



EASTERN UNIVERSITY, SRI LANKA
THIRD YEAR SECOND SEMESTER EXAMINATION IN SCIENCE
2020/2021 (JULY/AUGUST - 2024)

CH3091 PHYSICAL CHEMISTRY LABORATORY-II
GROUP II

Time: 03 Hours

1. Carry out the following experiments and answer the questions below

- i) Prepare aqueous solutions of acetic acid into numbered stoppered bottles following the scheme given in the table. The total volume of each solution is **60 ml**.

Stoppered bottle No.	Volume of acetic acid (ml)	Volume of distilled water (ml)
1	35	25
2	40	20
3	45	15
4	50	10
5	55	05
6	60	0

- ii) Place 2.0 g of charcoal weighed as accurately into numbered stoppered bottles.
- iii) Shake the bottles well and periodically for 15 -20 minutes.
- iv) Once the solutions in the stoppered bottles have reached equilibrium, filter the charcoal solution (discard the first 10 ml of filtrate)
- v) Add 2-3 drops of phenolphthalein and titrate 10.0 ml of these solutions by 0.1 M NaOH.

Contd.

(a) Tabulate your readings

- i) Using your titration data, for each sample:
 - I. *Calculate* the number of moles of acetic acid in the solution before adsorption.
 - II. *Calculate* the number of moles of acetic acid in the solution after adsorption.
- ii) *Determine* moles of Acetic Acid in 2.0 grams of Charcoal for each sample
- iii) *Plot* the Freundlich isotherm and determine Freundlich parameters

End of paper