Recent Initiatives by DGE&T under IT & ITES SECTOR

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India remains a preferred destination for information technology (IT) and information technology enabled services (ITeS) in the world.

Information Technology (IT) has made possible information access at gigabit speeds. It has created a level playing field among nations and created has a positive impact on the lives of millions.

Today, a country's IT potential is paramount for its march towards global competitiveness, healthy gross domestic product (GDP) and meeting up the energy and environmental challenges.

The Indian IT and Information Technology enabled Services (ITeS) sectors go hand-in-hand in every aspect. The industry has not only transformed India's image on the global platform, but also fuelled economic growth by energising the higher education sector (especially in engineering and computer science). The industry has employed almost 10 million Indians and, hence, has contributed significantly to social transformation in the country.

India is one of the fastest-growing IT services markets in the world. It is also the world's largest sourcing destination, accounting for approximately 52 per cent of the US$ 124–130 billion market. The country's cost competitiveness in providing IT services continues to be its USP in the global sourcing market.

India has the potential to build a US$ 100 billion software product industry by 2025, according to Indian Software Product Industry Roundtable (iSPIRT). The software products market in India, which includes accounting software and cloud computing-based telephony services, is expected to grow at 14 per cent in 2014.

Indian IT and ITeS industry is divided into four major segments

- IT services,
- Business Process Management (BPM),
- Software Products and Engineering Services, and

- **H**ardware.

The IT services sector accounted for the largest share of the IT and ITeS industry, with a total market size of US$ 56.3 billion during FY13,

BPM sector (US$ 20.9 billion),

Software products and engineering services (US$ 17.9 billion);

The market size for hardware was US$ 13.3 billion during FY12.

Market Size

The Indian IT-BPM industry is expected to add revenues of US$ 13–14 billion to the existing revenues by FY15, according to National Association of Software and Services Companies (NASSCOM).

The industry grew at a compound annual growth rate (CAGR) of 13.1 per cent during FY08–13.Total exports from the IT-BPM sector (excluding hardware) were estimated at US$ 76 billion during FY13, Export of IT services has been the major contributor, accounting for 57.9 per cent of total IT exports (excluding hardware) in FY13. BPM accounted for 23.5 per cent of total IT exports during the same fiscal. The IT outsourcing sector is expected to see exports growing by 13–15 per cent during FY15.

The technology industry of India will have a US$ 37 billion of CMO opportunity by 2020, according to a report titled 'Marketing, Disrupted: Opportunities for the Indian technology industry' by NASSCOM.

The Department of Electronics and Information Technology is coordinating strategic activities, promoting skill development programmes, enhancing infrastructure capabilities and supporting research and development (R&D) for India's leadership position in IT and ITeS.

Road Ahead

India is the most preferred location for engineering offshoring, according to a customer poll conducted by Booz and Co. Companies are now offshoring complete product responsibility. Increased focus on R&D by IT firms in India has resulted in rising number of patents filed by them.

India's IT sector is gradually moving from linear models (rising headcount to increase revenue) to non-linear ones.

In line with this, IT companies in the country are focusing on new models such as platform-based BPM services and creation of intellectual property.

Tier II and III cities are increasingly gaining traction among IT companies aiming to establish business in India.

Cheap labour, affordable real estate, favourable government regulations, tax breaks and special economic zone (SEZ) schemes are facilitating their emergence as new IT destinations.

References: *Media Reports, Press Releases, Department of Industrial Policy and Promotion (DIPP) statistics, Department of Information and Technology*

Articles about IT Sector (Reference)

- National Skills Development Corporation IT & ITES Report - 39 pages 312 KB PDF
- CII and PWC IT & ITES Report - 54 pages 1.67 MB PDF
- NASSCOM OECD IT & ITES Report - 35 pages 2.14 MB PDF
      (Note: hold 'Ctrl' key and click to open the above links)

IT/ITES Sector Employment Opportunities

Information technology is playing an important role in India today & has transformed India's image from a slow moving bureaucratic economy to a land of innovative entrepreneurs.

The IT sector in India is generating 2.5 million direct employment. India is now one of the biggest IT capitals of the modern world and all the major players in the world IT sector are present in the country.

The IT-ITES sector is a large employment generator and has catalyzed the growth of several ancillary industries such as transportation, real estate and catering, security and housekeeping, etc. The total IT Software and Services employment is estimated to touch 3.1million in 2013-14. The indirect employment attributed by the sector is estimated at about 10 million in 2013-14.

