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## **Skills Gap Remains a Worry For over 1200 IT Product Companies**

- **Only 2.68% of the available talent pool is industry ready**
- **Huge risk to over 1200 product startups in the last 4 years**
- **70% of employable resources are in tier 2 or lower ranked institutions**
- **Less than 40% engineers can perform 'problem solving' by cross-application of concepts and** only 24% engineers can apply probability and permutation-combination to solve complex problems

**New Delhi, November 26, 2012 :** As India braces itself to emerge as a leading provider of IT products, a recent report by Aspiring Minds, India's leading Employability Assessment Company, highlights the skills gap faced by the sector. As per the report, although India produces more than five lakh engineers annually, only 2.68% meet the skill requirements of the IT products sector.

**The National Employability Report, Engineering Graduates, Annual Report-2012 released by Aspiring Minds states that nearly 92% of engineering graduates lack computer programming and algorithms skill required for IT product companies whereas 56% show lack of soft skills and cognitive skills.** For a sector that has seen around 1282 start ups between 2008 and 2012, this exposes a huge dearth of talent and a pertinent risk.

Aspiring Minds has used proprietary aptitude, language agnostic programming assessments and simulated programming assessments to assess over 55,000 engineers to complete this study. The study shares key figures and analysis for employability of engineering graduates in the products sector basis factors such as region, campuses and gender.

"There is a clear and measurable distinction between the talent required to develop IT products vis-à-vis typical IT Services talent. While we observe employable talent is spread across all kinds of colleges, building India's prowess in IT Product would require significant focus and investment in training and evaluating students in core technology." said Himanshu Aggarwal, CEO, Aspiring Minds.

**The top cities with regards to percentage of employable talent in IT Product sector are Delhi at 10.91%, Kolkata at 4.51% followed by Bengaluru at 2.93%.**

The research analyzed the employability of candidates coming out of colleges in metro cities, in comparison to those in non metro cities citing a 12% fall in employability from metros to non-metros.

Sector	Metros	Non-Metros	% (Shift)
IT Product	2.91%	2.56%	- 12.03%

**Engineering design** is all about cross-application of multiple concepts to solve a given real-world problem; theoretical knowledge without the understanding or skill of application is a big handicap. Lack of such a skill in a majority of the engineers is a strong impediment in system and product design in India.

A further analysis of Quantitative skills by Aspiring Minds in the Quantitative Ability Learning Levels—Engineering Graduates, Annual Report 12 pointed out that **less than 40% engineers can perform 'problem solving' by cross- application of concepts**. There is a sharp fall in the percentage of engineers who can 'cross apply' mathematical constructs to solve practical problems, as opposed to straightforward, theoretical application (formulae-based) of standalone concepts. For each area of mathematics identified in the report, the percentage of engineers who can solve questions based on direct formulae of the concept is 60% and above, whereas any cross-application of concept makes the percentage fall to under 40%.

**A key skill for product engineers, only 65% have an ability to comprehend the concept of probability and understanding the implication of 'or' while only 36% have comprehension of tenets of probability in more than one draw or in more than one event.**

**Whereas 59% engineers are able to solve direct permutation-combination questions**, in case a choice between permutation or combination formulae has to be made for solving a particular word problem, the percentage falls to 46%. This shows that a large proportion of engineers do not have an understanding of difference between permutation and combination, or at least its applications.

**Only 24% of all engineering graduates are conversant with higher-level concepts of combinatorics**. The understanding for combinations is lower than that of permutations, and the concept of 'at least' in counting is not well-grasped.

This report further found that a very small percentage of engineers show competence in applying engineering mathematics to solve problems. For instance, only 24% engineers can apply probability and permutation-combination to solve complex problems. These areas are important for understanding the science behind engineering: algorithm design, communication theory, building complex models for physical and mechanical systems, etc. Lack of these skills not only impedes advanced product design, but also holds back high quality research and innovation.

The study was conducted by Aspiring Minds basis a sample of more than 55000 engineering students from nearly 250+ engineering institutions. Employability was gauged by actual testing of these students using AMCAT, one of India's leading standardized employability tests. AMCAT tested students on parameters such as English Communication, Quantitative Aptitude, problem -solving skills, Computer Science and Programming skills. In addition the demographic details of the students, was also captured by Aspiring Minds' testing platform to enable comprehensive analysis.

Currently, AMCAT is used by more than 120 companies including five of the top ten IT service providers for recruitment and assessment purposes. The benchmark for employability in a profile and sector is defined basis theoretical understanding and empirical validation of knowledge, cognitive skills and domain expertise.

### **About Aspiring Minds:**

Aspiring Minds is India's leading employability solutions company, headquartered in Gurgaon. Aspiring Minds offers scientific assessments with an innovative large-scale sourcing model analogous to a GRE-for-job concept. The state-of-the-art assessment tools developed by Aspiring Minds have been used across industry verticals to help recruit the right people, develop profile-wise employability benchmarks and assess workforce health.

Aspiring Minds' intelligent adaptive assessments span across Language, Cognitive skills, Domain knowledge and Personality. A strong in-house research and development team with alumni from IITs and MIT form the development back bone of the patent pending assessment tools.

AMCAT™ - the flagship product is India's Largest Employability Test. Conducted across the country throughout the year, AMCAT has been taken by over 750,000 candidates in 1300+ campuses, spread across 23 states. Tens of thousands of candidates secure their dream jobs every year through AMCAT.

Powered by a highly dedicated management team drawn from the IITs and IIMs, over 180 full-time employees, and a pan-India operational presence, Aspiring Minds has helped leading brands across verticals to improve their recruitment process efficiency and the quality of talent they hire. Aspiring Minds products and solutions have been adopted by leading corporates across sectors'.

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