

		2 [®] JEE(Main) 2023 DATE : 24	4-01-2023	(SHIFT-1) PAPER-1	CHEMISTRY	
		PAR	RT : CH	IEMISTRY		
31.	In the de A. Vapo	pression of freezing point exp ur pressure of the solution is le	eriment	nat of pure solvent		
	B. Vapo the freez	ur pressure of the solution is m ring point	nore than	that of pure solvent C	. Only sol <mark>ute mole</mark>	ecules solidify at
	D. Only	solvent molecules solidify at th	ne fr <mark>eezi</mark> ng	g point		
	(1) A onl	y (2) B and C or	rom the o hly	(3) A and C only	(4) A and D or	nly
NTA.	(4)					
RESU.	(4) In the de	pression of freezing point exp	eriment			
001.	A. Vapo	r pressure of the solution is le	ess than th	nat of pure solvent		
	B. Only	solvent molecule get solidify.				
32.	Or <mark>der</mark> of	Covalent bond;				
	A. KF >	KI; LiF > KF				
	B. KF <	KI; LIF > KF				
		KE: CuCl < NaCl				
	E. KF <	KI: CuCl > NaCl				
	Choose	the correct answer from the or	otions give	en below:		
	(1 <mark>) A,</mark> B	only (2) B, C only		(3) B, C, E only	(4) C, E only	
NTA.	(3)					
RESO.	(3)					
501.						
	C. SnCl	> SnCl ₂ & CuCl >NaCl				
	E. KF <	KI & CuCl > NaCl				
22	Match Li	et I with Liet II				
55.		IIST-I		LIST-II		
	A	Reverberatory furnace	1	Pia Iron		
	В	Electrolytic cell		Aluminum		
	C	Blast furnace		Silicon		
	D	Zone Refining furnace	IV	Copper		
	Choose	the correct answer from the op	otions give	en below:		bw.
	(1) A-I, E	3-111, C-11, D-1V (2) A-111, B-1V,	C-I, D-II	(3) A-I, B-IV, C-II, D-	-III (4) A-IV, B-II,	C-I, D-III
NIA.	(4) E					
RE30.	Stonan					
34.	Which o	f the following is true about fre	ons?			
	(1 <mark>) The</mark> s	e are radicals of chl <mark>orin</mark> e and o	chlorine m	nonoxi <mark>de</mark>		
	(2) Thes	e are chlorofluorocarbon com	pounds			
	(3) All ra	dicals are called freons	Ed			
ΝΤΛ	(4) I nes	e are chemicals causing skin o	cancer			
RESO	(2) == (2)					
Sol.	Freons a	are chlorofluoro carbons				
	Ex. Freo	n 012, 112 etc.				
		Resonanc	e Fd	uventures	l td.	

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	Match Li	st I with List II			
		CE LIST-I SO		LIST-II	
	A	Chlorophyll	Boronanco	Na ₂ CO ₃	
	B	Soda ash	Educating for better tomorrow	CaSO ₄	
	Chan	Dentistry, Ornamen	tal work	Mg ²⁺	
	D	Used in white wash	ing IV	Ca(OH) ₂	
	Choose	the correct answer fro	m the options giver	n bel <mark>ow:</mark>	
	(1) A-III,	B-I, C-II <mark>, D-</mark> IV	ance"	(2) A-II, B-III, C-IV, <mark>D-</mark>	Resonance*
	(3) A-III,	B-IV, C-I, D-II		(4) A-II, B-I, C-III, D-I\	1
Α.	(1)				
SO.	(1)				
Educati	Theory E	Based			
A. SO.	ion is (1) Ti ²⁺ (3) (3)	(2) Mi	n ²⁺	(3) V ²⁺	(4) Cr ²⁺
•					
	lon	Outer electronic	no. of unpaired	Magnetic momen	ng for better tomorrow
		configuration	electron	magnetio momen	
	Mn ²⁺	3d⁵ 4s⁰	5	√35 BM	Sonance
	V ²⁺	3d ³ 4s ⁰	3	√15 BM	
	Ti ²⁺	3d ² 4s ⁰	2	√8 BM	
	Cr ²⁺	3d ⁴ 4s ⁰	4	√24 BM	
	Decreas A. Liquid Choose	ing order of the hydro I water B. Ice the correct answer from B > A (2) B	gen bonding in follo C. Impur om the options giver	wing forms of water is re water h below: (3) A = B > C	s correctly represented by (4) $A > B > C$
Α.	(2)				Contraction of the second stating for better tomorrow
so	(2)				
50.	(-) In ice ea	ch H ₂ O molecule form	s four H-bonds & is	tetrahedrally structure	ad so stre <mark>ngth</mark> of H bond is grea
-	in ice that	an in nure water		totranodrany off dotare	
-					
Re					

