

AGA KHAN UNIVERSITY EXAMINATION BOARD

SECONDARY SCHOOL CERTIFICATE

CLASS X EXAMINATION

MAY 2014

Chemistry Paper I

Time: 35 minutes Marks: 25

INSTRUCTIONS

1. Read each question carefully.
2. Answer the questions on the separate answer sheet provided. DO NOT write your answers on the question paper.
3. There are 100 answer numbers on the answer sheet. Use answer numbers 1 to 25 only.
4. In each question there are four choices A, B, C, D. Choose ONE. On the answer grid black out the circle for your choice with a pencil as shown below.

Correct Way		Incorrect Ways	
1		1	
		2	
		3	
		4	

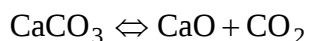
Candidate's Signature

5. If you want to change your answer, ERASE the first answer completely with a rubber, before blacking out a new circle.
6. DO NOT write anything in the answer grid. The computer only records what is in the circles.
7. You may use a simple calculator if you wish.

1. Which of the following is an example of exothermic reaction?

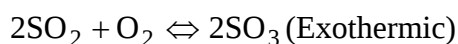
- A. Reduction of silver ions
- B. Combustion of fuels
- C. Cooking of food
- D. Melting of ice

2. All of the following indicates that the given reaction is in dynamic equilibrium EXCEPT



- A. it is a reversible reaction.
- B. it stops on attaining equilibrium.
- C. it takes place in a closed system.
- D. it has constant concentration of reactant and products.

3. Given below is a reversible reaction at equilibrium.



Which of the following changes will increase the amount of product?

	Temperature	Pressure
A.	High	Low
B.	Low	Low
C.	High	High
D.	Low	High

4. The table below shows classification of some compounds into two groups based on the similarity in their properties.

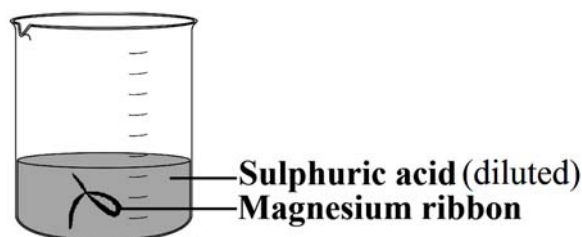
Group 1	Group 2
NaOH	HF
KOH	H ₃ CCOOH
Ca(OH) ₂	H ₂ CO ₃

Which of the following CORRECTLY represents groups 1 and 2?

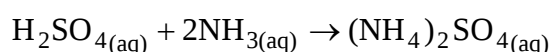
	Group 1	Group 2
A.	Strong acids	Strong bases
B.	Weak bases	Strong acids
C.	Strong bases	Weak acids
D.	Strong bases	Strong acids

5. Which of the following is observed when magnesium ribbon is dropped into dilute sulphuric acid?

- A. H_2O is formed.
- B. H_2 gas bubbles off.
- C. SO_2 gas bubbles off.
- D. H_2S gas bubbles off.



6. 10 cm^3 of ammonia solution was neutralized by 12 cm^3 of 2 M sulphuric acid. The reaction is shown below.

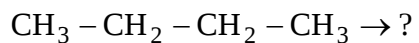


Which of the following will be the concentration of the ammonia solution?

- A. 1.2 M
 - B. 2.4 M
 - C. 2.8 M
 - D. 4.8 M
7. Which of the following properties allow(s) carbon to form a large number of organic compounds?
- I. Multiple bonding
 - II. Strong ionic bonding
 - III. Catenation
- A. I only
 - B. III only
 - C. I and III only
 - D. II and III only
8. Which of the following molecular formulae is **WRONGLY** paired with its name?

	Name	Molecular Formula
A.	Ethane	C_2H_6
B.	Heptane	C_7H_{14}
C.	Nonane	C_9H_{20}
D.	Decane	$\text{C}_{10}\text{H}_{22}$

9. Which of the following alkyl radicals will be formed on the removal of terminal hydrogen?

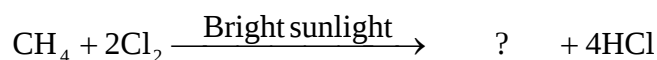


$\begin{array}{c} \text{H} \\ \\ \text{CH}_3 - \text{CH}_2 - \text{C} - \text{CH}_3 \\ \end{array}$	$\begin{array}{c} \text{H} \\ \\ \text{CH}_3 - \text{C} - \text{CH}_2 - \text{CH}_3 \\ \end{array}$
A.	B.
$\text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{CH}_2 -$	$\text{CH}_3 - \text{CH}_2 - \text{CH}_2 -$
C.	D.

