

मानवी विकासासाठी उपयोजित ज्ञान व कौशल्याचा विकास-“दक्ष प्रकल्पांतर्गत औद्योगिक प्रशिक्षण संस्था क्रमवारी आराखड्यास” (DAKSH ITI Grading Framework) मान्यता देण्याबाबत...

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प्रस्तावना:-

राज्यातील शासकीय औद्योगिक प्रशिक्षण संस्थांचा (ITIs) दर्जा उंचावण्यासाठी दि.०५/०२/२०२५ पासून “मानवी विकासासाठी उपयोजित ज्ञान व कौशल्याचा विकास (दक्ष) - Development of Applied Knowledge and Skills for Human Development (DAKSH)” प्रकल्प कार्यान्वित करण्यात आला आहे. सदर प्रकल्पांतर्गत उत्तम व मध्यम श्रेणी प्राप्त ५४ व दक्ष प्रकल्पातील परिणाम क्षेत्र-३ (Result Area-३: Enhancing Access for Women & disadvantage groups) अंतर्गत समाजातील वंचित व दुर्बल घटकांना कौशल्य प्रशिक्षणातून रोजगारक्षम बनविण्यासाठी ०९ शासकीय औद्योगिक प्रशिक्षण संस्था अशा एकूण ६३ शासकीय औद्योगिक प्रशिक्षण संस्थांची संदर्भ क्र.१ च्या शासन निर्णयान्वये दक्ष- ITIs म्हणून निवड करण्यात आली आहे.

२. दक्ष प्रकल्पाच्या Disbursement-Linked Indicators-२ (DLI-२) अंतर्गत दक्ष- ITIs म्हणून निवड झालेल्या ITIs करिता कार्य मूल्यांकन क्रमवारी आराखडा (DAKSH ITI Grading Framework) विकसित करणे आवश्यक होते. यास्तव, जागतिक बँकेच्या सहाय्याने व्यवसाय शिक्षण व प्रशिक्षण संचालनालयामार्फत “औद्योगिक प्रशिक्षण संस्था क्रमवारी आराखडा” तयार करण्यात आला आहे. सदर आराखड्यामध्ये संस्थात्मक क्षमता, प्रशासन, शिक्षण, सक्षमीकरण, पर्यावरण, उद्योग सहभाग, विद्यार्थी समर्थन, प्रगती, समता, समावेशन, प्रशिक्षण आणि निकाल अशा एकूण ८९ निकषांचा समावेश आहे. उपरोक्त “दक्ष प्रकल्पांतर्गत औद्योगिक प्रशिक्षण संस्था क्रमवारी आराखडा (DAKSH ITI Grading Framework) उपसंचालक, दक्ष प्रकल्प यांच्याकडून संदर्भ क्र.२ च्या पत्रान्वये प्राप्त झाला आहे. सदर आराखड्यास मान्यता देण्याची बाब शासनाच्या विचाराधीन होती.

शासन निर्णय:-

मानवी विकासासाठी उपयोजित ज्ञान व कौशल्याचा विकास [Development of Applied Knowledge and Skills for Human Development (DAKSH)] प्रकल्पाच्या Disbursement-Linked Indicators-२ (DLI-२) अंतर्गत दक्ष- ITIs म्हणून निवड झालेल्या ITIs मध्ये अंमलबजावणीसाठी सोबत जोडलेल्या “परिशिष्ट- १” येथील “दक्ष प्रकल्पांतर्गत औद्योगिक प्रशिक्षण संस्था क्रमवारी आराखड्यास” (DAKSH ITI Grading Framework) याद्वारे मान्यता देण्यात येत आहे.

२. दक्ष- ITIs म्हणून निवड झालेल्या शासकीय औद्योगिक प्रशिक्षण संस्थांनी दक्ष प्रकल्पाच्या अंमलबजावणी कालावधीत त्यांची मुल्यांकन/क्रमवारी सुधारण्याचे उद्दिष्ट पूर्ण करावे.

३. दक्ष प्रकल्पांतर्गत औद्योगिक प्रशिक्षण संस्था क्रमवारी आराखडा राबविण्याची जबाबदारी प्रकल्प संचालक-दक्ष तथा आयुक्त, कौशल्य विकास, रोजगार व उद्योजकता आयुक्तालय, नवी मुंबई तसेच संचालक, व्यवसाय शिक्षण व प्रशिक्षण संचालनालय, मुंबई यांची राहिल.

४. उपरोक्त आराखड्यानुसार दक्ष- ITIs चे मुल्यांकन/क्रमवारी निश्चित करण्यासाठी आवश्यक ती माहिती संचालक, व्यवसाय शिक्षण व प्रशिक्षण संचालनालय यांनी संकलित करून सदर माहिती डिजिटल स्वरूपात विहीत केलेल्या पोर्टलवर उपलब्ध करावी. तसेच, सदर आराखड्याच्या अंमलबजावणीचे संनियंत्रण करून प्रकल्प संचालक-दक्ष तथा आयुक्त, कौशल्य विकास, रोजगार व उद्योजकता आयुक्तालय, नवी मुंबई यांनी त्रैमासिक आढावा घेऊन याबाबतचा त्रैमासिक अहवाल शासनास वेळोवेळी सादर करावा.

५. सदर शासन निर्णय महाराष्ट्र शासनाच्या www.maharashtra.gov.in या संकेतस्थळावर उपलब्ध करण्यात आला असून त्याचा संकेतांक २०२६०८०३१९१००८१६०३ असा आहे. हा आदेश डिजिटल स्वाक्षरीने साक्षांकित करून काढण्यात येत आहे.

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दि.०३ ऑगस्ट, २०२६ सोबतचे)
“परिशिष्ट १ -”

