

**MEMORANDUM OF UNDERSTANDING**

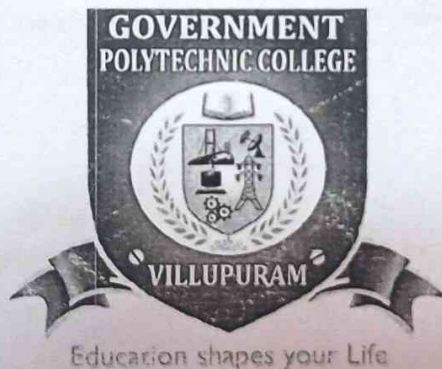
**(MOU)**

**BETWEEN**



**ZF Commercial Vehicle Control Systems India Limited, Chengalpet**

**&**



**Government Polytechnic College, Arakandanallur, Villupuram**

**for**

**Implementation of Industry-Based Apprenticeships in Diploma Education under the  
Directorate of Technical Education-2023 Regulations, through the National Apprenticeship  
Training Scheme (NATS), Ministry of Education, Government of India**

This Memorandum of Understanding is made and executed at Chengalpet on \_\_\_\_\_ between **ZF Commercial Vehicle Control Systems India Limited**, a company incorporated under the provisions of "The Companies Act, 1956", having its registered office at Plot No: AA8, Central Avenue, Auto Ancillary SEZ, Mahindra World City, Chengalpet, Tamil Nadu (hereinafter referred to as "**ZFCVCS**") which expression, unless the context requires otherwise, shall include its successors and permitted assignees.

And

**128, Government Polytechnic College, Arakandanallur, Villupuram**, functioning under the control of **Directorate of Technical Education (DoTE), Tamil Nadu**, having office at Kandachipuram Main Road, S.Kollur, Arakandanallur Post, Tirukoilur Taluk, Villupuram – 605 752, (hereinafter referred as "**128 -GPTC**") which expression, unless the context requires otherwise, shall include its successors, affiliates and permitted assignees).

Both the parties shall hereinafter be referred to as such and/or individually as "Party" and collectively as "Parties"

#### **RECITALS**

WHEREAS INDUSTRY **ZF Commercial Vehicle Control Systems India Limited** is engaged in the manufacture of automotive components for commercial vehicles. It specializes in braking systems, safety systems, and vehicle control technologies for trucks and buses.

AND WHEREAS **Government Polytechnic College, Arakandanallur, Villupuram** was established by the State Government of Tamil Nadu with the objective of bringing about coordinated development of Technical Education.

AND WHEREAS **Government Polytechnic College, Arakandanallur, Villupuram** and **ZF Commercial Vehicle Control Systems India** mutually agreed to work on 6 months internship training.

AND WHEREAS DoTE has mandated to impart technical Education to its Diploma students through a **Industrial Training Program** (hereinafter referred to as "**Training**")



Program”) and ZF Commercial Vehicle Control Systems India Limited agreed to provide such Training with the terms as follows:

NOW THEREFORE, in consideration of the mutual covenants, conditions and agreements set forth herein, the Parties hereby enter into this MoU, pursuant to the prevailing laws and regulations:

## 1. Definitions

- a. “Industrial Training Partner” means the Company ZF Commercial Vehicle Control Systems India Limited which has signed MOU with Government Polytechnic College, Arakandanallur, Villupuram for imparting Industrial Training.
- b. “Industrial Training Co-ordinator” means the Single Point of Contact (SPOC) nominated by “Industrial Training Partner”
- c. “HOD” means the person designated as Head of Department of the Educational Institution.
- d. “Nodal Officer” means the Co-ordinator Official assigned by the Principal of the Institute.
- e. “Principal” means the Principal of the Educational Institution also known as Head of the Institution.
- f. “Training Program Co-ordinator” shall be Single Point of Contact (SPOC) nominated by the educational institution

## 2. Program Highlights:

This program aims to bridge the skill gaps for diploma engineers by integrating academic learning with practical industry experience. The objectives of the programme are to:

- bridge the gap between academics and Industries through 6-months Industrial Training.
- increase employment opportunities for the students.
- build a talent pool for the industries in the state.
- encourage practical learning.
- provide earning-while learning opportunities for students.
- develop industry-oriented curriculum based on latest technologies.



### **3. Industrial Training Program:**

In this program, students have an option to opt for 6-months industrial training in the sixth semester of their Diploma Program. Students shall undergo two and half years of academic study - in the first, second, third, fourth and fifth semester as per the curriculum in the institutions and 6-months of industrial training in the sixth semester with the Industrial Training Partner ZF Commercial Vehicle Control Systems India Limited.

#### **3.1 Students Eligibility and general guidelines:**

The Principal / HOD / Industrial Training Partner should explain in detail about the program at the beginning of second year (III Semester) or at the time of admission, as the case may be, about the option to select this program as per the guidelines.

- This training program is effective from the year December 2025.
- Student's Minimum Age must be 16 years (completed) at the time of commencement of sixth semester for enrolment to this course.
- For those who have enrolled for Diploma Program in the previous academic year (i.e before 2025-26), at the start of Second Year or third year (III Semester or V Semester), the students shall be given an option to select this training program as per the guidelines.
- Once this training program is opted by the student, it cannot be revised to the regular curriculum. The student and parent has to submit the undertaking form for this option to the Principal through the HOD of the respective institution.
- Students can avail this 6-months Industrial training only after getting approval from the Commissioner of Technical Education / Chairman Board of Examinations through their respective institutions.
- During this industrial training program, student has to maintain attendance as per Industry policy.
- Industrial Training shall be provided for six days a week, at their manufacturing plants situated at Chengalpet Tamil Nadu.

- Week off, public holidays and compensation holidays will be available as per Industry policy.
- Upon successful completion of Training by students, Industry will issue training completion certificate to the students through their respective colleges.
- In the case of Discontinuation of Training by Students in between the year for whatever reasons, Industry will not provide the training Completion certificate.

### **3.2 Training Period:**

For the student who have opted for Industrial Training and obtained necessary approval, Industrial training can be attended either during VI semester (for the period of 6 Months)

### **3.3 Training Methodology:**

Industrial training shall be a blend of theoretical knowledge, practical skills, industry practice exposure and soft skills aimed to create competent and versatile engineers. It shall be designed in a manner that the students shall be familiarised and acquire the following skill sets

- **Process required:**

Job that requires well developed skill with clear choice of procedures in familiar context.

- **Professional Knowledge:**

Knowledge of facts, principles, processes and general concepts in a field of work or study.

- **Professional skill:**

A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information.

- **Core skill:**

Desired mathematical skill, understanding of social, political and the skill of collecting and organizing information, communication.



- **Responsibility:**

Responsibility for own work and learning and collective responsibility for other's works and learning (Team building)

The training will mainly consist of the following during the course of on-the-job training and class room trainings as may be required from time to time.

- Regulations for Industrial Safety (Environment, Health & Safety)
- Product Knowledge and Application
- Continuous Improvement Concepts
- Problem Solving Techniques
- Clean Shop Floor Culture
- Standardised Work Concept (Cycle time calculation methods)
- Preventive and Self Maintenance (TPM)
- Material Flow Methods
- Management of Error Proofing
- Management of online production results - Digital
- Communication skills
- Time Management
- Presentation skills
- Microsoft basics
- Customer Complaints
- NO Go handling
- Types of losses
- Software Development
- Other

The curriculum shall be jointly designed by the institution and industry, ensuring alignment with industry requirements, academic objectives, and the guidelines prescribed under the Directorate of Technical Education (DoTE) – Regulations 2023. Complete details of curriculum are given in Annexure – A

### **3.4 Evaluation and Documentation:**

3.4.1 Students shall be required to maintain a daily record of their internship activities in a prescribed handbook or diary and concurrently document their learning progress through a digital platform such as a blog or vlog throughout the duration of the internship.

