front cover of this booklet. Take care that you do not crease or fold the answer sheet or make any marks on it other than those asked for in these instructions.
6. Insert the information required in the spaces provided on the answer sheet using your HB pencil:

Candidate Name, Centre Number, Candidate Number, Subject Code Number, and Paper number

How to answer questions in this examination:

7. Answer ALL the 50 questions in this examination. All questions carry equal marks.
8. Non-programmable calculators are allowed.
9. For each question there are four suggested answers, A, B, C and D. Decide which answer is correct. Find the number of the question on the Answer Sheet and draw a horizontal line across the letter to join the square brackets for the answer you have chosen. For example, if C is your correct answer, mark C as shown below:

[A] [B] [C] [D]

.Mark only one answer for each question. If you mark more than one answer, you will score zero for that question. If you change your mind about an answer, erase the first mark carefully, and then mark your new answer.

10. Avoid spending much time on any question. If you find a question difficult, move to the next . You can come back to the question later.
11. Do all rough work in this booklet using, where necessary, the blank spaces in the question booklet.
12. **You must not take this booklet and answer sheet out of the examination room. All question booklets and answer sheets will be collected at the end of the examination**

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1. A student accidentally mixes three soluble salts. Which of the following techniques is most suitable in separating them in solution?
   A decantation
   B filtration
   C fractional distillation
   D fractional crystallization

2. The atomic number of Magnesium atom is 12. What is the electronic configuration of the Magnesium ion (Mg^{2+})?
   A 2,8
   B 8:2,8,2
   C 2,8,8,2
   D 2,8,1

3. Which of the following substances can form an electrolyte both when molten and when dissolved in water?
   A iron
   B sugar
   C common salt
   D Sulphur

4. The metal that liberates hydrogen from cold water and bursts into flames is:
   A Ca,
   B Fe
   C Mg
   D Na

5. What is the concentration in $moldm^{-3}$ of 1 0.6g of anhydrous sodium carbonate (Na_2CO_3) dissolved in 250cm^3 of solution.:
   A 0. 1 0 mol/dm^3
   B 0.001 mol/dm^3
   C 0.40 mol/dm^3
   D: 1 0.40 mol/dm^3

6. The formula of the compound formed by the ions X^{3+} and Y^{2-} is ;
   A XY
   B X_3Y_2
   C X_4Y_3
   D X_2Y_3

7. Which of the following change(s) occurs when a candle burns;
   A Chemical
   B Chemical and physical
   C Physical
   D Melting

8. Choose an isomer of butane ($CH_3CH_2CH_2CH_3$)
   A C_4H_{10},
   B $CH_3C(CH_3)\ CH_3$
   C $CH_3CH(CH_3)\ CH_3$
   D $CH_3CH(CH_3)\ CH_3CH_3$

9. The attractive force that is responsible for the existence of halogens in various physical states at R.T.P. is called:
   A Covalent bond
   B Dative covalent bond
   C Ionic bond
   D Van der Waal's forces

10. If fertilizers are chosen according to the percentage of Nitrogen in them, which of the following fertilizers is the richest in Nitrogen?
    (R.A.M,H=1,N=14,O=16,S=32,P=31,Ca=40)
    A $(NH_4)_2SO_4$
    B NH_4NO_3
    C $(NH_4)_3PO_4$
    D $Ca(NO_3)_2$

11. A gas X dissolves in water to form a solution which is weakly acidic. Gas X turns lime water milky and does not support combustion. Gas X is most likely to be:
    A Chlorine
    B Carbon dioxide
    C Carbon monoxide
    D Sulphur

12. How many moles of electrons are needed to deposit 6.4g of copper during the electrolysis of copper (II) sulphate? (R.A.M of Cu=64)
    A 0.2moles
    B 2moles
    C 0.1mole
    D 0.02moles

13. The conversion of $Fe^{2+}(aq)$ to $Fe^{3+}(aq)$ can be carried out by bubbling
    A Hydrogen sulphide into an aqueous solution of Fe^{3+}.
    B Hydrogen sulphide into an aqueous solution of Fe^{2+}
    C Chlorine into an aqueous solution of Fe^{2+}
    D Chlorine into an aqueous solution of Fe^{3+}

14. The equilibrium reaction below is used in the manufacture of ammonia.
    $N_2(g) + 3H_2(g) \rightleftharpoons 2NH_3(g)\ AH = -Ve.$
    The yield of $NH_{3(g)}$ will increase if:
    A: the pressure decreases
    B: the temperature decreases
    C: the temperature increases
    D: a catalyst is used.

15. Which process is used to obtain kerosene, petrol and diesel in an oil company?
    A: Fermentation
    B: Electrolysis
    C: Fractional distillation
    D: Cracking

16. The product formed at the cathode during the electrolysis of dilute sodium chloride using carbon electrodes is.
    A: Sodium
    B: Chlorine
    C: Hydrogen

D: Oxygen

17. In which of the following metal containers can copper II sulphate solution be safely stored?
A Silver
B Iron
C Zinc
D Aluminum

18. The rate at which an iron nail reacts with dilute hydrochloric acid can be slowed down by
A adding water to the mixture
B warming the mixture
C using iron filings instead
D using acid of higher concentration

19. Soapy water is a weak base. Its pH value is
A 1 B 4 C 7 D 10

20. A salt imparted a golden yellow colour on a Bunsen burner flame and gave a white precipitate with acidified barium Chloride that dissolved in excess acid. The salt is likely to be
A sodium sulphate
B sodium sulphide
C sodium sulphite
D potassium sulphite

21. In most common cases, catalysts come from the following group of elements:
A halogens
B transition elements
C alkaline metals
D metalloids