DAKSH ITI GRADING FRAMEWORK

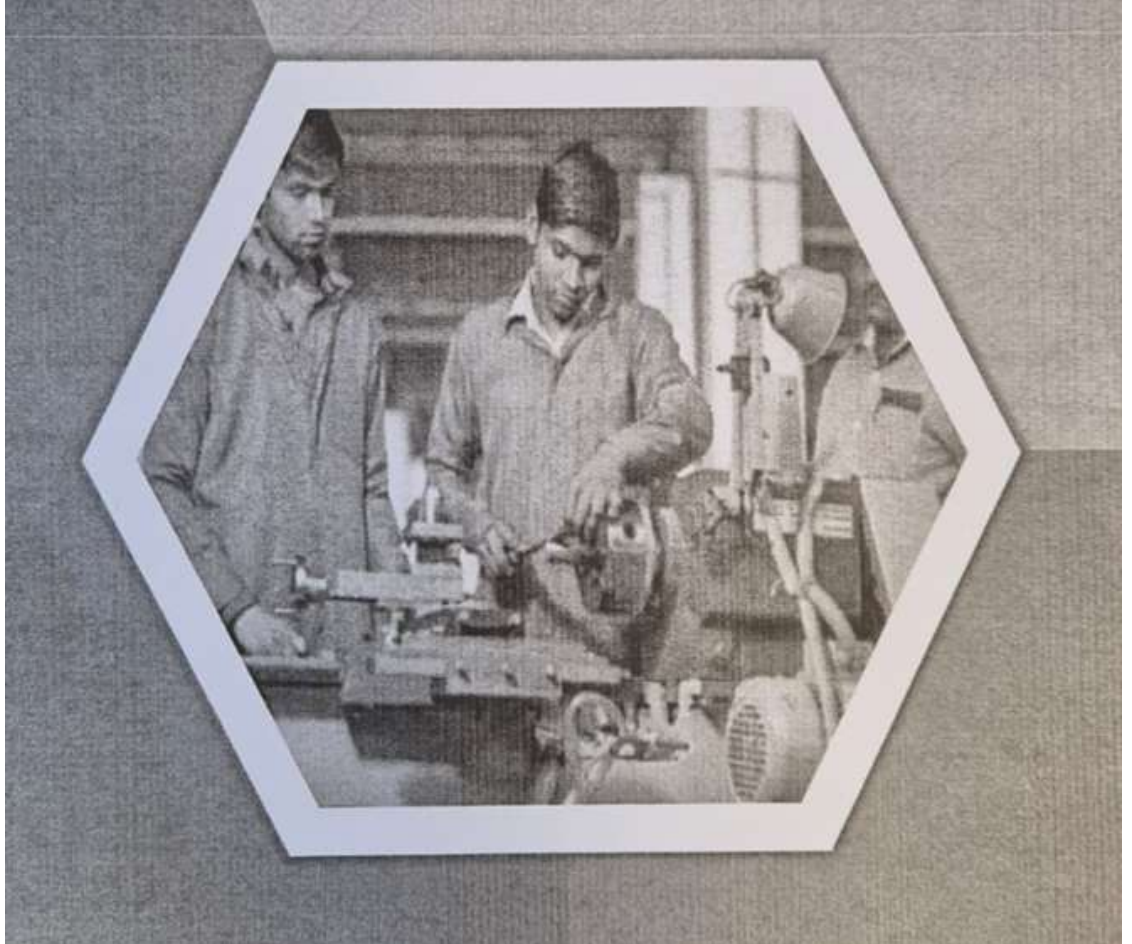


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Abbreviations

Abbreviation	Full Form
ADB	Asian Development Bank
AI	Artificial Intelligence
AMC	Annual Maintenance Contract
ATC	Advanced Training Center
AusQA / ASQA	Australian Skills Quality Authority
BoQ	Bill of Quantities
CBSE	Central Board of Secondary Education
CBT	Computer Based Test
CSR	Corporate Social Responsibility
DAKSH	Development of Applied Knowledge and Skills for Human Development (Maharashtra)
DBR	Disbursement-Linked Result / DLI
DGTMIS / DGT MIS	Directorate General of Training — Management Information System
DGT	Directorate General of Training (MSDE)
DDI	District Development/Industry
DIC	District Industries Centre
DLIs	Disbursement-Linked Indicators
DDP	District Development Plan
DVET	Directorate of Vocational Education & Training (Maharashtra)
DST	Dual System of Training
E&S / ESF	Environmental & Social / Environmental and Social Framework
ESMP	Environmental and Social Management Plan
EV	Electric Vehicle
GDP	Gross Domestic Product
GSDP	Gross State Domestic Product
GIS	Geographic Information System
ICT	Information and Communications Technology
IMC	Institute Management Committee
IoT	Internet of Things
IV	Inception/Implementation Visit
ITI	Industrial Training Institute
ITS	Information Technology Services
JAM	Joint Assessment Meeting
KWPF	Korea–World Bank Partnership Facility
LMS	Learning Management System
M&E	Monitoring & Evaluation
MIDC	Maharashtra Industrial Development Corporation
MIS	Management Information System

Abbreviation	Full Form
MoU	Memorandum of Understanding
MSDE	Ministry of Skill Development & Entrepreneurship (India)
MSInS	Maharashtra State Innovation Society
MSSDS	Maharashtra State Skill Development Society
NA	Not Applicable
NCVT	National Council for Vocational Training
NITI	NITI Aayog (National Institution for Transforming India)
NOC	No Objection Certificate
NSDC	National Skill Development Corporation
NSQF	National Skills Qualifications Framework
O&M	Operations & Maintenance
OEM	Original Equipment Manufacturer
OJT	On-the-Job Training
PAD	Project Appraisal Document
PIA	Project Implementation Agency
PLFS	Periodic Labour Force Survey
PM-SETU	Pradhan Mantri Skill Enhancement and Training for Upskilling (PM-SETU)
PPP	Public–Private Partnership
PwD	Persons with Disabilities
RPL	Recognition of Prior Learning
RTC	Regional Training Centre
SDG	Sustainable Development Goal
SEO	State Employment Office
SME / MSME	Small & Medium Enterprise / Micro, Small & Medium Enterprises
SLA	Service Level Agreement
SOP	Standard Operating Procedure
SPV	Special Purpose Vehicle
STP	Strategic Transformation Plan
STRIVE	Skills Strengthening for Industrial Value Enhancement (Gol programme)
TVET	Technical and Vocational Education and Training
UTC	Universal Time Coordinated (if used)
UoM	Unit of Measurement
WB	World Bank
WBS	Work Breakdown Structure

Chapter 1: Context – DAKSH

Programme, Scope & Relevance

1.1 Project Overview

The Development of Applied Knowledge and Skills for Human Development (DAKSH) Maharashtra Program is the Government of Maharashtra's five-year, World Bank-supported initiative that aims to modernize and strengthen the state's skilling and entrepreneurship ecosystem. DAKSH adopts a holistic, system-wide approach, focusing on institutional reform, private-sector engagement, and improved training quality and access.

The program is implemented under the overall supervision of the Skill, Employment, Entrepreneurship and Innovation Department (SEEID) and involves three key agencies:

- Directorate of Vocational Education and Training (DVET): Oversees and manages Maharashtra's 419 government ITIs and regulates 584 private ITIs; responsible for quality assurance, curriculum, and compliance.
- Maharashtra State Skill Development Society (MSSDS): Implements short-term and modular skilling programs with training partners.
- Maharashtra State Innovation Society (MSInS): Catalyses entrepreneurship and innovation through incubation and challenge programs.

1.2 Implication for ITI Grading & Transformation

This grading framework is designed to provide a structured and comprehensive methodology for evaluating the readiness and effectiveness of ITIs in preparing the ITI pass outs for the workplace including responding to changing nature of work and future technologies. It will systematically assess various dimensions of ITI operations, encompassing strategic planning, curriculum, human resources, infrastructure, industry engagement, student support, and training outcomes. The overarching objective is to identify areas of strength, pinpoint weaknesses, and uncover opportunities for improvement, thereby enabling ITIs to proactively adapt to evolving labour market demands and contribute meaningfully to sustainable socio-economic development. The framework is designed taking input from global best practices and align with the standards set by national quality assurance bodies. A robust grading framework is designed to address to:

- Establish baseline performance and capacity of each ITI,
- Guide investment prioritization (infrastructure, faculty, curriculum, industry linkage) under the strategic investment plan,
- Support continuous improvement and monitoring

Thus, the grading framework must be fit for purpose: aligned with DGT objectives, rigorous and outcome-oriented, internationally benchmarked, yet feasible in the Indian ITI context.

Chapter 2: International Benchmarking

– Quality Assurance Frameworks in VET

Here we summarize key lessons from Australia, Europe (via EQAVET), Germany (reference point for QA VET) and briefly China, comparing them with India.

2.1 Australia – Australian Skills Quality Authority (ASQA) & VET Quality Framework

The Australian Skills Quality Authority (ASQA) serves as the national regulator for Australia's vocational education and training (VET) sector, overseeing the registration, monitoring, and compliance of Registered Training Organisations (RTOs) to ensure high-quality, nationally consistent training and assessment outcomes. Established under the National Vocational Education and Training Regulator Act 2011, ASQA works to protect students, employers, and the broader community by upholding the integrity of Australian qualifications. Central to its regulatory role is the VET Quality Framework, a legislated set of standards designed to promote uniformity in how RTOs are registered, monitored, and held accountable. This framework incorporates the Outcome Standards for RTOs (focusing on quality learning and employer-relevant results), Compliance Standards (including administrative and fit-and-proper-person requirements), the Australian Qualifications Framework (AQF), and related enforceable policies, collectively ensuring that VET providers deliver reliable, credible, and effective vocational education across the country.

- ASQA is the national regulator for the VET sector in Australia.
- The VET Quality Framework (VQF) comprises: Standards for RTOs, Outcome Standards, Compliance Standards, Financial Viability Risk Assessment, Data Provision Requirements.
- A national regulatory framework under the National Vocational Education and Training Regulator Act 2011.
- Emphasis on outcome-standards (learner outcomes, industry relevance) rather than just input compliance.

Key takeaways for grading:

- Use of clear standards for providers (institutional capacity, governance, data/monitoring).
- Emphasis on data/systems (data provision).
- Result orientation (learner outcomes, assessments, industry-credibility).
- Risk-based enforcement and continuous improvement culture.

2.2 Europe – European Quality Assurance in Vocational Education and Training (EQAVET)

The European Quality Assurance Reference Framework for Vocational Education and Training (EQAVET) is a key European Union initiative designed to promote and enhance quality assurance in vocational education and training (VET) across Member States. Established by a 2009 Recommendation of the European Parliament and Council and further strengthened through alignment with the 2020 Council Recommendation on VET for sustainable competitiveness, social fairness, and resilience, EQAVET provides a voluntary, flexible "toolbox" rather than a mandatory system. It supports continuous improvement through a cyclical quality assurance process encompassing planning, implementation, evaluation/assessment, and review/revision. The framework includes indicative descriptors and a set of ten reference indicators applicable at both VET system (national/regional) and VET provider levels, enabling tailored approaches to ensure high-quality, relevant, and trustworthy vocational education and training that responds to labour market needs, fosters inclusivity, and adapts to evolving challenges such as digitalisation and sustainability.

