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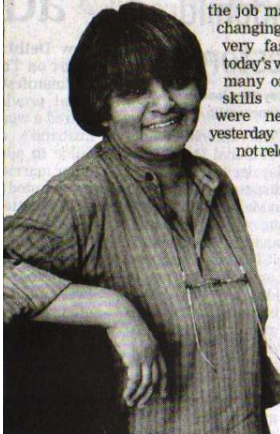INCLUDES 4 PAGES OF MANGALORE TIMES* (*MANGALURU, MANIPAL & UDUPI CITY AREAS ONLY)

'Goal of higher education cannot be to mimic robots ... if you are industry-ready today, you may be jobless tomorrow'

*Research and industry voices have been drawing attention to a crisis in the Indian job market because of young graduates' lack of skills. **Rupamanjari Ghosh**, vice-chancellor of Shiv Nadar University, spoke to **Nandita Banerji** about how to revitalise higher education, accelerate employability, and prepare for the future of work:*

■ **Why are so many young Indian graduates unemployable?**

Business organisations today require fresh recruits who can hit the ground running. So training these graduates has to start inside higher education institutes. With the job market changing very fast in today's world, many of the skills that were needed yesterday are not relevant today. Ongoing skill acquisition is critical for staying relevant in the industry, and to enable this, the key skill we need to impart to our students is that of critical thinking and creative problem-solving.

Universities may offer specialisations in tune with the needs of industries or research. But the very nature of higher education should be to drive rather than just respond to industry requirements. We have to understand that an engineer doesn't just need to build a dam that is structurally and mechanically solid, he also needs to think of the environmental and economic impact. You cannot solve a problem if you don't know the context of the problem.

■ **How do you assess our higher education institutes?**

The problem with higher education institutes in India is that they reward implementation, not original thinking. They focus on creating clones instead of original thinkers. Students in Indian institutions have traditionally studied subjects in silos as most of our higher education system does not allow for an interdisciplinary and multidisciplinary approach to learning, which is often needed for real life problem-solving.

Students need to be generators of knowledge, not just consumers. India should aim for a net surplus of knowledge. Our system encourages passive learning by promoting a "degree college culture" where the learners are just bombarded with information that they are expected to memorise. Learning is not fun but has become a rote process.

■ **How should the learning environment be improved?**

Investment is required for resources and infrastructure. You can't have shortcuts. Students need to participate in the learning to remember. Learning by doing has to exist, otherwise, after each exam, there is a delete button on what was learnt. Research should be encouraged, not just for PhD students and faculty, but also for under-graduate students.

The responsibility of learning is upon the student, but it is the task of the educators to facilitate that learning. Students need all the tools available to find their passion, which is rare, but if the student finds it, the chances of excelling are the highest. They need a flexibility during the learning process, along with supervision and mentoring, to be able to find that passion. The concept of university-wide electives can help with this. Choosing a combination of major and minor subjects can help with the exploration process.

■ **Can a top-down approach work?**

We need to start necessarily with a vision-oriented strategy, a top-down approach based on collective wisdom or national policies, and it has to merge with an inclusive, organic, bottom-up approach, which is stable.

We need to look at both the content and method of delivery in the degree programmes. There has been an over-emphasis on mastering the fundamentals and being safe but an under-emphasis on exploration-driven learning and learning from failures. The mode has to be student-centric, active or participatory so that they 'learn by doing'. The most important element in this is quality faculty as facilitators of learning. To enable the faculty we of course need resources, and leadership has to be competent and professional.

■ **What other tools do students need to be employable?**

People spend a lot of time in packaging, though the content is more important. But communication is one tool you need to impart no matter what. You also need to be open to possibilities. Industry-ready should not be the only focus. If you are industry-ready today, you may be jobless tomorrow. You need to be prepared for critical and creative thinking. That is the skill you need to learn.

■ **In what way will digitisation affect job prospects?**

School, college and university knowledge can't skirt the issue of livelihood. People are worried about 'the future of work' and how the digital world is going to take away jobs, from even the 'smart' ones. The livelihood issue that our country is facing, starting with the farmers, has to become a part of our education.

