CHEMISTRY PRACTICALS FOR Ist YEAR ENGINEERING 2022

INSTRUMENTAL:

1. Conductometric estimation of acid mixture.
2. Potentiometric estimation of FAS using $K_2Cr_2O_7$.
3. Determination of pKa of vinegar using pH meter.
4. Estimation of Copper present in solution by colorimetry.
5. Determination of Viscosity coefficient of liquid using Ostwald's viscometer.

NON-INSTRUMENTAL:

1. Estimation of total hardness of water by EDTA method.
2. Estimation of calcium in cement by EDTA method.
3. Estimation of copper present in brass by Iodometric method.
4. Estimation of iron in haematite ore by external indicator method.
5. Determination of Chemical Oxygen Demand (COD) of industrial waste water sample

SCHEME OF VALUATION

Sub: Engg. Chemistry Lab **Sub.Code: 21UCYL100/200**

Description	Max. Marks	Part A Marks	Part B Marks
Procedure write up	16	08	08
Conduction Accuracy	16	08	08
Calculation, Graph works and Result	10	05	05
Viva-Voce	08	Common to both parts	

PART – A: INSTRUMENTAL

Potentiometry Conductometry,Colorimetry And Flame Photometry		Pka, Viscosity	
Error (cm^3)	Marks	Error (%)	Marks
± 0.5	08	± 5.0	08
± 0.6	07	± 5.1 to 6.0	07
± 0.7	06	± 6.1 to 7.0	06
± 0.8	05	± 7.1 to 8.0	05
± 1.0	04	± 8.1 to 10.0	04
> ± 1.0	Zero	> ± 10.0	Zero
Graph : 03 marks Calculation :02 marks		Pks : One Graph : 05 Marks Viscosity: Calculation:05 Marks	

PART – B: VOLUMETRY

Hardness of water, Ca in cement, Cu in Brass, Fe in Heamatite and COD		Dissolved Oxygen	
Error (cm^3)	Marks	Error (cm^3)	Marks
± 0.2	8 + 8	± 0.4	8 + 8
± 0.3	7 + 7	± 0.5	7 + 7
± 0.4	6 + 6	± 0.6	6 + 6
± 0.5	5 + 5	± 0.7	5 + 5
± 0.6	4 + 4	± 0.8	4 + 4
> ± 0.6	Zero	> ± 0.8	Zero
Calculation: 05 marks Note: Best **TWO TITRE** values should be considered for valuation			

Instructions to the Examiners:

1. Different experiments should be set under Part-B for each batch in a day.
2. Under no circumstances, same experiment shall be set for more than 2 candidates in a batch under part-A.
3. Allotment of Part-A experiments to the students, strictly by the lot systems.
4. In the first ten minutes, students should write the outline of the procedure of the experiments to be performed (both part-A & part-B) in Main answer sheet.
5. Change of experiment can be permitted for only one time under Part-A, subject to the condition of deduction of 10 marks and having a change of experiment following strictly by lot system.
6. After collecting the write up procedure for the experiments of Part-A and Part-B, Supplement answer sheet should be issued to the students.
7. Procedure of the experiments should not be provided during examination.
8. Permitted to perform maximum three titrations under Part-B.
9. Over write values should not be considered for valuation.
10. Examiners should observe and put initial for the readings of the experiments.
11. Weight of the substance under Part-B should be different for each student and weight of the substance should be given to the students only after confirming the initials for all the three titre values.
12. Blank titre value for COD experiment under Part-B should be given to the students by the examiners.

IQAC Members HOD

CTA ASSIGNMENT -2022

USN: 2 S D

Roll No: ..... Div. .....

SDM College of Engineering & Technology, Dharwad – 2

Department of Chemistry

Assignment - I

Semester & Branch: II Sem., Common to all div. Date: 20-06-2022

Course Code & Title: 18UCYC200 & Engineering Chemistry Submission date: 25-06-2022

Course Instructors: Dr. AAK, Dr. NS, Prof. AT, Prof. SN Max. Marks: 04

1. What are reference electrodes? Explain the construction and working of calomel electrode.
2. Explain the construction and working of Silver-Silver chloride electrode.
3. What is ion selective electrode? How the potential is derived for such electrode.
4. What is glass electrode? Explain the principle of glass electrode and its construction.
5. Explain with a neat diagram the determination of pH value of a solution using glass electrode.

Report:

- The above said questions were given in the form of assignment. Students are learning the theoretical part of these topics in the class and do the experiment of calculation of calculation of pH value of a solution using glass electrode in the laboratory session.
- They are using Calomel electrode, Silver-silver electrode in the experiment.
- After recording the observations they plot the graph and calculate the pH value.
- Out of 330 students registered, 324 students

Course Instructors: 1)

2).

3)

4)

HOD