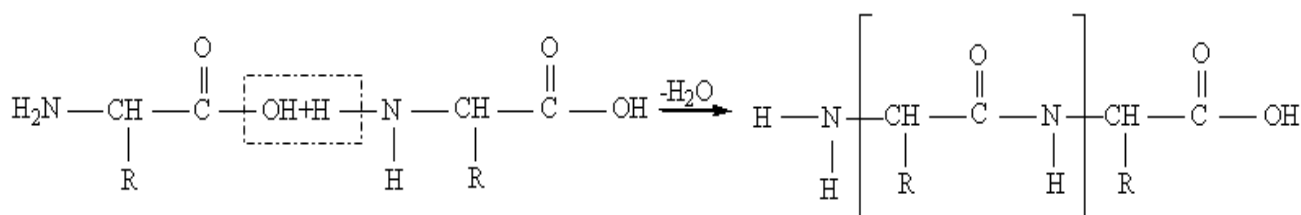
10. Which of the following reactants on heating with zinc dust forms ethyne?

$\begin{array}{cc} \text{Cl} & \text{H} \\ & \\ \text{H} - \text{C} & - \text{C} - \text{H} \\ & \\ \text{H} & \text{Cl} \end{array}$	$\begin{array}{cc} \text{Cl} & \text{Cl} \\ & \\ \text{H} - \text{C} & - \text{C} - \text{H} \\ & \\ \text{Cl} & \text{Cl} \end{array}$
A.	B.
$\begin{array}{cc} \text{H} & \text{Cl} \\ & \\ \text{H} - \text{C} & - \text{C} - \text{H} \\ & \\ \text{H} & \text{Cl} \end{array}$	$\begin{array}{cc} \text{H} & \text{H} \\ & \\ \text{H} - \text{C} & - \text{C} - \text{H} \\ & \\ \text{H} & \text{Cl} \end{array}$
C.	D.

11. Which of the following products is formed when methane reacts explosively with chlorine in direct sunlight?



- A. C
B. CCl_4
C. CHCl_3
D. CH_2Cl_2
12. Which of the following substances will decolourize the pink colour of acidified solution of potassium permanganate?
- A. C_2H_6
B. C_3H_8
C. C_5H_{10}
D. C_7H_{16}
13. All of the following are disaccharides EXCEPT
- A. cellulose.
B. maltose.
C. sucrose.
D. lactose.
14. Which of the following products is formed in the given polymerization reaction?



- A. Lipids
B. Proteins
C. Vitamins
D. Carbohydrates
15. Which of the following enzymes is used to increase sweetness in ice-creams?
- A. Lactase
B. Zymase
C. Amylase
D. Diastase

16. Which of the following combinations is the major source of carbohydrates?
- A. Mutton and beans
 - B. Beans and butter
 - C. Butter and honey
 - D. Honey and cereals
17. Which of the following represents lithosphere?
- A. Air
 - B. Life
 - C. Land
 - D. Water
18. Which of the following is an adverse effect of acid rain?
- A. Melting of glaciers
 - B. Depletion of ozone
 - C. Green house effect
 - D. Death of aquatic life
19. Which of the following symptoms is observed in a person suffering from cholera?
- A. Eyes turn yellow
 - B. High fever
 - C. Headache
 - D. Watery stools
20. Chlorine is added in the water purification process to
- A. remove taste.
 - B. kill bacteria.
 - C. remove smell.
 - D. trap solid particles.
21. Which of the following is formed when water is decomposed at 2000°C ?
- A. $2\text{H}_2 + \text{O}_2$
 - B. $\text{H}^+ + \text{OH}^-$
 - C. $\text{H}_3\text{O}^+ + \text{H}^+$
 - D. $\text{H}_3\text{O}^+ + \text{OH}^-$
22. Which of the following results in the formation of urea?
- A. Ammonia + Water
 - B. Ammonia + Carbonate
 - C. Ammonia + Nitric acid
 - D. Ammonia + Carbon dioxide

23. In the process of extraction of copper, blistered copper acts as
- A. a cathode.
 - B. an anode.
 - C. an electrolyte.
 - D. an electrolytic cell.
24. In the electrolytic manufacture of aluminium, the anode (positive electrode) is made of
- A. steel.
 - B. copper.
 - C. graphite.
 - D. platinum.
25. The impurities of iron ore are removed by
- A. silicon oxide.
 - B. calcium oxide.
 - C. calcium silicate.
 - D. carbon dioxide.

Please use this page for rough work