- EQAVET is a reference framework established via 2009 Recommendation of European Parliament & Council: updated via 2020 Council Recommendation.
- It supports quality assurance in VET across Europe via a cyclical model:
- Planning → Implementation → Evaluation/Assessment → Review/Revision.
- It provides 10 Reference Indicators at system/provider level: e.g., relevance of QA systems, investment in training of teachers/trainers, participation rate in VET programmes, completion rate, placement rate, utilization of acquired skills, unemployment rate, vulnerable groups, mechanisms to identify labour market training needs, schemes to promote access.
- The framework is flexible: not prescriptive accreditation but a "toolbox" for providers.

Key takeaways:

- Clear, high-level indicators focusing on outcomes (placement, skills utilization) and access/inclusion.
- Quality cycle emphasizing continuous improvement (not one-off audit).
- Provider self-assessment, stakeholder engagement (industry, learners, employers).
- Inclusion of equity/vulnerable groups and labour market alignment.

2.3 Germany – Quality Assurance Reference Point for VET (DEQA-VET)

The German Reference Point for Quality Assurance in Vocational Education and Training (DEQA-VET) serves as Germany's national contact point and service hub for quality assurance and development in the VET sector, operating under the auspices of the Federal Institute for Vocational Education and Training (BIBB) on behalf of the Federal Ministry of Education and Research (BMBF). Established in 2008 in response to the European EQAVET Recommendation, DEQA-VET functions as a voluntary, collaborative platform rather than a

centralized regulatory authority, reflecting the decentralized and federal structure of Germany's dual VET system. It actively networks stakeholders—including vocational schools, in-company trainers, chambers, trade unions, and providers—while providing information, resources, publications, good-practice examples, and support for implementing quality assurance approaches aligned with the EQAVET framework.

- In Germany, the German Reference Point for Quality Assurance in Vocational Education and Training (DEQA-VET) networks actors/institutions in VET, mediates between national/European levels, and monitors QA in VET.
- Germany emphasizes strong dual-system (school + workplace/apprenticeship) pathways, industry linkages, certification integrity, institutional partnerships.

Key takeaways:

- Emphasis on apprenticeship/work-based learning as part of training quality.
- Institutional and stakeholder network-based QA (not isolated audit).
- Strong linkages between training providers and industry/employers.

2.4 China – Vocational Training Context

China's vocational education and training (VET) system, one of the world's largest, plays a pivotal role in supporting the country's rapid industrialization, technological advancement, and economic transformation by cultivating a skilled workforce aligned with national strategies such as "Made in China 2025" and high-quality development goals. Governed primarily by the Ministry of Education (MOE) and supported by the Ministry of Human Resources and Social Security, the system encompasses secondary vocational schools, higher vocational colleges (including vocational undergraduate institutions), and ongoing large-scale skills upgrading initiatives, with recent reforms—bolstered by the revised Vocational Education Law (2022) and the Outline for Building an Education Strong Country (2024–2035)—elevating VET to a distinct, equally valued type of education alongside general and higher education. Quality assurance is embedded through a multi-layered framework involving national teaching standards (e.g., the MOE's release of 758 updated professional teaching standards in 2025, covering program objectives, curricula, teacher qualifications, teaching conditions, and explicit quality assurance measures), institutional evaluations, annual quality reporting, supervision at national/provincial/institutional levels, industry integration for demand-driven training, and mechanisms like the "eight-level worker system" linking skills to career progression. This centralized yet adaptive approach, emphasizing industry-education fusion, digital transformation, and lifelong learning, ensures VET delivers high employability, relevance to strategic sectors, and continuous improvement to meet evolving labour market and societal needs.

While direct publicly available QA frameworks in China analogous to EQAVET/ ASQA are less widely documented in English, some broad themes across Chinese vocational and technical education include strong government policy on vocational skills, large-scale institutional infrastructure, emphasis on upgrading equipment/infrastructure in institutes, and recent reforms to align VET with industry. For the purposes of this framework, we draw general lessons:

- Focus on infrastructure modernization and “industry 4.0” readiness.
- Emphasis on large-scale training, but often weaker monitoring of outcomes/ industry employer integration.

Key takeaways:

- Infrastructure and equipment readiness is crucial but must be matched with outcome and industry relevance.
- Scale alone is not sufficient – monitoring and industry linkages matter.

2.5 India – Current ITI grading / skill-ecosystem – DGT Grading Framework

The Skills Strengthening for Industrial Value Enhancement (STRIVE) project, a World Bank-assisted initiative by the Ministry of Skill Development and Entrepreneurship (MSDE) and Directorate General of Training (DGT), pioneered a grading framework for Industrial Training Institutes (ITIs) in India starting in 2017. This system aimed to foster quality, industry relevance, and accountability in vocational training by benchmarking over 13,000 ITIs across government and private sectors. Phase I established a foundational, infrastructure-focused assessment, while Phase II refined it toward outcomes and engagement. However, evaluations like the NITI Aayog's 2023 report highlighted systemic challenges, leading to iterative enhancements and the eventual shift to the 2023 Data-Driven Grading Model (DDGM). The framework's legacy lies in diagnosing gaps and incentivizing reforms, though it revealed opportunities for greater efficiency, inclusivity, and impact.

2.5.1 Phase I: Infrastructure and Compliance Foundation (2017–2018)

Launched voluntarily in January 2017, Phase I assessed 4,811 ITIs via offline self-grading on the NCVT MIS portal, validated by external agencies like CRISIL through physical inspections and stakeholder inputs (e.g., trainees, employers). It used **43 parameters across 10 categories** (total weightage: 100%), scored on a 0–5 scale (e.g., A+ for ≥4.5), with grades valid for 2 years initially (later extended to 5). The focus was on holistic diagnostics, emphasizing civil infrastructure and basic operations to identify upgrade needs. Results, published in October 2017 after appeals, covered 26 states/UTs, with average scores around 1.41, underscoring widespread gaps.

Table 1: Phase I foundation for Infrastructure and Compliance

Category	Weightage	Parameters	Focus Areas
Civil Work	8%	4	Plot ownership, boundary walls, building certificates, owned vs. rented structures.
Trades	11%	4	Trade diversity (beyond core like Fitter), high-end offerings (e.g., CNC), reaffiliation compliance, optional machinery.

Category	Weightage	Parameters	Focus Areas
Industry Connect	10%	4	MoUs for visits/dual training, IMC functionality, guest faculty from industry, employer coverage of trainees.
Outcome	20%	5	Placement/apprenticeship %, dropout rate, pass-out rate, recruiting companies, self-employment proof.
Instructors	8%	4	Vacancy %, full-time principal, CITS certification %, industry experience (≥ 3 years).
Production Centre	2%	1	Revenue generation (e.g., $\geq ₹5$ lakhs via audits, excluding fees).
Capacity Utilization	8%	2	Seat fill % (excluding supernumerary), power consumption vs. norms.
Key Compliance	8%	3	Aadhaar in MIS, $\geq 30\%$ women students, biometric attendance.
Special Achievement	4%	3	Awards (district/national), ISO 29990 certification, patents.
Miscellaneous	21%	13	IT lab (≥ 10 computers), library (NIMI books), website functionality, scholarships, grievance redressal, uniforms, maintenance logs, innovations (e.g., solar), digital transactions %.

High scorers (≥ 3 stars) accessed incentives like new trade approvals and STRIVE funding, promoting emulation of "model ITIs."

2.5.2 Phase II: Outcome and Engagement Shift (2019–2021)

Responding to Phase I's limited uptake (only $\sim 32\%$ participation), Phase II mandated grading for ungraded ITIs, covering 9,669 more (total: 13,480; later expanded to $\sim 15,000$). It transitioned to online self-reporting with geo-tagged evidence (photos/videos) via a mobile app, verified by ICRA, incorporating appeals and public dashboards. Streamlined to **27 parameters across 5 categories** (each 20% weightage, plus 20% bonus for best practices), it emphasized measurable impacts, with grades valid for 5 years and re-grading options. Outcomes from $\sim 12,352$ ITIs showed persistent low averages (1.41), but better industry ties in high performers.

Table 2: Phase II for Outcome and Engagement shift

Category	Weightage	Parameters	Focus Areas
Trades and Industry Engagement	20%	4	Active MoUs, CSR funding, dual training % (trainees), placement cell efficacy.
Instructor Quality and Availability	20%	4	CITS certification %, refresher training %, vacancy %, guest faculty from industry %.
Outcome	20%	4	First-attempt pass % (incl. ≥80% scorers), career progression (employment/apprenticeship/higher studies/self-employment %), skill competition awards.
Knowledge Infrastructure and Institute Processes	20%	4	Functional IMC, machine maintenance logs, full-time trained principal, production revenue (nonfee).
Bonus: Best Practices	20%	11 (top 5 scored)	Playground, 10th-12th progression, innovations (e.g., IoT courses), sustainability (solar/rainwater), women-oriented trades, MIS compliance, convocation, alumni networks, trade diversity, fund utilization.