The future of IT sector seems quite bright in India. The career opportunities in the information technology sector in India are abundant. Information Technology is a very dynamic and diverse industry. As a result, the IT sector

companies are mostly looking for tech-savvy and multi-skilled people. IT skills are required not only for entering the IT sector but also for acquiring jobs in other sectors.

IT/ITES Employment Trends

The IT/ITES industry is one of the largest employers in India. Not only the industry offers numerous jobs but also tries to follow diverse employment practices and encourages people with different skill sets, gender, abilities and qualifications to work together. IT industry in India has created employment opportunities in smaller/non-metro cities giving the students a chance to enter this field. Nearly, 33-50% employees of large IT firms belong to non-metro areas.

IT industry also encourages differently–abled people by employing and training them. ITES industry provides an opportunity to the non-technical and less qualified people to enter this field. In addition, this filed has helped and is still focusing on women empowerment. The increasing trend of number of women getting employed in this sector exhibits that this sector offers equal opportunities and benefits to women.

Indian IT job market has a very high growth rate. This growth has impacted the overall employment ratio resulting in doubling the employment every year. The number of people employed in the IT/ITeS sector has increased significantly from 670,000 to 2,572,000 from 2003 to 2010 as per the NASSCOM 2011 report. This sector is expected to grow even more in the coming years.

Key Players in the IT Industry in India

- Infosys
- Wipro
- Tata Cons
- Oracle
- Dell
- IBM
- Microsoft
- Accenture
- Cognizant
- Yahoo
- Google

Requirements of IT Industry

The educational qualifications required for some of the IT industry jobs for fresh pass-outs are:-

- Systems Analyst - BE/ B.Tech, Electronics, Communication, Computer Science
- Data Warehousing - BE Computer Science/ MCA
- E-Commerce Engineer - BE / B.Tech/ MCA
- Network Designer - BE Computer Science, BE Electrical & Communication

IT Industry Specializations

Some of the areas of specialization in the IT Industry are:-

- Designing
- Research and Development in Peripheral Integration
- Product Quality Control and Reliability Testing
- Computer Manufacturing
- Maintenance Service
- System Developing /Programming /Software Engineering
- Networking
- Application Programming
- EDP/ E- Commerce
- Enterprise Resource Planning (ERP)
- Database Warehousing and Management
- Operating jobs, Computer operators, Data Entry

Pay Packages Offered

Some of the pay packages offered to the fresh pass-outs in IT industry are :-

- Systems Analysis: Rs.15, 000 - Rs.20, 000 p.m.
- Data Warehousing: Rs.20, 000 p.m.
- E-Commerce: Rs.15, 000 - Rs.25, 000 pm
- Networking: Rs.20, 000 - Rs.25, 000 pm.

Problems Faced by the IT Industry:

Even though demand of engineers is higher than other graduates in India, the IT industry is at times unable to hire talented people. Many engineering graduates do not have in-depth knowledge of the IT field and are unable to meet the industry standards. Sometimes they lack skills such as good communication and soft skills. The graduates need to be more trained in these

areas.

IT/ITES industry in India has a booming growth and more and more youngsters are attracted towards this field.

I)   Activities of DGE&T

- The Ministry of Labour & Employment runs a network of more than 10,000 **Industrial Training Institutes** (ITIs) with seating capacity of around 15 lakh candidates, offering courses in a large number of Sectors under **Craftsmen Training Scheme (CTS)** with an entry level of 8th, 10th and 12 Std level with a duration of 6 months to 2 years.

- In addition, **on-the-job training** in Industry under Apprenticeship Act (**ATS - Apprenticeship Training Scheme** after completion of courses under CTS in the relevant trade (normally one year duration or 3 years integrated course by combining CTS and ATS offered by the Industy).

- Training in Modular pattern under Skill Development Initiative Scheme (SDIS) or **Modular Employable Skills (MES)**.

- **Training of Trainers** (like B.Ed) to function as Instructors in ITI under **Crafts Instructor Training Scheme (CITS)** and entry qualification will be B.E., /Diploma/ITI with relevent experience and the duration will be normally one year.
- **Short Term Skill oriented Training** (1- 4 week duration) under '**Advanced Vocational Training Scheme (AVTS)** in the Central Institutes at **Advanced Training Institute - ATI**,Chennai, Hyderabad, Howrah, Mumbai, Kanpur, Luthiana, Dehradun. For details visit dget.gov.in.