3.4.2 **Assessment** shall be conducted jointly by Industry Supervisors and the Faculty Mentor, in the presence of an External Examiner appointed by DoTE, as per the evaluation criteria prescribed by DoTE (**Annexure-B**)

The assessment is divided into two parts:

#### **Part 1 – Mid-Term Evaluation (40 Marks):**

This evaluation will be conducted in the industry at the end of third month of the internship.

- The Industry Supervisor will award 20 marks based on the student's technical performance, work discipline, and progress.
- The Faculty Mentor will award 20 marks based on regular monitoring, interaction, and assessment of the student's learning outcomes.

#### **Part 2 – End-Semester Evaluation (60 Marks):**

This evaluation will be conducted at the industry at the end of the internship period.

- The Industry Supervisor will award 20 marks for the student's final performance, project outcomes, and professionalism.
- The Internal Examiner and the External Examiner (appointed by DoTE) will jointly award 40 marks based on the final presentation, report quality, and overall attainment of learning outcomes.

3.4.3 **Attendance** document to be maintained by the industry in the prescribed format.

3.4.4 **Credits:** 20 credits can be given to the students based on the Mid Term Evaluation and end semester exams conducted by the industry supervisor, internal and external examiners. These credits shall be considered for the award of a Diploma in Engineering, provided that all other required parameters are satisfied.

### **3.5 Discontinuation of Training:**



In case, if any student is unable to complete his / her training owing to exceptional situation, he / she shall be relieved from the training only upon submission of a relieving letter from Head of Institution duly approved by DoTE and the Industrial Training Partner. In such cases, accrued credits (if any) shall be provided to such student. For the purpose of acquiring diploma certificate, the criteria will be decided by the State Board of Technical Education.

#### **4. Obligations of ZF Commercial Vehicle Control Systems India Limited**

##### **4.1 Role of ZFCVCS**

**ZF Commercial Vehicle Control Systems India Limited** shall collaborate with the educational institutions to provide skill training and industry exposure to students, ensuring they gain hands-on experience and industry-relevant skills.

- a. Design and deliver training programs aligned with industry needs and academic requirements.
  - b. Provide mentorship and guidance to students before the commencement of training and during their training period.
  - c. Assess the performance of students, provide assessment results and feedback to the institution.
  - d. Share current industry trends and practices with the student to keep the curriculum relevant.
  - e. Ensure a safe training environment and adherence to industry regulations and standards.
  - f. Provide necessary tools, equipment, and resources for effective training.
  - g. Work closely with the Training Program Coordinator nominated by the Educational institution to coordinate training schedules and activities.
  - h. Establish a system for continuous feedback, assessment and improvement of the training programs.
- 5. Industrial Training Program Co-ordinator nominated by INDUSTRY ZF Commercial Vehicle Control Systems India Limited shall co-ordinate with Nodal Officer, Training Program Co-ordinator and Head of the Institution for effective implementation of the Industrial Training.**



## **4.2 Responsibilities of Industrial Training Coordinator**

### **4.2.1 Pre-Training Responsibilities**

- a. Preparing and sending internship letters.
- b. Collecting student data (branch-wise, count-wise, eligibility).
- c. Coordinating with industry experts and institution to align and finalize the industrial training curriculum as per academic and industry requirements
- d. Organizing orientation sessions for students about training guidelines, expectations, and company norms.
- e. Collecting undertakings from students and parents.
- f. Coordinating transport, accommodation (if applicable), and reporting instructions.
- g. Ensuring all students are briefed on safety measures and code of conduct.

### **4.2.2. Responsibilities During Training**

- a. Acting as the single point of contact between industry and institution.
- b. Monitoring student attendance, discipline, and performance.
- c. Maintaining regular communication with industry mentors/supervisors.
- d. Conducting periodic reviews through calls, visits, or online meetings.
- e. Maintaining a record of weekly/monthly progress reports.
- f. Ensuring compliance with training guidelines and institutional norms.
- g. Providing support to students in case of emergencies or grievances.

### **4.2.3. Post-Training Responsibilities**

- a. Verifying and evaluating student logbooks, reports, and assessment records.
- b. Coordinating viva-voce / internal evaluation processes.
- c. Compiling and submitting final consolidated student performance reports.
- d. Collecting feedback from students to improve future training programs.
- e. Closing the training cycle with a final report to the industry and institution.

#### 4.3 Guidelines for the INDUSTRY ZF Commercial Vehicle Control Systems India Limited to plan the training and evaluation.

The Industrial Training shall be designed as a balanced integration of Teaching – Learning – Practice, ensuring that students acquire both theoretical knowledge and hands-on industrial competencies required for a Diploma Engineer.

To achieve this, the industry partner is requested to adhere to the following guidelines while planning the training schedule, instruction methods, mentoring process, and evaluation.

- a. **Teaching Component:** Conduct theory sessions on domain skill gaps, industry standards, tools/technologies, safety, quality systems, troubleshooting, case studies, and professional communication.
- b. **Learning Component:** Provide plant/department exposure, process demonstrations, observation of production/maintenance/QC activities, shadowing of employees, understanding documentation (KPIs, logs, reports), and cross-functional exposure.
- c. **Practice Component:** Offer supervised hands-on tasks (assembly, machining, wiring, testing, inspection, calibration), maintenance activities, use of industrial software, mini-projects/Kaizen tasks, and involvement in trials/audits.
- d. **Structured Training Plan:** Prepare a week/month-wise plan with skills, department rotation, learning outcomes, safety briefings, mentor allocation, attendance rules, and monitoring methods.
- e. **Mentorship & Supervision:** Assign mentors, provide daily/weekly guidance, review progress, and give continuous feedback.
- f. **Faculty Monitoring & Facilitation:** The industry shall facilitate and permit the Training Program Coordinator from the institution to visit the industry once in every two weeks for effective academic monitoring, student mentoring, progress review, and coordination. The industry shall extend necessary cooperation, access, and interaction with mentors/students during such visits to ensure smooth implementation of the industrial training programme.
- g. **Academic Examinations and Placements:** The industry permits and facilitates students undergoing industrial training/apprenticeship to attend semester examinations, placement drives, and other mandatory academic requirements as



notified by the Institution/DoTE, without treating such absence as leave or discontinuity in training.

- h. **Safety & Compliance:** Conduct safety training, provide PPE, ensure supervised work in permitted areas, and report incidents promptly.
- i. **Working Hours:** The working hours for interns shall be limited to normal daytime industrial working hours, not exceeding 8 hours per day and 48 hours per week, inclusive of breaks, and shall strictly comply with applicable labour, safety, and academic regulations. Interns shall not be engaged in overtime or night shifts unless the student agrees.
- j. **Attendance & Conduct:** Maintain attendance, ensure discipline and punctuality, and follow assigned shifts.
- k. **Evaluation & Assessment:** Assess task performance, technical skills, behaviour, teamwork, logbooks, reports, and submit final performance evaluation.
- l. **Feedback & Improvement:** Provide feedback on student performance and suggestions for improving the training program.

4.4 Industry ZF Commercial Vehicle Control Systems India Limited shall provide a stipend of 14,456 per month to the students, with food (twice a day) and transportation free of cost to the enrolled students.

4.5 Industry ZF Commercial Vehicle Control Systems India Limited shall provide medical insurance and personal accident insurance to students free of cost.