Incentives scaled up: ≥2.5 grade unlocked exam autonomy, priority funding, and international training; public rankings aided student choices.

The ecosystem under initiatives like STRIVE, etc., emphasizes infrastructure upgradation, training of trainers, digital labs, industry partnerships, but a holistic institutional capacity-grading and continuous improvement system remains weak.

Key summary of strengths & gaps in India:

Strengths

- A national grading/benchmarking initiative in place for ITIs via DGT.
- Data-driven, transparent scale given the MIS portal publication requirement.

Gaps:

- The existing framework emphasizes institutional inputs (admissions, passes) rather than deeper quality, outcomes, sustainability.
- Limited emphasis on industry linkages, apprenticeships, placements, student learning experience, innovation, governance.

- Infrastructure and institutional capacity beyond enrolments/passes not sufficiently captured.
- Continuous improvement cycles, stakeholder feedback, self-assessment culture less developed.
- A more advanced grading tool is required that is aligned with international best practice.

While the general frameworks focus on the processes of quality assurance (like PDCA cycles), the indicators are the specific, measurable metrics used to determine if the VET system is achieving its quality goals. The Comparative Quality Assurance Matrix focusing specifically on the Key Performance Indicators (KPIs) used by each framework.

Table 3: Comparative Table of QA Indicators Across VET Quality Frameworks

Feature	India: STRIVE (Skill Strengthening for Industrial Value Enhancement)	China: VET System	Germany: DEQA-VET (Quality Assurance Reference Point)	Europe: EQAVET (European Quality Assurance in VET)	Australia: ASQA & VET Quality Framework (VQF)
Primary Focus/Goal	Improving quality and market relevance of VET, with a focus on Industrial Training Institutes (ITIs) and capacity building.	Scaling up VET with speed and standard, strengthening industry integration, and establishing a national credit bank.	Promoting quality assurance and development in the decentralized VET system, especially the dual system (company-based training).	Providing a common European framework of principles, indicators, and descriptors to support and improve Member States' VET quality systems.	Achieving greater national consistency, integrity, and rigor in the VET sector by registering and monitoring Registered Training Organizations (RTOs).
Governing/Regulatory Body	National Council for Vocational Education and Training (NCVET) Directorate General of Training (DGT), Sector Skill Councils (SSCs). Maharashtra State Board of Skill, Vocational Education and Training (MSBSVET)	Ministry of Education (MoE), and relevant local/provincial departments.	German Reference Point for Quality Assurance in VET (DEQA-VET) at the Federal Institute for VET (BIBB).	European Commission, supported by EQAVET National Reference Points (NRPs) in Member States.	Australian Skills Quality Authority (ASQA) is the national regulator.
Quality Cycle	Adopts a systemic quality assurance approach, often referencing the	Implied focus on continuous improvement through policy reforms	Supports the implementation of the EQAVET Quality Cycle (Plan-	Based explicitly on a four-stage quality cycle: Planning,	Compliance-focused, with audits and monitoring serving as the "Check" phase to

Feature	India: STRIVE (Skill Strengthening for Industrial Value Enhancement)	China: VET System	Germany: DEQA-VET (Quality Assurance Reference Point)	Europe: EQAVET (European Quality Assurance in VET)	Australia: ASQA & VET Quality Framework (VQF)
	PDCA cycle for continuous improvement.	and standards enhancement (e.g., VET Implementation Reform Plan, Action Plan).	Implement-Evaluate-Review) at system and provider levels.	Implementation, Evaluation/Assessment, and Review/Revision.	ensure compliance with the VQF Standards.
Key Components/ Standards	Aims to implement a National Quality Assurance Framework (NQAF), tiered accreditation for institutions and assessment bodies, and industry partnerships.	Focuses on robust provider and qualification standards, national qualifications framework, and the 1+X mechanism (micro-credentials).	Eleven Cornerstones for quality assurance in company-based training, focusing on the multi-level system (system, intermediate, and company).	Indicative Descriptors (system/provider level) and 10 Reference Indicators (e.g., completion rate, placement rate, investment in trainer training).	VET Quality Framework (VQF), which includes Standards for RTOs, Australian Qualifications Framework (AQF), Financial Viability Requirements, and Data Provision Requirements.
Role of Industry/ Employers	Closer partnership with industry to ensure consistency and relevance of qualifications and training.	Strong industry integration (e.g., through school enterprise cooperation) is a key policy priority.	Central to the dual system, where companies provide the practical part of the training.	Encouraged to be involved in the design, evaluation, and review of VET programs to ensure labour market relevance.	Training and assessment must be informed by industry, employer, and community engagement to maintain industry relevance.
Regulatory Approach	Moving towards a nationally consistent and outcomes-based QA system.	Central government driven reforms and action plans, often through pilots and	Decentralized system with quality assurance built into the regulatory framework	Voluntary instrument providing common tools and guidance, with implementation	Strict compliance and enforcement through audits (initial registration, compliance,

Feature	India: STRIVE (Skill Strengthening for Industrial Value Enhancement)	China: VET System	Germany: DEQA-VET (Quality Assurance Reference Point)	Europe: EQAVET (European Quality Assurance in VET)	Australia: ASQA & VET Quality Framework (VQF)
		phased implementation.	for training companies and VET schools.	adapted to national systems (nonprescriptive).	performance) and sanctions (suspension, cancellation).

The broad key indicators for each of the framework are:

Table 4: Broad key indicators for each of the framework

Framework	Focus/Type of Indicator	Key Specific Indicators/Metrics Used
EQAVET (European Quality Assurance in VET)	Systemic and Provider-Level Outcomes/Input	1. Relevance of Quality Assurance Systems for VET Providers 2. Investment in Training of Teachers and Trainers 3. Participation Rate in VET 4. Completion Rate in VET 5. Placement Rate in VET 6. Utilization of Acquired Skills at the Workplace 7. Unemployment Rate Following VET 8. Prevalence of Vulnerable Groups 9. Mechanisms to Identify Skill Needs in the Labour Market 10. Schemes to Promote Better Access to VET

Framework	Focus/Type of Indicator	Key Specific Indicators/Metrics Used
ASQA & VQF (VET Quality Framework)	Provider-Level Compliance and Learner/Employer Outcomes (Mandatory Annual Reporting)	1. Learner Engagement: Measures student satisfaction with quality of training, instruction, and resources (Outcome/Feedback). 2. Employer Satisfaction: Assesses employer view on graduate competence, job-readiness, and skill relevance (Outcome/Relevance). 3. Competency Completion Rate: Percentage of students who successfully complete their course/units (Outcome/Efficiency). 4. Financial Viability (Input/Compliance).
STRIVE (Skill Strengthening for Industrial Value Enhancement)	System/ITI Capacity, Governance, and Placement (Key Result Area/Outcome Indicators)	1. ITI Grading/Performance Index: Improvement in quality scores. 2. Placement Rate/Employment Outcomes: Graduates placed in jobs/apprenticeships. 3. Industry Linkages/Twinning Arrangements established (Input/Process). 4. Capacity Utilization of equipment and infrastructure (Input/Efficiency). 5. Women's Participation in VET (Access/Equity).
DEQA-VET (Quality Assurance Reference Point)	Process and Structural Quality (Built into the legal 'Cornerstones' and EQAVET alignment)	1. Trainer Aptitude/Qualification (Input/Compliance). 2. Suitability of Training Venue/Equipment (Input/Compliance). 3. Examination Procedures (Focus on consistency and reliability). 4. Reporting and Documentation
China VET System	Scale, Infrastructure, and Policy Implementation (System-Level KPIs)	1. Enrolment/ Scale of VET: Number of students in various VET levels (Input/Access). 2. School-Enterprise Cooperation: Number/Quality of partnerships (Process/Relevance). 3. Faculty Development & Qualifications (Input/Quality). 4. Professional Setting/Curriculum Alignment with talent training objectives (Process/Relevance). 5. Evaluation System Construction: Development and effectiveness of internal quality control.

Chapter 3: Gap Analysis: Present Indian ITI Grading Model & Additional Dimensions Needed

Based on benchmarking and the Indian review above, the following gaps and improvement opportunities for an ITI-grading framework can be identified.