II)   Restructuring of Courses under CTS, CITS, ATS, CoE & MES

- Given the burdeoning skill gap faced by the Indian economy, there is a clear need to revitalise this large network of ITIs and Centrally Funded Institutions under the control of this Ministry, so that these institutions can provide relevent and employment ready skills to the trainees.

- It has been observed that a **proactive partership between various stakeholders can help bridge the gap between the current state of these institutions and their best-in-class capabilities.**

- To addresss the issue, the Ministry has decided to setup **Sector Mentor councils (SMCs)** to focus on courses run/to be run under **NCVT (National Council for Vocational Training)** and also constituted **Core Group** in the 11 key sectors to support the Mentor Council of the concerned sector in discharging its function

III) The Terms of Reference of these SMC/ Core Groups would be

To interact with industries and assess the demand, propose restructuring, redesigning, deletion, addition of courses in the concerned sectors.

- To review and make recommendations regarding all aspects including

  - Curriculum,
  - Course Structure,
  - Course Duration,
  - Requirement of Infrastructure and Consumables,
  - Space and Power Norms,
  - Trainers' Qualification,
  - Requirements related to Training of Trainers,
  - Admission Criteria,
  - Assessment and Evaluation Methodology etc. of the existing CTS, COE, CITS, ATS and SDIS courses in the concerned sector and also for new courses wherever proposed.
  - To critically evaluate the availability and quality of instruction material in various languages for the existing courses,
  - Identify the material required for existing as well as proposed courses and develop the same.
  - To explore the possibility of using distance learning, e-learning and internship / apprenticeship as part of the course design.

IV)   Sector Mentor Council (SMC) for IT & ITES Sector

To bridge the skill gap between the industry and the institute, The SMC consists of experts from Industries like

1)   **Cognizant Technology Solutions India Pvt. Ltd,**
2)   **Infosys,**
3)   **WIPRO,**
4)   **Tata Consultancy Services (TCS),**
5)   **Accenture Services Pvt. Ltd,**
6)   **Mindtree Ltd,**
7)   **Network of ICT Entrepreneurs and Enterprises.**

Domain Experts from Premier Academic Institution's like

8)   **Indian Institute of Technlogy, Bhubaneswar**
9)   **Indian Institute of Technlogy, Mandi**
10)   **Indian Institute of Technlogy, Kharagpur**
11)   **Indian Institute of Technlogy, Chennai**
12)   **National Institute of Electronics and Information Technology, New Delhi**

V)   Vision

- Lead continuous development of our Vocational Education System by a providing strong foundation of prized skills.
- Providing Vocational Education in an exemplary manner will make our citizens economically, socially & politically free and independent.

VI)   Mission

- Identify and hone Potential Skills
- Shaping and guiding the workforce in the right direction
- Inculcate *Self-Employment Skills* among unemployed and under-employed youth
- Preparing target oriented Vocational Training Programs (**VTP**s) designed to
  - Motivate the student
  - Develop understanding, interest, confidence & competency

- o **Learning by Doing** by Bridging Science (knowledge) with Technology (skill)
- o Create research atmosphere and enjoy the fruits of modern technology
- Obtaining and Retaining choice Employment
- Achieve Promotion & further career progress
- Providing Social Dignity to the mass of Urban, Semi-Urban & Rural strata of the Indian Society.
- Leverage Technology to scale up training volume

VII) Mission Path

- Identify Pros and Cons of removal of old courses
- Consult Industry for fine tuning course specifications
- Determine Equipment, Space and Teaching Resources for the courses
- Decide on objective evaluation methodologies for complete certified vocational competence

VIII) DGE&T Recent Initiatives

a) Review of courses run by DGE&T / NCVT under various Schemes

The Government of India has repeatedly stressed on the need for employment linkages to all training efforts. Hence, it is imperative that meaningful and outcome / employment focused courses are introduced covering large number of sectors under various windows. Mentor Councils set up by the Ministry may be requested to lead and guide this process.

i) Craftsmen Training Scheme (CTS):

1. The main aim of **Industrial Training Institute (ITI)** under CTS scheme is to provide employment to weaker sections of the society. Most of the skill training programmes are too costly to afford and lengthy in terms of duration besides requiring higher educational qualifications. Easing these conditions, **ITI is basically designed to offer skills** to those who cannot afford expensive training.