4.6 Ensure compliance with regulatory bodies.

4.7 Training partner shall inform about the Training Integrated Diploma Program once enrolled for this training program.

## 5. Obligation of DoTE

The Commissioner of Technical Education / Chairman Board of Examinations, Tamil Nadu, oversees the overall administration and strategic planning to identify the eligible Skill Knowledge Provider / Training Provider / Industry Partner for this program.

- Foster partnerships with Skill Knowledge Provider / Training Provider / Industry Partner for industrial training.
- Formulate policies for academic, administrative, and industrial activities.
- Prepare Guidelines for the stakeholders, including students, parents, faculty, and industry partners.
- Necessary arrangements to admit the required students for the industrial training
- Monitor and evaluate the performance of industries and institutions. MOU shall be signed with the Industrial training Partner by clearly mentioning the terms and conditions for the industrial training procedure and assessment methodology.
- To award grade and assessment marks shall be finalised or revised by the Chairman Board of Examinations as per regulation norms. The award of Diploma shall be the decision of the Chairman Board of Examinations.
- DoTE will circulate the program highlights and benefits to all the diploma institutions and the head of the institutions shall invite applications from the students.
- The curriculum, Syllabus and assessment method shall be revised time to time based on feedback from stakeholders

## **6. Obligations of Head of Institution – Principal**

### **Role:**

The Institution Head oversees the day-to-day operations of the institution, ensuring that the industrial training program is integrated into the academic schedule and that all logistical aspects are managed efficiently.

### **Responsibilities:**

- Coordinate with the Directorate, Nodal Officer for Industrial Training Partner and Industrial Training Program Coordinator to implement the industrial training program.
- Ensure that students have access to necessary resources and support systems for their training.
- Manage administrative tasks related to the training program, including scheduling, documentation, and communication with DoTE and Industry Partner.



- Engage faculty members for the training program, facilitate them to collaborate with industry partners.
- Address any issues or challenges that arise during the training period.
- Track the progress of the training program and report to the Commissioner of Technical Education and other relevant authorities.

#### **7. Obligations of Nodal Officer**

**Role:** The Nodal Officer acts as the single point of contact (SPOC) for the industrial training program, facilitating communication between the institution, students, and industrial training partners.

The Placement and Training Officer will be the Nodal Officer

#### **Responsibilities:**

- Serve as the liaison between the institution, students, and industrial partners.
- Coordinate all activities related to the industrial training program, including scheduling, site visits by the training program coordinator, and assessments.
- Maintain comprehensive records of student participation, performance, and feedback from industry partners.
- Ensure clear and effective communication with all stakeholders involved in the training program.
- Provide support services to students, including orientation sessions, counselling, and addressing queries or concerns.
- Collect and analyse feedback from students and industry partners to improve the training program.
- Ensure that all aspects of the training program comply with curriculum requirements and industry standards.
- Prepare an undertaking form to opt for this training program, the undertaking should be signed by the student and parent witnessed by the training program coordinator and HOD.

## **8. Obligations of Training Program Co-ordinator**

**Role:** One faculty from the department should be assigned for every 30 students / every industry by the HOD and Principal as a Training Program Coordinator.

Training Program Coordinator shall play a crucial role in overseeing and guiding students during their industrial training program in diploma engineering.

### **Pre-Training Responsibilities:**

#### **a. Orientation and Preparation:**

- Conduct orientation sessions to familiarize students with the objectives, expectations, and guidelines of the industrial training program. Industry Partner can also be involved in this orientation program.
- If necessary, orientation program for parents can also be arranged
- Assist students in understanding the importance of industrial training in their academic and professional development.

#### **b. Training Plan Development:**

- Help students develop a detailed training plan outlining learning objectives, tasks, and expected outcomes for the training period.
- Guide students in setting SMART (Specific, Measurable, Achievable, Relevant, Time-bound) goals for their training experience.

#### **c. Placement Coordination:**

- Collaborate with the placement cell or institute industry interaction cell office to secure suitable training placements for students that align with their academic specialization and career interests.
- Facilitate communication between the institution and industry training partners to ensure smooth coordination of training arrangements.

### **During Training Responsibilities:**

#### **d. Monitoring and Support:**

- Regularly monitor the progress of students during their industrial training. Maintain communication with both students and industry supervisors to track performance and address any issues that may arise.



- Provide ongoing support and guidance to students, offering advice on technical challenges, professional conduct, and workplace etiquette.
- Visit the industrial training industry once every month.
- e. **Technical Guidance:**
  - Offer technical guidance and mentorship related to the specific engineering discipline or specialization of the students. Help them apply theoretical knowledge to practical situations encountered in the industry.
- f. **Problem-Solving Assistance:**
  - Assist students in overcoming obstacles or challenges encountered during their training. Encourage them to develop problem-solving skills and resilience in real-world engineering scenarios.
- g. **Feedback and Evaluation:**
  - As per DoTE internship Guidelines.

#### **Post-Training Responsibilities:**

- h. **Reflection and Debriefing:**
  - Conduct debriefing sessions with students to reflect on their training experiences, discuss lessons learned, and identify areas for further improvement.
  - Help students articulate their learning outcomes and how these experiences contribute to their professional growth.
- i. **Documentation and Reporting:**
  - Ensure comprehensive documentation of students' training activities, achievements, and feedback received from industry supervisors.
  - Prepare reports summarizing students' performance and submit these to relevant departments or committees for review and assessment.
  - Collect all the documents related to the assessment as per the guidelines of the evaluation.
- j. **Career Counselling:**
  - Provide career guidance and counselling to students based on their industrial training experiences. Assist them in leveraging these experiences for future job applications or further academic pursuits.

**k. Continuous Improvement:**

- Collaborate with industry partners to continuously improve the quality and relevance of the industrial training program.
- Incorporate feedback from students and industry supervisors to enhance the effectiveness of future training and placements.

**9. Obligations of the Students**

**A. Before Starting Industrial Training:**

**a. Orientation and Preparation:**

- Attend orientation sessions conducted by the institution or faculty mentors to understand the objectives, expectations, and guidelines of the industrial training program.
- Familiarize with the specific policies, procedures, and safety regulations of the host organization where they will be undergoing training.
- Sign the undertaking form in consultation with the parent/guardian.

**b. Professional Attire and Conduct:**

- Dress appropriately and professionally according to the standards of the industry and host organization.
- Maintain a positive attitude, demonstrate punctuality, and adhere to workplace etiquette and norms.

**B. During Industrial Training:**

**c. Learning and Engagement:**

- Actively engage in all assigned tasks and projects. Seek opportunities to learn new skills and technologies relevant to their field of study.
- Take initiative in asking questions, seeking clarification, and participating in discussions with supervisors and colleagues.
- Ensure to attend all on the job learning sessions without fail
- Ensure to follow the rules and regulations of INDUSTRY ZF Commercial Vehicle Control Systems India Limited relating to persons under training.



- Ensure to use the assets of INDUSTRY ZF Commercial Vehicle Control Systems India Limited as per the instructions given and to ensure not to cause any damage to machinery.

**d. Adaptability and Flexibility:**

- Adapt to the work environment and demonstrate flexibility in handling various responsibilities and challenges that arise during your training.
- Be open to different roles and tasks assigned to them, as this will broaden their experience and skill set.

**e. Professionalism and Communication:**

- Communicate effectively with supervisors, colleagues, and clients as required. Practice clear and concise verbal and written communication.
- Demonstrate professionalism in all interactions, respecting confidentiality, and adhering to company policies and procedures.

**f. Safety and Compliance:**

- Prioritize safety at all times. Familiarize yourself with safety protocols, procedures, and emergency exits in the workplace.
- Follow all safety guidelines and regulations to ensure their well-being and that of others around them.

