### LAMARTINIERE FOR BOYS

### **REHEARSAL EXAMINATION I - 2021-22**

## CHEMISTRY

### CLASS – X

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### Maximum Marks : 40

Time allowed : One hour ( inclusive of reading time )

### ALL QUESTIONS ARE COMPULSORY

The marks intended for questions are given in brackets []

\_\_\_\_\_

Select the correct option for each of the following questions .

The correct option to the following questions are to be hand written, scanned and send in PDF form to the sectionwise email IDS as given below. Please mention your name, class, section and roll no. on top of your answerscript.

10A - lamartinierechem10a@gmail.com

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# **Question 1**

The power of an atom to attract bonded pair of electrons towards itself is known as [1]

[1]

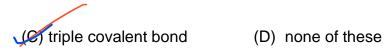
(A) Electro negativity (B) Electron affinity

(C) Polarity (D) Oxidation power

## **Question 2**

Nitrogen molecule is inert under ordinary conditions because of

(A) double covalent bond (B) strong electrovalent bond



The indicator which is colourless in neutral and acidic medium is		[1]
(A) Methyl orange	(B) Litmus solution .	
(C) Phenolphthalein	(D) Methyl red	
Question 4		
The compound which is an examp	le of a weak electrolyte is	[1]
(A) NaNO₃	(B) NH₄OH	
(C) KOH	(D) HNO <sub>3</sub>	
Question 5		
At the anode during electrolysis th	e following reaction occurs	[1]
(A) Reduction	(B) Redox	
(C) Oxidation	(D) Precipitation	
Question 6		
The empirical formula of acetic acid	d (CH <sub>3</sub> COOH ) is c2h4o2==ch2o	[1]
(A) C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	(B) C <sub>2</sub> H <sub>2</sub> O	
(C) CH <sub>4</sub> O	(DFCH₂O	
Question 7		
The estion which will be proferentia	Illy discharged at eathede during electrolysis is	[4]

The cation which will be preferentially discharged at cathode during electrolysis is [1]

(A) K <sup>+</sup>	(B) Ag⁺
(C) Cu <sup>2+</sup>	(D) Na <sup>+</sup>

# **Question 8**

The smallest atom among the following is

(A) Na (B) K

(2) F (D) C [1]

A compound which during electrolysis in its molten state liberates a reddish brown gas

at the anode is			[1]
(A) Sodium Chloride	(B) Copper(II)oxide		
(C) Copper(II)sulphate	(II)bromide .	bromine gas	
Question 10			
The masses of gas X and hydroge	en that the same cylinde	r can hold under identica	l
conditions are 80g and 4 g respect	ively, The RMM of gas >	K is	[1]
(A) 40	(B) 20	V.D=80/4=20 RMM20X2=40	
(C) 80	(D) 160		

### **Question 11**

The name of the bond formed when ammonia bonds with a proton to form ammonium

ion is other name for coordinate co	valent bond	[1]
(A) Dative bond .	(B) Polar covalent bond .	
(C) Covalent bond.	(D) Electrovalent bond .	

## **Question 12**

The reagent that can be used to chemically distinguish between Lead nitrate and

Zinc nitrate solution is		[1]
(A) NaOH	(B) BaCl <sub>2</sub>	
(C) AgNO <sub>3</sub>	(D) NH4OH	

# **Question 13**

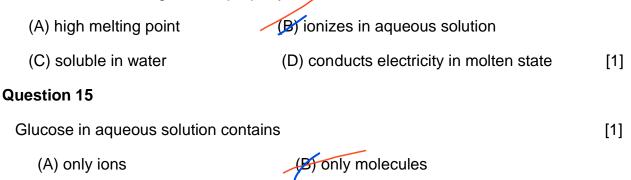
The elements having highest electronegativity and highest ionization energy in the

[1]

Periodic table are

(A) F, K	(B) F, He
(C) He, F	(D) CI, Li

Which of the following is not a property of Sodium choride?



(C) ions as well as molecules (D) does not dissolve in water

### **Question 16**

If a hydrocarbon contains 20% hydrogen, the empirical formula of the hydrocarbon will

be (At. wt. of H = 1, C = 12)		[1]
(A) CH₅	(B) C <sub>6</sub> H <sub>13</sub>	
(C) C <sub>2</sub> H <sub>6</sub>	(D) CH3	

## **Question 17**

In the electroplating of an article with Nickel the factor which decides the deposition of

[1]

Nickel on the article is

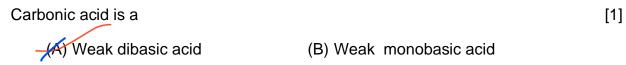
(A) lower concentration of Nickel ions in solution.

(B) higher position of Nickel than Hydrogen in the electrochemical series

(C) higher concentration of Nickel ions in the solution

(B) higher concentration of hydroxyl ions in solution

## **Question 18**



(C) Strong monobasic acid (D) Strong dibasic acid .