2. It caters the need of those who didn't get a chance for higher education. That is the reason that the minimum educational qualification for **admissions in ITIs is matric, high school or intermediate**. It is also a suitable alternative for those, who are inclined to technical education or who wanted to earn at an early age.

3. ITI is one of the vocational training institutes in India whose **NCVT certificate is recognized throughout world as it is certified by ILO (International Labour Organization).** So the **workers can apply anywhere globally on the basis of this certificate**. In India , government is its being contemplated to make mandatory for industries to employ only the ITI certified workers. This will increase the employment chances to a larger extent.

4. Schemes like **PPP(Public Private Partnership), World Bank and Domestic Funding are aimed to improve the infrastructure and standard of organizations and institutes.** The same is being applied in some of the ITI's where one of the trade is taken as CoE (Centre of Excellence) with state of the art facilities. The students are exposed to related latest machinery and softwares which help them gain quality education. The selection of trades in CoE is done according to the local requirement of the region that increases the employment possibilities in the local or adjoining regions. **This is mainly helpful for girls as they are reluctant to move to far away places for a job.**

5. The **ITIs arrange for the campus interviews of students from different streams.** Barring a few students, most of them get selected by the companies.

6. The syllabus of different trades in ITI is designed keeping in mind the needs of different industries. The students are **given accurate and detailed knowledge of the trades where they learn to operate machines, maintain the machines and rectify their defects. The stress is given on the practical training instead of theoretical study**. It helps students to grasp the knowledge easily and imbibe it in a more clear way for longer period of time.

7. Even the timings for study are of **eight hours per day in accordance with the factory rules**. This way the industries don't have to waste their time and money in training workers. The advantage of this work-based policy is that after completing the training, the students easily get absorbed in the **factory atmosphere and are more productive.**

8. Every batch consists of **16 to 21 students** only, thus, **guarantee the students to receive full attention** during training.

9. The students have **a broad field of trades to choose from depending upon their interest**. At present, there are approximately 117 trades being run by ITls for technical and non-technical sectors and the number of trades is continuously increasing with time.

10. One more reason that makes ITI successful is that the **medium of teaching is optional and the student could take the exam in either English or Hindi.** As English is not our mother tongue, many people face difficulty in expressing themselves in this language. Thus, the language barrier doesn't impede the growth of students in ITI's. **What matters here the most is the skill of the person.**

CTS Courses under IT & ITES Sector.

IT Software Industries prefers engineering qualifications required for some of the IT industry jobs like Systems Analyst, Data Warehousing, Ecommerce Engineer and Network Designer etc.,

On the other hand, unorganized sectors, service sectors and govt depts etc., there is a big scope of ITI graduates for the following job role with good salary.

- IT Consulting
- Systems Integration
- Custom Application Development (CAD)
- Software Deployment and Support
- Network Consulting and Integration
- Software Testing
- IT Education and Training
- Services Oriented Architecture (SOA)
- Application Management
- Information System Outsourcing
- Hardware deployment and support
- Web Services

Accordingly, to suit the various job roles, the courses under CTS scheme in the IT & ITES sector has been restructured and effected from AUG'2014 onwards

NAME OF THE COURSE	DURATION	ENTRY QUALIFICATION	JOB ROLE
1) **Information and Communication Technology System Maintenance** (I&CTSM - CTS)	2 YEARS	10th STD	Computer Operator, Computer Maintenance Operator, IT Support Executive, Computer Trainer in School and Institutes, Cyber Café Operator, Network Technician, Network System Administration Assistant.

2) **Information Technology (IT - CTS)**	2 YEARS	10th STD	Computer Operator, Computer Assistant, Computer support staff, Computer hardware repair and maintenance Executive, Computer Hardware Technician, Network Assistant, Network Technician, Assistant of Network System Administrator. Mutlimedia Assistant, Web Page Design Assistant etc
3) **Computer Hardware & Network Maintenance** (CHMN-CTS)	1 YEAR	10th STD	Computer Operator, Computer Assistant, Computer support staff, Computer hardware repair and maintenance Executive, Computer Hardware Technician, Network Assistant, Network Technician, AMC personnel etc.,
4) **Computer Operator and Programming Assistant (COPA-CTS)**	1 YEAR	10th STD	Office Assistant, Computer Operator, Accounting Assistant, Computer Maintenance Operator, IT Support Executive, Computer Trainer in School and Institutes, Cyber Café Operator etc.,
5) **Database System Assistant (DBSA-CTS)**	1 YEAR	12th STD	Data entry operator, Data Base assistant, office Assistant, IT Support Executive, Web Services Assistant, Application Management Assistant etc.,
6) **Software Testing Assistant (ST-CTS)**	1 YEAR	12th STD	Data entry operator, Test Engineering Assistant, Test Analyst ,