**C. After Completing Industrial Training:**

**g. Reflection and Documentation:**

- Reflect on their training experience. Evaluate what they have learned, the challenges they faced, and how they have grown professionally.
- Maintain a journal or log documenting their daily activities, achievements, and lessons learned during the training period.

**h. Feedback and Evaluation:**

- Seek feedback from industry supervisor and faculty mentor on their performance and areas for improvement.
- Use constructive feedback to enhance their skills and competencies for future career opportunities.

**i. Career Planning:**

- Utilize the industrial training experience to make informed decisions regarding their career planning and professional development
- Discuss their career goals and aspirations with the faculty mentor or career counsellor for guidance on next steps after completing the diploma.

**D. Documents to be maintained by the students**

The following documents must be maintained by the students and submitted to the Institution. The HoD shall collect all required documents and forward the End Semester Assessment Marks to the Chairman, Board of Examinations, through the Principal, for Result Declaration and Award of Diploma.

**(i) Attendance Certification**

Students must obtain monthly attendance certification from their industry supervisor using the prescribed format issued by the Institution. Students must sign the form and submit it to the assigned faculty mentor. Regularity in attendance and timely submission will be considered while awarding Assessment Marks.

**(ii) Daily Activity Record**

Students must maintain a Daily Activity Record, documenting:

- Daily tasks and responsibilities
- Skills learned
- Tools or equipment handled
- Daily observations and outcomes

This record should be updated every day and may be periodically verified by the industry supervisor or faculty mentor.

**(iii) Industrial Training E-Portfolio (Blogs & Vlogs)**

Students are required to create either a blog (a series of written posts with images) or a vlog (a single, well-edited video) that documents and reflects upon their entire six-month



industrial training. The student must maintain a professional tone and not disclose any confidential company information or trade secrets thus respecting the company's privacy policy. The student shall not show any confidential company documents, designs, or processes on screen.

All digital content must be created and shared only after obtaining prior approval from the host organization and must strictly adhere to its confidentiality and media guidelines.

#### **(iv) Internship Report**

Students need to maintain the internship report submitted to the institution and industry for evaluation at the end of six months of Training. This report consists of their attendance certification, daily activity record and Industrial Training E-Portfolio(Blogs and Vlogs). The report has to be submitted along with a Bonafide certificate signed by the industrial supervisor and training program coordinator.

#### **10. No Partnership or Agency:**

By this MOU, INDUSTRY ZF Commercial Vehicle Control Systems India Limited does not intend, nor does it agree, to act as an agent of the State Government of Tamil Nadu. All activities undertaken by the INDUSTRY ZF Commercial Vehicle Control Systems India Limited pursuant to this MOU (and any subsequent memorandum of understanding or agreement) are intended to promote only the Industrial Training.

The Parties are independent contractors. Neither Party shall have any right, power or authority to enter into any agreement, or incur any obligation or liability, for, or on behalf of, the other. Nothing in this MOU shall be interpreted or construed to create an association or partnership between the Parties, deem them to be persons acting in concert, or to impose any liability attributable to such relationship to either of them, nor shall either Party be deemed to be the agent of the other, or entitled to commit or bind the other Party, in any manner, for any purpose.

Nothing in this MoU shall create or be deemed to create any third-party beneficiary rights in any Person not a party to this MoU.

#### **11. Representations and Warranties:**

Each Party hereby represents and warrants that:

It is duly organized and validly existing under applicable laws;

It has full power and authority to execute and deliver this MOU;

Its signatory is duly authorized to execute this MoU for and on behalf of the relevant Party; and

It has all the requisite legal and organizational power to carry out and perform its obligations under the terms of this MOU.

#### **12. Term and Termination**

The MOU shall enter into force with effect from and shall be effective unless terminated by the Parties. The MOU can be terminated by either Party at any time by giving **three months'** prior written notice to the other Party.

#### **13. Confidentiality:**

Each Party shall treat and ensure that its directors, partners, members, office bearers, officers, managers, employees, legal, financial, and professional advisors (collectively, "**Representatives**") shall treat as strictly confidential, and not reveal to any third party without the prior written consent of the other Party, any confidential information received or obtained from the other Party as a result of entering into or performing this MOU.

Exceptions: The provisions of this Article shall not apply to: (a) disclosure of information that is or becomes generally available to the public (b) disclosure by a Party to its Representatives provided such Representatives are bound by similar confidentiality obligations. (c) disclosure, after giving prior notice to the other Party to the extent practicable under the circumstances and subject to any practicable arrangements to protect confidentiality, to the extent required by law or legislative or judicial or regulatory process.



#### **14. Intellectual Property:**

All intellectual property rights of a Party developed/acquired prior to or independently of this MOU ("Pre-Existing IP"), shall belong exclusively to such Party, and this MOU shall not be construed as giving either Party any rights over such Pre-Existing IP of the other Party. All intellectual property created jointly by the Parties or created to achieve the purpose and objective of the MOU, shall belong to INDUSTRY ZF Commercial Vehicle Control Systems India Limited ONLY.

Each Party is given limited rights to use the trademark/tradename/logo of the other Party for the purpose of any press releases or promotions related to the objectives of this MOU or with prior permission of the Parties, to form part of any presentations made by either Party under this MOU.

#### **15. Data Privacy:**

Parties agree to ensure compliance with applicable data protection laws as may be in force from time to time. The Parties acknowledge that each Party will process and store the data in its possession or under its control as an independent controller/data fiduciary/data processor.

#### **16. Binding Nature**

The Parties agree, confirm and acknowledge that Clauses of (*Confidentiality*), (*Intellectual Property Rights*) and (*Data Privacy*) are intended to be legally enforceable and binding on the Parties.

Without prejudice to applicable laws, Parties shall be entitled to injunctive or other equitable relief to prevent or end any breach of Clauses (*Confidentiality*), (*Intellectual Property Rights*) and (*Data Privacy*) of this MoU

#### **17. Miscellaneous:**

Modifications: This MOU may be amended only by an instrument in writing signed by duly authorized representatives of each of the Parties.

Notice. A notice or other communication given under or in connection with this MOU (a “**Notice**”) shall be:  
in writing.  
in the English language; and  
sent by the Permitted Method (as defined below) to the Notified Address (as defined below).

The “**Permitted Method**” means any of the methods set out in the first column below, the second column setting out the date on which a Notice given by such Permitted Method shall be deemed to be given; provided that, the Notice is properly addressed and sent in full to the Notified Address:

| <b>Permitted Method</b>                     | <b>Date on which Notice is deemed given:</b>                                                   |
|---------------------------------------------|------------------------------------------------------------------------------------------------|
| Personal delivery                           | When delivered at the Notified Address during the business hours with proof of acknowledgment. |
| Registered or registered airmail or courier | 10 (ten) Business Days after posting.                                                          |
| Electronic mail                             | Instantly on receipt.                                                                          |



The "Notified Addresses" means the address, for each of the Parties as set out below:

**128-Government Polytechnic College, Arakandanallur, Villupuram:**

|                       |                                                                                                      |
|-----------------------|------------------------------------------------------------------------------------------------------|
| Address               | Kandachipuram Main Road,<br>S.Kollur, Arakandanallur Post,<br>Tirukoilur Taluk, Villupuram – 605 752 |
| Phone number          | +91 9442228452                                                                                       |
| Email ID              | 128gptc@gmail.com                                                                                    |
| For the attention of: | The Principal                                                                                        |

**ZF Commercial Vehicle Control Systems India Limited:**

|                       |                                                                                                     |
|-----------------------|-----------------------------------------------------------------------------------------------------|
| Address               | Plot No: AA8, Central Avenue,<br>Auto Ancillary SEZ, Mahindra World City,<br>Chengalpet, Tamil Nadu |
| Email ID              | nareshkumar.pugalenti@zf.com                                                                        |
| For the attention of: | Senior Manager - HR                                                                                 |

Dispute Resolution: Any dispute under this MOU shall be subject to mutual resolution through the office of The Commissioner, DoTE and the office of the Managing Director, INDUSTRY ZF Commercial Vehicle Control Systems India Limited.

