Roll No.												

PRESIDENCY UNIVERSITY

BENGALURU

Mid - Term Examinations – October 2025

Date: 09-10-2025 **Time:** 09.30am to 11.00am

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 2 marks. **5Q x 2M=10M**

1	What is an intrinsic semiconductor?	**2 Marks**	**L1**	**CO1**
2	Write any two examples for compound semiconductors.	**2 Marks**	**L1**	**CO1**
3	Give an example of organic molecule, which behaves as p-type semiconductor along with structure.	**2 Marks**	**L1**	**CO1**
4	What is thermotropic liquid crystal?	**2 Marks**	**L1**	**CO2**
5	Write any four advantages of LED.	**2 Marks**	**L1**	**CO2**

Part B

Answer the Questions. **4Q X 10M = 40M**

6.		List out the differences between metal, insulator and semiconductor considering different parameters.	**10 Marks**	**L2**	**CO1**
		Or			

7.		Describe chemical, electronic properties and applications of Indium Phosphide (InP).	**10 Marks**	**L2**	**CO1**

8.		Explain the Float Zone (FZ) for the synthesis of monocrystalline Silicon.	**10 Marks**	**L2**	**CO1**
		Or			
9.		Assuming that the number of electrons near the top of the valence band available for conduction is $6 \times 10^{25}/m^3$ and the number of electrons exited to conduction band is $4.5 \times 10^{19}/m^3$, calculate the energy gap of Ge at 298K.	**10 Marks**	**L3**	**CO1**

10.		Discuss in detail the organic - inorganic hybrid materials used in memory systems along with suitable examples.	**10 Marks**	**L3**	**CO2**
		Or			
11.		Explain the criteria for organic and polymeric semiconductor materials in memory systems.	**10 Marks**	**L2**	**CO2**

12.		Explain in detail the working principle of LCD.	**10 Marks**	**L2**	**CO2**
		Or			
13.		What are OLEDs? Mention the properties and applications of OLEDs.	**10 Marks**	**L2**	**CO2**