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SPECIAL ISSUE

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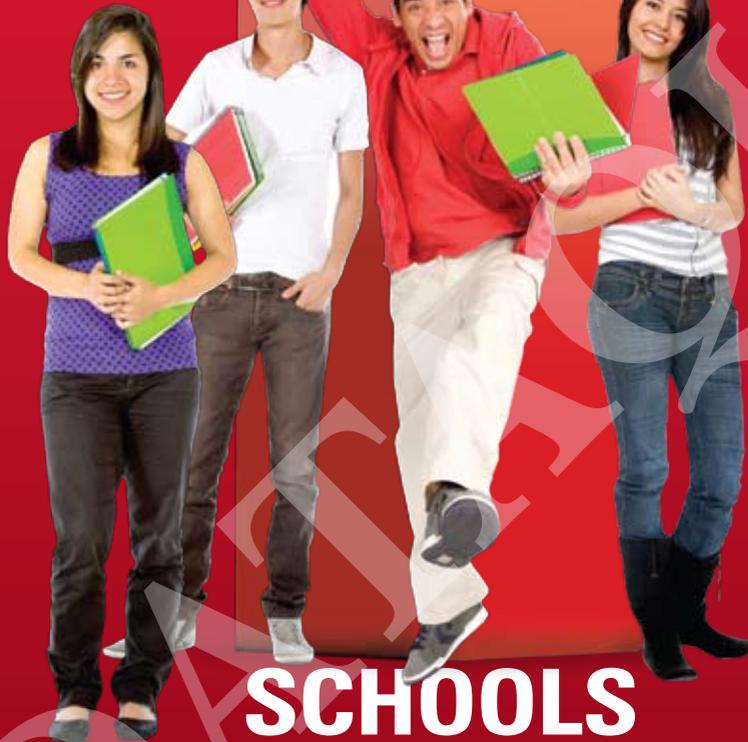
# DATAQUEST

THE BUSINESS OF INFOTECH



DQ 36 YEARS

TOP



SCHOOLS

14<sup>TH</sup> EDITION DQ-SURVEY

# TOP T-SCHOOLS 2019

RANKING OF INDIA'S TOP ENGINEERING COLLEGES

## Top 10 Government T-Schools 2019

|  | Rank |
|--|------|
| Indian Institute of Technology, Kharagpur                        | 1    |
| National Institute of Technology, Rourkela                       | 2    |
| International Institute of Information Technology, Hyderabad     | 3    |
| Netaji Subhas University of Technology, Delhi                    | 4    |
| National Institute of Technology Karnataka, Mangalore            | 5    |
| University College of Engineering, Osmania University, Hyderabad | 6    |
| College of Engineering Pune, Pune                                | 7    |
| Maulana Abul Kalam Azad University of Technology, Kolkata        | 8    |
| Indraprastha Institute of Information Technology, New Delhi      | 9    |
| National Institute of Technology, Silchar                        | 10   |

## Top 10 Private T-Schools 2019

|  | Rank |
|--|------|
| Birla Institute of Technology and Science, Pilani                      | 1    |
| Bannari Amman Institute of Technology, Sathyamangalam                  | 2    |
| B. S. Abdur Rahman Crescent Institute of Science & Technology, Chennai | 3    |
| Bharati Vidyapeeth Deemed University College of Engineering, Pune      | 3    |
| Sathyabama Institute of Science and Technology, Chennai                | 4    |
| Army Institute of Technology, Pune                                     | 5    |
| GL Bajaj Institute of Technology & Management, Gautam Budh Nagar       | 6    |
| Maharaja Agrasen Institute of Technology, Delhi                        | 7    |
| Noida Institute of Engineering & Technology, Greater Noida             | 8    |
| BMS Institute of Technology & Management, Bengaluru                    | 9    |
| Institute of Technology, Nirma University, Ahmedabad                   | 10   |

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# T-Schools Should Contribute to the Growth of the Technology Required for the 21st Century Industries

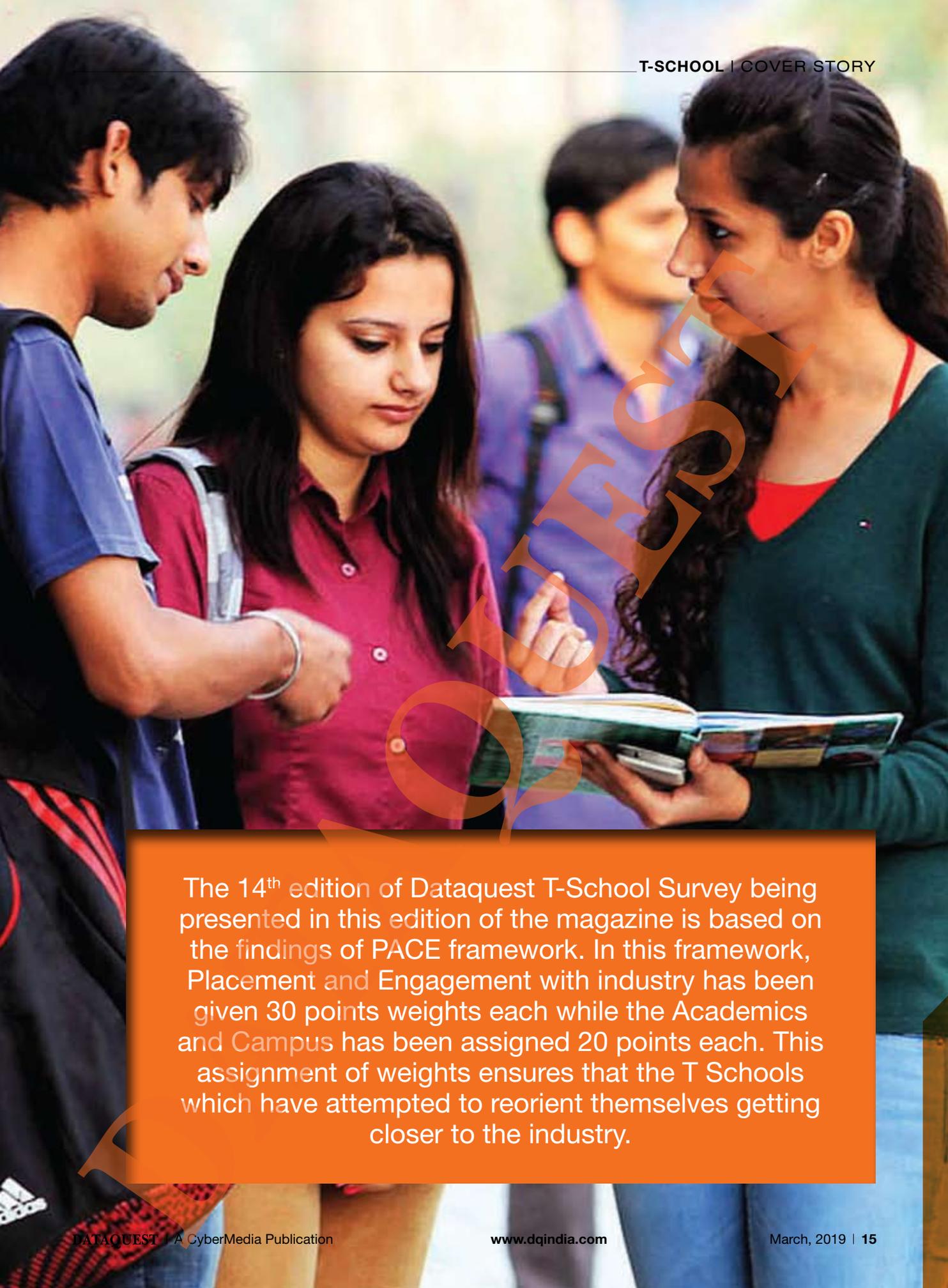
T-Schools should add value in offering human resource to the industry

Soon after the sprouting emergence of IT and ITeS in India, the importance of T-Schools was recognized. Private sector saw this as an opportunity area and alongside the government run technology institutes a new breed of private institutes emerged on the educational map of India.

Cities like Bengaluru (Bangalore at that time), Hyderabad and Chennai saw the maximum concentration of these T-Schools which contributed significantly in supplying the much required manpower that the exponentially growing industry was scouting for. The concept of campus apprenticeships and placements were introduced in India on a large scale and the industry-academia connect got established.

This was a fundamental paradigm shift in the educational, especially professional education sector in India. Now the end-users (MNCs and others) of this manpower had a role to play in how the education should be imparted.

Technological education has come a long way over these 25 years or so. So has the engagement and the bonding between the industry and academia. This means that the technical education in the country had to reorient itself and go beyond the academics and the infrastructure. While academics and infrastructure remain the core strengths



The 14<sup>th</sup> edition of Dataquest T-School Survey being presented in this edition of the magazine is based on the findings of PACE framework. In this framework, Placement and Engagement with industry has been given 30 points weights each while the Academics and Campus has been assigned 20 points each. This assignment of weights ensures that the T Schools which have attempted to reorient themselves getting closer to the industry.

of any educational setup, having a decisive role in the quality of the professionals an educational institution can churn out, which are employable; the fact remains that the industry expectations have moved much beyond this. The good point is that academia has been cognizant of these changes and even been trying to reincarnate the educational framework so that the students get the best possible economic engagement by being a value-added resource to the organisation that hires these resources.

