


RAN-2303080201060002
M.Sc. (Sem. I) Examination November - 2025
**Chemistry - Skill Enhancement Course : Chemicals : Solutions and Safety
(Paper - V)**
Time: 2 Hours]
[Total Marks: 30

સૂચના : / Instructions (1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી. Fill up strictly the above details on your answer book.	Seat No.: <table border="1" style="width: 100%; height: 30px; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> Student's Signature						

Q. 1. Answer any THREE of the following : (15)

- a) Define the following terms that are used to express concentration of solution
(1) % W/W (2) % W/V (3) % V/V (4) Mole fraction
- b) Differentiate Primary and Secondary standards.
- c) How is 0.1 M EDTA solution is prepared and standardised ? Discuss various types of complexometric titration by using EDTA.
- d) (i) From the following four different concentrate solution which one give the Highest P^H (1) 0.1 M H_2SO_4 (2) 0.1 M NaOH (3) 1 N NaOH (4) 1 N HCl.
(ii) How many gram of anhydrous oxalic acid required to prepare 0.1 N, 250 ml solution.

Q. 2. Answer any THREE of the following : (15)

- a) Write a note on behaviour based safety.
- b) Write a note on laboratory ventilation.
- c) Discuss , How chemical fire is controlled due to flammable liquids, solvents and petroleum products ?
- d) Discuss safety parameters for chemical storage and chemical segregation.