	C	/	1	11	5 7	2 11	
	SWL	_	Pol	I No	1	Annu	ial 2019
P 4		DAD!					-
(IN	TERMEDI	ATE PAR	I-I) (III)	,		Pa	per: 1
Scheme)	(0	bjective)					rks:17
	Co	de : 6485	ARC	and D. The	choice wh	ich	
Time: 20 Minutes Note: You have four choices for	each objective	type question	as A, D, C	Use marke	r or pen to	fill the	
Time: 20 Minutes Note: You have four choices for you think is correct, fill the	at circle in from	t of that quest	lt in zero ma	ark in that qu	estion.		
Note: You have four encoded you think is correct, fill the circles. Cutting or filling the	wo or more ch	cies win resu	es into:				
1- 1. When 6d orbital is compl (A) 7f	(B)	7s (C)	7		0) 7d		
2. Which of the following m (A) NH_3	(B) (B)	ero dipole mor CHCl ₃	(C)	H_2O	(-)	BF ₃	
 (A) NH₃ 3. Which of the following s 	the heating	aired electron	s in antibono	ding molecul	ar orbitals	?	
3. Which of the following s	pecies has unp	N_2^{2-}	(C)	B_2	(D)	F_2	
(A) O_2^{2+} 4. For a given process the ho	eat changes at	constant press	sure (q_p) ar	nd at constan	t volume	(9,) 110	
4. For a given process the h	eat changes at					a	
related to each other as:			(C)	$q_p > q_v$	(D) q	$p = \frac{q_v}{2}$	
(A) $q_p = q_v$	(B)	$q_p < q_v$	(0)	- /		2	
5. Molarity of pure water is	s: (B)	18	(C)	55.5	(D)	6	1 by
(A)		Osups of babb	us barium cl	hloride and	precipitate	is removed	1 Dy
(A) 1 6. An excess of aqueous sil	ver nitrate is a	e filtrate?				a^{2+} and NO	and Cl ⁻
filtration. What are the h	Idini Ioni	2+ JNO-	(C) $Ba^{4}ai$	nd NO ₃ only	(D) D		
 (A) Ag⁺and NO₃ only 7. The molal boiling point (B) 	(B) Ag und B	ratio of the el	evation in b	oiling point t	:0 :-	on of solute	-
7. The molal boiling point	molality (C	c) mole fracti	on of solver	nt (D) II	IOIC IIdeile		
(Λ) molarity (D)							
(A) money							
(A) menu y		is of dil. H_2S	O_4 with Pt e	electrode is :		ion nor redi	uction
8. The cathodic reaction in	the electrolys	is of dil. H_2S oth oxidation	O_4 with Pt e and reduction	electrode is : on (D) neit	her oxidati	ion nor redu	uction
8. The cathodic reaction in	the electrolys	is of dil. H_2S oth oxidation	O_4 with Pt e and reduction	electrode is: on (D) neit	her oxidati nd A is pre	ion nor redu esent in larg	uction ge excess,
8. The cathodic reaction in	the electrolys	is of dil. H_2S oth oxidation $B \rightarrow \text{ produc}$	O_4 with Pt e and reduction the reduction the reduction the rate =	electrode is : on (D) neith $k[A]^2[B], a$	her oxidati nd A is pre	ion nor redu esent in larg	action ge excess,
 8. The cathodic reaction in (A) reduction (B) ox 9. If the rate equation of a 	the electrolysidation (C) b reaction 2 A+	$B \rightarrow \text{produc}$	ts is, rate =	electrode is : on (D) neith $k[A]^2[B], a$ 3	her oxidati nd A is pro (D)	ion nor redu esent in larg	action ge excess, 4