The industry expectation changed from vacancy fill-up to value addition. Irrespective of whether an organisation would have a requirement or not, it would go cautiously with the selection of people as employees, including freshers with the expectation that the new human resource added is not a liability. Rather, the freshers should add to the cumulative competencies of the organisation by way of adding or strengthening a skill set.

While the industry expectations changed phenomenally, T-Schools also started to face challenges. The Government

owned as well aided T-Schools continued to be averse to any change that the industry wanted and took a longer than expected to react to the changing scenario of employment needs. With the result, the relevancy of the students coming out from such institutes started going down impacting their job prospects in the market.

Alongside, some of the private institutes considered this as any other business opportunity where the focus got shifted to return on investment than consistently improving and aligning with the dynamically changing industry demands.

As a result, the boom years of tech schooling has started witnessing a decline for the past 5 years or so. Students as well as their parents see it frustrating that they don't get a good job after going through tough admission process, paying hefty fee and spending 4-5 years of their time. This has led to some of the serious challenging that the entire T-Schools are facing. We have around 50% of the capacity lying vacant in these





THE FACULTY OF THESE T-SCHOOLS ACTIVELY ENGAGES WITH THE INDUSTRY BY CARRYING OUT JOINT RESEARCH AND DEVELOPMENT WHERE THE INDUSTRY BRINGS IN A PROBLEM STATEMENT AS WELL AS FUNDS THE PROGRAM AND THE T-SCHOOL PROVIDES THE KNOWLEDGE REPOSITORY AS WELL AS THE R&D.



schools while the average placement levels are just close to 40%.

The Dataquest annual T-School survey is an industry acclaimed barometer of how the human resource is churning out of these educational institutes. IT and ITeS industry takes cues from this survey, which is now presenting its 14th edition to hunt for the best of the talent. It is a kind of obligation on the part of Dataquest to ensure that the results presented give meaningful insights to the industry so that they can decide conclusively about going with the choice of institutes to hire to best among the breed freshers who have been prepared by these institutions.

The magazine has this year proactively gone ahead with tweaking the methodology so that the factors which impact the students and the industry most are given more weightage than the ones which continue to be critical but have gone in the background due to the changing circumstances.

For this purpose, Dataquest engaged techARC to have a relook at the survey and prepare a framework which places industry and student interests ahead of anything else. A framework – PACE was proposed by the research agency which summed up the important parameters of the survey in four main buckets of Placement, Academics, Campus and Engagement.



IN THE T-SCHOOL 2019 SURVEY, 84% OF THE EDUCATIONAL INSTITUTIONS SURVEYED HAD SET UP AN INCUBATION CENTRE TO FOSTER THE START-UP ECOSYSTEM. THIS IS BECOMING INCREASINGLY A FOCUS AREA FOR ALL THE T-SCHOOLS, WHICH HELPS STUDENTS WHO WANT TO PURSUE ENTREPRENEURIAL DREAMS BY GIVING THEM ACCESS TO LABORATORIES, MENTORS AND THE FUNDING ECOSYSTEM.

P-A-C-E sums up the four major elements of T-Schooling, which are perceived very important by the stakeholders involved. In any educational set-up, these four elements are considered by the stakeholders while making an opinion, finally the decision. However, the importance of each of these might be in different order for each of the stakeholders. For instance, the educational institution might be very much concerned about the academics, followed by campus. Similarly, students would be primarily concerned about the placements that the institute would help in enabling. In the same way, the industry would want to measure how closely the institute is engaged with them, which ensures to a greater extent that the professionals coming out would have a fair understanding of the expectations of the industry from them when they join. For parents, it might be the academics followed by placement.

The 14th edition of Dataquest T-School Survey being presented in this edition of the magazine is based on the findings of PACE framework. In this framework, Placement and Engagement with industry has been given 30 points weights each while the Academics and Campus has been assigned 20 points each. This assignment of weights ensures that the T-Schools which have attempted to reorient themselves getting closer to the industry.

#### THE MAIN FINDINGS OF THE DATAQUEST T-SCHOOL SURVEY 2019 ARE DELIBERATED HEREAFTER:

**Contribution for the Industry a Necessity:** It has become important for the academic institutions to have a customer centricity approach. For these institutions, customers are the industries who consume the output produced by them, by way of the students who pass out acquiring a professional degree in a technical stream. As compared to other industries, academic sector has now started to

realise the importance of aligning to the requirements of the industry. Though, changing the entire structure is not an easy task as it has to go through a series of complicated process involving many organisations, some forward looking T-Schools are attempting to bring in the change within the existing set out guidelines.

For the purpose, several T-Schools are forging tie-ups with leading companies like Microsoft, Infosys, Intel, Qualcomm, TI, IBM, Google among others and collaborating on various fronts. These include exposure to the students about the technologies that these enterprises create for various industries by joining the academic / university programmes. Through these tie-ups the students get access to advanced technologies at free or very affordable fee to acquire the trending skill sets, which may be inadequately covered in the prescribed course structure, or may not be incorporated at all.

Similarly, the faculty of these T-Schools actively engages with the industry by carrying out joint research and development where the industry brings in a problem statement as well as funds the programme, and the T-School provides the knowledge repository as well as the R&D mindset. This is still in its infancy and confined to top tier academic institutions only as of now. However, as industry-academia strengthen their collaboration, such initiatives will only go upwards. In 2019, there were such average 15 tie-ups that a T-School had entered into with a corporate/industry entity.

**Incubation to Nurture Start-Ups:** Ever since Start-up India was officially launched by the government of India in August 2015, which was adequately backed by various policies and schemes encouraging setting up of incubation centres in the academic institutions including T-Schools, the trend of setting up incubation centres has seen a healthy growth.

In the T-School 2019 survey, 84% of the educational institutions surveyed had set up an incubation centre to foster the start-up ecosystem. This is becoming increasingly a focus area for all the T-Schools, which helps students who want to pursue entrepreneurial dreams by giving them access to laboratories, mentors and the funding ecosystem.

There are different models of incubation adopted by these T-Schools which is essentially designed keeping in mind the requirement, streams they have to offer, the regional/locational analysis, access to industry and funding ecosystem and other such factors. However, every incubation centre is empowering the start-ups with basic to advanced tools and technical infrastructure, funding and the mentorship.

However, as of now the incubation is mostly in passive mode. There is a need to also incorporate active incubation within these incubation centres that will give access to corporate funding as well as enable aspiring

entrepreneurs to work on ideas that the industry is facing as challenges.

**Skilling:** Skill India initiative focuses on creating alternative and new formats of economic pursuits. While at the lower levels it skills the people who have little or no education facing challenges in getting employed or with the changing skill sets required in various trades they face inefficiencies, skilling at the higher levels mean enabling handling of complex and new technologies and methods. For instance, in the past few years, data analytics and data science has seen a huge growth in requirement. This was not being met out by the educational institutions including T-Schools. Through skilling initiatives, T-Schools have been able to bridge the gap between what the curriculum offers and what the industry is deficit of in terms of manpower requirements.

T-Schools have got themselves affiliated with NSDC through their Sector Skill Councils who are offering courses directly or through their partners implemented in



these institutions. This gives students benefit of getting a neutral certification from designated bodies, which is accepted across the country by employers.

Other than data analytics, skilling has helped engineering graduates to acquire very relevant skills in the domains of Artificial Intelligence, Machine Learning and IoT.