			Front office Assistant, Customer and Technical support related to Testing Tools etc.,
7) Desk Top Publishing Operator (DTPO-CTS)	1 YEAR	10th STD	DTP operator in any print and book publishing houses or self-employment, Graphic Designer, Graphic Artists, Design Executives in advertising agencies, print media houses, Visualiser , Photo re-toucher in photo studios, Quality Executive, Pre-press Professional in Newspaper/Magazines/ Flex Industries
Multimedia, Animation & Special Effects (MASE-CTS)	1 YEAR	10th STD	Entrepreneur in photographer/videographer, advertising agency, media Entertainment, Television, Ebook Publishing, Animation and special effects and web management and film industry etc.,

ii) Modular Employable Scheme (MES)

- To provide Vocational Training to School Leavers, Existing Workers, ITI graduates etc., to improve their employability by optimally utilizing the infrastructure available in Govt., private institutions and the Industry. Existing skills of the persons can also be tested and certified under this scheme.

- To build capacity in the area of development of competency standards, course curricula, Learning material and assessment standards in the country.

<u>Key Features</u>

1. Demand driven Short Term Training Courses based on Modular Employable Skills (MES) decided in consultation with Industry. MES is the 'Minimum Skills Set' which is sufficient for gainful employment.

2. Central Government will facilitate and promote training while industry, private sector and state government will train the persons.

3. Optimum utilization of existing infrastructure to make training cost effective.

4. Flexible Delivery Mechanism (part time, weekends, full time, onsite/offsite) to suit needs of various target groups.

5. Different levels of programmes (Foundation level as well as skill upgradation) to meet demands of various target groups.

6. The services of existing or retired faculty or guest faculty to be utilized.

7. Courses would also be available for persons having completed 5th standard.

8. Testing & Certification of skills acquired informally.

9. Testing of skills of trainees by independent assessing bodies, which would not be involved in training delivery, to ensure that it is done impartially.

10. The essence of the scheme is in the certification that will be nationally and internationally recognized.

Recently, the Ministry rationalized the courses under MES from 1,492 to approximately 600 on the basis of experience of running these courses for last several years.

However, it has been observed that large number of modules still exist which do not lead to gainful employment of the trainees.

It is accordingly recommended that the MES courses are further rationalized and only those courses which lead to employment of trainees with at least the minimum wages are included.

On the basis of experience it has been seen that employment is higher in courses of duration 500 hours or more.

MES Courses rationalized under IT & ITES Sector

S.NO	MODULE NO	NAME OF THE COURSE	NCO CODE	QUALIFICATION	HOURS
1.	ITESRN14DTPP	**DTP & PRINT PUBLISHING ASSISTANT**	3121.5	10 STD	500 Hrs
2.	ITESRN14ANMA	**ANIMATION AND**	3471.7	10 STD	1000

		MULTIMEDIA ASSISTANT			Hrs
3.	ITESRN14CHDA	COMPUTER HARDWARE ASSISTANT	3121.1	10 STD	500 Hrs
4.	ITESRN14CNTA	COMPUTER NETWORKING ASSISTANT	3212.30	10 STD	500 Hrs
5.	ITESRN14WDPB	WEB DESIGNING AND PUBLISHING ASSISTANT	3121.9	10 STD	1000 Hrs
6.	ITESRN14BPOV	VOICE BUSINESS PROCESS OUTSOURCING	3429.10	10 STD	500 Hrs
7.	ITESRW14BPON	NON VOICE BUSINESS PROCESS OUTSOURCING	342	10 STD	500 Hrs
8.	ITESWN14MDPA	MEDIA DEVELOPER ASSISTANT	3121.9	10 STD	500 Hrs
9.	ITESRN14AAUT	ACCOUNTS ASSISTANT USING TALLY	4112.20, 4112.9	10 STD	500 Hrs

iii) Crafts Instructor Training Scheme (CITS):

These courses are offered by Central Institute under DGE&T like ATI's, FTI's and RVTI's to fulfill the objective of uplifting and upgrading the training standard of existing serving instructors of ITIs/ ITCs and Industry as well as those who aspire to become successful instructor in future in the Industrial Training Institutes (ITI's).

