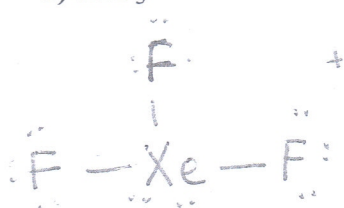


Department of Chemistry  
Chemistry 102\_Summer 1012-1013  
Quiz # 1

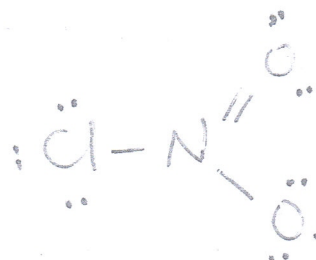
Name Key ID \_\_\_\_\_

**Q1.** Draw Lewis structures for (5 marks)

a)  $\text{XeF}_3^+$

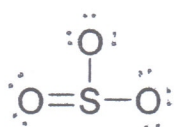


b)  $\text{Cl}-\text{NO}_2$

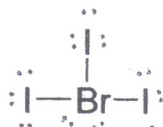


**Q2.** (13 marks)

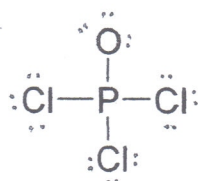
Consider the following Lewis structures



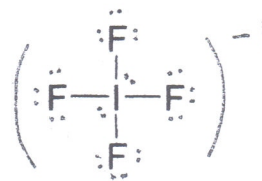
(A)



(B)



(C)



(D)

- i) The geometry of (A) is *trigonal planar*
- ii) The geometry of (B) is *T-shaped*
- iii) The geometry of (C) is *tetrahedron*
- iv) The OSO bond angle(s) in (A) is/are *120°*
- v) The FIF bond angle(s) in (D) is/are *90° & 180°*
- vi) The formal charge on P in (C) is *+1*
- vii) The formal charge on I in (D) is *-1*
- viii) The total number of resonance structures of (A) is *3*
- ix) The hybridization of S in (A) is *sp<sup>2</sup>*
- x) The hybridization of I in (D) is *sp<sup>3</sup>d<sup>2</sup>*
- xi) The structures the don't follow octet rule are *B & D*
- xii) The polar structures are *B, C and D*