Roll No.												

PRESIDENCY UNIVERSITY

BENGALURU

Mid - Term Examinations – October 2025

Date: 29-10-2025 **Time:** 11.00am to 12.30pm

School: SOE	**Program:** B.Tech	
Course Code : CHE2503	**Course Name:** Applied Chemistry for Engineers	
Semester: I	**Max Marks**: 50	**Weightage**: 25%

CO - Levels	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Marks	**24**	**26**	**--**	**--**	**--**

Instructions:

(i) Read all questions carefully and answer accordingly.

(ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks. **5Q x 2M=10M**

1	In which type of semiconductors, the condition '$n_e=n_h$' is true?	**2 Marks**	**L1**	**CO1**
2	Write any two applications of compound semiconductors.	**2 Marks**	**L1**	**CO1**
3	Give an example of organic molecule which behaves as n-type semiconductor along with structure.	**2 Marks**	**L1**	**CO1**
4	Mention two basic requirements of a liquid crystal.	**2 Marks**	**L1**	**CO2**
5	What are electroactive materials?	**2 Marks**	**L1**	**CO2**

Part B

Answer the Questions. **Total Marks 4Q x 4=40M**

6.		With the help of band diagrams explain the classification of solids as metal, semiconductor and insulator.	**10 Marks**	**L2**	**CO1**
		Or			
7.		Explain the process of doping and its effect by taking the n-type and p-type semiconductors.	**10 Marks**	**L2**	**CO1**

8.		Explain the Czochralski process for the synthesis of monocrystalline Silicon.	**10 Marks**	**L2**	**CO1**
		Or			
9.		For Silicon, the band gap energy is E_g=1.12 eV, (a) Calculate the ratio n/N at T=350 K (b) Calculate the ratio n/N at T=450 K.	**10 Marks**	**L3**	**CO1**

10.		What are memory devices? Classify and compare the electronic memory devices w.r.t. materials, condition along with example.	**10 Marks**	**L3**	**CO2**
		Or			
11.		Explain the criteria for organic and polymeric semiconductor materials in memory systems.	**10 Marks**	**L2**	**CO2**

12.		Explain light emitting electrochemical cell (LEC) with schematic representation. Write their properties and applications.	**10 Marks**	**L2**	**CO2**
		Or			
13.		List out the differences between LCD and LED considering different conceptual aspects.	**10 Marks**	**L2**	**CO2**