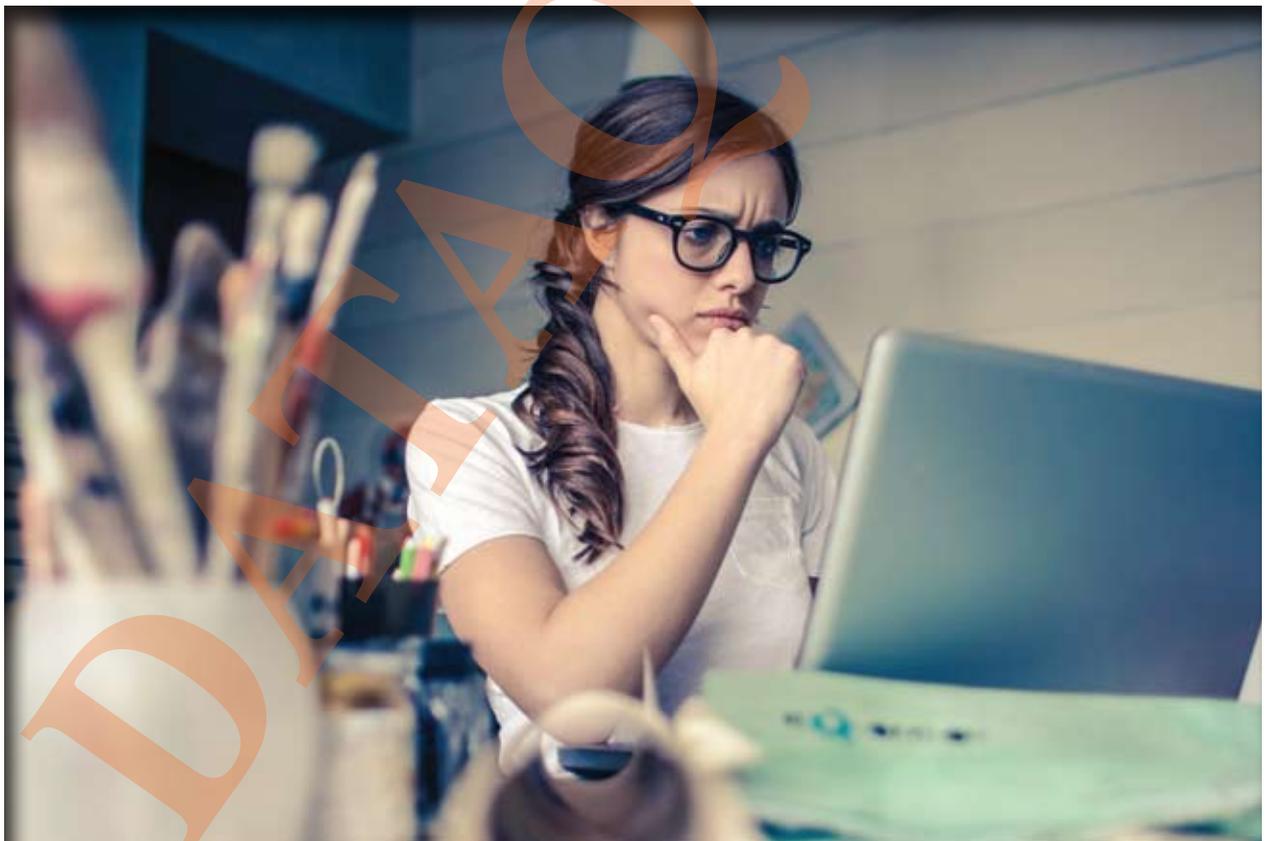
**Haphazards of E-learning:** E-learning is seen as one of the best ways to inculcate the self-learning habit in students. Using technology, students can easily leverage from the content available over digital platforms and acquire new and precise skills in addition to the formal knowledge being imparted through the course curriculum. However, it was found in the survey that there is no clear roadmap being implemented by the T-Schools to integrate eLearning formally into the system so that it could give an extended knowledge repository to the students adding to their skills and knowledge.

T-Schools should form a uniform framework for E-learning about integrating it with the legacy pedagogy

so that the overall learning experience is enriched. With the basic IT infrastructure in place by way of hardware, software and connectivity made available, E-learning is the next logical evolution for the digital infrastructure in these T-Schools so that students can derive the maximum benefit.

**PhD in Technology:** There is a consistent decline in students going for studies beyond B-Tech/M-Tech in the engineering streams. Against 60% scholars pursuing doctorate programmes across the T-Schools surveyed, this session only 46% were pursuing PhD in technology domain. The NPE 2012 had introduced a scheme to promote PhDs in ESDM and allied domains to achieve 2,500 PhDs annually by 2020. However, this has still not seen many takers and students are not getting convinced to pursue doctorate in engineering domain.

There is a requirement to encourage T-Schools to strengthen scholar activities in their respective institutions. As India moves towards a digitally driven Knowledge



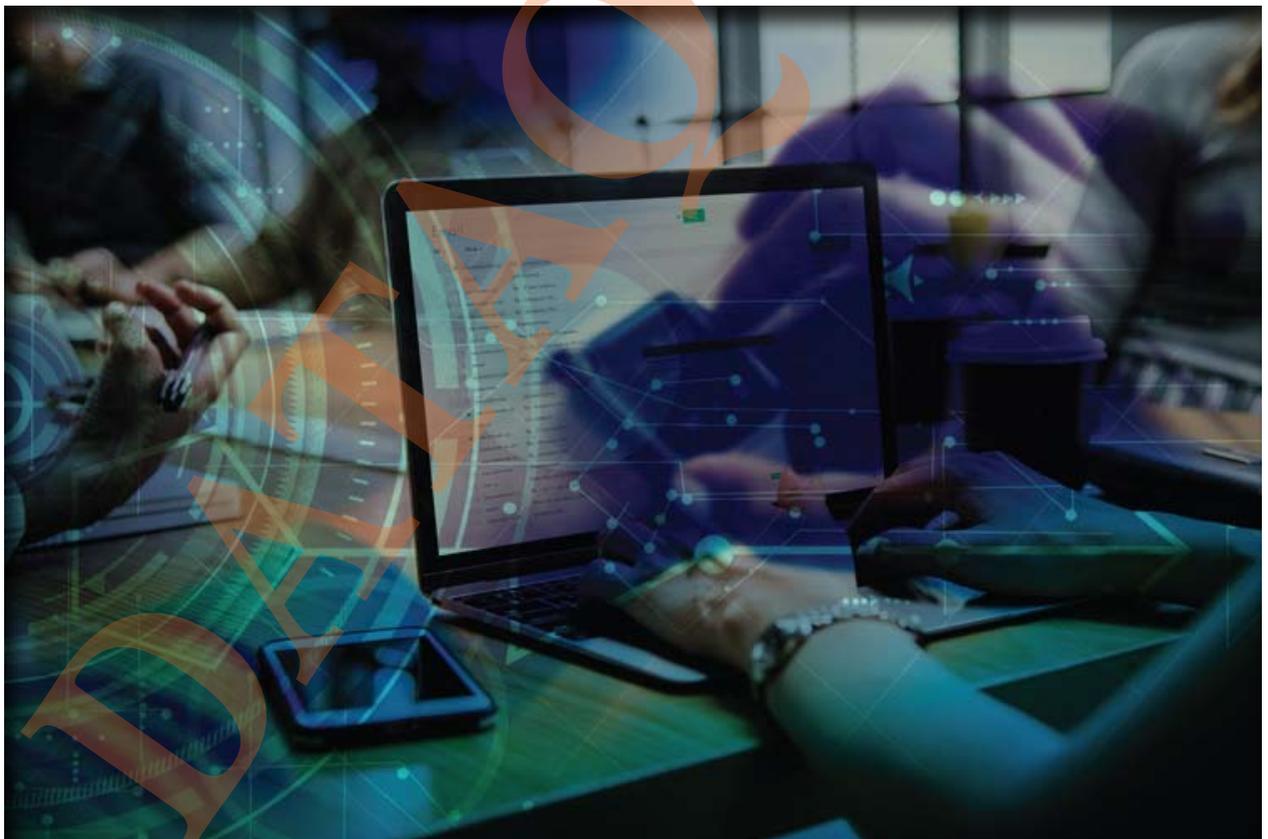


E-LEARNING IS SEEN AS ONE OF THE BEST WAYS TO INCULCATE THE SELF-LEARNING HABIT IN STUDENTS. USING TECHNOLOGY, STUDENTS CAN EASILY LEVERAGE FROM THE CONTENT AVAILABLE OVER DIGITAL PLATFORMS AND ACQUIRE NEW AND PRECISE SKILLS IN ADDITION TO THE FORMAL KNOWLEDGE BEING IMPARTED THROUGH THE COURSE CURRICULUM

Economy, there would be an all-time high requirement of having PhDs in the technology domain who can create products and acquire IPs and patents in the domain. This will not only help India get more and more patents but also contribute significantly in value driven manufacturing, which is the essence of Make in India initiative of the government. Similarly, the digital start-ups in the country would also need new innovations that will come from R&D and product development through these PhDs for their next growth.

**Digital Transformation in T-Schools:** The rudimentary IT infrastructure is a given in any T-School. All the T-Schools surveyed have PCs, Laptops, Broadband as well as WiFi connectivity to offer to students. Additionally, website and other basic applications are also deployed helping students to interface with the various processes required during their tenure at the institution.

However, this infrastructure needs to be now enhanced with additional digital infrastructure and capabilities so that T-Schools are digitally transformed. This will not



only further offer ease of education to the students but also expose and train them in an environment in which they are going to serve as professionals. A number of initiatives are being taken by the corporate world to digitally transform their businesses for internal as well as external stakeholders. Same concepts can be applied by these T-Schools as well for a holistic digital experience.

The connectivity has seen substantial improvement on two fronts. First all the T-School campuses surveyed have WiFi networks offered to students. At the same time, the average Internet bandwidth available at the Campus is 465 Mbps. The T-Schools need now to find out ways how to make best use of this infrastructure for the benefit of students, which will come primarily through a bouquet of apps.

**Decentralisation of Empowerment:** There was time in history when few cities were synonymous to education. Students had to travel across states to acquire education. For instance, in technology domain, Bengaluru, Hyderabad, Chennai and Delhi-NCR were the four main cities where students from across the country would move to acquire the professional education.



However, over these 25 years this has started to decentralise. While new cities like Pune have added to the educational hubs, there are other regional pockets like Erode, Bhubaneswar and Indore which are catering to the rising aspirational youth of the catchments who want to pursue a career in technology domain.