Phosphoric acid (H <sub>3</sub> PO <sub>4</sub> ) with NaOH can form		[1]
(A) Three acid salts	(B) Two normal salt and one acid salt	
(C) Three normal salts	(D) One normal salt and two acid salt	
Question 20		
The percentage by mass of oxyg	jen in Na₂CO₃ is	[1]
(A) 44.28%	(B) 46.12%	
(5) 45.28%	(D) 21.69%	
Question 21		
Methyl orange is		
(A) Pink in acidic medium, ye	llow in basic medium	[1]
(B) Yellow in acidic medium,	pink in basic medium.	
(C) Colourless in acidic medi	um, pink in basic medium.	
(D) Pink in acidic medium, co	olourless in basic medium .	
Question 22		
An element has an atomic nu	mber of 15 with which of the following elements will i	it
show similar chemical proper	rties	[1]
(A) Be (at.no. 4)	(B) Ne (at.no. 10)	
(C) N (at.no. 7).	(D) O (at.no. 8)	

# **Question 23**

The group number and period number respectively of an element with atomic

number 8 is 2,6	,	I	[1]
(A) 6, 2.	(13)16, 2		
(C). 6, 8	(D) 16, 4		

The particles present in aqueous solution of acetic acid is	

- (A)  $H_3O^+$  (B)  $CH_3COO^{1-}$
- (C) CH<sub>3</sub>COOH

(D) all of these.

# **Question 25**

In the third period of the periodic table the element having highest electron affinity

is		[1]
(A) Na	(B) Ar	

(C) CI.	(D) Si
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# **Question 26**

Which electrolyte is used during the electroplating of an article by Silver [1]

(A) Silver nitrate(B) Molten Silver bromide(C) Molten Silver oxide(D) Sodium argentocyanide

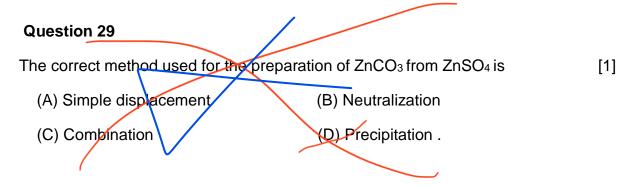
## **Question 27**

The gas evolved when AI metal reacts with hot conc. NaOH solution is [1]

(A) Hydrogen	(B) Oxygen
(C) Water vapour	(D) None

## **Question 28**

A yellow compound that dissolves in hot concentrated alkali is		[1]
(A) Lead(II)hydroxide	(B) Magnesium oxide	
Lead(II)oxide	(D) Lead (IV) oxide	



Ionisation potential increases across a period from left to right because the [1]

- (A) atomic radius increases and nuclear charge increases .
- (B) atomic radius decreases and nuclear charge decreases
- (C) atomic radius increases and nuclear charge decreases

(D) atomic radius decreases and nuclear charge increases

#### **Question 31**

The observation when ammonium chloride reacts with potassium hydroxide [1]

(A) A reddish brown gas

(B) A colourless gas which turns moist red litmus blue.

- (C) A green coloured gas which turns moist blue litmus paper red.
- (D) A colourless gas which turns lime water milky.

#### **Question 32**

A solution having a P<sup>H</sup> value 8.1 is an example of [1]

- (A) weak acid (B) strong alkali
- (D) weak alkali (D) strong acid

The colour of the precipitate formed when Ferric ions react with Ammonium

[1]

[1]

hydroxide solution is

(A) Blue. (A) Reddish brown

(C) Dirty green. (D) White

## **Question 34**

The gas liberated when zinc sulphide reacts with dilute sulphuric acid is [1]

- (A) Carbon dioxide. (B) Hydrogen
- (A Hydrogen sulphide. (D) Sulphur dioxide

## **Question 35**

Two Organic compounds X and Y containing Carbon and Hydrogen only have

vapour densities 13 and 39 respectively . The molecular formula of X and Y will

be

(A)  $C_2H_6$  and  $C_6H_{12}$  (B)  $C_2H_4$  and  $C_4H_8$ (C)  $C_2H_2$  and  $C_6H_6$  (D)  $C_4H_{10}$  and  $C_5H_{12}$ 

# **Question 36**

The molecule which has presence of polar covalent bond is [1]

(A) Ammonia	(B) Oxygen
(C) Calcium oxide	(D) Chlorine

# **Question 37**

With reference to the Electrorefining of Copper block answer the following : [4]

(i) the cathode used will be

(A) Thin sheet of Copper containg 5% Tin .

(B) Thin sheet of Pure Copper.

(C) Thin sheet of Copper containing 3% Tin and 2% Lead .

- (D) None of the above .
- (ii) the anode used will be

(A) Impure Copper block .

- (B) Thin sheet of pure Copper.
- (C) Thick pure Copper block .
- (D) None of the above .

(iii) the electrolyte used should be

- (A) Molten Copper bromide .
- (B) Lead nitrate solution

(C) tetraammine Copper(II) sulphate solution

Aqueous Copper sulphate solution .

(iv) the anode reaction during the electrorefining will be

(A) 
$$Cu - e ----> Cu^{1+}$$
  
(B)  $Cu^{1+} + e ----> Cu$   
(C)  $Cu - 2e ----> Cu^{2+}$   
(D)  $Cu^{2+} + 2e ----> Cu$