Recently, the courses under CITS has been restructured in IT & ITES sector is as follows

Sr. No.	Name of CITS trade	CTS trades for which corresponding CITS trade trained instructor will be eligible to teach

1	Computer Hardware and Networking Maintenance (CHNM)	(i) Computer Hardware and Network Maintenance (CHNM) – 1 year or (ii)Information & Communication Technology System Maintenance(ICTSM) – 2 years or (iii) Information Technology (IT) - 2 years
2	Computer Software Applications	(i) Computer Operator & Programming Assistant (COPA) – 1year or (ii)Data Base System Assistant (DBSA) courses. - 1 year
3	Desk Top Publishing Operator	Desk Top Publishing Operator (DTPO) .

The admission for the CITS will be done **centrally** through **ALL INDIA COMMON ENTRANCE EXAM** with effect from Aug 2014 session onwards.

iv) Training of Trainers through Information and Communication Technology (ICT)

The existing Central Institutes like ATIs etc. are in addition to running Training of Trainers courses, running a large number of short term programmes for people from industries etc.

Further, to ensure that the quality of any contractual instructors hired also remains at par, it is recommended that mandatory trainings be conducted for all contractual instructors who have served for more than 3 years.

Also, 2 weeks of refresher training courses be made mandatory for all in-service staff in various institutions at least every 3 years.

To facilitate training of this large pool of people distributed across the country**, distance learning methods** should be explored combined with online assessments, and the process should be complete within next 2 years

In this regard, an initiative has already been taken and now under the implementation, by setting up **10 HUBs at Central Institutes and 198 spokes at Govt ITI's in the states at initial phase** to disseminate data and multimedia from the hub to the spokes in real time whilst the instructor can be from any spoke or external network but will appear to be emanating from the hub by relay broadcast possibly in multicast mode.

IX) DGE&T'S Recent Initiatives towards E-Governance:

1) Centralization of admission procedure for CTS courses

Different States are currently following different admission procedures for it is depending on the maturity of their respective systems and processes. Some States do not have any centralized admission process, leading to candidates in many such States being forced to apply to individual institutes. All States should aim to move towards a centralized admission process so that students can access a **single window / web -based admissions portal.**

2) Examination centers for CTS

The allocation of examination centres, as well as allocation of all examination staff from the central pool should also be moved to the online portal for randomized and fair allocations.

3) Certification system

The current system of certification where physical certificates are signed by the NCVT at the Headquarters in Delhi is inefficient for the volume being dealt by the ITIs, and has led to a significant pendency of certificates not being issued to successful candidates.

It is imperative that a better system be evolved, preferably electronic, by experiences from other States on this front.

An e-enabled certification system will also eliminate the burden of catering to verification requests by providing an online verification mechanism to the general public.

4) ITI Performance / Quality

Data items such as details of admitted candidates, candidates appeared and passed in semester examinations, candidates offered

jobs, instructors attending trainings, etc. available through the central webportal may be shared with the NABET's national portal for e-governance.

Similarly, data items such as details of state level capacity for each trade, availability and qualification of instructors for all institutes, number of trainings conducted for instructors etc. available through the NABET's portal maybe shared with VTIP. Such data sharing will be helpful in enhancing the value of both the systems.

A comprehensive list of technology enabled features that need to be augmented in the web portal developed by the DGE&T Headquarters

5. Grading of ITI's

One of the significant issues with the current CTS system is the overall quality of institutions imparting the trainings.

As an additional incentive for the institutions to strive for excellence, Online grading system be introduced which can provide a rigorous mechanism to rate all ITIs at the interval of every three years?

6. Placement tracking by States centrally

One of the key performance indicators of the ITIs is the industry placements which the institute is able to provide to its trainees.

It is imperative to monitor these campus placements to understand the quality of ITIs, and also to track the graduating candidates for at least a period of one-two years to understand the long term value addition provided by these institutions.

7. Vertical linkages of CTS courses

It is necessary to ensure vertical linkages of CTS courses with other higher education courses. The candidates trained at the Industrial Training Institutes willing to undergo a higher education programme in similar fields should get appropriate credits.

For example, candidates successfully completing an automobile related trade in ITIs should avail a corresponding credit in similar engineering courses.

Some of these equivalencies exist in other areas, such as candidates holding Diplomas get a one -year credit for engineering courses. More equivalencies are currently being developed as part of the National Skills Qualification Framework

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