Governing Law and Jurisdiction: This MoU shall be governed by and construed in accordance with the laws of India without regard to any conflict of law provisions. Subject to Clause III(9) (Dispute Resolution), the Courts at Chennai shall have exclusive jurisdiction over this MoU.

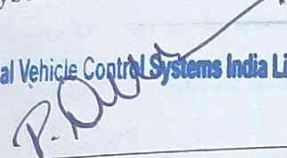
Severability: If any provision, paragraph, sentence, or word of this MOU is declared void by a Court of competent jurisdiction; then the provision, paragraph, sentence, or word will be severed from this MOU, and the remainder of the MoU will remain in effect.

Counterparts: This MoU may be executed in any number of counterparts and by the Parties to it on separate counterparts, each of which shall be an original but all of which together shall constitute one and the same instrument. The delivery of signed counterparts by facsimile transmission or electronic mail in 'portable document format' (.pdf) shall be as effective as signing and delivering the counterpart in person.

IN WITNESS WHEREOF, the undersigned being duly authorized hereto, have signed this MOU.

For ZF Commercial Vehicle  
Control Systems India Limited

ZF Commercial Vehicle Control Systems India Limited

Signature: 

Name: NARESH KUMAR

Designation: SENIOR MANAGER - HR

For 128-Government Polytechnic College,  
Arakandanallur, Villupuram

Signature: 

Name: SANKAR K

Designation: PRINCIPAL (FAC)

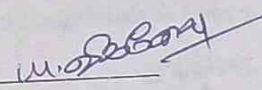
**Principal (FAC)**  
Government Polytechnic College,  
Arakandanallur, Villupuram-605752.

WITNESSES

Witness Signature: 

Name: Vignesh B

Address: Assistant Manager - HR  
(Mahindra world city)

Witness Signature: 

Name: VIGNESH B

Address: Training and Placement Officer  
128 GPTC, Villupuram.



## Annexure – A

### CURRICULUM FOR DIPLOMA MECHANICAL ENGINEERING STUDENTS

#### **Training Boot Camp (“On-boarding”):**

Safety practices (PPE, machine safety), shop-floor orientation, basics of automotive manufacturing, introduction to braking & suspension systems, reading engineering drawings, use of measuring tools (vernier caliper, micrometer).  
Soft skills: teamwork, shift adaptability, discipline.

#### **Manufacturing Processes:**

Exposure to machining, casting, forging, and assembly processes used in automotive components (especially braking systems).

#### **Assembly Operations:**

Hands-on training in sub-assembly and final assembly of mechanical components like brake systems and air modules.

#### **Quality Control & Inspection:**

Dimensional inspection, tolerance checking, surface finish analysis, defect identification, use of gauges and QC documentation.

#### **Production & Process Understanding:**

Line balancing, cycle time, lean manufacturing basics, workflow optimization, and production targets.

#### **Maintenance & Troubleshooting:**

Basic preventive maintenance of machines, identifying faults in mechanical systems, equipment handling.

#### **Exposure to Testing & Validation:**

Understanding test rigs, endurance testing, pressure testing (for braking systems), and validation procedures.

#### **Internship Outcomes**

At the end of the internship, students will be able to:

### **1. Measure & Inspect Mechanical Components**

Accurately measure dimensions and tolerances using instruments such as vernier calipers, micrometers, and gauges, ensuring compliance with automotive industry standards and specifications.

### **2. Perform Assembly & Fitment**

Assemble mechanical components (such as braking and suspension systems) following standard operating procedures, ensuring proper fitment, torque application, and minimal assembly defects within permissible limits.

### **3. Understand Manufacturing Processes**

Identify and apply basic manufacturing processes like machining, casting, and assembly, and support production activities by maintaining required cycle time and workflow efficiency.

### **4. Conduct Testing & Troubleshooting**

Assist in functional testing of components (e.g., pressure, endurance, and leak testing), identify defects, and support troubleshooting to ensure product reliability and performance.

### **5. Practice Quality, Safety & Industrial Standards**

Demonstrate adherence to automotive quality standards (IATF/ISO), follow shop-floor safety protocols, and participate in continuous improvement practices (5S, Kaizen), contributing to efficient and defect-free production.



### Mapping of Internship Outcomes with Program Outcomes

| Internship Outcome                                 | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 |
|----------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|
| 1. Measure & Inspect Mechanical Components         | 3   | 3   | 3   | 3   | -   | -   | -   |
| 2. Perform Assembly & Fitment                      | -   | 3   | 3   | 2   | -   | 2   | -   |
| 3. Understand Manufacturing Processes              | 3   | 3   | 3   | 3   | -   | -   | -   |
| 4. Conduct Testing & Troubleshooting               | 2   | 3   | 3   | 3   | -   | -   | -   |
| 5. Practice Quality, Safety & Industrial Standards | -   | 2   | 2   | 2   | 3   | 3   | 3   |

### Mapping of COs- Knowledge Gained- Skill Gained- Job Roles

| COs                                          | Knowledge Gained                                                                                                                                                                                                                                                                                                                            | Skill Gained                                                                                                                                                                                                                                                                                                                | Job Roles                                                                                                                                                                                                                                           |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CO1: Measure & Inspect Mechanical Components | <ul style="list-style-type: none"> <li>Understanding of tolerances, limits, and fits</li> <li>Familiarity with engineering drawings and GD&amp;T basics</li> <li>Awareness of quality standards (ISO/IATF) in automotive manufacturing</li> <li>Types and working of measuring instruments (vernier caliper, micrometer, gauges)</li> </ul> | <ul style="list-style-type: none"> <li>Accurate use of precision measuring instruments</li> <li>Ability to interpret technical drawings and specifications</li> <li>Performing dimensional inspection and tolerance verification</li> <li>Recording and documenting inspection results as per quality procedures</li> </ul> | <ul style="list-style-type: none"> <li>Quality Inspector / Quality Technician</li> <li>Production Engineer (Inspection role)</li> <li>Line Quality Controller</li> <li>Metrology Technician</li> <li>Assembly Quality Assurance Engineer</li> </ul> |
| CO2: Perform Assembly & Fitment              | <ul style="list-style-type: none"> <li>Understanding of mechanical assembly processes and sequences</li> <li>Knowledge of braking</li> </ul>                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>Ability to assemble components accurately as per SOP</li> <li>Proper use of torque</li> </ul>                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>Assembly Technician / Operator</li> <li>Production</li> </ul>                                                                                                                                                |

