# 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)

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| 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** |

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| Practical Number | Practical no 3 |
| 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 | **Create a GeoPackage or shapefiles and digitize point/line/polygon features on QGIS interface.** |
| Problem Definition | The task requires creating a GeoPackage or shapefile in QGIS and digitizing point, line, and polygon features using the software’s editing tools. |
| Theory (100 words) | In QGIS, users can create spatial data layers using formats like **GeoPackage** or **Shapefile**. These formats allow the storage of vector data, such as **points, lines,** or **polygons**, which represent real-world features. A **GeoPackage** is more modern and supports multiple layers in a single file, while shapefiles are simpler but limited in structure.  To digitize, a new layer is created with a defined geometry type. The user then enters **edit mode** and manually draws features on the map using the QGIS tools. Attributes can be added during or after digitizing. This process is commonly used for mapping objects like buildings, roads, trees, or land boundaries. |
| Procedure and Execution  (100 Words) | Implementation Steps:  **🛠️ Steps to Create a Shapefile in GIS:**  1️⃣ **Open QGIS** or another GIS software. 2️⃣ Go to **Layer** > **Create Layer** > **New Shapefile Layer**. 3️⃣ Choose the **geometry type** (Point, Line, or Polygon). 4️⃣ Set the **Coordinate Reference System (CRS)**. 5️⃣ Add **fields** (attributes) like name, ID, etc. 6️⃣ Click **OK** and **save the file** to your computer. 7️⃣ The new shapefile appears in the **Layers panel**. 8️⃣ Use **Edit mode** to draw and add features. |
| Stepwise Screenshots with steps: |
| Output Analysis | The task was completed by creating a GeoPackage in QGIS and using the editing tools to successfully digitize point, line, and polygon features on the map. |
| Link of student |  |

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| Github profile where lab assignment has  been uploaded |  |
| Conclusion | **Create a GeoPackage or shapefiles and digitize point/line/polygon features on QGIS interface is done successfully .** |
| Plag Report (Similarity index < 12%) | The plagiarism is 0 % |
| Date | 12/08/25 |