

ANURAG GROUP OF INSTITUTIONS

(Autonomous)

Venkatapur (v), Ghatkesar (M), Medchal.Dist.

ASSIGNMENT TEST-1

I. B.Tech I semester (2019-20)

ENGINEERING CHEMISTRY

1. Discuss the molecular orbital diagram for the F_2 and N_2 molecule. Determine the bond order and magnetic character therein. (CO-1)(L2)
2. Discuss the pi-molecular orbital diagram of butadiene. (CO-1)(L2)
3. Discuss the pi-molecular orbital diagram of benzene. (CO-1) (L2)
4. Explain types of electronic transition and write applications of UV Visible spectroscopy. (CO-1) (L2)
5. Describe types molecular vibrations? Explain the selection rules of IR Spectroscopy
6. Predict the types of transition in the following molecules: (CO-1)(L2)
 $CH_2=CH_2$, CH_3COCH_3 , CH_4 , $CH_3-CH(OH)-CH_3$ CH_3-CH_2-Br
(CO-1) (L1)
7. Explain the EDTA method to estimate the hardness of water. (CO-2) (L2)
8. (a) Discuss sterilization and disinfection of water? (CO-2) (L1)
(b) One liter of water sample was found to have the following analysis.
 $Ca(NO_3)_2= 16.4mg$, $MgCl_2= 95mg$ and $CaSO_4= 13.6 mg$, Calculate the temporary, permanent and total hardness of water. (CO-2) (L3)