SENORSECONDAR CHEMISTRY ORKBOOK TWO

J. O. OKEKE B. Sc (Hons) Chem .83: P: G: D: E '87. (U. N. N)

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J.O. OKEKE

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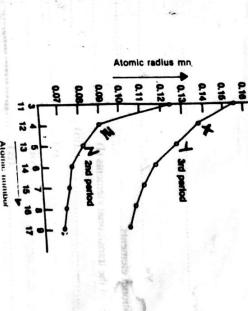
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WK 1: Atomic Properties and the Periodic Table.	What are the main features of the persons (a)	0.00	0.08	0.07	Ser pro-	t who built	List three uses of the periodic table			TANK PROTEINED	Define electronegativity.	What is atomic radius?.	Office Lawren	the follow	eriodic tabl
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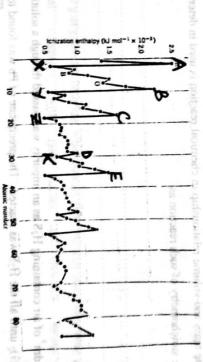
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(iii) (i) A Identify (i) mol -1 x 10-1)	ecreased down the group and across the period HE GROUP ACROSS THE PERIOD FROM(LEFT TO RIGHT)	(c) The group II elements are called (d) The group VII elements are called (e) The group VIII or zero elements are called 11. How do the following increase or decreased down the group and across the period of the periodic table. DOWN THE GROUP ACROSS THE PERIO FROM(LEFT TO RIGHT) Atomic radius lonization energy.	a) Atomic radius b) ionic radius c) Ionization energy. d) Electron affinity
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-1) t		nts are called	(d) The group VII elements are called
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iii) Z		Zalion energy	(iii) The highest jomi
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(a) Identify the elen	at.	(9) Which of the element is the strongest reducing agent	(9) Which of the ele
(A)	agent	8. (ai) Which of the element is the strongest oxidizing agent	8. (ai) Which of the
	BE 6 Thompsoften about the	Way Charles	(d)
(11)		(c).	(b)
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	(d)	(c)	(b)
Ę.	Flions (a)	(b) Which of the elements form +1 ions (a)	(b) Which of the el
adius mo	# Tourn.	(b)i. why do the elements listed above do not form compounds easily?	(b)i. why do the ele
_		(iv) (iv)	(iii)
		(ii)	(a)



- nization energy (kj/mol) against Atomic number 🚇 🔧 🏥





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ım. what mass ôf th atoms?.[Ch	g of platinum.	of 0	eated. left moles	when h	hloride. with	4.20 g of platinum chloride. when heated. left 2	1.20 g of	±:::
THE CASE METERS AND	in the second		Toolog Constitution		garb od	mort boust	cobbet (II	1 1 51 1
3) Calculate the volume of hydrogen gas liberated at s.t.p when 48.75g of zinc meta reacts with excess dilute Tetraoxosulphate (vi) acid [Zn=65. molar volume of a gas 4 s.t.p =22 4dm ³]	n=65. molar	id [Z	as liberato	ogen ga	of hydr Tetraox	the volume xcess dilute	3) Calculate the reacts with excess.t.p = 22 4dm ³	:: : s.t 7g 3)
loit sett itta desad Mille		K 1	1985	3		dan 1	T.P. a 22.	I I will ke
			3000		Electronic and a second			2

5) A metallic oxide of a metal X contains 40% of oxygen. Calculate the mass of the

metal that will combine with 16 g of oxygen [O = 16]

