GUMDROP MODELLING ANSWER KEY

1. DRAW A LEWIS STRUCTURE FOR THE FOLLOWING MOLECULES OR IONS:

A. SCl_2	B. ICl_4^-	C. SF_4	D. $TeCl_4$
E. H_2O_2	F. XeO_3	G. $RnCl_2$	H. ClF_3
I. O_3	J. SO_4^{2-}	K. SCN^-	L. SeF_5^-

Construct a model of each of your Lewis structures above, showing the PROPER GEOMETRY and BOND ANGLES!

2. DRAW YOUR MODEL USING THE THREE DIMENSIONAL TECHNIQUES DEMONSTRATED IN CLASS AND WRITE:
   A. ELECTRON DOMAIN SHAPE OF THE MOLECULE OR ION
   B. MOLECULAR GEOMETRY OF MOLECULE OR ION
   C. BOND ANGLES (=, < 90°, 120°, 180°, 109.5°)
   D. HYBRIDIZATION TYPE (sp, sp^2, sp^3, sp^3d, sp^3d^2)

Answers:

LETTER	E' DOMAIN GEO	MOLECULAR GEO	BOND ANGLES	HYBRIDIZATION
A	TETRAHEDRAL	BENT	<109.5	SP3
B	OCTAHEDRAL	SQUARE PLANAR	=90, =180	SP3D2
C	TRIGONAL BIPYRAMIDAL	SEESAW	<120, <180, <90	SP3D
D	TRIGONAL BIPYRAMIDAL	SEESAW	<120, <180, <90	SP3D
E	TETRAHEDRAL	BENT	<109.5	SP3
F	TETRAHEDRAL	TRIGONAL PYRAMIDAL	<109.5	SP3
G	TRIGONAL BIPYRAMIDAL	LINEAR	=180	SP3D
H	TRIGONAL BIPYRAMIDAL	"T" SHAPED	<180, <90	SP3D
I	TRIGONAL PLANAR	BENT	<120	SP2
J	TETRAHEDRAL	TETRAHEDRAL	=109.5	SP3
K	LINEAR	LINEAR	=180	SP
L	OCTAHEDRAL	SQUARE PYRAMIDAL	<180, <90	SP3D2