

A snapshot of IIT–JEE all India one rankers (1979–2018)

The JEE (Advanced) (formerly known as IIT–JEE) is regarded as one of the toughest engineering entrance examinations in the world and is one of the most difficult examinations of India to qualify. Over a million students compete every year. It is a dream of several aspirants to be on the list of toppers. A snapshot of

IIT–JEE all India one rankers of the last 40 years shows that 15 of them obtained bachelor's degree from IIT Bombay, 13 from IIT Kanpur, 4 each from IIT Delhi and IIT Madras, and 4 migrated to the US to pursue under-graduation. In most cases, they chose computer science (32), followed by physics (4), electrical (3) and robotics (1). It may be relevant to note that majority of them moved to USA for higher studies and obtained M S/Ph D from the world's top rated institutions (Table 1).

Curiously, if a bright Indian student wants to study for a doctorate at a top rated university in any field of science and technology, he/she is forced to study overseas. Not surprisingly, majority of the toppers, who complete their M S/Ph D from a foreign university, remain overseas, either in a university/institution or corporate sectors.

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Table 1. IIT–JEE all India one rankers affiliated with the listed institutes while obtaining M S/Ph D

Career stage	University/Institution	IIT–JEE all India one rankers	The World University Rank 2018*
M S/Ph D obtained	Stanford University, USA	8	3
	Princeton University, USA	4	7
	University of California, Berkeley, USA	4	18
	California Institute of Technology, USA	2	3
	Massachusetts Institute of Technology, USA	3	5
	Carnegie Mellon University, USA	1	24
	Cornell University, USA	1	19
	Harvard University, USA	1	6
	Stony Brook University, USA	1	251–300
	University of Maryland, USA	1	69
	University of Bath, UK	1	251–300
	University of San Francisco, USA	1	401–500
	University of Waterloo, Canada	1	201–250
	Yale University, USA	1	12

*The Times Higher Education World University Ranking 2018.

https://www.timeshighereducation.com/world-university-rankings/2018/world-ranking#!/page/0/length/25/sort_by/rank/sort_order/asc/cols/stats

The Prime Minister Fellowship Scheme

The Prime Minister Fellowship Scheme (PMFS), as announced by the Government of India, is now in the implementation stage. It is praiseworthy that the Government wants to encourage merit in scientific research. However, there are several pitfalls in the way its implementation is planned.

First, it is open only to students who have graduated from one of the national institutes of the country with their first degree and with reasonable merit. It is patently wrong to assume that merited students will graduate only from these institutes. Many of these institutes are still in their nascent stage and do not attract the best students. Often students who qualify for entrance to the national institutes give up their admission to these institutes and join local colleges that have long-standing reputation for aca-

demical excellence. Such students will not qualify for the PMFS for what is, in fact, a reasonable decision on the part of the student, purely based on academic reputation of the institutes at the time of making their choice.

The PMFS is tenable only at the IITs and IISc, and there is no good reason for this. As already stated, majority of the IITs are still in the infant stage and are not yet known for excellence in teaching, research, peer group or breadth of academics. On the other hand, there are many institutes such as TIFR and Indian Statistical Institutes which have established themselves as institutions with international reputation, and these have not been included in the list of institutes at which PMFS will be tenable.

The fellowship amount for the PMFS fellows is three times what a regular re-

search scholar in these institutes will get ordinarily as fellowships, not counting the contingency grant that goes with the scheme. This disparity is large considering that the non-PMFS fellows are also selected on the basis of merit through the same rigorous process. This aspect will hugely discourage majority of merited students in these institutes. In the West, many prestigious fellowships are offered to Ph D students like the Hertz fellowship, besides special fellowships offered by the respective institutes. These fellowships are usually about 20% higher than the regular fellowships. Many of these fellowships are also offered for shorter periods and sometimes, for just one year.

To overcome these drawbacks and make PMFS a success, several issues need to be addressed. Foremost among