b). 10. 8.125g of zine was reaction with excess dilute hydrochloric acid. 20. Which of the following equations is correct. 20. Which of the following equations is correct. 20. Which of the following equations is correct. 21. Explain why (a) or(b) is correct. 22. The particular of complete from copper that will be displaced from copper (ii) 23. Termovossiphate (v) by 16.25g of zine. (20. Explain why (a) or(b) is correct. (30. Calculate the number of zine) at zine (iii) 23. The particular of zine (iiii) at zine (iii) at zine (iiii)	c). Write the short-form of the equations charbering the two half cells	chlorine. [Cu=64:Cl=35.5]
b). (a) (a) (b) (b) (c) (c) (d) (d) (d) (d) (d) (d) (d) (d) (d) (d	h). What is the function of Xa.	9) Copper forms two chlorides containing respectively 35.9% of and 52.8% of-
correct.? +Zn(s)	7 100 M	
b) correct.? +Zn(s) +Zn(s) b) b) copper that will be displaced from copper (ii) b) b	no M. nat. qu not sipu ccè iusi fijion tipe (persi	et 10 y and planting of the state of the sta
b) correct.? +Zn(s) +Zn(s) a) b) b) copper that will be displaced from copper (ii)		[Cu=64 Zn=65]
b) Which of the following equations is correct.? In(s) + Cu ² (aq) - Zn ² (aq) + Zn(s) Explain why (a) or(b) is our ect.	e. W. bick of the equations occurs at the cathwise. 1. Cut Hg. Ag. Ag. District carries carries carries beatside where a criscal isotropied to the cathwise agreement and the cathwise	(8) Calculate the number of: mobles of copper that will be displaced from copper (ii) Tetraoxosulphate (vi) by 16:35g of zinc.
b) In a) Ta a) +Cu _(a) +Cu _(a) +Zn(s)	the control equations of the control	or (b) $Z_n(s) + Cu^2$ (a) $Z_n^{2+} = Z_n^{2+} + Cu(s)$ $Z_n^{2+} = Z_n^{2+} + Cu(s)$ (7) Explain why (a) or(b) is orderect.
b) 10	b) What will be the volume of a yarrange. Some Hg. [Zn = 65, molar volume of a gas saturation vapor pressure at 27°c is 25 mm Hg. [Zn = 65, molar volume of a gas saturation vapor pressure at 27°c is 25 mm Hg. [Zn = 65, molar volume of a gas saturation vapor pressure at 27°c is 25 mm Hg. [Zn = 65, molar volume of a gas saturation vapor pressure at 27°c is 25 mm Hg. [Zn = 65, molar volume of a gas saturation vapor pressure at 27°c is 25 mm Hg. [Zn = 65, molar volume of a gas saturation vapor pressure at 27°c is 25 mm Hg. [Zn = 65, molar volume of a gas saturation vapor pressure at 27°c is 25 mm Hg. [Zn = 65, molar volume of a gas saturation vapor pressure at 27°c is 25 mm Hg. [Zn = 65, molar volume of a gas saturation vapor pressure at 27°c is 25 mm Hg. [Zn = 65, molar volume of a gas saturation vapor pressure at 27°c is 25 mm Hg. [Zn = 65, molar volume of a gas saturation vapor pressure at 27°c is 25 mm Hg. [Zn = 65, molar volume of a gas saturation vapor pressure at 27°c is 25 mm Hg. [Zn = 65, molar volume of a gas saturation vapor pressure at 27°c is 25 mm Hg. [Zn = 65, molar volume of a gas saturation vapor pressure at 27°c is 25 mm Hg. [Zn = 65, molar volume of a gas saturation vapor pressure at 27°c is 25 mm Hg. [Zn = 65, molar volume of a gas saturation vapor pressure at 27°c is 25 mm Hg. [Zn = 65, molar volume of a gas saturation vapor pressure at 27°c is 25 mm Hg. [Zn = 65, molar volume of a gas saturation vapor pressure at 27°c is 25 mm Hg. [Zn = 65, molar volume of a gas saturation vapor pressure at 27°c is 25 mm Hg. [Zn = 65, molar volume of a gas saturation vapor pressure at 27°c is 25 mm Hg. [Zn = 65, molar volume of a gas saturation vapor pressure at 27°c is 25 mm Hg. [Zn = 65, molar volume of a gas saturation vapor pressure at 27°c is 25 mm Hg. [Zn = 65, molar volume of a gas saturation vapor pressure at 27°c is 25 mm Hg. [Zn = 65, molar volume of a gas saturation vapor pressure at 27°c is 25 mm Hg. [Zn = 65, molar volume of a gas sat 25°c is	6). Which of the following equations is correct.? (a) $Zn^{-}_{(aq)} + Cu_{(a)} - Cu^{-+}_{(aq)} + Zn(s)$
	10). 8. 125g of zinc was reaction with excess dilute hydrochloric acid. a) Calculate the volume of hydrogen evolved at S.T.P	ad ekusens (1)
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	Modern decembers of electricals in the non-none	

b) Write the formular of the chloride in each case a) The mass of the metal which combine with 35.5g of chlorine