**Government T-Schools are Relevant:** The private institutions might have a star-rated campus with all the comforts and luxuries to offer to the students. At the same time, private T-Schools are good in outreach and marketing, while the government owned and funded T-Schools are conservative in their outlook. This sets up a perception that government T-Schools are not up to mark and do not offer a secure career. However, the results of Dataquest T-School 2019 show up a different view. 8 out of top 10 T-Schools in India are government owned or funded. This is because of the fact that these institutes score high on the industry engagement. However, this may not always translate into such institutes being able to serve the industry better than the private colleges. The reason of such government institutes ranking high on the industry engagement is because the industry is comfortable with collaborating with such T-Schools for sponsored research and other initiatives that are part of the industry academic outreach programmes. The industry prefers these government institutes for the reason that they are not owned by any private entity who could directly or indirectly gain from such collaborations which also includes funding. At the same time, these government institutes are primarily NITs, the tier 2 network of technology institutes in the country, who already have a stature in the country and is also supported by a strong network of alumni who are serving in these industry partners.

**International Footprints:** The privately held T-Schools are going with a global agenda. There is an increasing trend among these institutes to set up their international branches giving the institute a global outlook as well as serving the Indian and other Asian communities in those countries. Around 20% of the institutes surveyed had one or more branches in a foreign city. Among the cities, Dubai is the most popular destination for these T-Schools to set up a branch.

**'Visiting' Faculty:** Of the T-Schools surveyed in 2019, around 5% of the faculty was 'visiting' the T-School. While the initial idea behind the trend of introducing



## WHILE NEW CITIES LIKE PUNE HAVE ADDED TO THE EDUCATIONAL HUBS, THERE ARE OTHER REGIONAL POCKETS LIKE ERODE, BHUBANESHWAR AND INDORE WHICH ARE CATERING TO THE RISING ASPIRATIONAL YOUTH OF THE CATCHMENTS WHO WANT TO PURSUE A CAREER IN TECHNOLOGY DOMAIN

visiting faculties was to get experts from the industry and other domains to deliver guest lectures and/or strengthen the subject matter expertise about a domain, the term is getting misused in several cases. There are several T-Schools appointing freshers and moderately experienced people as 'visiting' faculty, which is nothing but an ad-hoc appointment. This is a serious matter of concern as it gives a different connotation to the term, which is used globally to indicate to the additional experts roped in from the industry and other sources, helping students to learn from the real experiences and widen the horizons of learning beyond the text book teaching.

**Doctorate Faculty:** Almost 1 out of every 3 (32%) of the faculty members of the T-Schools are PhDs. This is a healthy indicator of the expertise available with these institutes who offer Bachelor, Master and Doctoral programmes in the technology domain. It is a fact that the trend towards pursuing PhDs in the tech domain is declining, but the T-Schools are sufficiently enabled to support the interest of whatever level for students to go for doctoral programmes.

There is a need for experts to look into the matter of how these PhDs available across the T-Schools can be



leveraged to create an R&D intensive network for the creation of large knowledge repository as well as patents and IPRs.

**Research Journals:** There is an average of 43 research papers contributed by the T-Schools surveyed. While the number of papers looks good, it is essential that a mechanism is put in place which reviews the quality of the journals and papers contributed by these T-Schools. Given the fact that there are average 73 PhDs available with each T-School, adequate mentorship and guidance can be made available to the faculty and students contributing a research paper.

The research papers published by these T-Schools must have inferences for solving a real-life problem that could give innovators and others impetus for IP creation leading to development of a solution. Mere adding to the knowledge repository from pure academic purposes shall not be adequate.

As the ITCE (IT, Communications and Electronics) industry is witnessing a phenomenal change creating digital economies across the world including India, the human resource requirements are also changing within these organisations. Other than technical skills, there is also an increasing expectation of professionals having a set of diverse skills ranging from creative to business focussed aptitude. At the same time, learning is becoming a continuous process which does not stop after acquiring a particular degree. So, the students have to be prepared for practising self-learning.

Industry on the other hand has long back stopped recognising degrees and certificates as the final decision-making factor. They are emphasising more on the actual capabilities and skills that a candidate is able to exhibit at the time of hiring. Mere possession of a degree or certificate does not even guarantee shortlisting not to talk of a job offer.



THERE IS AN INCREASING TREND AMONG THESE INSTITUTES TO SET UP THEIR INTERNATIONAL BRANCHES GIVING THE INSTITUTE A GLOBAL OUTLOOK AS WELL AS SERVING THE INDIAN AND OTHER ASIAN COMMUNITIES IN THOSE COUNTRIES. AROUND 20% OF THE INSTITUTES SURVEYED HAD ONE OR MORE BRANCHES IN A FOREIGN CITY. AMONG THE CITIES, DUBAI IS THE MOST POPULAR DESTINATION FOR THESE T-SCHOOLS TO SET UP A BRANCH

With these fundamental changes in the outlook, T-Schools have entered into a challenging era of maintaining relevancy in the ecosystem which could be recognised by the industry. The educational institutes have to re-evolve themselves only after which the industry could find value in them and see them supplying relevant human resource. Else, it will continue to be a difficult period for the T-Schools if each decision of theirs is not taken with the industry first mindset.

#### P-A-C-E TRENDS

In each of the factor that determines the overall positioning of T-Schools surveyed in this year's exercise, there are some visible pertinent trends which exhibit the change taking place within the overall setup.

**Placement:** An average of 431 students per T-School got placements in different hiring organisations that visited the T-Schools to hunt for the best of mind and skills. This was made possible through an average of 76 industry partners visiting a T-School for recruitment.

With these numbers achieved, only 10% of the students could get a placement offer through campus recruitment process. The hiring was done at an average package of Rs. 4.23 Lakh pa. To be able to increase the rate of placement as well as the package offered, the T-Schools shall have to come very close to the industry and collaborate on various fronts for the benefit of students so that their employability increases.

This year, apart from the traditional MNCs who have been hiring talent from these T-Schools, there were also start-ups and companies from other domains like analytics which hired talent from the T-Schools.

**Academics:** This element of ranking needs the most of upgrading. Academics is still very archaic in its outlook and approach. Any new change or addition to the course curriculum has to undergo a complicated long tail process,

which never allows the academics to be in line with what is required. At the same time, little effort has been made on the localisation of the content both in terms of relevancy of the content as well as the translations, etc., is required. As per the survey findings, there were average 6 courses or streams offered by the T-Schools. However, B-Tech as well as M-Tech in such schools was cumulatively offered in 42 streams.

There is still an issue with each stream of technical education being balanced across T-Schools. The courses offered are predominantly of 'classic' engineering including Civil, Mechanical, Even, Electronics & Telecommunications and IT. The T-Schools need to get to new age courses that are expected to be in demand now and in future. For instance, Smart City engineering is one such course. Similarly, the existing courses also require enrichment in the curriculum to leverage from cross functional knowledge making professionals ready for the industry where they would be expected to deal with multi-disciplinary environments.

For every 34 engineering students there is 1 faculty member available in the T-Schools that participated in the Dataquest Top T-Schools survey 2019. This may be apparently a very healthy score, but the fact is that there are several institutes which do not have a similar proportion. Also, this number is within the limits due to the increased trend of hiring ad-hoc or 'visiting' faculty, who may not be as relevant as prescribed.

**Campus:** The infrastructure and the overall environment of the campus is the basic requirement of a T-School. What is made available to the students and of what grade, has a bearing on the quality of education.

T-Schools have an average of 90 acres of land on which the campus is built. This however may not be exclusively being used for the T-School as there are other streams and departments in the college or university. There is



academic institutions understand the requirements of the industry in a better way and also tweak their pedagogy as much as possible within the existing framework to increase the corporate readiness of the students.

Over 90% of the T-Schools have a tie-up with at least one industry partner, which averages to 16 per T-School for the surveyed institutions. This engagement is benefiting students in several ways. The tie-ups make the T-Schools part of the academic engagement programmes of the industry which gives access to

also focus on the physical development of students apart from the academics. For this purpose, T-Schools have dedicated playgrounds for the students. On an average, a T-School has 9 acres of land covered for playing and sports activities of students.

Computer and connectivity have become an essential ingredient of the T-School infrastructure. 100% of the T-Schools have PCs and Laptops for their students which are connected with Broadband Internet through wired LAN network as well as the WiFi. Other infrastructure for ICT is also being acquired which includes surveillance and access control systems for security and AV conferencing equipment for remote connectivity. Some T-Schools have also launched their apps for Smartphones other than the websites which have been there for some time now. Libraries have already been catalogued digitally and some content is also made available through digital platforms. However, there is a scope for improvisation of digital infrastructure of the T-Schools including making the cloud based applications available to the students so that they can get familiar with the corporate environments where they serve tomorrow.

**Engagement:** The engagement with the industry has become paramount for any educational institution including the T-Schools. This is because it helps the

solutions and tools at free or very nominal charges to students who can use them to develop skills. They also get advanced certification courses on the same pattern.