 (A) Instance y 8. The cathodic reaction in (A) reduction (B) ox 9. If the rate equation of a then order of reaction 	the electrolysi idation (C) b reaction 2 A+ is :	$B \rightarrow \text{produc}$	O_4 with Pt e and reduction ts is, rate = (C)	$k[A]^2[B], a$	nd A is pro (D)		uction ge excess, 4
 (A) Instance y 8. The cathodic reaction in (A) reduction (B) ox 9. If the rate equation of a then order of reaction (A) 1 10. The mass of one mole of the section of	the electrolysi idation (C) b reaction 2 A+ is: (B) of electrons is:	$B \rightarrow \text{produc}$	ts is, rate =	$k[A]^2[B], a$	nd A is pro (D)	ion nor redu esent in larg 1.673 mg	uction ge excess, 4
 8. The cathodic reaction in (A) reduction (B) ox 9. If the rate equation of a then order of reaction 	the electrolysi idation (C) b reaction 2 A+ is :	$B \rightarrow \text{produc}$	ts is, rate = (C)	$k[A]^2[B], a$	nd A is pro (D)		action ge excess, 4
 8. The cathodic reaction in (A) reduction (B) ox 9. If the rate equation of a then order of reaction (A) 1 10. The mass of one mole of (A) 1.008 mg 	the electrolysi idation (C) b reaction 2 A+ is: (B) of electrons is: (B)	$B \rightarrow \text{ product}$ 2 0.55 mg	ts is, rate = (C) (C)	$k[A]^2[B], a$	nd A is pro (D) (D)	1.673 mg	action ge excess, 4
 8. The cathodic reaction in (A) reduction (B) ox 9. If the rate equation of a then order of reaction (A) 1 10. The mass of one mole of (A) 1.008 mg 11. The volume occupied 	the electrolysi idation (C) b reaction 2 A+ is: (B) of electrons is: (B) (B) by 1.4 g of N	$B \rightarrow \text{produc}$ 2 0.55 mg 2 at S.T.P	ts is, rate = (C) (C) is :	$k[A]^2[B], a$	nd A is pro (D) (D)		uction ge excess, 4
 8. The cathodic reaction in (A) reduction (B) ox 9. If the rate equation of a then order of reaction (A) 1 10. The mass of one mole of (A) 1.008 mg 11. The volume occupied (A) 2.24dm³ 	the electrolysi idation (C) b reaction 2 A+ is: (B) of electrons is: (B) (B) (B)	$B \rightarrow \text{product}$ 2 0.55 mg 2 at S.T.P 22.4 dm^3	ts is, rate = (C) (C) is : (C)	$k[A]^{2}[B], a$ 3 0.184 mg 1.12 dm^{3}	nd A is pro (D) (D)	1.673 mg	action ge excess, 4
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 (A) Inducty 8. The cathodic reaction in (A) reduction (B) ox 9. If the rate equation of a then order of reaction (A) 1 10. The mass of one mole of (A) 1.008 mg 11. The volume occupied (A) 2.24dm³ 12. Solvent extraction is an (A) law (C) dis 13. Pressure remaining co what it is at 0°C: (A) 546°C 	the electrolysi idation (C) b reaction 2 A+ is: (B) of electrons is: (B) (B) n equilibrium p of mass action tribution law nstant, at whic (B) CO, is maxim	B → product 2 0.55 mg 2 at S.T.P 22.4 dm^3 process and it h temperature 200°C um at:	ts is, rate = (C) (C) is : (C) is controlled (B) (D) the volume (C)	$k[A]^{2}[B], a$ 3 0.184 mg 1.12 dm^{3} l by: the amount the amount e of the gas w 546 k	(D) (D) (D) t of solven int of solutivill become (D)	1.673 mg $112 dm^3$ at used te twice of 273k	4
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(2)

