# Department of Computer Technology

### Vision of the Department

To be a well-known centre for pursuing computer education through innovative pedagogy, value-based education and industry collaboration.

### Mission of the Department

To establish learning ambience for ushering in computer engineering professionals in core and multidisciplinary area by developing Problem- solving skills through emerging technologies**.**

## Session 2025-2026

**Mission:** Means to achieve Vision

**Vision:** Dream of where you want.

**Program Educational Objectives of the program (PEO):** (broad statements that describe the professional and career accomplishments)

|  |  |  |  |
| --- | --- | --- | --- |
| PEO1 | **Preparation** | **P: Preparation** | **Pep-CL abbreviation**  **pronounce as Pep-si-lL easy to recall** |
| PEO2 | **Core Competence** | **E: Environment (Learning Environment)** |
| PEO3 | **Breadth** | **P: Professionalism** |
| PEO4 | **Professionalism** | **C: Core Competence** |
| PEO5 | **Learning**  **Environment** | **L: Breadth (Learning in diverse areas)** |

**Program Outcomes (PO):** (statements that describe what a student should be able to do and know by the end of a program)

## Keywords of POs:

Engineering knowledge, Problem analysis, Design/development of solutions, Conduct Investigations of Complex Problems, Engineering Tool Usage, The Engineer and The World, Ethics, Individual and Collaborative Team work, Communication, Project Management and Finance, Life-Long Learning

**PSO Keywords:** Cutting edge technologies, Research

“I am an engineer, and I know how to apply engineering knowledge to investigate, analyse and design solutions to complex problems using tools for entire world following all ethics in a collaborative way with proper management skills throughout my life.” *to contribute to the development of cutting-edge technologies and Research*.

**Integrity:** I will adhere to the Laboratory Code of Conduct and ethics in its entirety.

## Name and Signature of Student and Date

(Signature and Date in Handwritten)

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| **Session** | **2025-26 (ODD)** | **Course Name** | **PE-I - Geo-Intelligence for Smart IoT Devices Lab** |
| **Semester** | **5** | **Course Code** | **23IOT1523** |
| **Roll No** | **71** | **Name of Student** | **Vedant Yerne** |

|  |  |
| --- | --- |
| Practical Number | Practical no . 2 |
| Course Outcome | Apply and demonstrate the use of proprietary and open-source GIS tools (e.g., QGIS) for creating, visualizing, and managing spatial datasets. |
| Aim | **Download a shapefile, inspect metadata, and reproject it to a different CRS.** |
| Problem Definition | The task involves downloading a shapefile, inspecting its metadata to analyze spatial reference and attribute information, and accurately reprojecting it to a different Coordinate Reference System (CRS). |
| Theory (100 words) | **Shapefile Definition:** A shapefile is a widely used vector format in Geographic Information Systems (GIS) designed to store the geometry and associated attributes of spatial features like points, lines, and polygons..  **Type of extension**  ** .shp — Shapefile (geometry)**  ** .shx — Shapefile index**  ** .dbf — Shapefile attribute data**  ** .prj — Shapefile projection info**  ** .geojson — GeoJSON format**  ** .kml — Keyhole Markup Language (Google Earth)**   |  |  | | --- | --- | |  |  | |
| Procedure and Execution  (100 Words) | Implementation Steps:  **📍 How to Add a Shapefile Layer in GIS Software:**  **1️⃣ Launch your GIS application (such as QGIS or ArcGIS).**  **2️⃣ Go to the menu and choose Add Layer → Add Vector Layer.**  **3️⃣ Navigate to the folder containing your shapefile:**   * **Select the .shp file** * **Make sure the accompanying .shx and .dbf files are present**   **4️⃣ Click Open or Add to load the layer.**  **5️⃣ The shapefile will now be displayed on the map canvas and listed in the Layers panel.**  **✅ The layer is ready for visualization, editing, or styling.** |
| Stepwise Screenshots with steps: |
| Output Analysis | A shapefile was downloaded, its metadata reviewed to assess spatial reference and attribute details, and it was accurately reprojected to a new Coordinate Reference System using QGIS, showcasing the practical application of GIS tools in handling and visualizing spatial data. |
| Link of student |  |

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| --- | --- |
| Github profile where lab assignment has  been uploaded |  |
| Conclusion | **Download a shapefile, inspect metadata, and reproject it to a different CRS successfully completed** |
| Plag Report (Similarity index < 12%) |  |
| Date | 29/07/25 |