We are producing graduates who cannot find jobs and livelihood today but are worrying about the future of work, which is based on a phobia for digitisation. This fear is also present with graduates who feel nervous that they will lose their jobs because of digitisation. But the goal of higher education cannot be to mimic robots. You have to find out what is essentially human that robots cannot do. We need to be ahead of the timestamp.

Q&A

ಮೂರು ಕೋರ್ಸ್‌ಗಳತ್ತ ಅಭ್ಯರ್ಥಿಗಳ ಚಿತ್ತ

ಕಂಪ್ಯೂಟರ್ ಸೈನ್ಸ್, ಮೆಕ್ಯಾನಿಕಲ್ ಕೋರ್ಸ್‌ಗೆ ಹೆಚ್ಚಿದ ಬೇಡಿಕೆ

ಬೆಂಗಳೂರು, ಆ. 2: ಎಂಜಿನಿಯರಿಂಗ್ ಕಾಲೇಜಿಗಳು ವಿದ್ಯಾರ್ಥಿಗಳನ್ನು ಸೆಳೆಯಲು ತಂತ್ರಜ್ಞಾನ ಆಧಾರಿತ ಹೊಸ ಕೋರ್ಸ್‌ಗಳನ್ನು ಪರಿಚಯಿಸುತ್ತಿದ್ದರೂ, ಕಂಪ್ಯೂಟರ್ ಸೈನ್ಸ್, ಮೆಕ್ಯಾನಿಕಲ್, ಎಲೆಕ್ಟ್ರಾನಿಕ್ಸ್ ಮತ್ತು ಕಮ್ಯೂನಿಕೇಷನ್ ಕೋರ್ಸ್‌ಗಳಿಗೆ ಬೇಡಿಕೆ ಹೆಚ್ಚಾಗಿದೆ.

ವೃತ್ತಿಪರ ಕೋರ್ಸ್‌ಗಳ ಪ್ರವೇಶ ಪ್ರಕ್ರಿಯೆ ಆರಂಭವಾಗಿದೆ. ಸರಕಾರಿ ಕೋಟಾದಡಿ ಪ್ರಸಕ್ತ ಸಾಲಿನಲ್ಲಿ ಲಭ್ಯವಿದ್ದ 55,216 ಎಂಜಿನಿಯರಿಂಗ್ ಸೀಟುಗಳ ಹಂಚಿಕೆಯ ಒಂದು ಮತ್ತು ಎರಡನೇ ಸುತ್ತು ಪೂರ್ಣಗೊಂಡಿದೆ. 2ನೇ ಮುಂದುವರಿದ ಸುತ್ತಿನಲ್ಲಿ ಹಂಚಿಕೆಯಾಗಿ ಉಳಿದ ಸೀಟುಗಳನ್ನು

ಪೂರಕ ಪರೀಕ್ಷೆಯಲ್ಲಿ ಉತ್ತೀರ್ಣರಾದ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಹಂಚಿಕೆ ಮಾಡಲಾಗುತ್ತದೆ. ಇದಕ್ಕಾಗಿ ಅಭ್ಯರ್ಥಿಗಳ ದಾಖಲೆ ಪರಿಶೀಲನೆಯೂ ನಡೆಯುತ್ತಿದೆ. ರಾಜ್ಯದ 215 ಎಂಜಿನಿಯರಿಂಗ್ ಕಾಲೇಜಲ್ಲಿ ಕಂಪ್ಯೂಟರ್ ಸೈನ್ಸ್, ಸಿವಿಲ್ ಎಂಜಿನಿಯರಿಂಗ್, ಎಲೆಕ್ಟ್ರಲ್ ಮತ್ತು ಎಲೆಕ್ಟ್ರಾನಿಕ್ಸ್ ಕೆಮಿಕಲ್ ಎಂಜಿನಿಯರಿಂಗ್, ಎಲೆಕ್ಟ್ರಾನಿಕ್ಸ್ ಮತ್ತು ಕಮ್ಯೂನಿಕೇಷನ್, ಎರೋನಾಟಿಕಲ್ ಎಂಜಿನಿಯರಿಂಗ್, ಎರೋಸ್ಪೇಸ್ ಎಂಜಿನಿಯರಿಂಗ್, ಮೆಕಾನಿಕಲ್ ಎಂಜಿನಿಯರಿಂಗ್, ಎನ್ವಿರಾನ್‌ಮೆಂಟ್ ಸೈನ್ಸ್, ಮಾಹಿತಿ ತಂತ್ರಜ್ಞಾನ, ಆಟೋಮೊಬೈಲ್ ಎಂಜಿನಿಯರಿಂಗ್ ಹಾಗೂ ನ್ಯಾನೋ

