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**Department of ……Chemistry….**

**College of ……Education…**

**University of ……Salahaddine……**

**Subject: P.Inorganic Chemistry......**

**Course Book – *Stage* 2 –**

**1st and 2nd Semester**

**Lecturer's name – Asst.Prof.Kamaran Basheer MSc**

**Academic Year: 2023/2024**

***Introduction***

Inorganic chemistry is the **study of the structures , properties,** behaviours and reactions of elements , mixtures e.g. in solutions , and chemical compounds that do not contain carbon-hydrogen bonds .

In some subject – areas of study and research the distinction between organic and inorganic chemistry is unclear and is said to overlap. For example , organometallic chemistry ( the study of chemical compounds whose molecules include bonds between carbon and a metal ) includes aspects of both inorganic chemistry and organic chemistry . However , most (and ofen all) of the chemistry normally studied at school level may be clearly defined as either organic or inorganic chemistry .

It is useful to understand what is inorganic chemistry in order to know which books or sections to us when researching chemistry questions , e.g. looking – up information in textbooks and via other sources and media . As much of introductory (school-level) inorganic chemistry is concemed with the chemical elements, a convenient way to identify key topics within introductory inorganic chemistry is using the periodic table . The periodic table is structured in such a way as to group together elements whose structures follow certain patterns and so have particular properties in common .

**CONTENTS**

1-Week(1) – Purification of sodium chloride (Table salt)

2-Week(2)- Finding the ability of solubility of potassium dichromate in the water in different temperatures

3-Week(3)- Fractional crystallization of salts-preparation of potassium dichromate.

4-Week(4)- Preparation of Barium peroxide .

5-Week(5)- Preparation of potassium aluminium sulphate (Alum) .

6-Week(6)-Preparation of stannic iodide SnI4 .

7-Week(7)- Determination of iodide in stannic iodide .

8- Week(8)- Preparation of Barium thiocyanate .

9- Week(9)- Phosphorus chemistry.

10-Week(10)- Preparation of diammine-mercuric chloride

11-Week(11)- preparation of sodium hydroxide by cosak method

12-Week(12)-preparation of sodiumthiosulfate pentahydrate

13-Week(13)- preparation of Oxygen gas

14-Week(14)- preparation of Hydrogen gas

15-Week(15)- preparation of carbon dioxide gas

16-Week(16)- preparation of Ammonia gas

17-Week(17)- preparation of Nitrogen gas

18-Week(18)- preparation of sulfur dioxide gas

19-Week(19)- preparation of carbon monoxide gas

20-Week(20)- preparation of Hydrogen sulfide gas

References

1-Experimental inorganic chemistry , by W.C.palmer , Cambridge press ,1965.

2-Practical inorganic chemistry by J.Mare and Brocate 1985 .

3-Practical inorganic chemistry , by Issam J.sallomi university of Mosul 4-Introduction to modern inorganic chemistry , K.M.Mackay and R.Ann mackay , London, 1973.

5-Chemical bonds : An introduction to atomic and molecular structure by harry B.gray , California institute of technology , 1984 .

6- Practical inorganic chemistry , by Dr.bassim M.saade Baghdad university 1987.

7-Modern inorganic chemistry by William L.jolly ,McGraw-Hill Book company 1st printing 1985.