|                                    |                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                        |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                    | <p>and suspension system components</p> <ul style="list-style-type: none"> <li>Basics of torque, fastening methods, and fits</li> <li>Interpretation of assembly drawings and SOPs</li> <li>Awareness of quality standards and permissible defect limits</li> </ul>                                                                  | <p>wrenches and assembly tools</p> <ul style="list-style-type: none"> <li>Ensuring correct alignment, fitment, and fastening</li> <li>Identifying and minimizing assembly defects</li> <li>Following standard work instructions and safety practices</li> </ul>                                                                               | <p>Engineer (Assembly line)</p> <ul style="list-style-type: none"> <li>Manufacturing Engineer</li> <li>Quality Assurance (Assembly)</li> <li>Line Supervisor / Shop-floor Engineer</li> </ul>          |
| Understand manufacturing processes | <ul style="list-style-type: none"> <li>Fundamentals of manufacturing processes (machining, casting, forging, assembly)</li> <li>Understanding of process flow in automotive production</li> <li>Concepts of cycle time, takt time, and production targets</li> <li>Basics of lean manufacturing and workflow optimization</li> </ul> | <ul style="list-style-type: none"> <li>Ability to identify and select appropriate manufacturing processes</li> <li>Understanding and maintaining production cycle time and efficiency</li> <li>Supporting shop-floor operations and workflow coordination</li> <li>Applying lean concepts to reduce waste and improve productivity</li> </ul> | <ul style="list-style-type: none"> <li>Production Engineer</li> <li>Manufacturing Engineer</li> <li>Process Engineer</li> <li>Industrial Engineer</li> <li>Operations / Shop-floor Engineer</li> </ul> |
| Conduct testing & troubleshooting  | <ul style="list-style-type: none"> <li>Principles of mechanical testing methods (pressure, leak, endurance testing)</li> <li>Understanding of testing standards and validation procedures</li> <li>Basics of failure modes</li> </ul>                                                                                                | <ul style="list-style-type: none"> <li>Ability to perform functional testing using test benches and equipment</li> <li>Identifying and analyzing defects and performance issues</li> </ul>                                                                                                                                                    | <ul style="list-style-type: none"> <li>Testing Engineer / Validation Engineer</li> <li>Quality Engineer (Testing &amp; Inspection)</li> <li>R&amp;D Test Engineer</li> <li>Service /</li> </ul>        |



|                                                                 |                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                 | <ul style="list-style-type: none"> <li>• and defect analysis</li> <li>• Knowledge of test rigs, instruments, and performance parameters</li> </ul>                                                                                                                   | <ul style="list-style-type: none"> <li>• Recording and interpreting test data and results.</li> </ul>                                                                                                                                                                                           | Maintenance Engineer                                                                                                                                                                                                                |
| <b>CO5: Practice Quality, Safety &amp; Industrial Standards</b> | <ul style="list-style-type: none"> <li>• Knowledge of 5S, Kaizen, and continuous improvement practices</li> <li>• Basics of defect prevention and quality assurance systems</li> <li>• Understanding of industrial discipline and compliance requirements</li> </ul> | <ul style="list-style-type: none"> <li>• Practicing 5S implementation (Sort, Set in order, Shine, Standardize, Sustain)</li> <li>• Participation in Kaizen activities for process improvement</li> <li>• Maintaining discipline, documentation, and quality compliance on shop floor</li> </ul> | <ul style="list-style-type: none"> <li>• Quality Assurance Engineer</li> <li>• Safety Officer / EHS Assistant</li> <li>• Production Engineer (Quality &amp; Compliance)</li> <li>• Shop-floor Supervisor / Line Engineer</li> </ul> |

### Milestone

| Duration  | Topic                                 | Focus Area                                                                                                                                                                                                                                                                                     |
|-----------|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1st Month | Shop-floor Orientation & Safety       | <ul style="list-style-type: none"> <li>• Safety protocols (PPE, machine safety)</li> <li>• Introduction to automotive components (braking systems)</li> <li>• Engineering drawings &amp; basic measuring instruments</li> <li>• Understanding production environment &amp; workflow</li> </ul> |
| 2nd Month | Inspection & Quality Control          | <ul style="list-style-type: none"> <li>• Use of vernier caliper, micrometer, gauges</li> <li>• Tolerance &amp; fits</li> <li>• Basic quality standards (ISO/IATF)</li> <li>• Defect identification and documentation</li> </ul>                                                                |
| 3rd Month | Core Production Processes             | <ul style="list-style-type: none"> <li>• Machining, casting, forging basics</li> <li>• Process flow in automotive component manufacturing</li> <li>• Cycle time and production targets</li> <li>• Introduction to lean manufacturing concepts</li> </ul>                                       |
| 4th Month | Component Assembly & Line Operations  | <ul style="list-style-type: none"> <li>• Sub-assembly and final assembly of braking systems</li> <li>• Torque application &amp; fitment techniques</li> <li>• Line balancing and workflow</li> <li>• Assembly defect control</li> </ul>                                                        |
| 5th Month | Testing, Validation & Equipment Care  | <ul style="list-style-type: none"> <li>• Functional testing (pressure, leak, endurance tests)</li> <li>• Use of test rigs and benches</li> <li>• Basic troubleshooting of mechanical issues</li> <li>• Preventive maintenance of machines</li> </ul>                                           |
| 6th Month | Productivity & Continuous Improvement | <ul style="list-style-type: none"> <li>• 5S, Kaizen, lean tools</li> <li>• Process optimization &amp; waste reduction</li> <li>• Production efficiency &amp; defect reduction</li> <li>• End Semester Examination.</li> </ul>                                                                  |



**Annexure – B**  
**EVALUATION SCHEME**

| EVALUATION |                                      |                                |           |       |
|------------|--------------------------------------|--------------------------------|-----------|-------|
|            | Evaluation                           | Assessed By                    | Max Marks | Marks |
| Part- 1    | Mid Term Evaluation<br>(At industry) | Industry Supervisor            | 20        | 40    |
|            |                                      | Faculty Mentor                 | 20        |       |
| Part-2     | End Semester exam<br>(At industry)   | Industry Supervisor            | 20        | 60    |
|            |                                      | Internal and external examiner | 40        |       |
| Total      |                                      |                                |           | 100   |

| <b>Mid Term Evaluation (At industry) (40 Marks)</b> |                   |                                                         |                   |
|-----------------------------------------------------|-------------------|---------------------------------------------------------|-------------------|
| <b>Industry Supervisor</b>                          |                   | <b>Faculty Mentor</b>                                   |                   |
| <b>Evaluation Criteria Attributes*</b>              | <b>Max. Marks</b> | <b>Evaluation Criteria Attributes*</b>                  | <b>Max. Marks</b> |
| 1. Technical Skill Mastery                          | 12                | 1. Daily activity record<br>(Handbook + Digital record) | 5                 |
| 2. Quality of Work                                  | 5                 | 2. Practical Skill Demonstration                        |                   |
| 3. Attitude towards work                            | 3                 | a. Technical Skill mastery                              | 10                |
|                                                     |                   | b. Adherence to Safety/ Policy                          | 3                 |
|                                                     |                   | c. Viva voce                                            | 2                 |
| <b>Total</b>                                        | <b>20</b>         | <b>Total</b>                                            | <b>20</b>         |

| <b>End Semester exam (At industry) (60 marks)</b> |                   |                                        |                   |
|---------------------------------------------------|-------------------|----------------------------------------|-------------------|
| <b>Industry Supervisor</b>                        |                   | <b>Internal and external examiner</b>  |                   |
| <b>Evaluation Criteria Attributes*</b>            | <b>Max. Marks</b> | <b>Evaluation Criteria Attributes*</b> | <b>Max. Marks</b> |
| 1. Technical Skill Mastery                        | 10                | 1. Practical Skill Demonstration       |                   |
| 2. Adherence to Safety/Policy                     | 2                 | a. Technical Skill mastery             | 10                |
| 3. Planning, Reliability,                         | 4                 | b. Safe & Proper Tool Use              | 10                |

|                          |    |                                    |    |
|--------------------------|----|------------------------------------|----|
| Teamwork & Communication |    |                                    |    |
| 5. Attendance            | 4  | 2. Industrial Training E-Portfolio | 20 |
| <b>Total</b>             | 20 | <b>Total</b>                       | 40 |

