Dr. M	ral Che I. J. Wi ination			Name _			
(18)	1.	For each	each of the following compounds, write a correct formula:				
		a) M	agnesium hydroxid	e			
		b) Li	thium sulfate				
		c) A	mmonium phosph	ide			
		d) C	hlorous acid				
		e) C	alcium phosphite				
		f) Ba	arium bromate				
•		g) Po	otassium chromate				
		h) H	ydroiodic acid				
	,	i) So	odium permangana	te			
(18)	2.	Complet	te the following tab	le:			
		Formula	Geometry arour central atom	nd Species shape	Hybridization of central atom		
		ClO ₂ -1					
		NO ₂ +1			Approximation of the second of		
		IO ₄ -1					
		SbF ₄ -1					
		XeO ₃					
		SO ₃					
(4)	3.	Which o	species is planar?				
		a) NH3	b) AsH5 c)) CCl ₄ d) SO ₃ -2	e) NO ₃ -1		

4)	4.	The central atom in the nitrite ion is surrounded by:								
		 a) two single bonds and two lone pairs of electrons b) two double bonds and no lone pairs of electrons c) one single bond, one double bond, and one lone pair of electrons 								
		d) one single bond, one triple bond, and no lone pairs of electrons								
(4)	5.	Which one of the following compounds contains both <u>ionic</u> and <u>polar covalent</u> bonds?								
	•	a) AlPO ₄ b) NH ₄ F c) Li ₂ CO ₃ d) BaSO ₄								
		e) All of the above exhibit both ionic and polar covalent bonding								
(4)	6.	When sulfur trioxide reacts with oxide anion to form sulfate anion, the hybridization of the central sulfur atom changes from:								
		a) sp^3 to sp^2 b) sp^2 to sp^3 c) sp^2 to sp^3 d d) sp^3 to sp^3 d e) sp^2 to sp								
(4)	7.	Consider the molecule shown below:								
		$: N \equiv C - CH_2 - C - CH_3$ $: O:$								
		How many σ and π bonds are present?								
		a) 3σ and 3π b) 4σ and 2π c) 5σ and 3π d) 10σ and 3π e) 12σ and 2π								
(4)	8.	Which one of the following is a polar molecule?								
		a) CO ₂ b) SO ₂ c) N ₂ d) SO ₃ e) BF ₃								
(4)	9.	For which one of the following species does the concept of resonance apply?								
		a) XeF_2 b) SO_4^{-2} c) O_3 d) HCN e) SF_4								
(4)	10.	Which one of the following molecules has the smallest dipole moment?								
		a) HI b) HBr c) HCl d) HF								

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(4)	11.	Supply any missing electrons in the partial Lewis dot structure provided for the molecule shown below, and specify the hybridization of the atoms in boldface (in the order written from left to right): a b c								
		$H_2N-N=N-C\equiv N$								
		a) sp^3 , sp^2 , sp b) sp^3 , sp , sp^2 c) sp^2 , sp^2 , sp d) sp^3 , sp , sp e) sp^2 , sp , sp								
(4)	12.	Which one of the following compounds is least likely to exhibit ionic bonding?								
		a) SnF ₂	b) IF ₅	c) AlF ₃	d) ZnF ₂	e) KF				
(4)	13.	In which one of the following species do all atoms obey the Octet rule?								
		a) NO ₂	b) BrF3	c) XeO ₂	d) TeF ₃ -1	e) SeF ₄				
(4)	14.	London (van der Waals) forces represent the principal intermolecular attractive force in:								
		a) CS ₂	b) H ₂ O	c) CHCl ₃	d) PH ₃	e) O ₃				
(4)	15.	Which one of the following salts has the lowest melting point?								
		a) NaCl	b) CaS	c) MgO	d) RbBr	e) Li ₃ N				
(4)	16.	Which one point?	of the follow	ing compour	mpounds has the lowest boiling					
		a) Sn	H ₄ b) Gel	o) GeH ₄ c) SiH ₄ d) CH ₄		\mathcal{H}_4				
(4)) 17. Which one of the following compounds would be expected to have the highest heat of vaporization?									
		a) CH ₂ Cl ₂ b	o) F-O-F c) CF	H ₃ -S-CH ₃ d)	CH ₃ CH ₂ CH ₃	e) H ₂ N(CH ₂) ₃ NH ₂				
(4)	18. Which one of the following is indicative of weak intermolecular forces of attraction in a liquid?									
	a) high freezing point b) high boiling point									
		c) hiş	gh vapor pres	sure đ) hi	gh heat of va	porization				