| SCHOOL OF C                |              | DEPARTMENT OF COMPUTER SCIENCE<br>ENGINEERING |                    |                        |
|----------------------------|--------------|---|--------------------|------------------------|
| Program Name: B. Tech      |              | Assignment Type: Lab                          |                    | Academic Year: 2025-26 |
| Course Coordinator Name    |              | Dr. Vairachilai Shenbagavel                   |                    |                        |
| Instructor(s) Name         |              | Srinivas Komakula                             |                    |                        |
| Course Code                | 23CA201SE402 | Course Title                                  | Explainable AI (P) |                        |
| Year/Sem                   | III/V        | Regulation                                    | R24                |                        |
| Date and Day of Assignment | 21-08-2025   | Time(s)                                       | 09:00AM -05:00PM   |                        |
| Duration                   | 2 Hours      | Applicable to<br>Batches                      | 23CSBTB33          |                        |

**Assignment Number: 3** 

| Q. No. | Question   | Expected Time to complete |
|--------|--|---------------------------|
| 1      | <b>Problem 1: Titanic Assignment Survival Prediction</b> |                           |

## **Problem Statement:**

Titanic dataset predicts survival. LIME explains individual outcomes.

### Tasks:

- 1. Load Titanic dataset
- 2. Train Gradient Boosting
- 3. Apply LIME
- 4. Visualize probabilities
- 5. Write analysis

## **Deliverables:**

- Code
- Outputs
- Report 200 words
- 2 Assignment Problem 2: Diabetes Prediction

# **Problem Statement:**

Diabetes dataset predicts diabetic vs non-diabetic. LIME highlights medical risk factors.

#### Tasks:

- 1. Load Diabetes dataset
- 2. Train Logistic Regression
- 3. Explain with LIME
- 4. Visualize contributions
- 5. Interpret results

## **Deliverables:**

- Code
- Outputs
- Medical interpretation