 $(2 \times 6 = 12)$

- 4. Write short answers to any Six parts.
- i. Why did the atomic Radii cannot be measured precisely?
- ii. In NH_3 bond angle is 107.5° but in NF_3 it is 102°. Explain it.
- iii. NH_3 can form coordinate covalent bond with H^+ . Explain!
- iv. Oxygen molecule is paramagnetic in nature. Justify!
- v. Prove that $\triangle E = q_v$.
- vi. Define the terms Heat and Work.
- vii. A salt bridge maintain the electrical neutrality in galvanic cell. Explain.
- viii. Define standard electrode potential?
- ix. Write down chemical reactions taking place in alkaline battery.

(Section – II)

Note: Attempt any three (3) questions from Section II. Each question carries 08 marks.(3 x 8 = 24)

- 5. (a) Define limiting reactant. Write different steps involved in the identification of limiting
 - reactant. How does it control the yield of product formed in chemical reaction.
 - (b) Describe manometric method for the measurement of vapour pressure of a liquid.
- 6. (a) 250cm³ of the sample of hydrogen effuses four times as rapidly as 250cm³ of an unknown gas. Calculate the molar mass of unknown gas.
 - (b) Derive the equation for the radius of nth orbit of hydrogen atom using Bohr's model.
- 7. (a) Define hybridization. Explain sp^3 hybridization with the example of methane (CH_4) .
 - (b) How enthalpy of reaction is determined by glass calorimeter?
- 8. (a) $N_2(g)$ and $H_2(g)$ combine to $NH_3(g)$. The value of K_c in this reaction at 500°C is 6.0×10^{-2} . Calculate the value of K_p for this reaction.
- (b) Describe the homogeneous and heterogeneous catalysis with one example of each.
- (b)Describe the homogeneous and hererogeneous(ii)Hydrates9. (a)Write note on (i)Hydration(ii)Hydrates
 - (b) Explain the construction of fuel cell.

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	. s ¹	Roll No Annual 2019(INTERMEDIATE PART - I)Paper : IMarks : 68				
	Tt	A Hours				
	Note :- Section I is compulsory. Attempt any three (3) questions from Section II. (Section I)					
	2. Wri	to short answers to any Eight I arts.				
	i. A	V_2 and CO molecules have equal number of protons and neutrons. Justify.				
		turing heavier than C-atom. Why?				
		Ag atom is twice neavier than o aneals of almost equal heights in the mass.				
	S	pectrum for Bromine?				
	iv. F	How crystals are dried in vacuum desiccator? Why fluted filter paper is used for greater rate of filtration than ordinary cone filter paper?				
	v. V	Why fluted filter paper is used for greater rate of intration and				
		Write any two characteristics of plasma.				
	vii.	Why real gases deviate from ideal behaviour? Define Avogadro's Law. How many molecules of an ideal gas present in 22.4 <i>dm</i> ³ at STP?				
		independent of temperature				
	х.	Relative lowering of vapour pressure is independent Define hydrolysis. Give chemical equation for hydrolysis of ammonium chloride.				
	xi.	Define hydrolysis. Give chemical equation for $y = 0$ Define molality. Give one of its mathematical expression. (8 x 2 = 16)				
	xii.	Define molality. Give one of its manifold matrix $(8 \times 2 = 16)$				
	3.	Write short answers to any Eight parts. $(8 \times 2 = 10)$ Cleavage of the crystals is itself an isotropic behaviour.Justify.				
	i.	Cleavage of the crystals is itself an isotropic transfer infections and tumors?				
	ii.	How liquid crystals are used to locate veins, arteries, infections and tumors?				
	iii.	Lower alcohols are soluble in H_2O but hydrocarbons are insoluble. Give reason.				
1	iv.	Why graphite is good conductor of electricity but diamond is bad conductor of electricity?				
	v.	Give two importances of Moseley Law.				
	vi.	State Heisenberg's uncertainty principle.				
	vii.	Differentiate between orbits and orbitals.				
	viii.	How the dual nature of electron was verified?				
	ix.	How acidic and basic buffers are prepared? Give one example of each.				
	x.	State Law of Mass Action.				
	xi.	Define activation energy and activated complex.				
	xii.	How does the increase of temperature increases the rate of the chemical reaction.				

مناداتهما والاستواطات والمغاد المراجر

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(Turn Over)

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