GUIDELINES FOR 4 WEEKS INDUSTRIAL TRAINING OF STUDENTS

1. Background and Rationale

Industrial training is an integral component of diploma education, intended to help students experience real-world engineering practice, production environments, and field operations, and to integrate theory with practical skills.

2. Objectives of Industrial Training

The revised training shall aim to:

1. Strengthen students' understanding of core technologies, tools and processes relevant to their branch.
2. Provide structured exposure to engineering practice, whether in industry, field organisations, or institute-based project environments.
3. Develop problem-solving, design, troubleshooting, documentation, teamwork and communication skills.
4. Encourage interdisciplinary projects and innovation using institutional labs, workshops and innovation centres.
5. Ensure equitable, non-exploitative access: no student should be compelled to pay for training opportunities.

Training will be treated as a **academic component** with clear deliverables, supervision, and evaluation, carrying 100 marks (50 internal, 50 external) as per the existing scheme, but with a strengthened process.

3. Scope and Modes of Training

The following modes are permitted:

a. Industry-Based Training (Preferred where available)

- Placement of students in approved industrial units, infrastructure projects, service companies, or field organisations relevant to their discipline.
- Host organisations must provide a clearly defined work plan and designate a mentor/supervisor.

b. Institution-Based Project Training (within College)

- The preferred mode of training shall be in an appropriate industrial organization. Only when the student or institute is unable to secure such industrial training should in institutional training be used as an alternative.
- The college must possess adequate and relevant infrastructure, equipment, and facilities to conduct the training for the prescribed duration and to the required standards.
- The Principal/Head of Institution shall maintain a documented rationale for conducting training in the college rather than in industry.
- The Principal/Head will bear responsibility for ensuring that students receive authentic, practice-oriented engineering exposure and learning equivalent to real-world industry practice.

- Structured project work using existing labs, workshops, software tools, and innovation labs, designed and supervised by faculty.
- Projects must go beyond routine lab experiments and focus on real-world applications, simulations, or prototypes, following a defined plan.

The following modes are not permitted:

- Generic commercial "training institutes" offering short courses in basic tools (e.g., standard AutoCAD, basic Python, generic CNC operation) are not to be considered as industrial training providers.
- Any arrangement that requires the student to pay a training fee as a condition for completing the mandatory industrial training component is not permitted.
- Online-only certificate courses without guided project work and faculty/industry supervision are not acceptable as industrial training.

4. Roles and Responsibilities

- **Institution:**
  - The institute shall prepare a branch-wise training plan, mapping students into industry-based training, institution-based project training, and hybrid modes.
  - The institute shall identify and approve internal projects aligned with programme outcomes and the available infrastructure in each department.
  - The institute shall nominate a Training Coordinator at the institute level and Training Mentors at the department level.
  - The institute shall assign a faculty mentor to each student or student group, responsible for approving the training objectives and work plan before the start of training.
  - The institute shall ensure that labs, workshops, software licenses, and innovation/entrepreneurship labs are available and scheduled for intensive use during the training period.
  - The institute shall actively support and encourage cross-functional, interdisciplinary projects (for example, Mechanical with Electrical, or Civil with Computer Science/IT) that mirror real-world engineering practice.
- **Faculty:**
  - The faculty mentor shall provide continuous guidance and academic mentoring to students undertaking institute-based project training, including clarifying expectations, suggesting resources, and resolving academic or technical difficulties.
  - The faculty mentor shall ensure that each student maintains a daily diary or Training Journal recording tasks, observations, challenges, and learnings, and shall review and sign this diary at regular intervals.
  - The faculty mentor shall monitor student progress at least once a week during the training period, through lab/field visits, review meetings, and checks of the daily diary and ongoing project work.

- The faculty mentor shall certify the completion of training and the performance of each student or student group based on attendance, quality of work, daily diary, and final report/presentation.

- **Host Industry / Organisation (Where Applicable)**
  - The industry/host organisation shall provide clearly defined internship or training opportunities relevant to the students' diploma branch, with roles and responsibilities suitable for their level.
  - The industry/host organisation shall prepare a brief training/work plan for the 4 week period, specifying the nature of tasks, expected learning outcomes, and a weekly schedule for the student.
  - The industry/host organisation shall designate a Company/Industry Supervisor for each intern or small group of interns to guide day-to-day work, clarify expectations, and monitor progress.
  - The Industry Supervisor shall orient the student to company policies, safety rules, work culture, and basic procedures at the start of the training.
  - The Industry Supervisor shall provide regular supervision, including reviewing the student's daily/weekly work, signing the Training Journal/logbook, and giving constructive feedback.
  - The industry/host organisation shall ensure that interns are assigned substantive technical or field-related tasks and not restricted to purely clerical or routine work.
  - The industry/host organisation shall facilitate at least one structured interaction (review meeting/feedback session) with the visiting faculty mentor or institute liaison during the training period.
  - At the end of the training, the industry/host organisation shall provide a short performance assessment and feedback for each student in the prescribed format, which will contribute to the student's evaluation at the institute.
  - The industry/host organisation shall not charge any training fee from students for mandatory industrial training undertaken as part of the diploma curriculum.