3.1 Key Gaps

1. Outcome orientation & employability

- The current DGT grading uses pass rates and average marks but does not sufficiently address actual job placement, apprenticeship uptake, industry utilization of skills, alumni tracking, student success beyond certification.
- International frameworks emphasize placement/skills utilization (EQAVET indicator “utilization of acquired skills at the workplace” etc.).
- Given TVET’s focus on employability, this is a major omission.

2. Industry linkages / apprenticeship / work-based learning

- The DGT grading has a “Dual System of Training (DST) enrolment %” parameter (5 %) but this is limited.
- There is less visibility in the DGT framework about the quality of industry engagements, apprenticeship programmes, training delivered in real industry context, employer satisfaction, up-skilling of trainers by industry.
- International systems (Germany, Europe) place stronger emphasis on apprenticeship/work-based learning.

3. Institutional capacity, governance, innovation, and sustainability

- The DGT grading framework lacks explicit measures for governance (leadership, management systems), data-monitoring systems, continuous improvement, innovation (new trades, digital labs), sustainability of the institute (financial viability, maintenance of assets, responsiveness to evolving industry needs).

4. Learning experience & student voice

- Few parameters capture student experience (teacher competence, student support services, infrastructure condition, digital/physical labs, student feedback mechanisms).

5. Continuous improvement/self-assessment/cycle of QA

- International models emphasize a quality-assurance cycle (planning → implementation → evaluation → review) and self-assessment mechanisms. DGT grading is largely a static score with annual revision.
- For transformation planning, building this continuous improvement loop is essential.

3.2 Improvement Opportunities

- Introduce deeper outcome-oriented indicators: e.g., employment rate.
- Expand the infrastructure dimension to include digital-lab readiness, industry-4.0 readiness, maintenance management, equipment age/uptime.
- Introduce a governance/institutional capacity dimension: leadership, management practices, faculty development, internal QA mechanism, financial viability, data systems.
- Strengthen industry linkages/apprenticeship dimension: percentage of students in apprenticeship/industry internship, number of MOUs with local industry, industry visitation days, employer engagement.
- Student learning experience dimension: student feedback mechanisms, support services, career guidance, digital learning.
- Innovation & sustainability dimension: ability to run new emerging trades (IoT, renewable energy, drones), entrepreneurship incubation, continuous improvement mechanisms, green/lean practice, responsiveness to change.
- Data/monitoring systems: availability of dashboards, data tracking student outcomes, equipment utilization, real-time MIS, integration with state skill portal (MahaSwayam or equivalent).

Chapter 4: Proposed ITI Grading Framework for Institution

The Proposed ITI Grading Framework for DAKSH is a comprehensive tool designed to assess, benchmark, and monitor the transformation of 419 selected Industrial Training Institutes (ITIs) in Maharashtra. Each of the dimensions (pointers) is scored on a 0-10 scale, with a suggested weighting scheme to generate a composite grade. The example weightings provided reflect strategic priorities under the DAKSH initiative, emphasizing foundational elements of institutional strength, employability-focused outcomes, and sustainable practices. The proposed weights prioritize core enablers of quality vocational education (e.g., infrastructure, training, and industry ties) while ensuring balanced attention to equity, innovation, and accountability.

The methodology for arriving the grading framework is:

- All indicators from the Data Driven Grading Methodology (DDGM) of Directorate General of Training (DGT) are included as (a) all the indicators in DDGM are strong indicators of ITI performance; and (b) including them in the broader framework ensures that the ITIs can follow this broader framework without any confusion or misaligned incentives.
- Data from all government ITIs was collected through a comprehensive list of 88 parameters. Statistical analysis of the responses, including correlation analysis, factor analysis, and discriminant analysis, was carried out to identify the most prominent predictors of performance as well as their relative importance. Selected indicators have been classified into six pillars and two parameters.
- The scoring system has been designed with insights from the data (maximum, minimum, mean, and variance) as well as secondary research.

4.1 Overview of the Six Pillars & Indicators

1. Training Delivery and Outcomes
2. Institutional Capacity and Governance
3. Learning and Enabling Environment
4. Industry Engagement
5. Learner Support and Progression
6. Equity and Inclusion

Table 5: Overview of Pillar 1: Training Delivery & Outcomes

Pillar 1	Training Delivery and Outcomes
Levels of Policy Objectives	National: Align with Skill India; ensure high pass rates, low dropouts, strong employability & skill relevance for national workforce goals.

Pillar 1	Training Delivery and Outcomes
	State: Adapt to regional industry needs; emphasize placement, dropout reduction & demand-responsive training. Institutional: Improve teaching quality, assessments, student support & curriculum relevance for better completion & job readiness.
Key parameters for measurement and grading	1. Enrolment Capacity 2. Admission percentage or seat utilization rate 3. Retention rate (exam hall tickets issued/total admission) 4. Pass percentage in All India Trade Test 5. Average score in All India Trade Test 6. Trainees placed in gainful employment post completion 7. Diversity of trades offered
Sources of Information	1. DGT MIS / NCVT MIS portal 2. Data collection at source
Concerns Regarding Indicator or Source	1. Data entry errors / delays in DGT MIS 2. Self-reporting bias (under-reporting dropouts, inflating placements)
Alternatives sources data collection	1. Third-party audits/verification of outcomes 2. Tracer studies 3. Employer-led assessments & apprenticeship feedback

Table 6: Overview of Pillar 2: Institutional Capacity and Governance

Pillar 2	Institutional Capacity and Governance
Levels of Policy Objectives	National: Build strong governance and capacity in TVET institutions to align with national skill agendas like Skill India, ensuring effective management, resource utilization, and quality standards for workforce development. State/Regional: Support localized governance structures (e.g., SCVT oversight) for adaptive capacity building, funding allocation, and regional industry alignment in ITIs. Institutional: Foster internal leadership, digital integration, and stakeholder mechanisms (e.g., placement cells, governing bodies) for operational efficiency, accountability, and continuous improvement in TVET delivery.
Key Indicators	1. Regular full-time Principal (dedicated leadership for daily operations and strategic direction)

Pillar 2	Institutional Capacity and Governance
	2. Functional governing body (e.g., Institute Management Committee/IMC for oversight and industry linkage) 3. Functional placement cell with designated placement coordinator and student volunteers (for employability support and tracer studies) 4. ITI has digital systems (e.g., MIS portals, online tracking for enrolment, assessments, and reporting) 5. Availability of quality assurance tools (e.g., internal audits, ISO certification, performance dashboards)
Sources of Information	1. DGT MIS/NCVT MIS portals for automated data (e.g., principal details, digital system usage) 2. ITI self-reports and affiliation documents (e.g., IMC minutes, placement records)
Concerns Regarding Indicator or Source	1. Self-reporting bias leading to overstated functionality (e.g., inactive IMCs reported as functional) 2. Data inaccuracies/delays in DGT MIS due to manual entries 3. Resource constraints in rural ITIs limiting digital system adoption 4. Lack of standardization in quality tools across states 5. Limited verification of placement cell effectiveness without tracer data
Alternatives	1. Third-party verifications/audits for governance functionality 2. Tracer studies linked to placement cells
Good Practices in Other Countries	Singapore: ITE's GEMSET framework integrates governance with audits/awards for capacity enhancement, achieving >90% employability through strong leadership and digital tools. Germany: Dual system with chamber-led governance ensures industry-integrated capacity building and quality assurance in TVET. Australia: ASQA's risk-based grading evaluates governance/compliance, using data-driven frameworks for institutional capacity. South Korea: KRIVET aligns governance with skill forecasts and EdTech, building capacity through national R&D.

Pillar 2	Institutional Capacity and Governance
	UK: Ofsted inspections assess leadership/governance, emphasizing inclusive capacity and performance metrics.