At the same time, industry also partners with the T-Schools, including the faculties for research programmes. The industry brings a problem statement they are facing with and also funds the project for research. Engagement has become a critical factor for increasing the employability of the students passing out from the T-Schools. Though, presently the scope of engagement is limited, but it could usher into deeper engagements where the industry could have a role to play in the academics of the students ensuring that they don't lack on the essentials that would be expected from them when they reach out to them for employment.

The trends enumerated are encouraging in a way that T-Schools are working in the right direction with a vision to be the closest buddy of the industry. This symbiotic relationship will help institutes leverage from the technology, infrastructure, finance and other resources at the dispersal of the industry while the T-Schools could serve with the best of the manpower who are not just trained in a stream as per the curriculum but are also agile to learn new things and understand what the industry expects from them.

# Top T-Schools in India 2019 Rankings

## Top 100 T-Schools (Overall) - Government and Private

| INSTITUTE NAME  | CITY              | ZONE  | CATEGORY   | RANK |
|---|-------------------|-------|------------|------|
| Indian Institute of Technology  | Kharagpur         | East  | Government | 1    |
| Birla Institute of Technology and Science                                 | Pilani            | West  | Private    | 2    |
| National Institute of Technology  | Rourkela          | East  | Government | 3    |
| International Institute of Information Technology                         | Hyderabad         | South | Government | 4    |
| Netaji Subhas University of Technology                                    | Delhi             | North | Government | 5    |
| National Institute of Technology Karnataka                                | Mangalore         | South | Government | 6    |
| Bannari Amman Institute of Technology                                     | Sathyamangalam    | South | Private    | 7    |
| University College of Engineering, Osmania University                     | Hyderabad         | South | Government | 8    |
| B. S. Abdur Rahman Crescent Institute of Science & Technology             | Chennai           | South | Private    | 9*   |
| Bharati Vidyapeeth Deemed University College of Engineering               | Pune              | West  | Private    | 9*   |
| College of Engineering Pune   | Pune              | West  | Government | 10   |
| Maulana Abul Kalam Azad University of Technology                          | Kolkata           | East  | Government | 11   |
| Indraprastha Institute of Information Technology                          | New Delhi         | North | Government | 12   |
| Sathyabama Institute of Science and Technology                            | Chennai           | South | Private    | 13   |
| Army Institute of Technology  | Pune              | West  | Private    | 14   |
| GL Bajaj Insititue of Technology & Management                             | Gautam Budh Nagar | North | Private    | 15   |
| National Institute of Technology  | Silchar           | East  | Government | 16   |
| Dr. B R Ambedkar National Institute of Technology                         | Jalandhar         | North | Government | 17   |
| School of Engineering, Cochin University of Science and Technology        | Kochi             | South | Government | 18   |
| Zakir Husain College of Engineering & Technology, AMU                     | Aligarh           | North | Government | 19   |
| Maharaja Agrasen Institute of Technology                                  | Delhi             | North | Private    | 20   |
| Noida Institute of Engineering & Technology                               | Greater Noida     | North | Private    | 21   |
| BMS Institute of Technology & Management                                  | Bengaluru         | South | Private    | 22   |
| Institute of Technology, Nirma University                                 | Ahmedabad         | West  | Private    | 23   |
| Kakatiya Institute of Technology & Science                                | Warangal          | South | Private    | 24   |
| Maharaja Surajmal Institute of Technology                                 | New Delhi         | North | Private    | 25   |
| Vidyavardhaka College of Engineering                                      | Mysuru            | South | Private    | 26   |
| GITA  | Bhubaneswar       | East  | Private    | 27   |
| PDPM-Indian Institute of Information Technology, Design and Manufacturing | Jabalpur          | West  | Government | 28   |
| Rajalakshmi Engineering College   | Chennai           | South | Private    | 29   |
| Velalar College of Engineering and Technology                             | Erode             | South | Private    | 30   |
| Vel Tech Multi Tech Dr Rangarajan Dr Sakunthala Engineering College       | Chennai           | South | Private    | 31   |
| The Oxford College of Engineering   | Bengaluru         | South | Private    | 32   |
| NMAM Institute of Technology  | Karkala           | South | Private    | 33   |
| Pimpri Chinchwad College of Engineering                                   | Pune              | West  | Private    | 34   |

| INSTITUTE NAME   | CITY                | ZONE  | CATEGORY   | RANK |
|--|---------------------|-------|------------|------|
| Rungta College of Engineering & Technology                                 | Bhilai              | East  | Private    | 35*  |
| R.M.K. Engineering College   | Thirvallur          | South | Private    | 35*  |
| BIT Sindri   | Dhanbad             | East  | Government | 36   |
| Galgotias University   | Greater Noida       | North | Private    | 37   |
| Chitkara University Institute of Engineering & Technology                  | Rajpura             | North | Private    | 38   |
| GMR Institute of Technology  | Rajam               | South | Private    | 39   |
| Sir M.Visvesvaraya Institute of Technology                                 | Bangalore           | South | Private    | 40   |
| Madhav Institute of Technology & Science                                   | Gwalior             | West  | Government | 41   |
| Motilal Nehru National Institute of Technology                             | Prayagraj           | North | Government | 42   |
| Kasegaon Education Society's Rajarambapu Institute of Technology           | Islampur            | West  | Government | 43   |
| SJC Institute of Technology  | Chickballapur       | South | Private    | 44   |
| Malnad College of Engineering  | Hassan              | South | Government | 45*  |
| Shri Ram Institute of Technology   | Jabalpur            | West  | Private    | 45*  |
| Rajagiri School of Engineering & Technology                                | Cochin              | South | Private    | 46   |
| The NorthCap University  | Gurugram            | North | Private    | 47   |
| Amity University Rajasthan   | Jaipur              | West  | Private    | 48   |
| I.T.S Engineering College  | Greater Noida       | North | Private    | 49   |
| G H Patel College of Engineering & Technology                              | Vallabh Vidya Nagar | West  | Private    | 50   |
| Amity School of Engineering & Technology                                   | Gwalior             | West  | Private    | 51   |
| Amity School of Engineering & Technology                                   | Lucknow             | North | Private    | 52   |
| Sai Vidya Institute of Technology  | Bengaluru           | South | Private    | 53   |
| KLS Gogte Institute of Technology  | Belagavi            | South | Private    | 54*  |
| IES College of Technology  | Bhopal              | West  | Private    | 54*  |
| RGM College of Engineering and Technology                                  | Nandyal             | South | Private    | 55   |
| Government Model Engineering College                                       | Kochi               | South | Government | 56   |
| Sagi Rama Krishnam Raju Engineering College                                | Bhimavaram          | South | Private    | 57   |
| SCMS School of Engineering and Technology                                  | Ernakulam           | South | Private    | 58   |
| BGS Institute of Technology  | BG Nagar            | South | Private    | 59   |
| Amrutvahini College of Engineering   | Sangamner           | West  | Private    | 60   |
| National Institute of Technology   | Agartala            | East  | Government | 61   |
| Amity School of Engineering & Technology                                   | Gurugram            | North | Private    | 62   |
| Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology | Chennai             | South | Private    | 63   |
| Panimalar Engineering College  | Chennai             | South | Private    | 64   |
| CVR College of Engineering   | Hyderabad           | South | Private    | 65   |
| Erode Sengunthar Engineering College                                       | Erode               | South | Private    | 66   |

| INSTITUTE NAME  | CITY            | ZONE  | CATEGORY   | RANK |
|---|-----------------|-------|------------|------|
| Er. Perumal Manimekalai College of Engineering                      | Hosur           | South | Private    | 67   |
| Prasad V. Potluri Siddhartha Institute of Technology                | Vijayawada      | South | Private    | 68   |
| Institute of Aeronautical Engineering                               | Hyderabad       | South | Private    | 69   |
| DIT University  | Dehradun        | North | Private    | 70   |
| National Institute of Science & Technology                          | Behrampur       | East  | Private    | 71   |
| Sri Sairam College of Engineering                                   | Bengaluru       | South | Private    | 72   |
| Malla Reddy College of Engineering & Technology                     | Secunderabad    | South | Private    | 73   |
| V.S.B. Engineering College  | Karur           | South | Private    | 74   |
| D.K.T.E. Textile & Engineering Institute                            | Ichalkaranji    | West  | Private    | 75   |
| Gandhi Institute for Education & Technology                         | Khordha         | East  | Private    | 76   |
| KKR & KSR Institute of Technology and Sciences                      | Guntur          | South | Private    | 77   |
| Shri Shankaracharya Technical Campus                                | Bhilai          | East  | Private    | 78   |
| CMR Institute of Technology   | Hyderabad       | South | Private    | 79   |
| Sri Venkateswara College of Engineering                             | Tirupati        | South | Private    | 80   |
| Trident Academy of Technology                                       | Bhubaneswar     | East  | Private    | 81   |
| Nandha Engineering College (Autonomous)                             | Erode           | South | Private    | 82   |
| Meerut Institute of Engineering & Technology                        | Meerut          | North | Private    | 83   |
| Bharti College of Engineering & Technology                          | Durg            | East  | Private    | 84   |
| M.Kumarasamy College of Engineering                                 | Karur           | South | Private    | 85   |
| Gandhi Engineering College  | Bhubaneswar     | East  | Private    | 86   |
| Acropolis Institute of Technology and Research                      | Indore          | West  | Private    | 87   |
| Pranveer Singh Institute of Technology                              | Kanpur          | North | Private    | 88   |
| Lords Institute of Engineering and Technology                       | Hyderabad       | South | Private    | 89   |
| M.S. Engineering College  | Bengaluru       | South | Private    | 90   |
| Shri Ramswaroop Memorial College of Engg. & Mgmt.                   | Lucknow         | North | Private    | 91*  |
| Model Institute of Engineering and Technology                       | Jammu           | North | Private    | 91*  |
| Vel Tech High Tech Dr Ranagarajan Dr Sakunthala Engineering College | Chennai         | South | Private    | 92   |
| Sethu Institute of Technology                                       | Virudhunagar    | South | Private    | 93   |
| K. Ramakrishnan College of Technology                               | Tiruchirappalli | South | Private    | 94   |
| Babu Banarsi Das Institute of Technology                            | Ghaziabad       | North | Private    | 95   |
| Asia Pacific Institute of Information Technology                    | Panipat         | North | Private    | 96   |
| Faculty of Engineering, Teerthankar University                      | Moradabad       | North | Private    | 97   |
| Government College of Engineering                                   | Karad           | West  | Government | 98   |
| Shri Ram Murti Smarak College of Engineering & Technology           | Bareilly        | North | Private    | 99   |
| Sri Venkateswara Engineering College for Women                      | Tirupati        | South | Private    | 100  |

