

L- SCHEME**II- SEMESTER****ENGINEERING CHEMISTRY PRACTICAL-II****OBJECTIVES:**

1. At the end of the program the Student will be able to identify the Acid and basic radicals present in the given Inorganic simple salt.
2. To analyse the given effluent and to find out the presence of heavy metal ion present in it.
3. To study about the harmful effect of the effluent.

SCHEME OF INSTRUCTIONS AND EXAMINATIONS

Subject	Instructions		Examination			
	Hours/ Week	Hours/ Semester	Internal assessment/ Record	Board Examination	Total Marks	Duration of Examination
Engineering Chemistry Practical-II	3	48	25	75	100	3 Hours

Internal Assessment / Record: 25 Marks

Examination Evaluation:

1.	Analysis of Inorganic simple salt.	50 Marks
2.	Analysis of Effluent	20 Marks
3.	Viva –Voce	5 Marks
Total		75 Marks

L- SCHEME, SEMESTER- II
CHEMISTRY PRACTICAL –II

Practical: Content

Intellectual Skills:

1. Study the effect of heating on materials and reagents.
2. Study of the reactions of the following radicals leading to qualitative analysis of the given Inorganic simple salt soluble in water or dilute acids.

Acid radicals: Chloride, Carbonate, Sulphate and Nitrate.

Basic radicals: Lead, Copper, Aluminium, Zinc, Barium, Calcium, Magnesium and Ammonium.

Motor Skills:

1. Handling the apparatus Care fully.
2. Industrial safety.

I. ANALYSIS OF INORGANIC SIMPLE SALT:

The Students may be asked to analyse ten inorganic simple salts containing any one of the acid and basic radicals in each salt without omitting any of the above mentioned radicals and write the analysis in record book mentioning the name of the salt.

II. Analysis of effluents containing the following metal ions - Lead, Copper, Cadmium and Zinc.

Students may be given above four pollutants, in four separate test tubes in solution form and asked to report metallic pollutants with procedure (Basic Radical Analysis Procedure) and their harmful effects.

SCHEME OF VALUATION

I. QUALITATIVE ANALYSIS:-

- | | |
|--|--------------|
| 1. Identification of Acid radical with systematic procedure | - 23 Marks |
| 2. Identification of Basic radical with systematic procedure | - 23 Marks |
| 3. Name of the Simple Salt | - 4 Marks |
| (Mere Spotting of radicals without complete procedure) | - 3+3 Marks) |

Effluent analysis:-

- | | |
|---|------------|
| 1. Identification of Metallic pollutant with systematic procedure | - 15 Marks |
| 2. Harmful effects | - 5 Marks |
| (Spotting Pollutant) | - 3 Marks) |
| 3. Viva-Voce | - 5 Marks |
| Total | - 75 Marks |

Reference Books:

1. Vogel- Analytical chemistry- Pearson publication.
2. Dr. Sudharani- Laboratory manual on engineering of chemistry

MODEL QUESTION PAPER

1. Analyse the given Inorganic Simple Salt and report the acid radical and basic radical present in it. Record your observations. Name the chemical substance.
2. Analyse the given sample of effluent and report the metallic pollutant with procedure and its harmful effects.

Note: All the students are given same Questions and each student is given different Inorganic simple salt and different effluents.