2. Draw the diagram of electrode potential of zinc .	פוכנוסולה כפון	Wk.3. Electrochemistry and electrode potential. 1. Define standard electrode potential.	h) Which specie is the reducing agent (9)	e Which of the equations occurs at the cathods	c). Which species is reduced in the area of the species in an authorized to the area.	a). A rice the system equations of the sea base 1. S	saturation vapor pressure at 27°c is 25 mm Hg. [Zn = 65. molar volume of a gas at S.T.P. = 22.4dm ³]	10). 8. 125g of zinc was reaction with excess under the color was reaction with excess under the rolume of hydrogen evolved at S.T.P a) Calculate the volume of hydrogen evolved at 27°c and 760mm.Hg The	Conductor
intial of zinc · 🚜	65 To 123 Carl	not allow	ducing seem?	AE po interchanging		of the real real real real real real real rea	mm Hg. [Zn = 65. mola	lved at S.T.P Igen gas evolved at 27°c a	are dilute hydrochloric ac
	Electrocation of meeting	White chose that do	Vu suq be	Pb.H. Cv. Hg. Ag. by interchang			r volume of a gas at	and 760mm.Hg The	Ā

	: :		The state of the s	3. The diagram of electrode	or (1) or
1		X	ectrode potential of copper. Curtag/Cuta)	potential of copper is the di	
		X	Electrode polential of couper's Setting Subsected wedge of conferences Contact/Cuch	3. The diagram of electrode potential of copper is the diagram below. Identify X and	

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- A correct electrochemical series can be obtained from K. Na. Ca. Al. Mg. Zn. Fe. Ph.H. Cu. Hg. Ag. by interchanging
- a) Al and Mg

STATE OF SALES

- b) Zn and Fe
- c) Zn and Pb
- d) Pb and H
- 5. Substances that allow the passage of electric current are called an annual ... While those that do not allow the passage of electric current are called W.F.T. Electrochemistry and electrode potential.
- Distinguish between electrochemical cell and electrolytic cell

Electrochemicalicell	Electrolytic cell is to margady add mad
	respective to the April 12 and 12 and 12
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b) What is the function of Xaras and

c) Write the short-form of the equation connecting the two half cells

(d) Give an example of a secondary cell

a) Identify X:	State of the state	while the positive polynome.	mass of elements above	Calculate the number of confinents of the their	the second consistency and the second	(9) (b) A1 38 A1 108 R	h) Which specie is the reducing agent? Fig.	g) Which specie is the oxidizing agent?	f) Which of the equations occurs at the anode	e)Which of the equations occurs at the cathode	If well be used to evertablish the like his property.	d) Which species is oxidized in the above reaction	c) Which specie is reduced in the above reaction.	and the parties of the destroy of the service of th	b) Write the overall equations of the reactions.	a) Calculate the e.m.f of the over all reaction	The above are half-cell equations of chemical reactions	ii) Zn 2n 2 +20;	8. I) Cu ²⁻ + 2e	d) Semiconductors	c) Conductor:	b) Fused electrolyte:	a) Molton electrolyster en and a special to the state of	List the carriers of electricity in the following:	The state of the s
Beater A Beater 8				X (1)		design fem	Cell linked by a salt bridge.	*****************************	con senso parte parte de la constitución de la	the state of the s	on and thou if you I not the one		Sugar to the hole will be to the time	Ber Heile Hall of the best his sellen	anananananananananan dipanen di ceresa	THE TAXABLE PROPERTY OF THE PR	oms.	E= - 0.76 volts	•		A Company of the Comp	**	が対象をなった。		

