

Course Name: **Industrial and Engineering Chemistry-I**, Course Code: **201CHL202**

Seat No:

**Day and Date: Wednesday, 18.01.2023**

**Time: 2.00 pm to 4.00 pm**

**Max. Marks- 50**

**Instructions:**

- i. Question No. 1 & 2 is compulsory.
- ii. Figure to the right indicate full marks.
- iii. Give suitable general Instructions
- iv. Any other Course Specific Instructions.
- v. No questions should repeat from MSE/ISE

BT	CO's	Q. .		Marks
		<b>Q.1</b>	<b>All Questions are compulsory</b>	<b>20</b>
<b>1,2</b>	<b>CO1</b>	<b>a</b>	Derive an expression for First order reaction. Give one example.	<b>6M</b>
<b>1,2</b>	<b>CO2</b>	<b>b</b>	Explain in detail Phase transfer catalysis and Enzyme catalysis.	<b>7 M</b>
<b>1,2</b>	<b>CO3</b>	<b>c</b>	Discuss is Gibbs Phase Rule? Explain Sulphur system with neat diagram.	<b>7 M</b>
		<b>Q.2</b>	<b>All Questions are compulsory</b> (internal sub question permitted for optional questions either a or b)	<b>10</b>
<b>1,2</b>	<b>CO4</b>	<b>a</b>	Explain structure, formation and stability of Carbon free radicals.	<b>4</b>
<b>1,2</b>	<b>CO4</b>	<b>b</b>	Describe Substitution reaction and its mechanism with suitable example. <b>OR</b>	<b>6</b>
<b>1,2</b>	<b>CO4</b>	<b>b</b>	Explain Addition reaction with suitable example	<b>6</b>
		<b>Q.3</b>	<b>All Questions are compulsory</b> (internal sub question permitted for optional questions either a or b)	<b>10</b>
<b>1,2</b>	<b>CO5</b>	<b>a</b>	Enlist qualities of good dyes	<b>3</b>
<b>1,2</b>	<b>CO5</b>	<b>b</b>	Describe dyes? Explain Witt's theory of color and constitutions. <b>OR</b>	<b>7</b>
	<b>CO5</b>	<b>b</b>	Explain Diazotization and Diazo coupling	<b>7</b>
		<b>Q.4</b>	<b>Attempt any two out of three questions</b>	<b>10</b>
<b>1,2</b>	<b>CO6</b>	<b>a</b>	Discuss reduction of nitro compounds and its mechanism.	<b>5</b>
<b>1,2</b>	<b>CO6</b>	<b>b</b>	Explain preparation of nitro compounds.	<b>5</b>
<b>1,2</b>	<b>CO6</b>	<b>C</b>	Describe chemical properties of nitrobenzene.	<b>5</b>