Table 7: Overview of Pillar 3: Learning and Enabling Environment

Pillar 3	Learning and Enabling Environment
Levels of Policy Objectives	National: Ensure TVET institutions provide inclusive, modern learning environments with adequate facilities and staff to support national skills development goals, aligning with frameworks like UNESCO's TVET Strategy for accessible, quality education. State/Regional: Adapt infrastructure and resources to local needs, promoting equitable access (e.g., PWD facilities) and digital integration for regional workforce readiness in ITIs. Institutional: Optimize internal environments for effective teaching-learning, focusing on staffed instructors, libraries, smart classrooms, and hygiene facilities to enhance student engagement and outcomes.
Key Indicators	1. Percentage of instructor positions filled through regular appointment (e.g., >80% for optimal staffing) 2. Whether the ITI has a library with reading room and sufficient books 3. Whether the ITI has smart classrooms with projector and internet 4. Availability of washrooms for instructors, male students, female students, and PWD (separate, accessible, maintained facilities)
Sources of Information	1. DGT MIS/NCVT MIS portals for staffing data and infrastructure reports 2. ITI self-assessments and affiliation inspections - External audits by DGT or state bodies 3. Student/instructor surveys on facility usage 4. Physical verification reports and compliance certificates
Concerns Regarding Indicator or Source	1. Self-reporting inaccuracies (e.g., overstated facility availability) 2. Data lags in portals for real-time staffing updates 3. Resource biases in underfunded ITIs affecting smart classroom adoption 4. Subjective assessment of "sufficient" books or maintenance

Pillar 3	Learning and Enabling Environment
	5. Limited focus on usage/effectiveness beyond presence
Alternatives	1. Third-party audits or drone/photographic verifications for facilities
Considerations	1. Prioritize inclusivity (e.g., PWD/gender-specific facilities) 2. address urban-rural disparities in resource access 3. Integrate green/sustainable elements in environments 4. Align with digital transformation 5. Ensure maintenance budgets for long-term usability

Table 8: Overview of Pillar 4: Industry Engagement

Pillar 4	Industry Engagement
Levels of Policy Objectives	National: Foster strong industry-TVET linkages to align skills with economic needs, enhancing employability and innovation under frameworks like Skill India. State/Regional: Promote regional industry collaborations for customized training, apprenticeships, and resource sharing in ITIs. Institutional: Build dedicated mechanisms for ongoing industry ties to improve curriculum relevance, placements, and infrastructure upgrades.
Key Indicators	1. Whether industry exposure provided to students through visits, internships, guest lectures, or apprenticeships 2. Whether the ITI has a designated unit and an instructor for industry linkage activities (yes/no; functionality assessed) 3. No. of MoUs signed with industry (count; active and impactful ones prioritized) 4. No. of labs created/upgraded with industry support (count; verified contributions) 5. DST (Dual System of Training) enrolled trainees as percentage of total enrolment
Sources of Information	1. ITI self-reports and affiliation documents (e.g., MoU copies, exposure logs) 2. DGT MIS/NCVT MIS portals for enrolment/ DST data 3. External audits/inspections by DGT or industry bodies
Concerns Regarding Indicator or Source	1. Self-reporting bias inflating MoU counts or exposure claims without impact 2. Lack of verification for MoU effectiveness or lab upgrades

Pillar 4	Industry Engagement
	3. Data inconsistencies in portals for DST enrolment 4. Resource-limited ITIs may underperform due to location, not effort 5. Short-term focus ignoring sustained engagement
Alternatives	1. Employer satisfaction surveys or joint industry audits for validation 2. Third-party certifications for engagement quality

Table 9: Overview of Pillar 5: Learner Support and Progression

Pillar 5	Learner Support and Progression
Levels of Policy Objectives	National: Strengthen learner support systems in TVET to improve retention, progression, and employability. State/Regional: Implement localized support mechanisms (e.g., mentorship, feedback loops) to address diverse learner needs and facilitate transitions to work or further education. Institutional: Provide personalized guidance, feedback integration, and engagement opportunities to enhance student satisfaction, progression, and career readiness in ITIs.
Key Indicators	1. Whether the ITI collects students feedback on training and support services and incorporates the feedback into training 2. Whether the ITI has a structured counselling and mentorship program to connect students with academic/industry/alumni mentors. 3. Whether the ITI provides exposure to revenue generation activities to students 4. Whether the ITI has active alumni engagement
Sources of Information	1. ITI program documents DGT MIS/ NCVT MIS portals for enrolment/ progression data 2. External audits/inspections by DGT or state bodies 3. Student feedback surveys and incorporation reports
Concerns Regarding Indicator or Source	1. Low response rates in surveys/alumni engagement 2. Bias in self-reported feedback or program documentation 3. Resource constraints limiting structured programs in smaller it is 4. Lack of standardization in measuring incorporation or activity impact

Pillar 5	Learner Support and Progression
	5. Data privacy issues in mentorship/ alumni tracking
Alternatives	1. Independent third-party surveys for unbiased feedback 2. Integrated tracer studies linking support to progression outcomes
Interpretation	High score (>7–8/10, e.g., active feedback loops, robust mentorship, strong alumni ties) → Effective support driving learner retention and success; enhances ITI grading and reputation. Low score → Gaps in guidance/progression; indicates need for program development or partnerships. This pillar evaluates holistic learner development, crucial for TVET outcomes in grading frameworks.

Table 10: Overview of Pillar 6: Equity and Inclusion

Pillar 6	Equity and Inclusion
Levels of Policy Objectives	National: Promote equitable access and inclusion in TVET for underrepresented groups (e.g., women, SC/ST, PWD) to achieve social justice, diversity, and national development goals like Skill India and UNESCO TVET Strategy. State/Regional: Implement targeted enrollment quotas and accessibility measures to address local disparities and ensure inclusive skill development in ITIs. Institutional: Foster an inclusive environment through enrollment tracking, accessibility upgrades, and support systems to enhance participation and success for diverse learners.
Key Indicators	1. Female enrolment as percentage of total enrolment 2. SC Enrolment as percentage of assigned target 3. ST Enrolment as percentage of assigned target 4. PWD enrolment as percentage of total enrolment 5. Whether the ITI is accessible
Sources of Information	1. DGT MIS/NCVT MIS portals for enrollment data by category 2. ITI self-reports and affiliation inspections - External audits by DGT or state bodies for accessibility 3. Student surveys and reservation compliance reports 4. Annual equity audits or tracer studies
Concerns Regarding Indicator or Source	1. Data manipulation in self-reports to meet quotas without real inclusion 2. Inaccuracies in portals due to incomplete categorization

Pillar 6	Equity and Inclusion
	3. Targets may not reflect actual equity if access barriers persist 4. Socio-economic factors affecting enrollment not captured
Alternatives	1. Third-party equity audits or community verifications 2. Integrated digital tracking with Aadhaar for accurate demographics 3. Holistic metrics like retention/completion rates by group

Other Parameters for administrative MIS

Explanation: These parameters are important for monitoring the ITIs but have not been included in the grading framework to keep the grading framework concise.

1. Training Delivery and Outcomes

- ⇒ Total no. NCVT/SCVT trades available in the ITI
- ⇒ Number of new trades introduced during the year
- ⇒ Number of outreach and enrolment campaigns by the ITI in the last academic year
- ⇒ Trainees getting placed after apprenticeship completion
- ⇒ Recognized technological innovations/achievements

2. Institutional Capacity and Governance

- ⇒ Whether Institutional Development Plan (IDP) prepared within last 3 years exists for ITI
- ⇒ When was the most recent review of list of programs offered held by the institution
- ⇒ Whether there is any system / mechanism for conducting Parent-Teacher Meetings
- ⇒ Is there a designated staff for procurement and financial management?
- ⇒ No. of trades for which valid Annual Maintenance Contract (AMC) is available
- ⇒ Whether ITI has a website

3. Learning and Enabling environment

- ⇒ Percentage of instructor positions filled through regular or contractual appointment in the ITI
- ⇒ Percentage of instructors CITS certified (DGT phase II)
- ⇒ Percentage of regular instructors with graduation or higher qualification
- ⇒ Percentage of regular instructors who underwent at least one refresher training in last 3 years (DGT phase II)
- ⇒ Percentage of instructors with industry experience of at least 3 years
- ⇒ Percentage of classrooms available w.r.t. requirement
- ⇒ Percentage of labs/workshops available w.r.t. requirement
- ⇒ Percentage of computer labs available w.r.t. requirement
- ⇒ Whether a Seminar Hall is available in ITI
- ⇒ Whether the ITI has functional water purifier
- ⇒ Whether there is a cafeteria in ITI

- ⇒ Whether there is first-aid room equipped with first-aid kit in ITI
- ⇒ Whether there is a medical practitioner in ITI or available on call
- ⇒ Whether there is a playground in the ITI
- ⇒ Whether there is fire detection and firefighting system in place
- ⇒ Whether the ITI has sanitary napkin vending machine
- ⇒ Whether there is men's Hostel in ITI
- ⇒ Whether there is women's Hostel in ITI
- ⇒ Are CCTV cameras installed at the entry and exit gates, as well as in other key areas?
- ⇒ Availability of housekeeping staff/ agreement or contract for housekeeping
- ⇒ Whether ITI has Green building certification or the following:
 - Solar street lighting
 - Rainwater harvesting
 - Solid waste management
 - Liquid waste management

4. Industry Engagement

- ⇒ Number of companies participated in campus placement
- ⇒ Number of short-term courses offered
- ⇒ Number of industry-led short-term courses offered

5. Learner Support and Progression

- ⇒ Whether the ITI organizes employability skills training other than DGT mandated for the students
 - ⇒ Whether the ITI provides specific support such as CV making, group discussion practice, interview preparation etc. for students
 - ⇒ Does the ITI have a placement process in the institute to facilitate selection of students by industry?
 - ⇒ Whether there is any system / mechanism for recording and addressing grievances/complaints
 - ⇒ Participation and awards in skill competitions

6. Equity and Inclusion

- ⇒ Whether the ITI has learning support materials for visual, speech, and hearing impaired

4.2 Scoring Table for Pillars & Indicators

Building on the six-pillar framework outlined in Section 4.1, this section operationalizes the grading framework through a structured, indicator-wise scoring methodology. Each pillar has been assigned a defined weight within the overall 100-point composite score, reflecting its relative importance in institutional performance. The indicators under each pillar are linked to measurable parameters, clearly defined calculation methods, scoring bands, and verifiable data sources to ensure objectivity and comparability across ITIs.