Define electrolysis the cations migrate to the Efectrode is called. During electrolysis the cations migrate to the List the 3 factors responsible for selective discharge at the electrodes (b) List the 3 factors responsible for selective discharge at the electrodes (c) List the 3 factors responsible for selective discharge at the electrodes (d) (iii) (iii) (iv) (i	2559	(b)
→ _2e \ \ _Y. Thich of X or Y will displace each oth hich of X or Y is higher in electroche hich of X or Y will be used to electro Electrohysis and uses. Thich of X or Y will be used to electro Electrohysis and uses. Thine electrohysis: The electrohysis can be in the following forms in (i) (ii) Regative pole of the electrode is called electrode.		(a)
→ Y.:2e → Y.: hich of X or Y will displace each oth hich of X or Y will be used to electroche hich of X or Y will be used to electromaphic of X or Y will be used to electromaphic of X or Y will be used to electromaphic electromaphic of X or Y will be used to electromaphic of X or Y	dononia	
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→2e → X: -2e → Y: hich of X or Y will displace each oth hich of X or Y is higher in electroche hich of X or Y will be used to electro Electrolysis and uses. fine electrolysis: fine electrolysis: fine electrolysis: fine electrolysis:	-	the electrode is called
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T+2e → X: E=-0.56V. Thich of X or Y will displace each other from solution. Thich of X or Y will be used to electrochemical series Thich of X or Y will be used to electroplate the other? Electrolysis: Electroly		X
T-2e → X: E=-0.56V. Thich of X or Y will displace each other from solution. Thich of X or Y will be used to electrophate the other? Electrohysis: Electrohysis: Electrohysis: Electrohysis: Time electrolysis:		(0)
Thich of X or Y will be used to electroplate the other? Electrohysis Thich electrohysis		
Thich of X or Y will be used to electroplate the other? Electrohysis: Displace to electroplate the other? Electrohysis:		Fig. Call Briked by a pail or
Y: E= -0.56V: 2e		
Y: E= -0.56V; hich of X or Y will displace each other from solution. hich of X or Y is higher in electrochemical series hich of X or Y will be used to electroplate the other? Electrohysis and uses. Electrohysis and uses.		Commence of the control of the contr
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A tite the ozerell ad Conductors Calculate the exert of Conductors Settle object of the Conductors A title object of the Conductors Conductors Conductors		Which of X or Y is higher in electrochemical series
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		Enacy electrolysis

In the following equations.

C) List four uses of electrolystic

(i) Ca - +2e

e = 108gmol-1

 $Ca = 40 \text{gmol}^{-1}$

A L = 108 gm01.

(iv) A L - 3e

[IF = e = 95600 Coulombs]

number of moles of copper deposited will be ? [Cu =64gmol⁻¹, 1F =96500C]

in) April 4 se spc using of the tital column.

(8a) If a current of 5A is passed through a solution of a copper (ii) salt for 485 seconds, the

(ii) Which loas were present in the solution at the end of electrolization

Calculate the number of coulombs of electricity passed for the deposition of each molar

(i)

off with platinum electrodes

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mass of elements above.

Ξ

The was the nature of the final solution.	at the end of electrolysis?	(1) Name the gas evolved at the anode.	4 5	(i) V F 5 (ollowing company)	C) List four uses of electrolysis.		extension by the same quantity of electricity.	(b) Draw a diagram for the experiment to compare the amounts of different substances
	mass of the metal.		olytic		10a. Draw a diagram to show the measurement of electrode potential of a named moreom temperature.	9(9)	(b) An element X has a relative atomic mass of 88. When a current of 0.5 ampere passed through the fused chloride of X for 35 minutes. 10secs. 0.44g of X was dep at the cathode.	(v) If a which g

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stved at 1	sodium	(1/1000)
which gases would be evolved at the anode?	chloride	(i) 196
.3	配	1000
	been	Water.
	used	Sept
	instead	contract publishers more
2	6	1
Contract Cold States	(v) If a dilute solution of sodium chloride had been used instead of a concentrated solution.	Chro/mile
MESSES.	trated	perturbe C
10.00	solution.	8

n element X has a relative atomic mass of 88. When a current of 0.5 ampere was used through the fused chloride of X for 35 minutes . 10secs. 0.44g of X was deposited the cathode

aw a diagram to show the measurement of electrode potential of a named metal at mperature.

on of its salt for 25 minutes using appropriate electrodes. Calculate the relative atomic 22g of a divalent metal is deposited when a current of 0.45 Ampere is passed through

