DETAILS OF INTERNSHIP REQUIRMENTS FOR ME/M.TECH.

Sr. No.	Post	Eligibility Criteria	Duration	Selection process	Stipend and Benefits	Project Details & Evaluation Criteria
1.	Intern – 01 M.Tech / ME (ADAS) (Advanced Driver Assistance System)	Student from 2nd or 3rd semester in M. Tech or ME in domain of Electrical/ Electronics/ Mechanical/ Mechatronics/ Computer Science.	1 year	Based on Personal Interview taken by Selection Committee of NATRAX	• Rs.10,000/- per month (Not applicable for GATE qualified candidates getting scholarship from the Government) • Free Canteen & Transport facility • Certificate	**PROJECT DETAILS & LEARNINGS: -** The project is to conceptualise and design a setup for integration of ADAS instrumentation on the Chassis Dynamometer at NATRAX. 1) Design and integrate the video cameras to identify an obstacle on the screen, with depth perception. 2) Have the vehicle brake automatically after the object has been identified by the Video Camera. **Desired Skills & Responsibilities: -** 1. The intern would be responsible to design, integrate the existing Chassis Dyno setup at NATRAX with other Instruments to simulate ADAS (Advanced Driver Assistance System) testing in Lab. 2. Shall have the capacity to identify and solve the problems associated with the project. 3. Shall have good communication skills and shall be able to interpret technical drawings and equations. 4. Good command over MATLAB and Simulink preferred. 5. Good knowledge of workings of servo motors/ actuators. 6. Good knowledge in Digital Image processing. 7. Knowledge of Arduino coding preferred. 8. Good knowledge in Control systems.
2.	Intern – 01 M.Tech / ME (EV Lab)	Student from 2nd or 3rd semester in M. Tech or ME in domain of Electrical/ Electronics/ Mechanical/Mechatronics.	1 year	Based on Personal Interview taken by Selection Committee of NATRAX	• Rs.10,000/- per month (Not applicable for GATE qualified candidates getting scholarship from the Government) • Free Canteen & Transport facility	**PROJECT DETAILS & LEARNINGS: -** 1. The Project would be focused on new techniques in Battery testing and development. 2. The technology and ways to enhance the safety of various types of batteries like Li-ion etc. **3.** The efficient working of Battery management system and internal synchronization of BMS with battery elements and functioning. **Desired Skills & Responsibilities: -** 1. Technical inputs verification in testing of Batteries at NATRAX. 2. Technical Paper drafting with relevant ideas in Battery testing field. 3. Technical support in Battery testing in EV lab. 4. Documentation support for relevant battery testing and certification cases.

					• Certificate	5. Proposing and execution of new projects related to Battery development. 6. Good in communication skills (English & Hindi language.) 7. Shall have thorough knowledge of Traction Batteries and their functioning. 8. Proficiency in working with MS Office.
3.	Intern – 01 M.Tech / ME (Crash Barrier Testing)	Student from 2nd or 3rd semester in M. Tech or ME in domain of Mechanical/ Mechatronics.	1 year	Based on Personal Interview taken by Selection Committee of NATRAX	• Rs.10,000/- per month (Not applicable for GATE qualified candidates getting scholarship from the Government) • Free Canteen & Transport facility • Certificate	**PROJECT DETAILS & LEARNINGS: -** NATRAX is setting up one unique design with its overall experience in the crash barrier testing filed. For the same various materials to be studied for proposing alternate and sustainable design. EN 1317-1 & Part 2/ MASH (2016) Manual for Assessing Safety Hardware: Performance classes, impact test acceptance criteria and test methods for safety barriers, Working Width, Contentment levels (H1, H2, N1, N2. L1, L2 OR TL2, TL3, TI4), ASI (Acceleration severity Index), THIV (Theoretical Head Impact velocity). Structural adequacy, vehicle trajectory, OIV (Occupant Impact Velocity), VCDI (Vehicle cockpit Deformation Index), Vehicle Intrusion, Dynamic Deflection, Permanent Deflection, length of need. **Desired Skills & Responsibilities: -** 1. FEA Analysis of Crash barrier module. 2. Benchmarking of various crash barrier designs. 3. Proposing sustainable model for road safety designs. 4. Working on alternate material in comparison with Metal crash barriers. 5. Good understanding of Physics: A thorough understanding of the fundamental principles of mechanics and materials is essential to analyse the behaviour of crash barriers. 6. Knowledge of Materials Science: Understanding the properties of materials used in crash barriers and the effects of different factors, such as stress, temperature, and strain rate, is essential to determine their performance. 7. Knowledge of different testing techniques, such as dynamic testing, static testing, and drop testing, is essential to determine the performance of the crash barriers. 8. Familiarity with software tools, such as CAD software, Finite Element Analysis (FEA) software, and data analysis software is essential to conduct simulations and analyse the test results. (Ansys, Hepermash recommended). 9. Excellent technical writing skills are essential to document the test procedures and results accurately. 10. Effective communication skills in English & Hindi 11. Problem-solving skills