Table 11: Scoring Framework – Pillar 1: Training Delivery and Outcomes (30 Points)

Indicator Name	Definition	Purpose	Calculation Method	Weight & Scoring	Data Source
Enrolment Capacity	Total sanctioned student intake capacity	Measures institutional scale and reach	Categorize intake size	Weight: 4; Scoring: 1 (200–500), 2 (500–750), 3 (750–1000), 4 (>1000)	DVET records, ITI MIS, from ITI itself
Admission % / Seat Utilization	% of seats filled vs sanctioned	Tracks demand and efficiency	$(\text{Admissions} \div \text{Sanctioned seats}) \times 100$	Weight: 5; Scoring: 1 (50–60%), 2 (60–70%), 3 (70–80%), 4 (80–90%), 5 (>90%)	ITI admission records, MIS
Retention Rate	% of admitted students who appear for exams	Measures student continuity	$(\text{Hall tickets} \div \text{Admissions}) \times 100$	Weight: 4; Scoring: 1 (50–65%), 2 (65–80%), 3 (80–90%), 4 (>90%)	Exam records, MIS
Pass % in AITT	% of students passing All India Trade Test	Tracks training effectiveness	$(\text{Passed} \div \text{Appeared}) \times 100$	Weight: 5; Scoring: 1 (50–60%), 2 (60–70%), 3 (70–80%), 4 (80–90%), 5 (>90%)	NCVT exam results
Average Score in AITT	Mean score of students in AITT	Measures quality of learning	Average marks across candidates	Weight: 4; Scoring: 1 (50–60%), 2 (60–70%), 3 (70–80%), 4 (>80%)	NCVT exam results
Placement Rate	% of graduates placed in jobs/apprenticeships	Measures employability	$(\text{Placed} \div \text{Graduates}) \times 100$	Weight: 5; Scoring: 1 (30–40%), 2 (40–50%), 3 (50–60%), 4 (60–70%), 5 (>70%)	Placement cell records, employer MoUs

Indicator Name	Definition	Purpose	Calculation Method	Weight & Scoring	Data Source
Diversity of Trades	Range of trades offered	Tracks curriculum breadth	Count categories offered	Weight: 3; Scoring: 1 (only engineering), 2 (engineering + non-engineering), 3 (engineering + non-engineering + new-age trades)	ITI trade

Table 12: Scoring Framework – Pillar 2: Institutional Capacity and Governance (20 Points)

Indicator Name	Definition	Purpose	Calculation Method	Weight & Scoring	Data Source
Full-time Principal	Leadership status	Ensures governance stability	Categorize principal appointment	Weight: 3; Scoring: 1 (additional charge), 2 (full charge + other ITIs), 3 (dedicated full-time)	HR records
Functional Governing Body	IMC functionality	Strengthens governance	Checklist scoring	Weight: 3; Scoring: 1 (notified), 2 (meetings held annually), 3 (infrastructure created)	IMC minutes
Placement Cell	Existence of placement structure	Supports employability	Checklist scoring	Weight: 3; Scoring: 1 (exists, no coordinator), 2 (coordinator only), 3 (coordinator + student volunteers)	ITI records

Indicator Name	Definition	Purpose	Calculation Method	Weight & Scoring	Data Source
Digital Systems	Availability of 6 digital systems 1. student data management, 2. class/session planning 3. assessment analytics, 4. instructor workload management, 5. student attendance monitoring, and 6. instructor attendance monitoring	Promotes modernization	1 point per system	Weight: 6; Scoring: 1 each for student data, class planning, analytics, workload, student attendance, instructor attendance	MIS, ITI records
QA Tools	1. student feedback, 2. employer feedback, 3. industry engagement, 4. tools & equipment procurement, 5. equipment maintenance	Ensures quality assurance	1 point per SOP	Weight: 5; Scoring: 1 each	ITI QA documents

Table 13: Scoring Framework – Pillar 3: Learning and Enabling Environment (15 Points)

Indicator Name	Definition	Purpose	Calculation Method	Weight & Scoring	Data Source
Instructor Positions Filled	% of sanctioned posts filled	Measures staffing adequacy	$(\text{Filled} \div \text{Sanctioned}) \times 100$	Weight: 5; Scoring: 1 (50–60%), 2 (60–70%), 3 (70–80%), 4 (80–90%), 5 (>90%)	HR records
Library	Availability of library, reading room, books	Supports learning	Checklist scoring	Weight: 3; Scoring: 1 (library), +1 (reading room), +1 (sufficient books)	ITI records
Smart Classrooms	ICT-enabled classrooms	Promotes digital learning	Checklist scoring	Weight: 3; Scoring: 1 (≥ 1 classroom), 2 ($\geq 50\%$ trades), 3 (all trades)	Infrastructure audit
Washrooms	Availability for instructors, male, female, PwD	Ensures inclusivity	Checklist scoring	Weight: 4; Scoring: 1 each category	Infrastructure audit

Table 14: Scoring Framework – Pillar 4: Industry Engagement (15 Points)

Indicator Name	Definition	Purpose	Calculation Method	Weight & Scoring	Data Source
Industry Exposure	OJT, guest lectures, visits	Builds industry linkages	1 point each if $\geq 50\%$ students covered	Weight: 3	ITI records
Industry Linkage Unit	Dedicated instructor/unit	Strengthens engagement	Checklist scoring	Weight: 3; Scoring: 2 (instructor only), 3 (unit + volunteers)	ITI records

Indicator Name	Definition	Purpose	Calculation Method	Weight & Scoring	Data Source
MoUs with Industry	Formal partnerships	Builds collaboration	Count MoUs	Weight: 3; Scoring: 1 (≥ 1 MoU), 2 ($\geq 50\%$ trades), 3 (all trades)	MoU documents
Labs with Industry Support	Labs created/upgraded	Enhances infrastructure	Count labs	Weight: 3; Scoring: 1 (≥ 1 lab), 2 ($\geq 50\%$ trades), 3 (all trades)	ITI records
DST Enrolment %	% trainees in Dual System of Training	Promotes work-based learning	$(\text{DST trainees} \div \text{Total enrolment}) \times 100$	Weight: 3; Scoring: 1 ($\geq 10\%$), 2 (10–20%), 3 ($> 20\%$)	Apprenticeship portal

Table 15: Scoring Framework – Pillar 5: Learner Support and Progression (10 Points)

Indicator Name	Definition	Purpose	Calculation Method	Weight & Scoring	Data Source
Student Feedback	Feedback collection & use	Improves training quality	Checklist scoring	Weight: 2; Scoring: 1 (collected), +1 (incorporated)	Feedback forms
Counselling & Mentorship	Structured support	Enhances progression	Checklist scoring	Weight: 2; Scoring: 1 (counselling), +1 (mentorship program)	ITI records
Revenue Generation Activities	Student exposure to revenue	Promotes entrepreneurship	Checklist scoring	Weight: 2; Scoring: 1 (activities exist), 2 ($\geq 50\%$ trainees involved)	ITI records

Indicator Name	Definition	Purpose	Calculation Method	Weight & Scoring	Data Source
Alumni Engagement	(i) alumni tracking, (ii) alumni events in campus, (iii) lifelong support for employment, and (iv) preference in procurement	Builds lifelong linkage	1 point each	Weight: 4	Alumni records

Table 16: Scoring Framework – Pillar 6: Equity and Inclusion (10 Points)

