

KATWA COLLEGE
DEPARTMENT: CHEMISTRY

INTERNAL ASSESSMENT EXAMINATION – 2022

SEMESTER-V (HONS.)

PAPER: DSE-2

FULL MARKS: 10

TIME: 30 MINS

Answer the following questions (*any four*)

2.5×4=10

1. Calculate the mean and the standard deviation of the following set of analytical results: 15.67, 15.70, and 16.03 g.
 2. Assuming a linear relationship exists between E and pCa, derive a least-squares expression for the best straight line through the following points:
(pCa, E in mV) : (5.00, -53.8); (4.00, -27.7); (3.00, +2.7); (2.00, +31.9); (1.00, +65.1).
 3. Write down the significance of ϵ .
 4. Explain the nature of the curve (conductance vs titrant) obtained in conductometric titration when we titrate a mixture of HCl and CH₃CO₂H by NaOH solution as titrant.
 5. Write down the expressions of sample mean, population mean, sample standard deviation and population standard deviation.
 6. 20 mg mixture of CaCO₃ and MgCO₃ are heated up to 600°C and observed 22% of weight loss near 400°C in thermogravimetric analysis. What is the ratio of Ca/Mg in the mixture?
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