22. The process which leads to somebody noticing that a smelling gas has been released in another room of the house is,
A Diffusion
B Effusion
C Brownian motion
D Gas leakage

23. Which of the following is not a form of calcium carbonate?
A Chalk B Marble
C Limestone D bauxite

Questions 24-27; ONE or MORE of the response(s) given is (are) correct, decide which of the response(s) is (are) correct. Then choose.
A: if only *1,2,3* are correct
B: if only 1 and 3 are correct
C: if only 2 and 4 are correct
D: if only 4 is correct

24. If an atom of an element X is represented as $^{4}_{2}X$ Which of the following statements is correct about X?
1. X is chemically very unreactive
2. An atom of X has 2 neutrons
3. An atom of X has 1 shell
4. X belongs to period 2 of the Periodic Table

25. When ethanol is burned,
1. Carbon dioxide and steam are produced
2. Ethanoic acid is produced.
3. Carbon monoxide and steam are produced.
4. Carbon and steam are produced

26. The equation;
$BaCl_2\ (aq) + Na_2SO_4\ (aq) \rightarrow BaSO_4\ (s) + 2NaCl(aq)$
Can be classified as?
1. Acid-base reaction
2. Double decomposition reaction
3. Combination reaction
4. Precipitation reaction

27. Which of the following are artificial polymers (plastics)?
1- Polythene 2- Nylon
3-Perspex 4- Protein

28. Which of the following compounds will likely burn with a sooty flame?
A methanol B propane C methane D ethene

29. Consider the reaction
$C\ (s) + O_2\ (g) \text{-----} > CO_2\ (g)$ H = -396 KJ/mol
Which of the following statements is correct?
A the reaction is endothermic
B 396 KJ of energy is absorbed
C the reaction is exothermic
D the product has a higher enthalpy than reactants.

Questions 30 - 33 concern the following substances represented by their chemical formulae:
A: $CaCO_3$ B: Al_2O_3 C: $MgSO_4$ D: $NaHSO_4$
Choose from the list above.
30. A substance that is amphoteric:
31. A substance used during the extraction of iron:
32. An acid salt
33. A substance likely to cause hardness in water

34. Which of the following particles will cause an indicator in an acidic solution to change its colour?
A H^+ B OH^- C H_2O^+ D O^{2-}

35. By what process does a substance loose its water of crystallization to the atmosphere?
A: Deliquescence
B: Hygroscopy
C: Hydration
D: Efflorescence

35. An environmentally friendly fuel is
A. Hydrogen
B. Fire wood
C. Butane or Kitchen gas
D. Saw Dust

36. The role of NaCl in the manufacture of soap is to
A. Purify the soap
B. Separate the soap from the glycerol
C. Accelerate the decomposition of the fat or

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oil

D. React with the glycerol

37. During a titration experiment, the apparatus used to transfer a fixed volume of NaOH is;

A. Pipette

B. Burette

C. Conical flask

D. Volumetric Flask

38. Which component of air is removed when air is bubbled through a caustic soda solution?

A. H_2 **B.** H_2O **C.** CO_2 **D.** N_2

39. A Chemical test for ammonia is:

A. It forms dense white fumes with hydrogen chloride

B. It is very soluble in water

C. It has a characteristic chocking smell

D. It is lighter than air.

40. The compound $POCl_3$ has the following bond type

A. Ionic and covalent bond

B. Ionic and dative covalent bond

C. Covalent and Hydrogen bond

D. Covalent and dative bond

41. An organic compound contains 54.5% of carbon, 9.09% Hydrogen and 36.4% oxygen by mass. Its empirical formula is

A CH_2O B. $C_4H_8O_2$

C. $C_2H_4O_2$ D. C_2H_4O

42. Air is a mixture because its components

A Are uniformly mixed

B Can be separated by fractional distillation

C Have a definite proportion

D Have no chemical properties

Questions 43 – 46

Directions: ***Each of the statements consists of a statement in the left hand column followed by a statement in the right hand column. Decide whether the first statement is true or false. Decide whether the second statement is true or false, then on the answer sheet mark***

A: If both statements are true and the second statement is the correct explanation of the first statement.

B: If both statements are true but the first statement is NOT a correct explanation of the first.

C: If the first statement is true but the second statement is false.

D: If the first statement is false but the second statement is true.

Directions summarized

First statement	Second statement	
A True	True	Second statement is a correct explanation of the first
B True	True	Second statement is NOT a correct explanation of the first
C True	False	
D False	True	

	Statement (1)	Statement (2)
43.	In the reaction $2Fe^{2+} + Cl_2 \rightarrow 2Fe^{3+} + 2Cl^-$ Chlorine is reduced	Chlorine is a strong oxidizing agent
44.	Copper cannot displace hydrogen from a dilute acid	Copper is found above hydrogen in the electrochemical series
45.	When an exothermic reaction occurs in a conical flask, the flask and its contents become warmer.	The energy change is as a result of the process of bond breaking and bond formation.
46.	When drops of bromine are added into potassium iodide solution, purple black particles are seen in the solution.	Iodine is more reactive than bromine

47. A current of 0.5A is passed through a solution of copper (II) Sulphate for 30minutes using inert electrodes. The quantity of electricity used is:

A 150C B. 900C C. 1500C D. 90C

48. Which state of matter has no fixed shape, no fixed volume and is least dense?

A Solid B. Gas C. Fluid D. Liquid

49. Which of the following purification methods is used to eliminate germs from water?

A Chlorination

B. Addition of Potash alum

C. Addition of Calcium Hydroxide

D. Using a sand filter

50. When the pressure of a fixed mass of gas is doubled at constant temperature the volume;

A. Doubles

B Is halved

C Remains the same

D increases initially and then decreases.

END

GO BACK AND CHECK YOUR WORK