ಟೆಕ್ನಾಲಜಿ ಸಹಿತ ಅನೇಕ ಕೋರ್ಸ್‌ಗಳನ್ನು ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಆಫರ್ ಮಾಡಲಾಗುತ್ತದೆ.

ಆದರೆ ವಿದ್ಯಾರ್ಥಿಗಳ ಚಿತ್ತ ಮಾತ್ರ ಕಂಪ್ಯೂಟರ್ ಸೈನ್ಸ್, ಮೆಕ್ಯಾನಿಕಲ್, ಎಲೆಕ್ಟ್ರಾನಿಕ್ಸ್ ಮತ್ತು ಕಮ್ಯೂನಿಕೇಷನ್ ಕೋರ್ಸ್‌ಗಳ ಸುತ್ತವೇ ಕೇಂದ್ರೀತವಾಗಿದೆ.

ಸಿವಿಲ್ ಎಂಜಿನಿಯರಿಂಗ್ ಕೋರ್ಸ್‌ಗೆ ಬೇಡಿಕೆ ಕಡಿಮೆಯಾಗಿರುವುದರಿಂದ ಕಂಪ್ಯೂಟರ್ ವಿಜ್ಞಾನ, ಮೆಕ್ಯಾನಿಕಲ್ ಕೋರ್ಸ್‌ಗಳಿಗೆ ಬೇಡಿಕೆ ಹೆಚ್ಚಾಗಿದೆ. ಕರ್ನಾಟಕ ಪರೀಕ್ಷಾ ಪ್ರಾಧಿಕಾರದ ಮೂಲಕ ಸೀಟು ಪಡೆದಿರುವ ಅಭ್ಯರ್ಥಿಗಳಲ್ಲಿ ಶೇ.75ಕ್ಕೂ ಹೆಚ್ಚಿನವರು ಈ 3 ಕೋರ್ಸ್‌ಗಳನ್ನೇ ಆಯ್ಕೆ ಮಾಡಿಕೊಂಡಿದ್ದಾರೆ ಎಂದು ಪ್ರಾಧಿಕಾರದ ಮೂಲಗಳು ಖಚಿತಪಡಿಸಿವೆ.

ಹೆಚ್ಚುವರಿ ಸೀಟು ಲಭ್ಯ

ವೃತ್ತಿಪರ ಕಾಲೇಜುಗಳಲ್ಲಿ ಎಂಜಿನಿಯರಿಂಗ್ ಸೀಟು ಗಳನ್ನು ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಮುಕ್ತವಾಗಿ ಮಾರಾಟ ಮಾಡುತ್ತಿರುವುದು ಗೊತ್ತಿಾಗ ಉಳಿದಿಲ್ಲ. ಸರಕಾರಕ್ಕೆ ಸೀಟ್ ಮ್ಯಾಟ್ರಿಕ್ಸ್ ನೀಡುವ ಮೊದಲೇ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಸೀಟು ಹಂಚಿಕೆ ಮಾಡುವುದು ಉಂಟು. ಮ್ಯಾನೇಜ್‌ಮೆಂಟ್ ಕೋಟಾದ ಸೀಟುಗಳಲ್ಲಿ ಭರ್ತಿಯಾಗದೇ ಉಳಿದ ಸೀಟುಗಳನ್ನು ಕಾಮೆಡ್ –ಕೆಗೆ ನೀಡುತ್ತಾರೆ. ಅಲ್ಲಿಯೂ ಭರ್ತಿಯಾಗದ ಸೀಟುಗಳನ್ನು ಸರಕಾರಿ ಕೋಟಾದಡಿ ಹಂಚಿಕೆ ಮಾಡಲು ಪ್ರಾಧಿಕಾರಕ್ಕೆ ಸಲ್ಲಿಸುತ್ತಾರೆ.