Define reduction in terms of classical translation software software

(d) What mass of (a) copper (b) Aluminum and what volume at S.np. of (c) Chlorine and (d) Oxygen will be liberated during electrolysis by a charge of one faraday? [Al = 27: Cu = 64: I motor volume at s.t.p = 22. 4days] WK 5 CHAPTER TWO MK 5 CHAPTER TWO Type of Reactions / Redox, Reactions Define evidation in terms of electron transfer.	electrolyzed between.	BAR CICCUMI ACT DESIREMENTS AND MARKET STATE OF THE STATE
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(d) Oxygen will be liberated during electrolysis by a charge of one faraday?. [Al = 27: Cu = 64: 1 motor volume at s.t.p = 22.4days] [Al = 2	What mass of (a) copper (b) Alu	ninum and what volume at S.t.p. of (c) Chlorine and
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WK 5 Pypes of Reactions / Redox Reactions. Types of Reactions and reactions. The printers of electron transfer, and a band application includes a long of the printers of electron transfer. The printers of electron transfer.		ka amanumananan selt. wada ot mumpih a wato. pol
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(VII)	(vi)	(V)	(V)	(iii)	(II)	(1)	Write an equation to illustrate each of the above reaction	Catalytic reaction. troppe gains below to not rest a admired (d)	luction	Thermal dissociation. Insign anti-order A (ii)	Exothermic and endothermic reaction	Double decomposition reaction.	Displacement reaction.	Reversible reaction. gniwolio? odt smitsG i	Decomposition reaction.	Direct combination reaction.	2. The following are types of reactions.	(b) catalytic decomposition: Iteraty gazziany are a surjection.	WIRESTON OF THE SPACE IS REDUCED.	.aoitieograodh Isimail (a)	tive a different equation cach case to illustrate the following types of reaction	A VINDE THE SECOND TO THE SECOND SECO	gue positions at apparate and itali (g) apparate contains	List other reduction processes.	gorsulae bacola a mesare and especial in a closed achaem and	splessino ou per (iii) per		to the state of th	

(b) The reaction of fron fillings and steam in a closed solution

(c) The reaction of chlorine and iron (ii) chloride solution

4. Give a different equation each case to illustrate the following types of reaction.

(a) Thermal decomposition

(b) catalytic decomposition

(c) Name a catalyst that can be used in (b) above Direct complement sometime

to from tag are types of remisions.

Covereigh reaction

Successible appropriate

(5 in Define the following

An oxidizing agent hospital decomposition reservoir Supplementations

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(31) A reducing agent Example Epolisis directions

(b) Describe a test for an oxidizing agent An example Oxidation and counting to the Capital Commission of the Comm

(c) Describe a test for a reducing agent

(7a) The standard electrode potentials for the following half cell reactions, are-

are required to teache of mixters

3	5					8	1
Which of the specie is the oxidizing agent	Which of the specie is reduced: Assorbuspes harded animostic and sounded a	(c) Carbos (iv) oxade la fibrosikal	Write the overall equation of the reaction above. (************************************	(a) If the autopolic not the production (b)	(a) it is a process of conductor	Culculate the standard potential for the forward reaction of the standard $W(b)$	Zn (aq)+2e . E = -0.76 V

Ξ which specie above is the reducing agent with gainsthize offret apactedus darifu (s) nf(a) Authorization is oxidized a

viii) In (ai) above is the forward reaction spontaneous?

If a piece of copper metal were placed in IM Zinc tetraoxosulphate (vi) Solution. would there be a reaction?

Draw and label completely a voltaic cell.

system substance is todaced?"

a In electrolysis, oxidation takes place in the kes in the O-181-0 THE PROPERTY OF THE PROPERTY OF THE THE PROPERTY OF THE PROPER and reduction old 4 4 CHELCIO - 1951 + INC.

) If 10 cm of hydrogen gas is obtained at the cathode by electrolysis of dilute traoxosuphate (vi)acid using Hoffman's apparatus, the volume of oxygen produced

In (b) above how many faradays are required by Imole of hydrogen.

(10)

(c) How many (c) How many (a) A solution of the following is not applicable to histing a brabasis add statusta (b) it is a process of oxidation (b) it is analogous to burning. (c) It is a chemical change. (d) Moisture is necessary. Toda pointees out to noneupo that you said statusta.	(iv) What is a weak acid.? (v) Differentiate between a strong acid and concentrated acid. (v) Differentiate between a strong acid and concentrated acid.
keletal equations.	2. 30.0 cm ³ of a 0.095M solution of HNO, was required to neutralize 25.cm ³ of solution containing 7.20gldam ³ of NaCo3.XH ₂ O. The equation for the reaction
Mn04. + Sn² + H²	Na2Co ₃ .XH ₂ O +HNO; 2NaNo ₃ +(x+1)H ₂ O+ Co ₂ . Calculate (a) the number of moles per dm3 of sodium trioxocorbonoate (iv) solution. (b). The value of X.
(c)In (a) which substance is the oxidizing agent? Which substance is oxidized?	derwydde cynnas
(cii) In (b) which substance is the reducing agent. Business (ci) assigness sealed and agent business agent bu	
(di) MnO₁ + 8H+ + ne ——— Mn² + 4H.O	
ation of (di	3. Solution B was made by taking 20cm ³ of a saturated solution of Na ₂ Co ₃ at 250c and diluting it to 100cm ³ with distilled water. Solution A is 0.090M Hcl. By titration 29.5cm ³ of A required 25cm ³ of B for neutralization using methyl orange as indicator. From the results, calculate: (a) The concentration of B in moles per dm ³ . (b) The solubility of Na ₂ Co ₃ at 25 ^{oc} in moles per dm ³ .
	(200HC+(pa)+Ds2 4p(00) s2
what is a shorp acid:	,

