

Below is the complete bill—now reformatted into six major sections, each intended for presentation by one of six individuals. Each section incorporates detailed, implementable reforms based on online data and best practices, with a focus on engineering education in Tier-2 and Tier-3 colleges. (The penalties section remains as previously defined.) At the end, a detailed summary is provided.

Section 1. Introduction, Short Title, and Extent

Short Title:

This Act shall be known as the “Quality Engineering Education Act, 2025.”

Extent:

This Act applies exclusively to engineering colleges—offering core branches such as Mechanical, Electrical, Civil, Computer Science, Electronics, and related fields—classified as Tier-2 or Tier-3 institutions across India. These are institutions where data (e.g., placement records, faculty training metrics, and industry linkages) consistently show a performance gap relative to premier Tier-1 institutions.

Rationale:

Recent studies reveal that only one in ten engineering graduates from these colleges is readily employable, and up to 80% remain unemployable even after remedial interventions. Such figures (from surveys by PurpleLeap and others) highlight the urgent need for reforms that bridge the gap between theoretical teaching and industry-relevant practical skills.

Section 2. Definitions and Objectives

Definitions:

- (a) **Tier-2/Tier-3 Engineering College:** An engineering institution in non-metro regions whose historical data indicate lower placement outcomes and faculty qualifications compared with Tier-1 institutions.
- (b) **Inexperienced/Incompetent Engineering Faculty:** Educators lacking advanced, practical training beyond the basic degree (B.Tech/M.Tech) whose teaching methods do not translate into measurable improvements in student technical skills or industry readiness.
- (c) **Value-Added Engineering Teaching:** Instruction that significantly improves students’ ability to apply engineering principles in real-world scenarios, as measured by standardized technical assessments, project outcomes, and internship success.
- (d) **Mandatory Professional Development in Engineering:** State-approved, structured training programs focused on emerging technologies (such as AI, robotics, advanced CAD/CAM, and renewable energy systems) and modern pedagogical methods.
- (e) **Student Outcome Metrics in Engineering:** Objective measures that include performance on technical assessments, quality of project work, and successful internship placements.
- (f) **Continuous Evaluation:** An ongoing, semester-based process that monitors student

performance on technical assessments and project outcomes to indirectly gauge a teacher's competency.

Objectives:

1. Enhance faculty competence by ensuring engineering educators are continuously updated on both theoretical and practical aspects through mandatory professional development.
 2. Increase graduate employability by shifting from rote teaching to value-added instruction that emphasizes real-world application.
 3. Align public funding and salary structures to reward educators who demonstrate measurable improvements in student outcomes while discouraging underperformance.
 4. Establish a robust, continuous evaluation framework that monitors teaching effectiveness using standardized, industry-aligned metrics.
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Section 3. Implementation and Continuous Evaluation

(a) Establishment of the Central Engineering Quality Assurance Council (CEQAC):

- The Ministry of Education shall establish the CEQAC, exclusively dedicated to Tier-2 and Tier-3 engineering colleges.
- The Council shall include representatives from student bodies, leading engineering industry experts, experienced academics, and alumni, and will set national benchmarks for teaching performance.

(b) Development of a Digital Performance Monitoring Platform:

- A centralized online system will be built by the CEQAC to integrate data from:
 - **Standardized Technical Assessments:** Regular digital tests covering core engineering subjects and emerging technologies.
 - **Project-Based Evaluations:** Scores and qualitative feedback on lab work, design challenges, and capstone projects.
 - **Internship & Industry Feedback:** Structured data from companies employing students during internships.
 - **Formative Assessments:** Monthly quizzes and hands-on simulations.
- The platform will compile these data into a comprehensive Teacher Performance Index (TPI) for each faculty member.

(c) Frequency and Methodology:

- **Baseline Evaluation:** At the academic year's start to assess faculty and student preparedness.
- **Mid-Semester Reviews:** Periodic evaluations using standardized tests and project reviews.

- **End-of-Semester Summative Evaluations:** Comprehensive review of technical assessments, project outcomes, and internship feedback.
- **Monthly Internal Reviews:** Each institution's Internal Monitoring Committee shall conduct monthly reviews of classroom performance and lab outcomes.

(d) Role of Internal Monitoring Committees:

- Every college must form a committee (including senior faculty, academic advisors, and a student representative) to ensure adherence to continuous evaluation protocols and to coordinate immediate remedial actions as needed.

(e) External Audits:

- Every two years, an independent educational quality assurance body will audit the digital platform and evaluation processes to ensure objectivity and recommend adjustments to benchmarks.

(f) Transparency and Qualitative Feedback:

- The CEQAC will publish annual reports with anonymized performance data and integrated qualitative feedback from students, alumni, and industry partners to foster transparency and encourage healthy competition.

Section 4. Measures and Incentives

(a) Mandatory Professional Development:

- All engineering faculty must complete a minimum of 40 hours per year in specialized professional development.
- Topics include advanced technologies, simulation tools, and contemporary industry practices.
- Colleges must maintain detailed records of all training sessions and ensure full participation.

(b) Performance-Based Incentives:

- Faculty whose continuous evaluation metrics (via technical assessments, project outcomes, and internship placements) exceed national benchmarks by at least 20% will receive:
 - Merit-based salary increases.
 - Additional research funding.
 - National recognition through awards and expedited promotions.
- Innovative teaching methods that effectively bridge theory and practice will be particularly rewarded.

