



- Q-5**                    **Attempt all questions**    **(14)**  
A. Explain position of hydrogen in the periodic table and give its resemblance with alkali metals and halogen.    **(7)**  
B. Discuss the uses of hydrogen.    **(7)**
- Q-6**                    **Attempt all questions**    **(14)**  
A. Discuss the application of Noble gases.    **(7)**  
B. Explain VBT in detail.    **(7)**
- Q-7**                    **Attempt all questions**    **(14)**  
A. Discuss the structure of Ferrocene.    **(7)**  
B. Discuss the preparation and properties of XeF<sub>4</sub> and XeF<sub>6</sub>.    **(7)**
- Q-8**                    **Attempt all questions**    **(14)**  
A. Write a note on Nascent hydrogen.    **(5)**  
B. Explain preparation and properties of hydrogen.    **(5)**  
C. Calculate 18 e<sup>-</sup> and E.A.N rule in the following complexes.    **(4)**  
a) [Mn(CO)<sub>6</sub>]<sup>+</sup>    b) [Ti(CO)<sub>6</sub>]<sup>-2</sup>  
c) [Cu(CO)<sub>4</sub>]<sup>+</sup>    d) [Cr(CO)<sub>6</sub>]<sup>+</sup>