d to neutralize 25 cm ation for the reaction at the number of the least of the leas	[Na =23. C=12, O=16 . H=1] directed containing 8.0 gpct din	3 of sodium trioxocorbonode (iv) solution. e value of X . an impact and 0 H5 + QX and contaming to Square scene of	n containing 7.20gldam of NaCo3.XH ₂ O. The equation for the reaction is 3.XH ₂ O +HNO3 2NaNo3+(x+1)H ₂ 0+ Co2. Calculate (a) the number of moles	30.0 cm ³ of a 0.095M solution of HNO, was required to neutralize 25 cm ³ of a	the was send the X of 98% where made up to 250cm, made up with		Differentiate between a strong acid and concentrated acid.	West of the second seco	What is a weak acid.?		
alize 25 cm the react number of	gpcr dan	HO HO	equation for siculate (a) the	quired to neutr	XH bros sias		acid.			•	
		106) - 17rs	number of	alize 25.cm	of the last			•			***************************************

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4. 155g of a dibasic acid H.X of 98%w/w was made up to 250cm made up with distilled containing 4.0gdm3.Calculate (a) the concentration of H₂X in moles per dm⁻¹ (b) the walker in a volumetric flask. 20cm of the acid neutralize 25cm3 of sodium hydroxide solution concentration of the sodiumhydroxide in gldm". (C) The value of X in H.X., OHX OXAM

[Na =23. 0=16.H=1]

H- X 10g) + 2Na0H (5) Na₂ X₍₂₎ + 2H₂ Q₁₁ per dans of sodium trioxocorbonals (iv) solution.

b). The value of X

[Ma = 33. Call On 12. Hall those solicy and one of a solicy of the solic

(5) A is a solution of hydrochloric acid. which was prepared by diluting 10.0 cm³ of a 10 indicator. Calculate (a) the concentration of solution A in mole dm.-3. moldm at room temperature. 22.50cm of A neutralized 25,00cm of B using methyl orange

(b) The concentration of solution B in mole dm

(c) The solubility of solution B at room temperature. a) The concentration of B in me

[H=1. CL=35.5. Ca =40:. 0=16]

(c) The percentage impurity in the acid solution	(b)The mass concentration of pure acid A in gdm	(a) The molar concentration of B	H2S04 (aq) + 2Na0H Calculate	[H= 1; S=32; 0=16]	methyl orange as indicator.	solution B is a solution of pure sodium hydroxide containing 8.0gper dm of A using	

had must be used.	an in a management of the second of the seco
Describe briefly how you will prepare O.I.M. or H-SSA Mention the key laborators of assessed	
	monominament de la company
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(j) Sketch the titration curves of Ci to Ciii.	anomonomente de la companya del companya de la companya del companya de la companya del la companya de la compa
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The second secon	market the second contraction of the second contraction of the second contraction of the second contraction of
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(iii) weak acid against weak base.	,

A week base against strong acid.	sodiumtrioxocarbonate (iv) Na.C03, XHO.
	(d) The value of X and hence the percentage water of crystallization in the invurated
	by the concentration of A in mol.dm-3
	in mol dm-3.
(i) A week acid against strong base.	to neutralicze 15 Sem3 of B. using methylorange indicator. Calculate (a) the concentration of A
(c) State the reasons indicators used to titrate:	Stigglim" of hydrated sodium triosocarbonate (iv.) Na2Co3.XH,0, 16.50cm; of A was required
	(7) A is a solution containing 6.0 gdm of hydrochloric acid. B is a solution containing 10
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(C0)	
	Take the average of your titer values.
	titration process include rough or trial values if need be.
ings during a	(b) Draw a titration table, indicating a hypothetical ther values of burette readings during a
	per 50cm3 of a solution.
ım hydroxide	6) What is the concentration in moldm-3 of a solution containing O.10g of sodium hydroxide
	eart brigge
	10)a List 5 precautions that could be ensured during titration.
A neek base as	6) What is the volume of distilled water required. bios gnont lentage oead lend
26 Awar A (i)	A sicul assumed afterning bags.
श आंध्र अध्यात (५)	Sodinum nydroxine sommon.
	(a) Describe now you mount on the column
solution of	9.4) You are provided with IM Naori solution50 formation prepare 0.10M solution of
water only	250 volumetric flask and distilled
315 led # (d)	(b) What are princip; contidued:
	C.
AR # WATE 214	(2) What we indicators

