CHEMISTRY

QUESTION SET - 3

1. Charle's law is represented mathematically as

b.
$$V_1 = V_0(1 + \frac{273}{t})$$

c.
$$Vt = V_0(1 + \frac{t}{273})$$

d.
$$\frac{V1}{V2} = \frac{T2}{T1}$$

2. The bond dissociation energy of H₂, Cl₂, and HCl are 104, 58, and 103 kcal mol⁻¹ respectively. The enthalpy of formation of HCl would be

3. From the given ions such as, Li⁺, K⁺, Ca²⁺, Na⁺, which of the following is the strongest reducing reagent?

4. Which of the following sets of quantum numbers is permissible for an electron in an

atom?

(b)
$$n=3$$
, $l=1$, $m=-2$, $s=-1/2$

(c)
$$n=1, l=1, m=0, s=+1/2$$

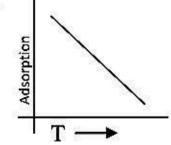
(d)
$$n=2$$
, $l=0$, $m=0$, $s=1$

5. In NaCl crystal, Cl ions are present in fcc arrangements. Find out the number of Cl ions in its unit cell.

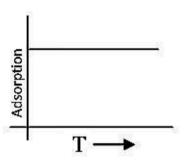
6. Calculate the amount of CaCl₂ (i=2.47) dissolved in 2.5L of water such that its osmotic pressure is 0.75 atm at 27°C

7. Which of the following graphs represents the chemisorptions?

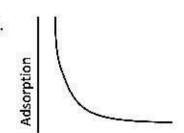
a.



b.



c.



d.



8.	Identify the name reaction during conversion of butyl chloride into dibutyl ether				
	a.Williamson'sSynthisis			s reactions	
	c.Wurtz Reaction d.Grignards Reagent				
9.	Conversion of benzoyl chloride into benzaldehyde reduction with H ₂ /Pd-BaSO ₄ is				
	known as		1.5	A second	
	a. Stephan Reaction		b.Rosenmond Re		
10	c. Clemmenson's Reaction	11:	d.Riemer –Tiem		
10	Ziegler –Natta catalyst is an organo	ometame		ning	
	a. Zirconium c. Titanium		b.Rhodium d.Iron		
11	The structure of IF ₇ is		u.non		
	n Phantonian and Charles and Common and Comm		12	tuis assas llainemanni dal	
	a. Octahedral			triogonalbipyramidal	
	c. Octahedral			Pentagonal bipyramidal	
12.	The order of the screening effect of the electrons of s, p, d, f orbitals of given shell of an				
	atom on its outer shell electrons is		180	VIA. No real artis absorbing	
	a. s > p > d > f			f > d > P > S	
	c. p < d < s > f	00570 8/48/02V01 K		f > p > d > s	
13.	A solution is made by dissolving 4	0 g of H_2	SO ₄ in 250 ml of	water. The molarity of	
	the solution prepared is		is related		
	a. 2M		b. 1M		
1.4	c. 4 M		d. 5 M	i iiwi	
14.	. Ferric ion forms a Prussian blue coloured ppt. Due to the formation of				
	$(a)K_4[Fe(CN)_6]$				
	(b) Fe ₄ [Fe(CN) ₆] ₃				
	(c)KMnO ₄				
	(d)Fe(OH) ₃				
15. The presence of NH ₄ ⁺ radical in solution can be detected by					
	(a)Fehling's solution				
	(b) Benedict's solution				
	(c)Schiff's reagent				
	(d)Nessler's reagent				
16.	6. The pH of 10 ⁻⁸ M HCl solution is				
	(a) 8	(b) 6			
	(c) 6.98	(d) 7.02	2		
17. The order of reactivity of various alkyl halides towards SN ₁ reaction is					
		(b) $1^0 > 2^0$			
	(c) $3^0 = 2^0 = 1^0$	(d) $1^{\circ} > 3^{\circ}$	> 20		



18. Which of the following compounds on oxidation gives	benzoic acid?
(a)Chlorophenol	
(b) Chlorotoluene	
(c)Chlorobenzene	
(d)Benzyl Chloride	
19. The charge required for the reduction of 1 mol of K ₂ Cr ₂	O ₇ to Cr ³⁺ ion is
(a)0.6 faraday	(b)2.4 x96500C
(c)6 x96500C	(d)12.4 x96500F
20. The order of the reaction when rate of reaction is 6 (a) 1 (b) 2 (c) Half (d) zero	equal to rate constant is