5. Structure of Institute-Based Project Training

Where full industry training is unavailable, institute-based project training will be structured as follows:

5.3 Illustrative Project Types by Branch

These are examples; institutes may adapt based on facilities.

- Institute-based project training shall normally be of 4 weeks' duration during the June–July break.
- Students shall engage in a minimum workload of 40 hours per week on project and related learning activities, in line with norms for full-time internship/workload.
- Each project shall have a clear title and problem statement.
- Each project shall specify defined learning outcomes in terms of concepts, tools, and competencies to be developed by the student.

- Each project shall include a weekly activity plan outlining the sequence of tasks, milestones, and review points.
- Each project shall specify expected deliverables such as designs, code, simulation results, prototypes, test data, reports, or presentations.
- Each project shall be designed to use and deepen skills already introduced in the curriculum.
- Each project shall introduce at least one new tool or method (for example, an additional software module, simulation technique, or testing method) beyond routine lab work.
- Each project shall include systematic documentation and reflection through daily or weekly logs in the student's Training Journal or diary.

Illustrative Areas of Institute-Based Project Training

Students may undertake practical, application-oriented projects and activities using available departmental laboratories, workshops, software tools, innovation labs, and institutional facilities. The projects should focus on enhancing technical skills, practical exposure, problem-solving abilities, teamwork, and documentation practices relevant to their respective disciplines.

- Design, development, fabrication, testing, maintenance, or implementation of small technical projects and prototypes.
- Practical activities involving use of machines, tools, software applications, laboratory equipment, or field instruments relevant to the branch.
- Troubleshooting, testing, analysis, automation, simulation, or process improvement-related activities.
- Preparation of technical drawings, reports, documentation, surveys, coding tasks, or project presentations as part of the training work.
- Multidisciplinary and real-world problem-solving projects encouraging innovation, teamwork, and practical application of engineering concepts.

Institutes shall actively encourage such cross-functional project teams to mirror integrated, real-world engineering practice.

6. Student Training Daily Diary and Reporting

6.1 Training Daily Diary

Each student must maintain a **Training Daily Diary**, and the Daily Diary must include:

1. Student and project details, mentor details, and training mode (industry/institute).
2. Weekly work plan and daily entries recording:
    - Tasks performed.
    - Tools/techniques used.
    - Key learnings and reflections.
    - Challenges faced and how they were addressed.

3. Weekly review and signature by:
    - Industry supervisor (for industry-based training), and/or
    - Faculty mentor (for institute-based training).

6.2 Final Report and Presentation

At the end of the training:

1. Each student/group must prepare a formal report containing:
    - Introduction and objectives.
    - Background/theoretical framework.
    - Methodology and implementation details.
    - Results, observations, and learning outcomes.
    - Challenges, limitations, and suggestions.
2. Each student will make a presentation or viva-voce before an internal evaluation committee.

7. Assessment and Evaluation

The total 100 marks (50 internal, 50 external) and 2 credits will be allocated based on a detailed rubric that covers both process and outcomes, building on common internship evaluation frameworks.

7.1 Internal Assessment (50 Marks)

Suggested components:

- Attendance, punctuality, and regularity: 10 marks
- Quality and completeness of Training Journal: 10 marks
- Initiative, independence, and problem-solving: 10 marks
- Level of technical skill demonstrated and appropriate use of tools/equipment/software: 10 marks
- Teamwork and professional behaviour (including cross-functional collaboration where applicable): 10 marks

Internal marks will be awarded by the faculty mentor and departmental committee.

7.2 External Assessment (50 Marks)

Suggested components:

- Quality of final report (structure, clarity, technical depth): 15 marks
- Quality of project outcomes/work products (design, prototype, code, drawings, analysis): 20 marks
- Performance in viva-voce/presentation (understanding, articulation, ability to answer questions): 15 marks

External assessment will be conducted as per Board norms, with external examiners reviewing a sample of projects and reports and interacting with students.