(iii) — Henne the govern framed when hard a transmitted to the size of the siz

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- Bar rate of reaction of findings and a second sec

2. I) Reaction rates are measured by considering how quickly products are

Or how reactants are

ii) In a chemical reaction, any property which changes, as the amount of

iii) List the factors that affect the rate of a chemical reaction

investigate the rate of reaction.

(ii) Catalyst

b) At 460 to the same pound had start to the same and to decrease to the same and

According what each of the manifest to next the

Compact () (SER () (Minut)

What effect wolf are micreater as pressure have the

(i) de Surface area: sadicine what X, Y. / https://doi.org/10.1001/

(4a) The following are common catalysts beginning because the reaction are then at their and gradually (i) Vanadium (v) oxide (V₂ O₅) (1) Lower the heat of the of the seasons. (1) of the 139 mediens on colleganapole of processing and in every the compensation of the reaction

(b) The rate of a typical chemical reaction is at the

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occur is called

(e) The of prophetical Court of the Court of (d) The second of the second o (B) 10g of powdered CaCo, at 25°C (b) (a) bins pinetrophyd stelfa driw reseat been lliw esignae guwellaf set to dud # (a)

3a) The minimum energy which must be supplied or attained before a reaction can

Iron (Fe)

E Nickel (Fe)

Aux) Lead ethyl

1. Have does the collision theory explain the rate of a chemical reaction?

cod edisk

Time (mins)

0

10

30

105

50

× 8

Pressure (mm) | 348 | 247

185

Calculate the rate of the reaction using a graph paper

(b) Sketch graph showing how the rate of a chemical reaction proceeds to completion

W	HATTA	Tegens	9 (i ii	(ii)	Ξ	What e	equilib	(b) At	Z	Υ	×	n the di
a) The decomposition of N ₂ O _{3 (g)} to No _{2 (g)} and O _{2 (g)} was monitored by observing the changes in pressure of the system. The values of pressure at				Name the product formed when hydrogen iodide is dissolved in water and Describe what would happen when passed into solution	The position of equilibrium.	The rate of reaction of hydrogen with iodine	What effect will an increase in pressure have on	equilibrium. The equation for the reaction is $H_{2(g)}H_{2(g)}$	(b) At 400°C the three gases, hydrogen, iodine and hydrogen iodide exit together in				an the diagram above in indicate what X. Y. Z represent?

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Trion Tanta of Rather below.	30 30 80								
5. Sketch & labe	4. What is an en		3. What is an ex			(v) (vi)	(B)(B)	(i) List tye Char	Secondariante diseption de la companya del companya del companya de la companya d
an energy	What is an endothermic reaction?	STATE TO STA	#		List five factors that affect rate of a chemical reaction.			acteristics of a catalyst.	

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Trought a straight a

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obtained by a research student.	zinc granules and excess dilute hydrochloric acid at room temperature at 25° a as	8. The table below shows the result for the formation of hydrogen in the reaction of
-		

(b) Define heat of combustion

(c) Define heat of neutralization.....

hydrog	Volum	Time (s)
hydrogen (cm) ³	Volume of 10 15 21 27 32	s)
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	15	10
26-02	21	15
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2	44 60 80	е «Шеш 35
SEX.	.80	46
100	120	45
1111	198	50 80
	1	8
- 6	-	3 18

7. Sketch and label fully energy profile diagrams to Mustage catalyzed exothermic and

Listifive characteristics of a cataly at

endothermic reactions.

Wk 8 Energy Effects and Chemical equilibrium. 1a) Enthalpy change (ΔΗ) can be measured by the use of.	(ii) Acid concentration is reduced CHAPTER 3		(f) sketch and explain on the same graph what would be obtained when	(d) Account for the differences in the rate of reaction (i) At the beginning and (ii) near the end of the reaction	(b) At what time is the reaction over?	hydrogen (cm) ³	Volume of 10 15 21 27 32 44
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Catalyzed exothermic reaction.

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Catalyzed endothermic reaction

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