**Part 1: Mid Term Evaluation (At industry) (Total: 60 Marks)**

**A. Industry Supervisor's Assessment (Total: 20 Marks)**

| Evaluation Criteria<br>Attributes* | Max.<br>Marks | Rubrics                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Technical Skill<br>Mastery         | 12            | <p><b>Excellent (9–12):</b> Independently applies technical knowledge and skills, completes work accurately.</p> <p><b>Good (6–8):</b> Minor errors, occasional guidance needed.</p> <p><b>Satisfactory (3–5):</b> Frequent guidance required, partially correct result.</p> <p><b>Needs Improvement (0–2):</b> Major errors, incomplete or wrong output.</p> |
| Quality of Work                    | 5             | <p><b>Excellent (4–5):</b> Output error-free, neatly presented, meets industry/lab standards.</p> <p><b>Good (3):</b> Minor deviations, mostly correct.</p> <p><b>Satisfactory (2):</b> Work partially correct, lacks neatness.</p> <p><b>Needs Improvement (0–1):</b> Incomplete, unclear, major errors.</p>                                                 |
| Attitude towards<br>work           | 3             | <p><b>Excellent (3):</b> Positive, proactive, adaptable, eager to learn.</p> <p><b>Good (2):</b> Cooperative, minor lapses.</p> <p><b>Satisfactory (1):</b> Passive, waits for instruction.</p> <p><b>Needs Improvement (0):</b> Negative or careless attitude.</p>                                                                                           |
| <b>Total</b>                       | <b>20</b>     |                                                                                                                                                                                                                                                                                                                                                               |

**B. Faculty mentor's Assessment (Total: 20 Marks)**

| Evaluation Criteria<br>Attributes*          | Max.<br>Marks | Rubrics                                                                                    |
|---------------------------------------------|---------------|--------------------------------------------------------------------------------------------|
| Daily activity record<br>Handbook + Digital | 5             | <p><b>Excellent (4–5):</b> Daily entries, detailed observations, signed by supervisor.</p> |



|                                  |    |                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| record)                          |    | <b>Good (3):</b> Mostly regular, minor gaps.<br><b>Satisfactory (2):</b> Irregular, missing details.<br><b>Needs Improvement (0-1):</b> Very few entries.                                                                                                                                                                                  |
| 2. Practical Skill Demonstration |    |                                                                                                                                                                                                                                                                                                                                            |
| a. Technical Skill mastery       | 10 | <b>Excellent (9-12):</b> Independently applies technical knowledge and skills, completes work accurately.<br><b>Good (6-8):</b> Minor errors, occasional guidance needed.<br><b>Satisfactory (3-5):</b> Frequent guidance required, partially correct result.<br><b>Needs Improvement (0-2):</b> Major errors, incomplete or wrong output. |
| b. Adherence to Safety/Policy    | 3  | <b>Excellent (3):</b> Always follows rules, safety, lab/industry policies.<br><b>Good (2):</b> Rare lapses, quickly corrects after warning.<br><b>Satisfactory (1):</b> Multiple reminders required, careless behaviour seen.<br><b>Needs Improvement (0):</b> Frequent violations of safety rules, risky behaviour.                       |
| c. Viva voce                     | 2  | <b>Excellent (2):</b> Explains procedure, theory, and result clearly with confidence.<br><b>Good (1):</b> Explains most questions, few mistakes.<br><b>Needs Improvement (0):</b> Cannot answer or explain work.                                                                                                                           |
| Total                            | 20 |                                                                                                                                                                                                                                                                                                                                            |

**Part 2: End Semester Exam [At industry] (Total: 60 Marks)**

**A. Industry Supervisor's Assessment (Total: 20 Marks)**

| Evaluation Criteria<br>Attributes* | Max. Marks | Rubrics                                                                                                   |
|------------------------------------|------------|-----------------------------------------------------------------------------------------------------------|
| 1. Technical Skill<br>Mastery      | 10         | <b>Excellent (9-12):</b> Independently applies technical knowledge and skills, completes work accurately. |

|                                                       |    |                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                       |    | <p><b>Good (6–8):</b> Minor errors, occasional guidance needed.</p> <p><b>Satisfactory (3–5):</b> Frequent guidance required, partially correct result.</p> <p><b>Needs Improvement (0–2):</b> Major errors, incomplete or wrong output.</p>                                                                                                                               |
| Adherence to<br>Safety/Policy                         | 2  | <p><b>Excellent (3):</b> Always follows rules, safety, lab/industry policies.</p> <p><b>Good (2):</b> Rare lapses, quickly corrects after warning.</p> <p><b>Satisfactory (1):</b> Multiple reminders required, careless behaviour seen.</p> <p><b>Needs Improvement (0):</b> Frequent violations of safety rules, risky behaviour.</p>                                    |
| Planning, Reliability,<br>Teamwork &<br>Communication | 4  | <p><b>Excellent (4):</b> Plans task sequence, meets deadlines, collaborates, communicates progress proactively.</p> <p><b>Good (3):</b> Mostly plans well, minor lapses in communication.</p> <p><b>Satisfactory (2):</b> Requires supervision for planning, weak communication.</p> <p><b>Needs Improvement (0–1):</b> Cannot coordinate with team, misses deadlines.</p> |
| Attendance                                            | 4  | <p><b>Excellent (4):</b> &gt;95% attendance, always on time.</p> <p><b>Good (3):</b> 85–94% attendance, mostly punctual.</p> <p><b>Satisfactory (2):</b> 75–84% attendance, sometimes late.</p> <p><b>Needs Improvement (0–1):</b> &lt;75% attendance, frequent absences.</p>                                                                                              |
| Total                                                 | 20 |                                                                                                                                                                                                                                                                                                                                                                            |



**B. Internal and external examiners' Assessment (Total: 40 Marks)**

| <b>Evaluation Criteria<br/>Attributes*</b> | <b>Max.<br/>Marks</b> |                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------------------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Practical Skill<br>Demonstration        |                       |                                                                                                                                                                                                                                                                                                                                                                                                  |
| a. Technical Skill mastery                 | 10                    | <p><b>Excellent (9–12):</b> Independently applies technical knowledge and skills, completes work accurately.</p> <p><b>Good (6–8):</b> Minor errors, occasional guidance needed.</p> <p><b>Satisfactory (3–5):</b> Frequent guidance required, partially correct result.</p> <p><b>Needs Improvement (0–2):</b> Major errors, incomplete or wrong output.</p>                                    |
| b. Safe & Proper Tool Use                  | 10                    | <p><b>Excellent (8–10):</b> Uses lab/industry tools safely, correctly, and efficiently.</p> <p><b>Good (6–7):</b> Minor procedural mistakes, corrects quickly.</p> <p><b>Satisfactory (4–5):</b> Multiple mistakes, needs supervision.</p> <p><b>Needs Improvement (0–3):</b> Unsafe handling or misuse.</p>                                                                                     |
| 2. Industrial Training E-Portfolio         | 20                    | <p><b>Excellent (16–20):</b> Covers company intro, projects, skills learned, challenge faced, key takeaways with proper images/videos; professional and complete.</p> <p><b>Good (11–15):</b> Mostly covers sections, minor gaps.</p> <p><b>Satisfactory (6–10):</b> Partial coverage, limited reflection.</p> <p><b>Needs Improvement (0–5):</b> Very minimal effort, missing key sections.</p> |
| <b>Total</b>                               | <b>40</b>             |                                                                                                                                                                                                                                                                                                                                                                                                  |

Refer the detailed attributes below

### EVALUATION CRITERIA ATTRIBUTES

**TECHNICAL SKILL MASTERY:** The technical skills learned by the student is tested by making them perform hands-on tasks in industry. Students will be allotted 20 minutes to develop a brief process plan and demonstrate a sequence of skills acquired during training. For the mid-term assessment, students are required to perform a minimum of three skills, while for the end-term assessment, they must demonstrate at least six skills. For instance, for mechanical students, the evaluation shall be based on the following:

- The ability to accurately read and understand technical drawings, including dimensions, tolerances, and material specifications.
- The ability to demonstrate proficiency in executing core manufacturing processes (e.g., machining, fitting, assembly etc; whichever is appropriate to the industry) to create components that conform to engineering drawings and quality standards,

#### **Sample questions**

1. Given the engineering drawing and a material for a component, your task is first to analyze the drawing to create a sequence of operations plan. Next, you must perform the required machining operations to manufacture the component. Finally, conduct a full quality inspection and document if the part meets all specified tolerances.
2. Given a standard aluminum extrusion for a solar panel frame, your task is to analyze the drawing to determine the correct cut length and hole positions. You must then cut the extrusion to size and drill the mounting holes using a fixture. Your final task is to perform a quality check on the finished frame piece for length, straightness, and positional accuracy of the holes

**QUALITY OF WORK:** The ability to demonstrate overall workmanship of the finished product, including its surface finish, absence of defects, adherence to tolerances, accuracy and finish requirements.



