**Heaven’s Light is Our Guide**



*Department of Computer Science & Engineering*

*Rajshahi University of Engineering & Technology*

Lab Manual

**Course Title:** Sessional based on CSE 4119

**Course No.**: CSE 4120

**Credit:** 0.75

**Reference Book:**

[1] Jiawei Han, Micheline Kamber, and Jian Pei, “Data Mining: Concepts and Techniques”

**Dataset:** Wine Dataset (Source: <https://archive.ics.uci.edu/dataset/109/wine>)

* Features: 13 chemical properties of wines
* Target (hidden for clustering): 3 wine cultivars
* Perfect for multi-dimensional clustering; let's see how clustering separates natural groups.

**Experiments/Problems:**

**[Week 6]** Clustering with k-Means and Hierarchical Methods

**Objective:** Perform unsupervised learning.

**Topics:** Elbow method, dendrograms.

**Tasks:**

* Cluster Iris or customer data using k-means.
* Visualise clusters and evaluate with the silhouette score.
* Build and plot a dendrogram.