# 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 |

|  |  |
| --- | --- |
| Practical Number | Practical no 6 |
| **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 | Collect real time GPS coordinates (5–10 points) using a mobile GPS app and import into QGIS. |
| Problem Definition | Every student has to use their own ideology here. |
| Theory (100 words) | Collecting real-time GPS points is a simple process. You can use a mobile app like **SW Maps** or **GPS Logger** to record your exact location using your phone’s GPS. As you move, the app saves each spot with its **latitude** and **longitude**. After collecting 5–10 points, you can save the file in formats like **GPX**, **KML**, or **CSV** and transfer it to your computer. Then, open it in **QGIS** software to see your locations as points on a map. In QGIS, you can view, name, and analyze these points to understand distances, patterns, or map important places easily. |
| Procedure and Execution  (100 Words) | Implementation Steps:  **Procedure:**   1. **Install a GPS App:** Download a GPS tracking app such as **SW Maps**, **GPS Logger**, or **Geo Tracker** from the Play Store. 2. **Enable GPS:** Turn on your phone’s location (GPS) service for accurate data collection. 3. **Open the App:** Launch the GPS app and create a new project or data collection session. 4. **Collect Points:** Go to different locations and record 5–10 GPS points. Each point will have a **latitude**, **longitude**, and sometimes **altitude** value. 5. **Add Details:** You can name or describe each point (for example, “School,” “Temple,” “Park,” etc.). 6. **Save the Data:** Save your recorded points in a suitable format — **GPX**, **KML**, or **CSV**. 7. **Transfer the File:** Send the saved file to your computer using **Bluetooth**, **Email**, **USB**, or **Google Drive**. 8. **Open QGIS:** Launch **QGIS** on your computer. 9. **Import the Data:**    * Go to **Layer → Add Layer → Add Vector Layer**.    * Browse and select your saved GPS file.    * Click **Open** to import it. 10. **View on Map:** Your points will now appear as markers on the QGIS map canvas. 11. **Check Attributes:** Open the **Attribute Table** to see point names, coordinates, and other details. 12. **Style and Label:** You can change the color, shape, or size of points and label them for better visibility. 13. **Save the Project:** Finally, save your QGIS project for future use or export it as a map.   **Execution:**   * Open the GPS app and start recording locations in real time. * Move to each place and tap **Add Point** or **Mark Location**. * Collect 5–10 accurate points around your area. * Stop recording and export your data file. * Open **QGIS**, load the file, and visualize all points on a digital map. * Analyze distances, directions, or distribution using QGIS tools. |
| Stepwise Screenshots with steps: |
|  |  |
| Output Analysis | The GPS points collected using the mobile app were successfully imported into **QGIS**. All points appeared correctly on the map, showing accurate **latitude** and **longitude** positions. The **Attribute Table** displayed details like point names and coordinates. The points matched their real-world locations, confirming data accuracy. Overall, the process effectively demonstrated how real-time GPS data can be visualized and analyzed in QGIS. |
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| Github profile where lab assignment has  been uploaded |  |
| Conclusion | Collect real time GPS coordinates (5–10 points) using a mobile GPS app and import into QGIS. Is performed successfully. |
| Plag Report (Similarity index < 12%) |  |
| Date | 25010/25 |