

Enroll. No.

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

Q.P. Code
UT 3478

**UNIT TEST – 02**

**First Year B. Tech. SEMESTER– I**

**Course: Engineering Chemistry**

**Course Code: SH1037**

**Day & Date: Thursday and 27/11/2025**

**Time: 11:45 am to 12.45 pm**

**Max Marks: 25**

**Instructions:** 1) All questions are compulsory.

2) Figures in rounded( ) brackets within the question, indicate the scheme of marking for respective part of the question, whereas, figures in the first right column indicate total marks for that whole question.

3) CO is the index number of the Course Outcome statement.

4) The Bloom's taxonomy level (BL) for 1,2,3,4,5 and 6 is remember, understand, apply, analyze, evaluate and create respectively.

5) Assume suitable data if necessary.

6) Use of non-programmable calculators is allowed

			Marks	BT Level	COs
<b>Q.1</b>	<b>A</b>	Demonstrate the synthesis of polyaniline and describe its properties. Write technological uses of polyaniline.	5	2	3
	<b>B</b>	Define conducting polymers in precise terms. Distinguish between p-doped and n-doped conducting polymers.	4	1	3
	<b>C</b>	Identify four purposes for preparing an alloy and link each purpose to a suitable example.	4	2	3
<b>OR</b>					
	<b>C</b>	Describe the preparation procedure of POP and write its functional uses in various fields.			
<b>Q.2</b>	<b>A</b>	Describe key properties of carbon nanotubes (CNTs) and match each property to a specific application where that property is required.	5	2	4
	<b>B</b>	List measurable properties of graphene.	3	2	4
<b>OR</b>					
	<b>B</b>	Explain approaches used for synthesizing nanomaterials. Provide a clear diagram representing each approach.			
	<b>C</b>	State four distinct properties of nanomaterials and describe how each property differs from the corresponding bulk material behaviour.	4	1	4

