

Total Pages - 3

UG/5th Sem/CHEM(H)/Pr/19

2019

B.Sc. (Honours)

5th Semester Examination

**CHEMISTRY**

Paper - C11-P

**Inorganic Chemistry - IV**

Full Marks : 20

Time : 3 Hours

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers  
in their own words as far as practicable.*

1. Estimate the amount of Ni (II) present in supplied solution marked by 'V' using Dimethylglyoxime (DMG). (15)
2. Laboratory Note Book (2)
3. Viva-voce (3)

[ Turn Over ]

**Procedure**

1. (a) The Gooch crucible is heated at 110-120°C in a hot air oven for about 45 minutes and then cooled in a desiccator for 20 minutes and weighed. It is repeated until last two weights differ by not more than 0.0002 g.
  
- (b) Transfer the supplied Ni(II) solution into a 500 ml beaker and then diluted to 150 ml by distilled water, heated to 70° - 80°C; then 2.5 ml of 1% ethanolic solution of DMG is added followed by dilute ammonia with constant stirring until the smell of NH<sub>3</sub> persists. Then allowed to stand on a steam bath for about 30 min. When the precipitate has settle down, a drop of dimethyl glyoxime is added to test complete precipitation. The beaker is allowed to stand for cooling and then filtered through a weighed Gooch crusible, the precipitate is washed with cold water for several times and dried in an oven at 110°-120°C for 45 min., cooled in a dessicator for 20 min. and then weighed. The process of heating, cooling and weighing is repeated until constant weight is obtained.

( 3 )

$$\text{Amount of Ni(II)} = \frac{(w_2 - w_1) \times 58.69}{288.69} \text{ g}$$

where,

weight of Gooch crucible =  $w_1$  g and weight of  
Gooch crucible + Nickel dimethyl glyoximate =  
 $w_2$  g

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