\* These institutes share the same rank due to identical scores

The top 2 government and private technology institutes took the honours of No 1 and 2 respectively. IIT Kharagpur and BITS Pilani, a new entrant, were adjudged the top 2 t-schools as per the research findings. Apart from good academic track record and the adequate infrastructure, the T-School has scored high on the industry engagement as well as the placement. Among the top 10 T-Schools in the country, 7 are government owned while the remaining 3 positions were filled up by the private institutions. Many of them are as old as over 25 years, with a few established some 10 years ago. While, it is overwhelming to see that T-Schools from across the country have made it to the Top 10, North is represented only by Netaji Subhas Institute of Technology, Delhi. Overall 11 institutes figured in the Top 10 list, with two sharing the same rank.

A close to half, 46% of the best t-schools were from South, followed by North, West and East in that order.

#### REGIONAL TOP T-SCHOOLS IN INDIA 2019 RANKINGS

In the northern region of the country, 4 of the ten T-Schools are from government against the overall ranking where government institutes are leading. The states of J&K, Punjab, Himachal Pradesh, Haryana and Delhi need to have a review of the industry orientation of their institutions so that they also gain on the relevancy aspect, hence the overall score.

The decentralisation of top schools in the northern region is the need of the hour. 6 out of the top 10 T-Schools are within the NCR area forcing students to migrate to the NCR region for studies. This not only increases the cost of education for them; at the same time overloads the cities with the NCR area.

There is a need to have more good t-schools in the region across several states.

## Zone Wise Top 10 T-Schools

| North | Institute   | City              | Category   | Rank |
|-------|---|-------------------|------------|------|
|       | Netaji Subhas University of Technology                    | Delhi             | Government | 1    |
|       | Indraprastha Institute of Information Technology          | New Delhi         | Government | 2    |
|       | GL Bajaj Insititue of Technology & Management             | Gautam Budh Nagar | Private    | 3    |
|       | Dr. B R Ambedkar National Institute of Technology         | Jalandhar         | Government | 4    |
|       | Zakir Husain College of Engineering & Technology, AMU     | Aligarh           | Government | 5    |
|       | Maharaja Agrasen Institute of Technology                  | Delhi             | Private    | 6    |
|       | Noida Institute of Engineering & Technology               | Greater Noida     | Private    | 7    |
|       | Maharaja Surajmal Institute of Technology                 | New Delhi         | Private    | 8    |
|       | Galgotias University                                      | Greater Noida     | Private    | 9    |
|       | Chitkara University Institute of Engineering & Technology | Rajpura           | Private    | 10   |

| South                                | Institute  | City           | Category   | Rank |
|--------------------------------------|--|----------------|------------|------|
|                                      | International Institute of Information Technology                  | Hyderabad      | Government | 1    |
|                                      | National Institute of Technology Karnataka                         | Mangalore      | Government | 2    |
|                                      | Bannari Amman Institute of Technology                              | Sathyamangalam | Private    | 3    |
|                                      | University College of Engineering, Osmania University              | Hyderabad      | Government | 4    |
|                                      | B. S. Abdur Rahman Crescent Institute of Science & Technology      | Chennai        | Private    | 5    |
|                                      | Sathyabama Institute of Science and Technology                     | Chennai        | Private    | 6    |
|                                      | School of Engineering, Cochin University of Science and Technology | Kochi          | Government | 7    |
|                                      | BMS Institute of Technology & Management                           | Bengaluru      | Private    | 8    |
|                                      | Kakatiya Institute of Technology & Science                         | Warangal       | Private    | 9    |
| Vidyavardhaka College of Engineering | Mysuru   | Private        | 10         |      |

South India has always been a pioneer of technical education in India. Karnataka, Andhra Pradesh/Telangana and Tamil Nadu have been among the frontrunner states offering technical education which caters to the IT/ITeS industry spread across these cities.

In the southern region, the top T-School list is dominated by the privately owned colleges and universities. There are 6 out of top 10 institutions owned by a private entity. The southern T-Schools have a country wide reputation and many students across the country prefer to earn their professional education in the southern states of India. Among the top 10 T-Schools in the country, 5 are coming from this region.

Eastern part of the country has witnessed a lot of disadvantages. As a consequence, it has remained devoid of the participation from the private sector in many domains. Similarly, in education as well, thanks to emphasis put by the central as well as state governments, reputed T-Schools have come up in the region by government endeavours. Out of the top 10 T-Schools in the region, 6 are from the government or are aided by the government. These T-Schools have also started trending

in the overall list with 2 out of top 10 schools coming from this region. Odisha in the region is coming up as a regional education hub and many T-Schools are getting established in the state catering to the students across the region. There can be some more efforts put essentially from the respective state governments to decentralise the education in the region so that students can acquire it in their respective states and also start exploring economic pursuits. There are a lot of examples where people from north east who were working in the BPOs and other IT enabled organisations, have gone back to their home states and started their own ventures leveraging the government schemes.

While it is an honour for the region to house IIT Kharagpur, the leader in the t-schools, there is a need to have many more similar institutes in the region.

The western region is again a private institutions driven region as regards T-Schools. 6 out of the top 10 T-Schools are owned by private entities. Among these top 10 institutes, 4 are located in Pune, which has come up as not only a regional but a national educational hub in the recent few years.

| East  | Institute  | City        | Category   | Rank |
|---|--|-------------|------------|------|
|   | Indian Institute of Technology                   | Kharagpur   | Government | 1    |
|   | National Institute of Technology                 | Rourkela    | Government | 2    |
|   | Maulana Abul Kalam Azad University of Technology | Kolkata     | Government | 3    |
|   | National Institute of Technology                 | Silchar     | Government | 4    |
|   | GITA   | Bhubaneswar | Private    | 5    |
|   | Rungta College of Engineering & Technology       | Bhilai      | Private    | 6    |
|   | BIT Sindri                                       | Dhanbad     | Government | 7    |
|   | National Institute of Technology                 | Agartala    | Government | 8    |
|   | National Institute of Science & Technology       | Behrampur   | Private    | 9    |
| Gandhi Institute for Education & Technology | Khordha  | Private     | 10         |      |

| West                             | Institute   | City      | Category   | Rank |
|----------------------------------|---|-----------|------------|------|
|                                  | Birla Institute of Technology and Science                                 | Pilani    | Private    | 1    |
|                                  | Bharati Vidyapeeth Deemed University College of Engineering               | Pune      | Private    | 2    |
|                                  | College of Engineering Pune   | Pune      | Government | 3    |
|                                  | Army Institute of Technology  | Pune      | Private    | 4    |
|                                  | Institute of Technology, Nirma University                                 | Ahmedabad | Private    | 5    |
|                                  | PDPM-Indian Institute of Information Technology, Design and Manufacturing | Jabalpur  | Government | 6    |
|                                  | Pimpri Chinchwad College of Engineering                                   | Pune      | Private    | 7    |
|                                  | Madhav Institute of Technology & Science                                  | Gwalior   | Government | 8    |
|                                  | Kasegaon Education Society's Rajarambapu Institute of Technology          | Islampur  | Government | 9    |
| Shri Ram Institute of Technology | Jabalpur  | Private   | 10         |      |

There is an extreme need of decentralising the T-School setup in the region, which is otherwise the most industrially advanced geography in the country. Some of the T-Schools in the region have earned a national reputation with 3 of the regional top 10 T-Schools also ranking in the overall top 10 T-Schools in India for 2019.

