

Higher Education (Technical)

Deepak, for IIT Rajasthan, 18.6.09

My Understanding

1. Basic (Bachelor's) education: Electrical, Computers, Mechanical, Materials;
-these are the pillars on which engineering education is built
2. Research Laboratories: Generally sector/area specific, application point of view
E.g CSIR, DRDO

UG primarily teaching, PG primarily research

Career path after higher education: Pure R&D lab or Educational institute is obvious choice

-there is a need to move become attractive to industry

CSIR

Advanced Materials and Processes Research Institute

Central Building Research Institute

Centre for Cellular & Molecular Biology

Central Drug Research Institute

Central Electrochemical Research Institute

Central Electronics Engineering Research Institute

Central Institute of Mining and Fuel Research

Central Food Technological Research Institute

Central Glass & Ceramic Research Institute

Central Institute of Medicinal & Aromatic Plants

Central Leather Research Institute

Central Mechanical Engineering Research Institute

Centre for Mathematical Modelling & Computer Simulation

Central Institute of Mining and Fuel Research

Central Road Research Institute

Central Scientific Instruments Organisation

CSIR Madras Complex

Central Salt & Marine Chemicals Research Institute

Institute of Genomics and Integrative Biology

Institute of Himalayan Bioresource Technology

Indian Institute of Chemical Biology

Indian Institute of Chemical Technology

Indian Institute of Petroleum

Indian Institute of Integrative Medicine(IIIM)

Indian Institute of Toxicology Research

Institute of Microbial Technology

Institute of Minerals and Materials Technology

National Aerospace Laboratories

National Botanical Research Institute

National Chemical Laboratory

Unit for Research and Development of Information Products

National Environmental Engineering Research Institute

National Geophysical Research Institute

National Institute for Interdisciplinary Science & Technology

National Institute of Oceanography

National Institute of Science Communication And Information Resources

National Institute of Science, Technology And Development Studies

National Metallurgical Laboratory

National Physical Laboratory

North - East Institute of Science and Technology

Structural Engineering Research Centre

Suggestion

1. Keep UG education in accepted framework; but shake up higher education making is relevant. In language of UG education, interdisciplinary nature is a must.
2. PG “department” should be sectoral
 1. Energy
 2. Transportation
 3. Electronics/Communication
 4. Health
 5. Nuclear
 6. Space
3. Faculty in UG departments, should also have appointment in at least 2 PG departments

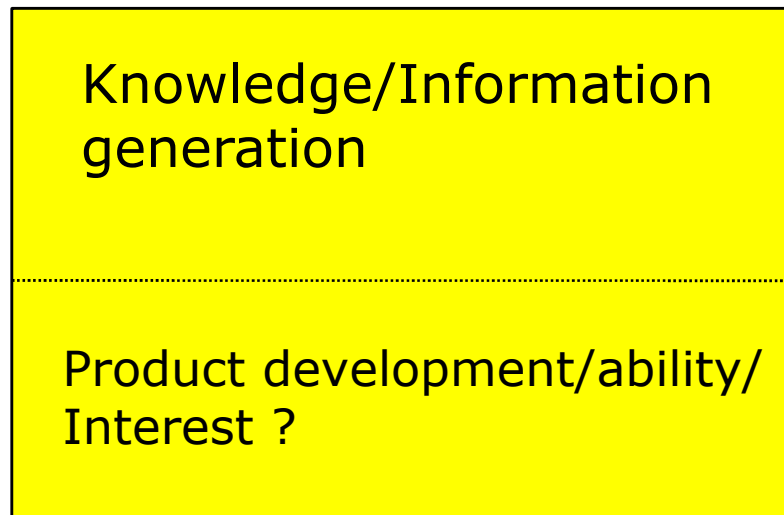
Suggestion

1. PG Program: Focus on Ph.D. “only”
 1. IIT Raj. will develop with students who are in Ph.D. program; not with those in M. Tech.
 2. Admit to Ph.D. program directly after B. Tech, and of course M. Tech.
 3. Those admitted after B. Tech may have a option to quit with a M. Tech degree when specified requirements are fulfilled

Suggestion

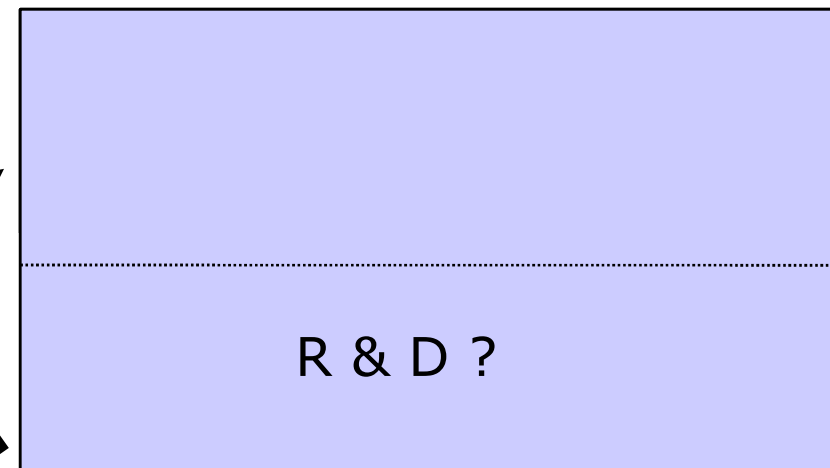
1. Get industry interaction going up front
-that's why sector based PG departments is important

1. Identifying problem that "I" can solve
2. Are problems interesting to me
3. I don't generate "total solution", so who will use the knowledge generated to obtain "total solution"



INSTITUTION

INDUSTRY



1. Framing/defining the problem
2. Who to go to?

Make sure to house persons from industry on projects on campus, the same place where faculty and students live

Deepak, for IIT Raja