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Resonance | JEE(Main) 2023 | DATE : 24-01-2023 (SHIFT-1) | PAPER-1 | CHEMISTRY CH=O -CN CH=O [↔]OH, CH₂O ĊH-Sol. Me Me ⊖ CN Me Me Me Me CH₂OH CH₂OH OH OH Me H₃O⊕ Me COOH esterification Me Me CH₂OH 40. An ammoniacal metal salt solution gives a brilliant red precipitate on addition of dimethylglyoxime. The metal ion is: (1) Co²⁺ (2) Fe²⁺ (3) Ni²⁺ (4) Cu²⁺ NTA. (3) **RESO. (3)** Sol. $Ni^{+2} + dmg + NH_4OH \rightarrow [Ni(dmg)_2]\downarrow + NH_4^+ + H_2O$ red ppt 41. Reaction of BeO with ammonia and hydrogen fluoride gives A which on thermal decomposition gives BeF₂ and NH₄F. What is 'A' ? (1) (NH₄)BeF₃ (2) H₃NBeF₃ (3) (NH₄)Be₂F₅ (4) (NH₄)2BeF₄ NTA. (4) **RESO.** (4) Sol. Thermal decomposition of (NH₄)₂BeF₄ is the best route for preparation of BeF₂ 42. Assertion A : Hydrolysis of an alkyl chloride is a slow reaction but in the presence of Nal, the rate of the hydrolysis increases. Reason R : I is a good nucleophile as well as a good leaving group. In the light of the above statements, choose the correct answer from the options given below (1) A is false but R is true (2) A is true but R is false (3) Both A and R are true but R is NOT the correct explanation of A (4) Both A and R are true and R is the correct explanation of A NTA. (4) **RESO.** (4) Sol. I- being good nucleophile form R–I which get hydrolysed readily

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NTA. (10)

RESO. (10)

55. For independent processes at 300 K

Process	∆H/kJ mol ⁻¹	∆S/J mol ⁻¹
A	-25	-80
B	-22	40
Charl	25	-50
D	22	20

The number of non-spontaneous processes from the following is

NTA. **RESO.** (2)

(2)

Sol.

Process	sign of ∆G	Spontaneity of process
Anance	(–) ve	Spontaneous
В	()	Spontaneous
C Reso	(+)	Non spontaneous
D	(+)	non spontaneous

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Sol.							
	A. Larger the activati B. The higher is the a statement	on energ activation	y, smaller is ti energy, high	he value of t er is the valu	the rate const ue of the temp	ant ⇒ true s <mark>per</mark> ature coe	tatement fficient ⇒ true
	D. $lnK = lnA - \left(\frac{Ea}{R}\right)$	Resor	Slope = _	$\left(\frac{Ea}{R}\right)$			
60. Re	When Fe _{0.93} O is heated in presence of oxygen, it converts to Fe ₂ O ₃ . The number of correct statement/s from the following is						
	A. The equivalent weight of Fe _{0.93} O is $\frac{\text{Molecularweight}}{0.79}$						
	B. The number of mo C. Fe _{0.93} O is metal de D. The % compositio	oles of Fe eficient w n of Fe ²⁺	²⁺ and Fe ³⁺ in ith Isattice co and Fe ³⁺ in F	1 mole of F mprising of e _{0.93} O is 85	^F e _{0.93} O is 0.79 cubic closed % and 15% re	and 0.14 re backed arran espectively	spectively agement of O ^{2–} ions
NTA. RESO Sol.	(4) 9. (4) 1 mole Fe₀.93O conta	in 0.79 m	nole Fe ²⁺ and	0.14 mole F	e ³⁺		
	% <mark>of F</mark> e ³⁺ = 15% & %	of Fe ²⁺	= 85% ∫Moleculai	weight]			
	Equivalent weight of	Fe0.93O =	- { <u> </u>) }			

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