(c) Institutional Incentives:

- Engineering colleges that demonstrate a measurable improvement in student outcomes (e.g., a 15% increase in successful internship placements and enhanced technical assessment scores) will receive supplementary government grants.
 - Grants are earmarked for upgrading laboratory facilities, procuring advanced simulation software, and fostering collaborative research with industry partners.
 - Institutions must comply with periodic external audits and transparent reporting to continue receiving incentives.
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Section 5. Penalties

Note: This section retains the extremely harsh penalties outlined previously to ensure accountability.

(a) Individual Faculty Penalties:

- Engineering faculty failing to meet minimum performance standards (indicated by consistently low technical assessment scores, poor project outcomes, and low internship placement rates) over three consecutive evaluation cycles shall face:
 - Immediate suspension pending review by the CEQAC.
 - Up to a 50% salary reduction for the subsequent cycle.
 - Mandatory intensive remedial training; failure to complete such training will result in permanent blacklisting from teaching roles in public engineering institutions for at least three years.
 - Public disclosure of underperformance in annual reports.

(b) Institutional Penalties:

- Colleges with over 40% of teaching staff underperforming will be penalized by:
 - Withholding 40% of government grants for the next academic year until the underperformance ratio drops below 20%.
 - Mandatory re-certification of engineering programs by an independent board; failure results in temporary suspension of admissions.
 - Disciplinary reviews and potential fines for senior management for consistently appointing underqualified faculty.

(c) Data Manipulation and Negligence:

- Any faculty found manipulating performance data or engaging in gross negligence shall be:
 - Terminated immediately.
 - Subject to legal prosecution for fraud and negligence.
 - Permanently blacklisted from employment in public sector educational institutions for at least five years.

(d) Enforcement and Appeals:

- The CEQAC will enforce penalties via periodic audits, on-site inspections, and continuous monitoring.

- Appeals must be lodged within 30 days; during which penalties remain in full effect.
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Section 6. Review, Amendment, and Commencement

(a) Periodic Review:

- A Parliamentary Committee on Engineering Education will review this Act every five years.
- The Committee will assess the impact on teaching quality, improvements in technical assessment performance, project outcomes, and overall graduate employability.

(b) Amendment Process:

- Based on feedback from continuous evaluations, external audits, and stakeholder consultations (including faculty, students, and industry experts), the Committee will recommend amendments to update benchmarks and training requirements to match evolving engineering standards.

(c) Implementation of Amendments:

- The Central Government will ensure that recommended amendments are promptly incorporated into the digital monitoring platform and evaluation protocols.

(d) Commencement:

- This Act shall come into force on a date notified by the Central Government, but no later than six months from its passage.
 - A phased implementation plan will be initiated with pilot programs in selected Tier-2 and Tier-3 engineering colleges. Feedback from these pilots will inform nationwide rollout.
 - The Central Government shall allocate requisite funds for developing and maintaining the digital platform, external audits, and training programs.
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Detailed Summary of the Entire Bill

Overview:

The “Quality Engineering Education Act, 2025” is a comprehensive reform aimed at overhauling engineering education in Tier-2 and Tier-3 colleges in India. The bill is divided into six sections, each designed for presentation by one individual, ensuring accountability across all stages of implementation.

Section 1: Introduction, Short Title, and Extent

This section names the Act and defines its scope—targeting engineering colleges in non-metro areas where a documented gap exists in placement, faculty competence, and

industry engagement. It sets the context by citing alarming employability figures among graduates.

Section 2: Definitions and Objectives

Here, key terms (such as “Tier-2/Tier-3 Engineering College,” “Incompetent Engineering Faculty,” “Value-Added Engineering Teaching,” etc.) are clearly defined. The objectives emphasize enhancing faculty competence, boosting graduate employability, aligning funding with performance, and establishing continuous evaluation mechanisms that monitor student outcomes through standardized technical assessments and project performance.

Section 3: Implementation and Continuous Evaluation

A Central Engineering Quality Assurance Council (CEQAC) is created to oversee implementation. A digital platform will integrate data from standardized technical assessments, project evaluations, and internship feedback to generate a Teacher Performance Index (TPI). Evaluations occur at baseline, mid-semester, end-of-semester, and monthly intervals. Internal Monitoring Committees at each institution ensure adherence to protocols, while biennial external audits guarantee fairness and accuracy.

Section 4: Measures and Incentives

This section mandates at least 40 hours of professional development per year for faculty and links performance to salary increments, additional research funding, and national recognition. Engineering colleges demonstrating significant improvements in student outcomes receive targeted government grants for facility upgrades and collaborative research with industry.

Section 5: Penalties

Severe penalties are imposed on both individual faculty and institutions for underperformance. Consequences include immediate suspension, up to 50% salary reduction, mandatory remedial training (with permanent blacklisting upon failure), withholding of government grants, and mandatory re-certification of academic programs. Additional measures target data manipulation and gross negligence, with provisions for legal prosecution.

Section 6: Review, Amendment, and Commencement

A Parliamentary Committee will review the Act every five years, incorporating stakeholder feedback to update evaluation benchmarks and professional development requirements. The Act’s commencement is phased, starting with pilot programs and a nationwide rollout within six months, supported by allocated government funds for digital infrastructure and training.

Overall Impact:

This Bill mandates a robust, data-driven framework to continuously evaluate and improve the quality of engineering education. It is designed to ensure that faculty in Tier-2 and Tier-3 colleges are held to rigorous standards, fostering an environment where engineering graduates are well-prepared to meet modern industry challenges. By tying funding and incentives directly to measurable improvements in teaching performance, the Act aims to transform the engineering education landscape in India, thereby enhancing the employability and practical readiness of future engineers.

This six-section structure ensures clarity and allows for distributed presentation, while the detailed reforms and continuous evaluation measures provide an implementable blueprint for raising the standard of engineering education in India's non-metro institutions.