

# LNCT UNIVERSITY, BHOPAL

Enrolment No.....

**CS-101**

**B.TECH I & II SEMESTER  
EXAMINATION [JUNE-2025]  
ENGINEERING CHEMISTRY & LIFE SCIENCES**

**Maximum Marks: 70**

**Time Allowed: 3 Hours**

**Note:- Attempt all questions Internal choices are given.**

**(SECTION -A)**

**1. Short Answer Type Questions (Attempt Any Five)**

**[5x6=30]**

- i. What is the principle of EDTA method? Explain the estimation of total hardness of Water by complexometric method..
- ii. Discuss method for determination of alkalinity in given water sample.
- iii. Explain following properties of lubricants giving their significance: (i) Viscosity Index (ii) Flash point and fire point
- iv. Explain determination of calorific value by Bomb Calorimeter.
- v. Describe two carbon units in biomolecules.
- vi. Explain Mendel's law of inheritance and gene mapping.

**(SECTION -B)**

**2 Long Answer Type Questions (Attempt Any Four)**

**[04x10=40]**

- i. Differentiate between hard water and soft water. What is meant by hardness of water ? Write various units to express hardness of water giving their relationship.
- ii. What is lubrication ? Give classification of lubricants. Discuss mechanism of lubrication.
- iii. What do you mean by Lipids? Explain its different forms with examples.
- iv. Explain Knocking and Relationship between knocking & structure of hydrocarbon.
- v. Explain Monomeric units and Polymeric structures: of Sugars and Starch and Cellulose.
- vi. Explain Recombinant DNA Technology, Genetic disorders in humans.