

## CHEMBUDDY CHAPTER 4

## 4.1 LEWIS STRUCTURE



CHOOSE THE CORRECT ANSWER

NO	QUESTION	ANSWER
1	<p>Identify the species that NOT involves dative bond.</p> <p>A. <math>\text{H}_2\text{O}</math>  B. <math>\text{H}_3\text{O}^+</math>  C. <math>\text{NH}_4^+</math>  D. <math>\text{Al}_2\text{Cl}_6</math></p>	<p>A  B  C  D</p>
2	<p>How many resonance structures can be drawn for phosphate ions, <math>\text{PO}_4^{3-}</math>?</p> <p>A. 2                    C. 4  B. 3                    D. none</p>	<p>A  B  C  D</p>
3	<p>The most plausible Lewis structure for a chlorate ion, <math>\text{ClO}_3^-</math>, should show contain _____ single bond(s), _____ double bond(s), and _____ lone pair(s).</p> <p>A. 2, 1, 10            C. 3, 0, 10  B. 1, 2, 8            D. 2, 1, 9</p>	<p>A  B  C  D</p>
4	<p>Which Lewis structure best represents ozone molecule, <math>\text{O}_3</math>?</p> <p>A. <math>\ddot{\text{O}}-\ddot{\text{O}}-\ddot{\text{O}}:</math>  B. <math>\ddot{\text{O}}-\ddot{\text{O}}=\ddot{\text{O}}:</math>  C. <math>\ddot{\text{O}}-\ddot{\text{O}}=\ddot{\text{O}}:</math>  D. <math>\ddot{\text{O}}-\ddot{\text{O}}-\ddot{\text{O}}:</math></p>	<p>A  B  C  D</p>



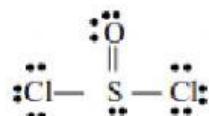
	The formal charge on the bromine atom in $\text{BrO}_3^-$ drawn with three single bonds is	A B C D
5	A. -2      C. +1 B. -1      D. +2	
	11. What is the picture showing?	
	$\left[ \begin{array}{c} \text{:O:} \\ \text{:O=C:} \\ \text{:O:} \end{array} \right]^{2-} \longleftrightarrow \left[ \begin{array}{c} \text{:O:} \\ \text{:O-C=O:} \\ \text{:O:} \end{array} \right]^{2-} \longleftrightarrow \left[ \begin{array}{c} \text{:O:} \\ \text{:O-C-O:} \\ \text{:O:} \end{array} \right]^{2-}$	A B C D
6	A. The resonance structure of carbonate ions. B. The formal charge of each atom in carbonate. C. The electronegativity of carbonate. D. The geometrical shape of carbonate.	
	Which molecule has central atom that obeys octet rule?	A B C D
7	A. $\text{SF}_4$ B. $\text{BCl}_3$	C. $\text{OF}_2$ D. $\text{SnCl}_2$
	What element can form an incomplete octet?	A B C D
8	A. Boron      C. Bismuth B. Bromine      D. Barium	



9	<p>The electronic configuration of elements X and Y are as follows:</p> <p>X: <math>1s^2 2s^2 2p^1</math></p> <p>Y: <math>1s^2 2s^2 2p^6 3s^2 3p^5</math></p> <p>When X and Y combine, the most plausible formula and bonding are</p> <table style="margin-left: 100px;"> <tr> <th>FORMULA</th> <th>BONDING</th> <th></th> </tr> <tr> <td>A. <math>XY_3</math></td> <td>covalent</td> <td>A</td> </tr> <tr> <td>B. <math>X_2Y</math></td> <td>covalent</td> <td>B</td> </tr> <tr> <td>C. <math>XY_2</math></td> <td>ionic</td> <td>C</td> </tr> <tr> <td>D. <math>X_2Y_3</math></td> <td>ionic</td> <td>D</td> </tr> </table>	FORMULA	BONDING		A. $XY_3$	covalent	A	B. $X_2Y$	covalent	B	C. $XY_2$	ionic	C	D. $X_2Y_3$	ionic	D	
FORMULA	BONDING																
A. $XY_3$	covalent	A															
B. $X_2Y$	covalent	B															
C. $XY_2$	ionic	C															
D. $X_2Y_3$	ionic	D															
10	<p>What is the unusual feature about this compound?</p> <p style="text-align: center;"> <math display="block">\begin{array}{c} \text{Br} \\   \\ \text{Br} - \text{:Xe:} - \text{Br} \\   \\ \text{Br} \end{array}</math> </p> <p>A. Obey the octet rule      B. Odd number electron      C. Incomplete octet      D. Expanded octet</p>	<p>A      B      C      D</p>															
11	<p>The ion has no valence electron in its Lewis symbol is (C1&amp;C2)</p> <table style="margin-left: 100px;"> <tr> <td>A. <math>\text{B}^{3+}</math></td> <td>C. <math>\text{Si}^+</math></td> <td>A</td> </tr> <tr> <td>B. <math>\text{O}^{2-}</math></td> <td>D. <math>\text{Cl}^-</math></td> <td>B</td> </tr> <tr> <td></td> <td></td> <td>C</td> </tr> <tr> <td></td> <td></td> <td>D</td> </tr> </table>	A. $\text{B}^{3+}$	C. $\text{Si}^+$	A	B. $\text{O}^{2-}$	D. $\text{Cl}^-$	B			C			D	<p>C      D</p>			
A. $\text{B}^{3+}$	C. $\text{Si}^+$	A															
B. $\text{O}^{2-}$	D. $\text{Cl}^-$	B															
		C															
		D															



Lewis structure of  $\text{SOCl}_2$  is given as follows (C1&C2)



12 The formal charges on sulphur, chlorine and oxygen are

	Sulphur	Chlorine	Oxygen	
A.	0	0	0	
B.	-1	+2	-1	
C.	+2	-1	-1	
D.	+2	-2	0	

13 Which of the following is NOT the case of exception to octet rule:

- A.  $\text{OF}_2$
- B.  $\text{ClO}_2^+$
- C.  $\text{SnCl}_2$
- D.  $\text{BeCl}_2$