The institutions in the West can leverage a lot from a very well established industrial setup in the region and earn a reputation for themselves by utilising the proximity to the industrial setup in the region. This can create very relevant institutions for the industry particularly in the domains of petrochemicals, heavy industry, energy among others.

Overall, there is a well spread regional network of T-Schools across the country and each region has at least one regional hub catering to the regional needs of technical manpower. However, there are regional specific issues ranging from further decentralising within the region to creating deeper industrial association which will be highly beneficial for the students in these T-Schools.

The state governments as well as the central government should roll out special schemes to encourage setting up T-Schools in the Tier II and III cities and towns which will also compliment the strategy of most of the IT and ITeS companies who are setting up the floors in such cities leveraging the expansion of digital infrastructure in such cities.

## Ownership wise Top T-Schools in India 2019 Rankings Top T-Schools (Government)

| INSTITUTE   | CITY      | ZONE  | RANK |
|---|-----------|-------|------|
| Indian Institute of Technology  | Kharagpur | East  | 1    |
| National Institute of Technology  | Rourkela  | East  | 2    |
| International Institute of Information Technology                         | Hyderabad | South | 3    |
| Netaji Subhas University of Technology                                    | Delhi     | North | 4    |
| National Institute of Technology Karnataka                                | Mangalore | South | 5    |
| University College of Engineering, Osmania University                     | Hyderabad | South | 6    |
| College of Engineering Pune   | Pune      | West  | 7    |
| Maulana AbulKalam Azad University of Technology                           | Kolkata   | East  | 8    |
| Indraprastha Institute of Information Technology                          | New Delhi | North | 9    |
| National Institute of Technology  | Silchar   | East  | 10   |
| Dr. B R Ambedkar National Institute of Technology                         | Jalandhar | North | 11   |
| School of Engineering, Cochin University of Science and Technology        | Kochi     | South | 12   |
| Zakir Husain College of Engineering & Technology, AMU                     | Aligarh   | North | 13   |
| PDPM-Indian Institute of Information Technology, Design and Manufacturing | Jabalpur  | West  | 14   |
| BIT Sindri  | Dhanbad   | East  | 15   |
| Madhav Institute of Technology & Science                                  | Gwalior   | West  | 16   |
| Motilal Nehru National Institute of Technology                            | Prayagraj | North | 17   |
| Kasegaon Education Society's Rajarambapu Institute of Technology          | Islampur  | West  | 18   |
| Malnad College of Engineering   | Hassan    | South | 19   |
| Government Model Engineering College                                      | Kochi     | South | 20   |
| National Institute of Technology  | Agartala  | East  | 21   |
| Government College of Engineering   | Karad     | West  | 22   |

The government owned and aided institutions rank high on the Dataquest T-School Survey 2019. This is because of their long time engagement with the industry. Industry has been proactively engaging with these institutions and bringing them onboard on their academic programmes giving them access to tools and

equipment, certification, funding and other benefits. This automatically improves the chances of employability of students in these institutions offering them better placements.

7 out of the top 10 t-schools are government owned or government aided.

## Top T-Schools (Private)

| INSTITUTE   | CITY              | ZONE  | RANK |
|---|-------------------|-------|------|
| Birla Institute of Technology and Science                           | Pilani            | West  | 1    |
| Bannari Amman Institute of Technology                               | Sathyamangalam    | South | 2    |
| B. S. Abdur Rahman Crescent Institute of Science & Technology       | Chennai           | South | 3*   |
| Bharati Vidyapeeth Deemed University College of Engineering         | Pune              | West  | 3*   |
| Sathyabama Institute of Science and Technology                      | Chennai           | South | 4    |
| Army Institute of Technology  | Pune              | West  | 5    |
| GL Bajaj Insititue of Technology & Management                       | Gautam Budh Nagar | North | 6    |
| Maharaja Agrasen Institute of Technology                            | Delhi             | North | 7    |
| Noida Institute of Engineering & Technology                         | Greater Noida     | North | 8    |
| BMS Institute of Technology & Management                            | Bengaluru         | South | 9    |
| Institute of Technology, Nirma University                           | Ahmedabad         | West  | 10   |
| Kakatiya Institute of Technology & Science                          | Warangal          | South | 11   |
| Maharaja Surajmal Institute of Technology                           | New Delhi         | North | 12   |
| Vidyavardhaka College of Engineering                                | Mysuru            | South | 13   |
| GITA  | Bhubaneswar       | East  | 14   |
| Rajalakshmi Engineering College                                     | Chennai           | South | 15   |
| Velalar College of Engineering and Technology                       | Erode             | South | 16   |
| Vel Tech Multi Tech Dr Rangarajan Dr Sakunthala Engineering College | Chennai           | South | 17   |
| The Oxford College of Engineering                                   | Bengaluru         | South | 18   |
| NMAM Institute of Technology  | Karkala           | South | 19   |
| Pimpri Chinchwad College of Engineering                             | Pune              | West  | 20   |
| Rungta College of Engineering & Technology                          | Bhilai            | East  | 21*  |
| R.M.K. Engineering College  | Thirvallur        | South | 21*  |
| Galgotias University  | Greater Noida     | North | 22   |
| Chitkara University Institute of Engineering & Technology           | Rajpura           | North | 23   |
| GMR Institute of Technology   | Rajam             | South | 24   |
| Sir M.Visvesvaraya Institute of Technology                          | Bangalore         | South | 25   |
| SJC Institute of Technology   | Chickballapur     | South | 26   |
| Shri Ram Institute of Technology                                    | Jabalpur          | West  | 27   |
| Rajagiri School of Engineering & Technology                         | Cochin            | South | 28   |
| The NorthCap University   | Gurugram          | North | 29   |
| Amity University Rajasthan  | Jaipur            | West  | 30   |
| I.T.S Engineering College   | Greater Noida     | North | 31   |

| INSTITUTE  | CITY                | ZONE  | RANK |
|--|---------------------|-------|------|
| G H Patel College of Engineering & Technology                            | Vallabh Vidya Nagar | West  | 32   |
| Amity School of Engineering & Technology                                 | Gwalior             | West  | 33   |
| Amity School of Engineering & Technology                                 | Lucknow             | North | 34   |
| Sai Vidya Institute of Technology  | Bengaluru           | South | 35   |
| KLS Gogte Institute of Technology  | Belagavi            | South | 36   |
| IES College of Technology  | Bhopal              | West  | 36   |
| RGM College of Engineering and Technology                                | Nandyal             | South | 37   |
| Sagi Rama Krishnam Raju Engineering College                              | Bhimavaram          | South | 38   |
| SCMS School of Engineering and Technology                                | Ernakulam           | South | 39   |
| BGS Institute of Technology  | BG Nagar            | South | 40   |
| Amrutvahini College of Engineering                                       | Sangamner           | West  | 41   |
| Amity School of Engineering & Technology                                 | Gurugram            | North | 42   |
| Vel Tech RangarajanDr.Sagunthala R&D Institute of Science and Technology | Chennai             | South | 43   |
| Panimalar Engineering College  | Chennai             | South | 44   |
| CVR College of Engineering   | Hyderabad           | South | 45   |
| Erode Sengunthar Engineering College                                     | Erode               | South | 46   |
| Er. PerumalManimekalai College of Engineering                            | Hosur               | South | 47   |
| Prasad V. Potluri Siddhartha Institute of Technology                     | Vijayawada          | South | 48   |
| Institute of Aeronautical Engineering                                    | Hyderabad           | South | 49   |
| DIT University   | Dehradun            | North | 50   |
| National Institute of Science & Technology                               | Behrampur           | East  | 51   |
| Sri Sairam College of Engineering  | Bengaluru           | South | 52   |
| Malla Reddy College of Engineering & Technology                          | Secunderabad        | South | 53   |
| V.S.B. Engineering College   | Karur               | South | 54   |
| D.K.T.E. Textile & Engineering Institute                                 | Ichalkaranji        | West  | 55   |
| Gandhi Institute for Education & Technology                              | Khordha             | East  | 56   |
| KKR & KSR Institute of Technology and Sciences                           | Guntur              | South | 57   |
| Shri Shankaracharya Technical Campus                                     | Bhilai              | East  | 58   |
| CMR Institute of Technology  | Hyderabad           | South | 59   |
| Sri Venkateswara College of Engineering                                  | Tirupati            | South | 60   |
| Trident Academy of Technology  | Bhubaneswar         | East  | 61   |
| Nandha Engineering College (Autonomous)                                  | Erode               | South | 62   |
| Meerut Institute of Engineering & Technology                             | Meerut              | North | 63   |

