Rethinking on Engineering Education in India

What is the issue?

- There is a noticeable disconnect between the students, faculty and managements of engineering colleges and the employers.
- With changing technologies and new demands, engineering education in India needs a serious rethink and reorientation of strategies.

What is the drawback?

- It was believed that India, with its vast infrastructure of engineering colleges, can supply the world with well-trained, best-in-class software workers and engineers.
- However, engineering principles learnt in college are rarely applied in the world of software or product development.
- Fresh graduates are not really career-ready for developing and maintaining computer systems or for building the next-generation engineering product.

Why is it so?

- The root causes of the above stem from a diverse set of conflicting visions and goals of the key stakeholders.
- These include the managements of private engineering institutions, parents, faculty, students, employers and even government.
- Each of them is into the field for vastly different reasons that are unrelated to the Indian tech industry's unique selling proposition (USP).
- [A USP is a factor that differentiates a product from its competitors, such as the lowest cost, the highest quality or the first-ever product of its kind.]

- **Students** - It is found that a majority of students never wanted to pursue engineering but did so because of parental pressure.
- **Teachers** - Professors in engineering colleges differ in opinion as well as are sometimes unaware of the vision of their managements.
- Teachers fall short of having the rapidly-changing technology skills to impart them to students, and thus end up confining to books.
- **Management** - Many of the sprawling engineering universities are politically well-connected and draw strength from their business legacies.
- They often have little experience in the field of engineering education.
- For them, the prime motives are to increase revenues and improve branding,

and build impressive campus infrastructure to attract students.
- Management teams, on the other hand, complain about excessive regulation from government and accreditation bodies.
- **Employers** - Employers regard most engineering graduates as unemployable, unless re-trained in basic job and technical skills.
- Middle and lower-tiered students are unable to find gainful employment in engineering and step down to other professions.
- Ironically, many of them go on to become teaching faculty at engineering colleges.

What is the new scenario?

- Developments in the US provide some lessons on solving this anomalies and concerns, at least in the software industry.
- GitHub (software company), acquired by Microsoft Corp, has not demanded college degrees for most positions in years.
- At chip maker Intel Corp, degrees are optional for many “experienced hire” positions.
- Also, there is the inspiration of the IT industry’s charismatic leaders such as Steve Jobs, Mark Zuckerberg, Bill Gates, etc who all earned no college degree, far less an engineering degree.
- Moreover, most mundane technology jobs such as software testing and desktop support are already heavily automated.
- Modern coding platforms are a lot more developer-friendly.
- So the tech world does not need as many human engineers as in the past.
- Evidently, freshers' starting salaries have stayed constant for nearly 10 years.

What could be done?

- In a rapidly changing technology environment, today’s youth may have to change career paths at least 3 times.
- So a static engineering degree may be of little value in these days.
- The focus perhaps should be more on imparting real industry skills.
- This is more preferable to teaching subjects that are quickly forgotten or are of little practical significance.

Source: BusinessLine



SHANKAR
IAS PARLIAMENT
Information is Empowering