

2022

2nd Semester Examination

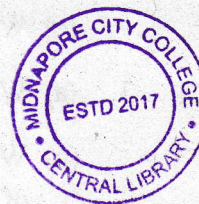
CHEMISTRY (Honours)

Paper : C 3-P

Inorganic Chemistry - I

[Practical]

[CBCS]



Full Marks : 20

Time: Three Hours

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers*

*in their own words as far as practicable.*

Group - A

Answer any *one* question :

1×5=5

1. (a)  $\text{H}_3\text{PO}_4$  cannot be directly titrated as a tri basic acid but can be indirectly so titrated in presence of  $\text{CaCl}_2$  — Why ? 2
- (b) 10 ml of (N)  $\text{Na}_2\text{CO}_3$  requires for neutralisation of 10 ml (N) HCl in presence of methyl orange but requires 5 ml of (N) HCl in presence of phenolphthalein — Why ? 3
2. (a) How do you prepare 2000 ml of 2(N) $\text{H}_2\text{SO}_4$  from conc.  $\text{H}_2\text{SO}_4$ ? 2

P.T.O.



- (b) What weight of anhydrous  $\text{Na}_2\text{CO}_3$  required to prepare 250 ml ( $\text{N}/10$ ) solution? Show by calculation. 2
- (c) What is an Acid-Base Indicator ? 1
3. (a) What is meant by acidimetry and alkalimetry ? 2
- (b) What is the role of phosphoric acid in the titration of Fe(II) versus  $\text{KMnO}_4$ ? 2
- (c) Which is a better oxidant  $\text{KMnO}_4$  or  $\text{K}_2\text{Cr}_2\text{O}_7$  in acid medium ? Explain. 1

**Group - B**

Answer any *one* question :  $1 \times 10 = 10$

4. Discuss the principle and methodology for estimation of Fe (III) and Cr (III) in a mixture using  $\text{K}_2\text{Cr}_2\text{O}_7$ . 10
5. Discuss the principle and methodology for estimation of Fe (III) and Mn (II) in a mixture using standardized  $\text{KMnO}_4$  solution. 10

**Group - C**

6. Laboratory Notebook 2

**Group - D**

7. Viva-voce 3

