

What IITs need



An ecosystem that celebrates social diversity, nurtures science that is sensitive to society

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THE IITS ARE in the news again but for the wrong reasons. A spate of suicides and the media attention that followed has given us an inside view of the social behaviour and anxieties within the IIT student community. Studying at the IITs can be extremely stressful, even more so for SC or ST students. The obvious question is: What is to be done? The IITs have responded with a string of measures — from strengthening existing gender and caste cells to improving student counselling. Can more be done? In this connection, the Chief Justice of India had exhorted the institution to focus not only on excellence but also “to end discrimination and nurture empathy”. This poses an important question for us scientists and teachers: Is science empathetic or inclusive?

Let us begin with JEE Advanced 2022, the IIT entrance exam. The cut-off for admission for general category candidates was 55 (out of 320 marks), while for SC candidates, it was 28. The median score of eligible SC candidates was only 44. A lot of analysis has happened about how to address this gap — both in terms of boosting SC student capabilities and sensitising non-SC students. This is notwithstanding the fact that JEE Advanced is a poorly designed exam.

But the more important question is why should there be such disparity among students from different social strata 75 years after independence. Why are SC students not doing better? There are many cultural reasons and some material ones. The Census 2011 data for Maharashtra tells us that 76 per cent of the general (non-SC/ST) urban population had latrines at home in comparison to 57 per cent of SC families. The fraction of SC households with a scooter was 14 per cent while that for the general category it was 24 per cent. This inequality persists in other basic amenities as well. Thus, reaching school or college or even finding time for it is harder for SC students. But this inequality is not only about social class. Access to water within premises was 41 per cent for rural households and 74 per cent for urban households.

Great problems beset us — pollution, public health, dysfunctional public transport and extreme water stress, to name a few. These problems require the sustained engagement of the smartest people and the most innovative companies and enterprises. Our elite institutions have failed to convert our problems into opportunities and solutions. That has resulted in a shortage of jobs and the lottery of competitive exams. The IITs now are merely the marketplace for the few good jobs which exist. All this needs to change.

In Beed district, it is 38 per cent (for all households) while for Kolhapur it is 74 per cent. Thus, Maharashtra itself, let alone India, is a very unequal place!

In a normal society, this material inequality would be intensely studied by universities. Students of all disciplines would go out and conduct field and community studies to understand its causes and provide insights. Engineers would design robust solutions and social scientists would ensure that these indeed work. Professors would transmit this knowledge to government agencies and companies so that this inequality reduces.

For students, such a pedagogy of interdisciplinary field work brings a shared experience of visiting the material realities of their society and engaging in an open and honest discussion about its problems. This will help students to develop mutual respect, empathy and a collective understanding of how the state and the market work. Such a constructive engagement by the university can make higher education empathetic. Diversity is important in this scheme since only a diverse student and faculty body will be able to uncover and assimilate the facts and design more effective and sustainable solutions. More equitable societies will produce better professionals and citizens and a diverse set of role models!

Sadly, we are not a normal society. Higher education in India operates in an inequitable manner.

Still, the above modus operandi can easily change for the IITs. For IIT Bombay, the communities in the surrounding districts of Palghar, Thane and Nasik offer a variety of problem areas for both research and academics. From cooking energy to public transport, small enterprises to pollution, there are concrete problems of all sizes and difficulty levels for students and faculty members to grapple with. Faculty members can work with district administrations to address these and involve both IIT and local college students. This will prepare an ecosystem of higher education that satisfies its institu-

tional as well as cultural roles.

For the IITs, such an approach will certainly improve the social milieu within the student body, reduce competitive stress and increase collaboration and teamwork. Students will also appreciate the great diversity of backgrounds and understand the adversities many among them have had to face. It will show them that for most real-life problems, unlike the JEE, there is no single correct answer and different viewpoints often complement each other. It will inculcate in them the true spirit of science — of empathy, exploration and teamwork — where the laboratory is the wide world outside and the task is to put smiles on the faces of people.

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It is also time for the students — from the IIT and outside — to reject this “lottery”, the anxiety which goes with it and the definition of science that supports it. Sustainability is now the core concern of state agencies and national and international companies. They need a science which is free, a science which probes and explores all nooks and crannies of knowledge and society. It is the training in this science of empathy and diversity that the students should now demand from their professors. Only when Indian science turns more democratic will the university become more empathetic and the society more equal and prosperous.

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