Subject: practical organic Synthesis
Code no. CHEM 420
Date: 19/7/ 2020

Answer All Questions

Fourth year: General Chemistry
Final examination 2nd semester
Time: 1 hrs.
(90 Marks)

Q1) Write briefly assay on the following :

i-All The steps used to prepare American red dye in your laboratory and the mechanistic equation used to this preparation .

ii-Describe the methods utilizing for dying a piece of cotton ,silk and wool comment on the fastness , dye intensity and the class (type)of your dying .

iii-If we replace aniline by 4-nitro aniline what the name of the obtained dye (write the mechanistic equation used).

iv) Calculate the yield % when 4gm of aniline was diazotized in presence of conc. HCl and sodium nitrite, then coupling with 8gm of β-naphthol to obtain 10gm of phenylazo-β-naphthol .

i- The theoretical principle utilizing in the synthesis of 1-phenyl-3-methyl pyrazolone , write the different steps and mechanistic equations of this preparation in the laboratory

ii) If you provided by 5.2 g of EAA and 4.32g of phenyl hydrazine calculate the yield of the obtained 1-phenyl-3-methyl pyrazolone product

ii) Describe the steps you use to purify the crude product you obtained and describe what do you do if the crystals is not precipitated on cooling .