

How to become an IIT Truly

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Address to Faculty
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Outline

Meaning of an IIT truly?

- Work towards excellence ceaselessly

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in:

- I. Teaching
- II. Research & Innovation
- III. Guiding Students about Life

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These are the **three major roles** of faculty!

(Fourth role is **Outreach** in the above areas, and help in **administering the institution.**)

I. Teaching

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What does excellence in teaching mean?

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What does excellence in teaching mean?

- Engage, challenge and inspire the students in the class/lab
- Motivate - Show relevance of what is about to be taught
- Introduce the problem - And do not provide the answer until the problem becomes the students' problem !
- Interactive class - Encourage questions
- Projects/term papers in courses

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Ask three times why? Can it be avoided?
- Classes are large – We need to change our teaching styles
Need to convert the class from passive learning to active learning?

Teaching – Problems in the Current State

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Feedback:

- Lectures are uninspiring
- Hardly any interactivity in the class – One way transfer (monologue)
- Old lecture notes
- Examinations are too simple – No challenge in problems
- Presentation slides/Powerpoint – Poor style
 - Writing of long full sentences, rather than bullet points
 - Too much material on a single slide
 - Presentation lacks synchronization with slides

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- Attend workshops/lectures organized by TLC
- Form teaching groups in dept.
- Do team teaching (see my earlier note on it)
- ... etc.

II. Research & Innovation

How to choose research problems

- One which will make an impact, by advancing
 - Knowledge frontier
 - Applications
 - Innovations

...Research & Innovation

Working in Research Groups – First, needed willingness, vision.
How to start/do group research?

- Colloquia/seminars – Faculty present an overview of their research. Possible collaborations are discovered.
 - Start the cycle now after Dussehra
 - (*) Will be a condition for grant of Institute funds
- Take a common student for research/project guidance
 - Interact through the student.
 - Forces two faculty members to think and work on a common problem

...Research & Innovation

Sponsored project

- Having extra funds helps – But not the only reason
 - Helps you connect with peers in your field
 - Steers research towards national goals and national problems
- * Institute will give R&D funds to those who have brought external funds!

III. Guiding Students about Life

Student Guidance about Life (Besides Academics)

- Motivating students towards research and innovation for nation building
 - Currently narrow motivation in many students - only jobs and money
- Developing holistic individuals
 - Developing sensitivity towards others, and larger society
 - Universal Human Values courses
 - Offering Humanities courses – Developing larger world view
- Connecting and bonding with students – through Induction Program and Universal Human Values courses
 - Mentor-mentee groups in each dept.

IV. Conclusion

In Conclusion

We need to move towards:

- Excellence in teaching
 - Engage, challenge and inspire the students in the class/lab
 - Self development by attending workshops/lectures in TLC and innovating
- Excellence in Research & Innovation
 - Group research – Faculty working together on a common problem
 - Inter-disciplinarity – Across departments, including with BHU
- Excellence in Student Guidance
 - Developing character and world view
 - Mentor-mentee groups in each dept. provide a platform

Thank you