

Enroll. No.

K. E. Society's
Rajarambapu Institute of Technology, Rajaramnagar
 (An Autonomous Institute, affiliated to Shivaji University, Kolhapur)

Q.P. Code
NT 3480

UNIT TEST – 01

First Year B. Tech. SEMESTER– I

Course: Engineering Chemistry

Course Code: SH1037

Day & Date: Wednesday and 15/10/2025

Max Marks: 25

Time: 2:30 pm to 3.30 pm

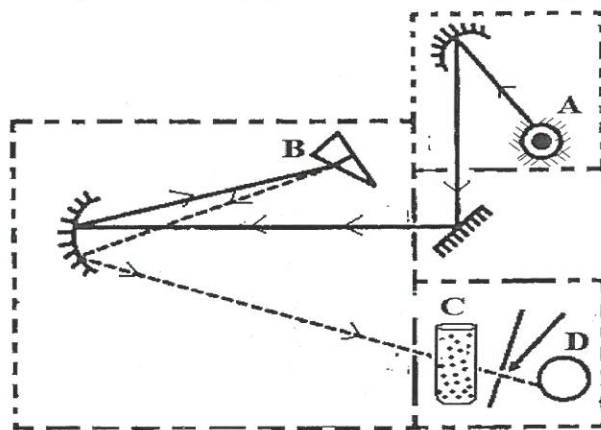
- Instructions:**
- All questions are compulsory.
 - Figures to the right indicate full Marks.
 - Use of non-programmable calculator is allowed.

		Marks	BT Level	COs
Q.1	A	5	1	1
	B	3	1	1

OR

C	Explain sedimentation process in brief.	4	2	1
	One litre of water collected from Sangli District in Maharashtra showed the following analysis: $\text{Mg}(\text{HCO}_3)_2 = 7.3$ mg, $\text{Ca}(\text{HCO}_3)_2 = 16.2$ mg, $\text{CaSO}_4 = 20.4$ mg, and $\text{MgSO}_4 = 3$ mg. Calculate temporary, permanent and total hardness in terms of CaCO_3 . (Given Mol. Mass, $\text{Mg}(\text{HCO}_3)_2 = 146$, $\text{Ca}(\text{HCO}_3)_2 = 162$, $\text{MgSO}_4 = 120$, $\text{CaSO}_4 = 136$ ppm.)			

Q.2	A	5	2	2
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B	Discuss advantages of instrumental methods over non-instrumental methods.	4	1	2
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OR

C	How unknown concentration of a solution is determined? State & derive Beer's law.	4	2	2
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