Indicator Name	Definition	Purpose	Calculation Method	Weight & Scoring	Data Source
Female Enrolment %	% of female trainees	Promotes gender equity	$(\text{Female} \div \text{Total}) \times 100$	Weight: 2; Scoring: 1 (15–25%), 2 (>25%)	MIS
SC Enrolment vs Target	% of SC trainees vs target	Promotes social equity	$(\text{SC} \div \text{Target}) \times 100$	Weight: 2; Scoring: 1 ($\geq 75\%$), 2 (>100%)	Admission records
ST Enrolment vs Target	% of ST trainees vs target	Promotes social equity	$(\text{ST} \div \text{Target}) \times 100$	Weight: 2; Scoring: 1 ($\geq 75\%$), 2 (>100%)	Admission records
PwD Enrolment %	% of Persons with Disabilities	Promotes inclusivity	$(\text{PwD} \div \text{Total}) \times 100$	Weight: 2; Scoring: 1 ($\geq 1\%$), 2 (>2%)	Admission records
Accessibility	Physical accessibility	Ensures inclusivity	Checklist scoring	Weight: 2; Scoring: 1 (ramps), +1 (additional measures e.g., tactile pathways)	Infrastructure audit

4.3 Grading Rationale

The grading framework for Technical and Vocational Education and Training (TVET) institutions is designed to evaluate overall performance across key dimensions that contribute to effective skill development, institutional sustainability, and societal impact. The

total scoring is out of 100 marks, with weights assigned based on the relative importance of each indicator to the core mission of TVET: producing skilled, employable graduates while ensuring operational excellence, relevance, and inclusivity. Weights reflect priorities such as direct impact on learner outcomes (higher weights) versus supportive or enabling factors (lower weights). Higher marks are allocated to areas that directly drive educational quality and results, while lower marks go to essential but ancillary aspects. Below is a detailed rationale for the scoring of each indicator, explaining the basis for its weight in the framework.

Table 17: Grading Rationale for Six Pillars

Pillar	Marks	Rationale
Pillar 1: Training Delivery and Outcomes	30	This indicator receives the highest weight (30 marks) because it represents the core purpose of any TVET institution: delivering high-quality training that leads to measurable outcomes such as skill acquisition, certification rates, employment placement, and graduate performance in the workforce. In TVET contexts, success is ultimately judged by how well programs translate into practical competencies and real-world results. A heavier emphasis here ensures the framework prioritizes effectiveness over peripheral elements, aligning with global standards like those from UNESCO or ILO, where outcome-based metrics (e.g., completion rates, employer satisfaction) are critical for accountability and funding. Without strong performance in this area, other indicators lose their foundation, justifying the substantial allocation to incentivize institutions to focus on curriculum relevance, teaching methodologies, assessment rigor, and post-training tracking.
Pillar 2: Institutional Capacity and Governance	20	Assigned 20 marks, this indicator is weighted significantly but secondary to training outcomes, as it focuses on the structural backbone that enables sustainable operations. It encompasses leadership quality, resource management, strategic planning, financial health, and compliance with regulations—elements essential for long-term viability but not directly tied to daily learner experiences. The rationale is to balance operational efficiency with educational impact; weak governance can undermine all other areas (e.g., through mismanagement of funds or poor decision-making), but it is not the end-goal itself. This weight draws from frameworks like those in higher education

		accreditation bodies (e.g., emphasizing accountability and transparency), ensuring institutions are evaluated on their ability to build resilient systems that support innovation and adaptability in a dynamic vocational landscape.
Pillar 3: Learning and Enabling Environment	15	With 15 marks, this indicator is moderately weighted to reflect its role as a facilitator of effective education rather than a direct driver of outcomes. It covers infrastructure, facilities, technology integration, safety, and the overall atmosphere conducive to learning (e.g., classrooms, workshops, digital tools). The rationale prioritizes it below core delivery because while a supportive environment enhances engagement and retention, it is enabling rather than transformative—poor facilities can hinder progress, but excellence here alone does not guarantee skill mastery. This allocation encourages investments in modern, industry-simulated settings without overshadowing outcome-focused metrics, aligning with TVET best practices that emphasize practical, hands-on learning spaces over theoretical ones.
Pillar 4: Industry Engagement	15	Also at 15 marks, this indicator is equally weighted with the learning environment due to its critical role in bridging academia and the labor market, ensuring program relevance through partnerships, internships, advisory boards, and collaborative projects. The rationale is to highlight employability without dominating the framework, as strong industry ties directly inform curriculum updates and placement opportunities but depend on foundational capacity and delivery. This weight promotes responsiveness to economic needs (e.g., addressing skill gaps in sectors like manufacturing or IT), drawing from models like Germany's dual education system, where collaboration is key but integrated into broader institutional evaluations rather than isolated.
Pillar 5: Learner Support and Progression	10	Weighted at 10 marks, this indicator addresses individualized services such as counseling, career guidance, mentoring, and pathways for further education or upskilling, which are vital for personal development but supplementary to core training. The lower allocation rationale is that while these supports

		boost retention and success rates, they are reactive and learner-specific rather than institution-wide drivers. Prioritizing them less ensures the framework remains focused on systemic quality yet still incentivizes holistic care—especially for at-risk students—aligning with equity goals without diluting emphasis on outcomes. This reflects a balanced approach where support systems enhance progression but are not the primary measure of institutional excellence.
Pillar 6: Equity and Inclusion	10	At 10 marks, this is the joint-lowest weight, emphasizing policies and practices for diversity, accessibility, gender balance, disability accommodations, and non-discrimination to foster an inclusive TVET ecosystem. The rationale positions it as foundational yet cross-cutting: equity underpins all indicators but is not the central output, justifying a supportive rather than dominant role. This allocation encourages proactive measures (e.g., targeted scholarships or inclusive curricula) without overemphasizing them at the expense of skill delivery, consistent with international agendas like the UN Sustainable Development Goals (SDG 4 on inclusive education), ensuring fairness is integrated but measured proportionately to impact.

4.4 Example of How the Tool will work

- Step 1: Baseline data collection from ITIs across the 6 pillars (via MIS data, surveys).
- Step 2: Score each indicator for each ITI based on scoring guidelines in the table earlier; compute composite score and grade.
- Step 3: Define improvement roadmap with periodic target scores.
- Step 4: Monitor annually: re-score each year, embed self-assessment, tracking of improvement.

Chapter 5: Implementation Approach & Methodology

Below is a recommended approach for implementation of the grading framework.

5.1 Implementation Plan

- a) Draft data collection templates, survey instruments (student experience, employer satisfaction), site-visit protocols.
- b) Build or adapt MIS dashboard for capturing data for these pointers.
- c) Conduct training/orientation for ITIs, regional coordinators on the grading process, data submission, self-assessment.
- d) Deploy data collection: MIS data (admissions, pass rates, placement, infrastructure), site visits (physical verification), stakeholder surveys (students, alumni, employers).
- e) Score each ITI across the six pillars.
- f) Compute composite scores and generate radar charts for each ITI.

5.2 Methodology & Data-Processes

- **Data Collection:** Combination of MIS data (state skill portal, DGT MIS), institutional self-reporting, third-party site visits, student/employer surveys.
- **Scoring:** As per the detailed table in section 4.2.
- **Validation:** Third-party verification of a sample of data points (e.g., infrastructure inventory, employer partnerships) to ensure integrity.
- **Weighting:** As per detailed table.
- **Continuous improvement cycle:** Each year, institutions update self-assessment, compare to target, refine action plans for next year.
- **Peer-learning & benchmarking:** High-performing ITIs share best practices with lower-performing ones in regional/state level workshops/platform.
- **Transparency and public reporting:** Publish aggregated grade/score data by ITI to promote competition and accountability.
- **Risk-management:** Identify risks (data manipulation, resource short-fall, industry non-engagement) and build mitigation (external audit, supplier contracts, MOUs).
- **Sustainability & follow-on:** Institutionalize the grading framework enabling continuous monitoring and quality assurance of the ITI ecosystem.

5.3 Institutional Roles & Responsibilities

- **Relevant department:** Oversight, policy direction and existing data sharing

- **ITIs:** Provide data, undertake self-assessment, implement improvement roadmap, participate in reviews.

5.4 Governance and Quality Assurance of Grading Process

- Explicit grading manual with definitions, scoring bands, evidence requirements to be developed.
- Data quality assurance: each ITI's submitted data must be timestamped, the MIS system locked, random verification sample checks.
- Annual public release of score summaries, with institutional comments/explanations for outliers.
- Continuous review of the grading framework itself (e.g., after Year 2, refine weights/sub-indicators based on experience).
 - Integration with other state/central systems (DGT MIS, SIDH, apprenticeship portals) to avoid duplication and ensure data coherence.