| INSTITUTE   | CITY            | ZONE  | RANK |
|---|-----------------|-------|------|
| Bharti College of Engineering & Technology                          | Durg            | East  | 64   |
| M.Kumarasamy College of Engineering                                 | Karur           | South | 65   |
| Gandhi Engineering College  | Bhubaneswar     | East  | 66   |
| Acropolis Institute of Technology and Research                      | Indore          | West  | 67   |
| Pranveer Singh Institute of Technology                              | Kanpur          | North | 68   |
| Lords Institute of Engineering and Technology                       | Hyderabad       | South | 69   |
| M.S. Engineering College  | Bengaluru       | South | 70   |
| Shri Ramswaroop Memorial College of Engg. & Mgmt.                   | Lucknow         | North | 71   |
| Model Institute of Engineering and Technology                       | Jammu           | North | 72   |
| Vel Tech High Tech Dr Ranagarajan Dr Sakunthala Engineering College | Chennai         | South | 73   |
| Sethu Institute of Technology                                       | Virudhunagar    | South | 74   |
| K. Ramakrishnan College of Technology                               | Tiruchirappalli | South | 75   |
| BabuBanarsi Das Institute of Technology                             | Ghaziabad       | North | 76   |
| Asia Pacific Institute of Information Technology                    | Panipat         | North | 77   |
| Faculty of Engineering, Teerthankar University                      | Moradabad       | North | 78   |
| Shri Ram Murti Smarak College of Engineering & Technology           | Bareilly        | North | 79   |
| Sri Venkateswara Engineering College for Women                      | Tirupati        | South | 80   |
| Aditya College of Engineering                                       | Peddapuram      | South | 81   |
| Shri Ramswaroop Memorial University                                 | Barabanki       | North | 82*  |
| Chandigarh Engineering College                                      | Mohali          | North | 82*  |
| Chouksey Engineering College  | Bilaspur        | East  | 83*  |
| Bhagwan Parshuram Institute of Technology                           | New Delhi       | North | 83*  |
| Sri Vasavi Institute of Engineering and Technology                  | Nandamuru       | South | 84   |
| Kanpur Institute of Technology                                      | Kanpur          | North | 85   |
| Lakshmi Narain College of Technology                                | Indore          | West  | 86*  |
| Mohandas College of Engineering and Technology                      | Tirvandrum      | South | 86*  |
| Sambhram Institute of Technology                                    | Bengaluru       | South | 87   |
| C K Pithawala College of Engineering & Technology                   | Surat           | West  | 88   |
| Don Bosco College of Engineering and Technology                     | Guwahati        | East  | 89   |
| Vignan Institute of Technology and Science                          | Hyderabad       | South | 90   |

\* These institutes share the same rank due to identical scores

Compared to this, for private institutions it is difficult to engage with the industry. It is because the engagement primarily is driven by the fact that the industry would give resources including funding to the partnering institutes. However, the fact is that the academia needs

engagement beyond funding. While the industry has to accept this reality of institutes requiring much more than funding, the private institutes also do not have to see it as an opportunity to get more funds as well as extract money from the students basis such engagements.

### THE EMERGING T-SCHOOLS

This is a new section introduced in this edition of the survey. It is to highlight those T-Schools which couldn't make it to the coveted list of Top 100 institutes, but have

worked on various parameters in the last year and if they continue to enhance the capabilities in these areas, they could be figuring in the next edition of the DQ Top T-Schools 100 list.

| Institute  | City       | Zone  | Category | Rank |
|--|------------|-------|----------|------|
| Aditya College of Engineering                      | Peddapuram | South | Private  | 101  |
| Shri Ramswaroop Memorial University                | Barabanki  | North | Private  | 102* |
| Chandigarh Engineering College                     | Mohali     | North | Private  | 102* |
| Chouksey Engineering College                       | Bilaspur   | East  | Private  | 103* |
| Bhagwan Parshuram Institute of Technology          | New Delhi  | North | Private  | 103* |
| Sri Vasavi Institute of Engineering and Technology | Nandamuru  | South | Private  | 104  |
| Kanpur Institute of Technology                     | Kanpur     | North | Private  | 105  |
| Lakshmi Narain College of Technology               | Indore     | West  | Private  | 106* |
| Mohandas College of Engineering and Technology     | Tirvandrum | South | Private  | 106* |
| Sambhram Institute of Technology                   | Bengaluru  | South | Private  | 107  |
| C K Pithawala College of Engineering & Technology  | Surat      | West  | Private  | 108  |
| Don Bosco College of Engineering and Technology    | Guwahati   | East  | Private  | 109  |
| Vignan Institute of Technology and Science         | Hyderabad  | South | Private  | 110  |

\* These institutes share the same rank due to identical scores

In 2019 T-School survey, there were 13 tech institutes identified as emerging tech schools of India, which have taken steps in the right direction and are improving to become the best of the T-Schools in India. There is only one government institute figuring in the list. Other government T-Schools need to take it as a case study and replicate some of the steps that the institute has taken to figure in the list.

Another interesting insight is that there are 4 T-Schools emerging from the northern region. This is a welcome sign

as the region is having dearth of good tech schools as highlighted in the survey earlier.

### CONCLUSION

The 14th edition of Dataquest Top T-Schools Survey 2019, has been able to map some of the good work that these T-Schools are upto and given the stakeholders the best T-Schools by various parameters including overall ranking, ranking by region, factor as well as the ownership. The PACE framework used to measure the performance



of the T-Schools has conclusively come up with the ranks that these educational institutes have scored in each of the important dimensions and then summed up in a single overall score after appropriating the individual scores with the weights assigned.

The Dataquest Top T-School survey 2019 has pointed out that the alignment of academic institutions with the industry is paramount and increasingly becoming the factor that determines the relevancy of an institution for its stakeholders including faculty, students, parents, industry and the government.

The T-Schools are important actors in some of the critical marquee missions defined by the government. These include, Skill India, Make in India and the Start-up India. The institutes have already taken certain steps like setting up of incubation centre, promoting research and development as well as integrating skill initiative with the regular coursework. However, there is a need to have a relook and attempt to devise a uniform framework across these institutes to have the same process, inputs and outputs which will make it easy for the other stakeholders to associate with.

Similarly, the IT infrastructure including connectivity has been adequately attended to. It is now the time for T-Schools to go for digital transformation using this infrastructure and bring in more services for the benefit of students. This digital transformation will also align the students with the expected working environment they will enter into, while joining the industry.

There is a balanced spread of T-Schools across the cities in India. Already there are some educational hubs across the regions. However, as the industry is also decentralising taking the benefit from the digital infrastructure that has been developed in the past few years, it is imperative for the T-Schools as well to go into such cities and towns catering to the rising local demand of talent.

The 'classic' engineering courses are essential that a T-School must have. But there is also a need to get into new opportunity areas which are increasingly becoming demanding in the market. For instance, new areas in the tech world including Analytics, Machine Learning, Blockchain, IoT, Smart City, 5G and others all require an organised body of knowledge to be administered to students from where they can acquire the skills required in the organisations where they will work on these technologies of future.

The overall objective of the T-Schools should be to increase the relevancy quotient for the stakeholders which can only be done by working very closely with the ecosystem players and integrating their requirements in the pedagogy. While the T-Schools continue to cater to the changing demands of the industry, it might still require an overall refresh this time as the fundamentals of industry have changed substantially over the past few years, which are shaping the future in an exciting way.

*(The author is Founder techARC)*

# New Entrants: T-School 2019

| INSTITUTE NAME   | CITY       | ZONE  | CATEGORY |
|--|------------|-------|----------|
| Kakatiya Institute Of Technology & Science                                 | Warangal   | South | Private  |
| Vidyavardhaka College Of Engineering                                       | Mysuru     | South | Private  |
| Velalar College Of Engineering And Technology                              | Erode      | South | Private  |
| The Northcap University  | Gurugram   | North | Private  |
| Amity University Rajasthan   | Jaipur     | West  | Private  |
| Amity School Of Engineering And Technology                                 | Gwalior    | West  | Private  |
| Amity School Of Engineering And Technology                                 | Lucknow    | North | Private  |
| Sai Vidya Institute Of Technology  | Bengaluru  | South | Private  |
| BGS Institute Of Technology  | BG Nagar   | South | Private  |
| Amrutvahini College Of Engineering, Sangamner                              | Sangamner  | West  | Private  |
| Amity School Of Engineering And Technology                                 | Gurugram   | North | Private  |
| Vel Tech Rangarajan Dr. Sagunthala R&D Institute Of Science And Technology | Chennai    | South | Private  |
| Erode Sengunthar Engineering College                                       | Erode      | South | Private  |
| KKR & KSR Institute Of Technology And Sciences                             | Guntur     | South | Private  |
| Bharti College Of Engineering & Technology, Durg                           | Durg       | East  | Private  |
| Shri Ramswaroop Memorial College Of Engg. & Mgmt.                          | lucknow    | North | Private  |
| Sri Venkateswara Engineering College For Women                             | Tirupati   | South | Private  |
| Chandigarh Engineering College   | MOHALI     | North | Private  |
| Shri Ramswaroop Memorial University  | Barabanki  | North | Private  |
| Bhagwan Parshuram Institute Of Technology                                  | New Delhi  | North | Private  |
| Mohandas College Of Engineering And Technology                             | Tirvandrum | South | Private  |
| Sambhram Institute Of Technology   | Bengaluru  | South | Private  |
| C K Pithawala College Of Engineering & Technology                          | Surat      | West  | Private  |
| Don Bosco College Of Engineering And Technology                            | Guwahati   | East  | Private  |
| Vignan Institute Of Technology And Science                                 | Hyderabad  | South | Private  |