**ATTITUDE TOWARDS WORK:** The ability to maintain a professional and constructive attitude, demonstrating initiative, adaptability, and a commitment to continuous learning in an industrial environment.

**DAILY ACTIVITY RECORD (HANDBOOK + DIGITAL RECORD):** The ability to meticulously document daily work activities, technical observations, and skills learned in the dual-format (handbook and digital) to ensure a systematic record of progress. The handbook to be duly submitted to the industrial supervisor on a daily basis for review, feedback, and signature.

**ADHERENCE TO SAFETY/POLICY:** The ability to demonstrate a disciplined commitment to workplace safety by strictly adhering to all company policies and operational protocols without exception.

**TIME MANAGEMENT, RELIABILITY, TEAM WORK & COMMUNICATION:** The ability to demonstrate professional conduct by reliably managing tasks to meet deadlines and collaborating effectively as part of a team. This includes maintaining clear communication with colleagues and supervisors to show accountability and a commitment to shared goals.

**ATTENDANCE:** The ability to consistently maintain punctuality and regular attendance as per the company's official work hours.

**INDUSTRIAL TRAINING E-PORTFOLIO:**

1. Student is required to create either a **blog** (a series of written posts with images) or a **vlog** (a single, well-edited video) that documents and reflects upon their entire six-month industrial training. The student must maintain a professional tone and not disclose any confidential company information or trade secrets thus respecting the company's privacy policy. The student shall not show any confidential company documents, designs, or processes on screen.
2. Students will submit a single, publicly accessible link to their blog or vlog. They shall use free blog platforms such as blogger, medium etc and free vlog platforms such as youtube, vimeo etc.
3. The link name has to be created in the following format and shared with the faculty for assessment  
**collegecode\_departmentcode\_registernumber**

(eg: 101\_1020\_2011230001)

The blog or vlog must cover the following five key areas:

1. Introduction to the Company & Role of the student: Brief introduction of the company, its industry, and the specific department the student worked in. The job title and the primary objectives of the internship to be clearly stated.
2. Key Projects & Responsibilities: Detail 2-3 of the most significant projects or tasks that the students were involved in. Describe the project's goal, their specific responsibilities, the processes followed, and the final outcome.
3. Skills Showcase: Create a dedicated section that details the skills acquired.
  - o Technical Skills: Mention specific software, machinery, manufacturing processes (e.g., turning, quality inspection), and analytical methods learned.
  - o Professional Skills: Discuss growth in areas like teamwork, communication, time management, and problem-solving.
4. A Significant Challenge: Describe a specific technical or professional challenge the student faced. Explain how they analyzed the situation and the steps they took to overcome it.
5. Conclusion & Key Takeaways: Summarize their overall experience. Reflect on the most important learnings and explain how this internship will influence their future career path and the job roles they are ready for.

#### Technical Guidelines to be followed for blog and vlog Creation

- For a Blog :
  - o Platform: Use a free platform like Blogger or Medium.
  - o Structure: Create a minimum of 4-5 separate posts with images.
  - o Length: Each post should be approximately 200-400 words.
  - o Media: Relevant images, diagrams, or charts must be included.
- For a Vlog :
  - o Platform: The video to be uploaded to YouTube or Vimeo as an "unlisted" link.



- Length: The final video should be 8-12 minutes long.
  - Structure: Use clear titles, chapters, or timestamps in the description to navigate between the five content areas.
  - Media: The video should be well-edited, with clear audio, and include footage, images, or screen recordings where appropriate.
- Below is the example template for blog and vlog:

### Blog Template (4-5 Posts)

- **Post 1: Internship Launchpad: Introduction to [Company Name]**

- **About the Company:** Briefly describe what the company does, its industry, and its main products/services.
- **Job Role:** The job title and the primary responsibilities and objectives of the internship to be discussed in detail.
- **First Impressions:** Initial goals and expectations to be explained. The technical and professional skills that the students aimed to develop must be discussed.

- **Post 2: Engineering in Action: Projects & Contributions**

- A detailed look at 2-3 of the most significant projects or tasks should be provided. For each one, describe:
  - **The Goal:** What was the purpose of the project?
  - **My Contribution:** What were the specific tasks and steps?
  - **The Outcome:** What was the result? (e.g., a finished component, a test report, an improved process).

- **Post 3: The Learning Curve: My New Skillset**

- **Technical Toolbox:** Use a bulleted list to showcase the technical skills acquired (e.g., "CNC Programming on Fanuc controls," "Matlab toolbox" "Database connection" "Quality inspection" "Process planning").
- **Professional Polish:** Growth in professional areas like communication, teamwork, problem-solving, and time management to be discussed. Give a specific example. Share a situation that demonstrate team work and other soft skills. Explain how communication skill improved while interacting with supervisor and team.

- **Post 4: Facing a Challenge: A Problem Solved**

- **The Situation:** Describe a specific technical or workplace challenge encountered.
- **The Action:** Explain the steps taken to analyze and resolve the issue.
- **The Lesson:** What was learnt from the experience?



- **Post 5: Looking Ahead: Final Reflections**
  - Summarize the key takeaways from the six-month journey.
  - Explain how the internship has shaped career aspirations.

### **Vlog Template (8-12 Minutes)**

- **[0:00 - 1:00] Title Sequence & Introduction**
  - **Visuals:** Title, name, company logo. Student shall be speaking to the camera.
  - **Narration:** Student Introduction, job role, and the company. Give a brief preview of what the video will cover.
- **[1:00 - 4:00] Key Projects & Work**
  - **Visuals:** Use screen recordings, photos of non-sensitive parts, or diagrams to explain the work. Use on-screen text to highlight key project goals.
  - **Narration:** Walk the viewer through 2-3 of your main projects. Explain what was done and what the outcome was.
- **[4:00 - 6:30] Skills Mastered**
  - **Visuals:** A dynamic list of skills appears on screen as the student talks. If possible, show short clips of them applying the skill (e.g., using CAD software).
  - **Narration:** Talk about the most significant technical and professional learnings.
- **[6:30 - 8:00] Overcoming a Challenge**
  - **Visuals:** Use a simple whiteboard or graphics to illustrate the problem.
  - **Narration:** Tell the story of a specific challenge faced. Explain the student's thought process and how they arrived at a solution.
- **[8:00 - 10:00] Conclusion & Key Takeaways**
  - **Visuals:** Student speaking to the camera, with a summary list of their key takeaways on screen.
  - **Narration:** Summarize student's internship experience. Share the most important lesson and explain how this has prepared them for your future career. End with a thank you.