BioSpectrum the business of Bio & Health Sciences

JNU emphasizes on practical training

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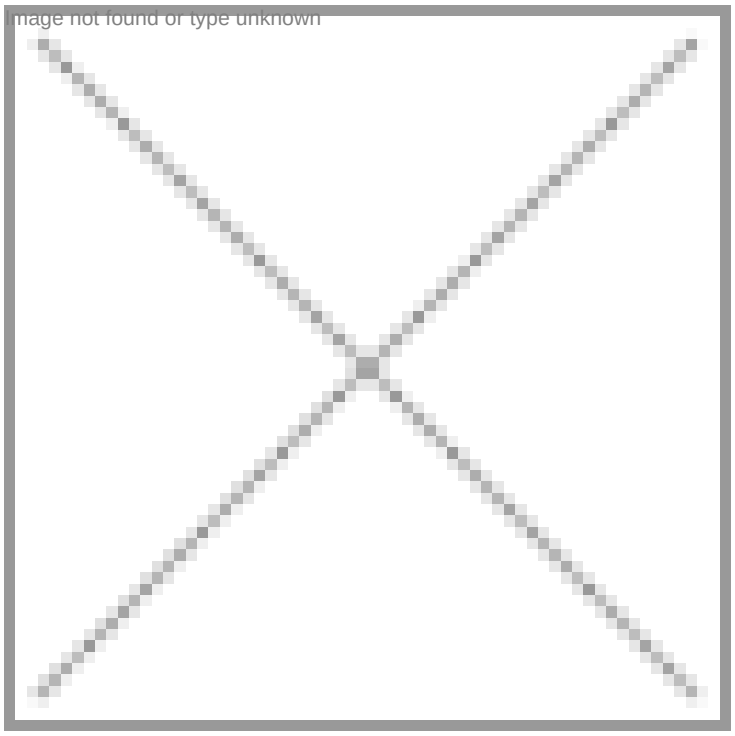

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Jawaharlal Nehru University

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Courses: MSc and PhD in biotechnology
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While embarking on providing quality education, the School of Biotechnology at JNU has rains in the area of biotechnology

Jawaharlal Nehru University (JNU), New Delhi, was one of the first six universities in India to initiate a post-graduate teaching and research program in biotechnology in 1985, when a special Center for Biotechnology (CBT) under the joint sponsorship of the University Grants Commission (UGC) and the Department of Biotechnology (DBT), Ministry of Science and Technology, Government of India, was set up. The center was started to initiate biotech education program and was elevated to that of a School of school offers MSc and PhD in biotechnology.

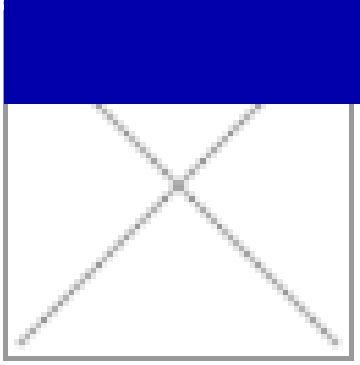
Students are admitted to the MSc course on the basis of an all India entrance examination conducted by JNU on behalf of 30 universities of the country. In addition to the theory courses, the program gives more emphasis on practical training. MSc students undertake a two-semester research project work to orient themselves towards research in diverse areas of biotechnology. The PhD program enrolls 30 students. There n the School of Biotechnology.

The MSc in biotech course offered by JNU gets the top 20-25 students every year from among nearly 20,000 students competing nationally. The course is supported by DBT and the total intake of students in 2010-11 is 31. The curriculum gives emphasise to molecular, physicochemical, and engineering aspects that are most relevant to biotechnology, making it unique among other biotech programs offered elsewhere in the country. In addition to the theory courses, the program places strong emphasis on

The school has state-of-the-art instrumentation facilities including a central instrumentation facility, recombinant product development facility of GLP standard, spectroscopic facility, microcalorimetric facility, microscopic facility, protein production ty level 3 facility.

The recombinant product development facility of GLP standards was set up (RPDF-GLP) under the FIST support from the Department of Science and Technology (DST) and it has the flexibility to be used for the production of both recombinant products as well as the purification and characterization of non-recombinant products. The biosafety level 3 laboratory is being constructed with the financial support provided by the DBT. The laboratory will be used for research involving manipulation of biological infectious agents, which may cause serious or potentially lethal disease, with special emphasis on bacillus

ating leaders and not workersâ€?



-Prof Rajiv Bhat, dean, School of Biotechnology, Jawaharlal Nehru University

Q What are the drawbacks of biotech education in India?

There are lot of institutes offering BSc, MSc, BTech and MTech courses in biotechnology. But, because of the lack of qualified faculty members those courses are not up to the mark. Therefore, the quality has got hampered. In my opinion, quantity is important but quality of manpower is much more critical.

Lot of institutes have mushroomed now and unfortunately most of them don't have the required infrastructure for quality

education. Even in the DBT-endowed programs, state universities lack the adequate facilities. Also, the faculties in most of these institutes are on contract basis, they don't have permanent faculty for teaching subjects. State governments are slow in recruiting. Therefore, if possible, DBT can support them with their funding to ensure quality in education.

Q What are the changes needed in curriculum and the way it is being taught?
I believe it is impossible for a student to grasp the knowledge in plant biotechnology, animal biotechnology, mathematics and statistics at the same time and that too in a very short span of time. Therefore, there is need to create specialized courses. Students should have an option to choose from core as well as specialized subjects. The parents who put in money for imparting biotech education to their wards feel disappointed when their wards end up frustrated.

India is a big nation and everyone need not be a biotech expert. There should be specific guidelines for the education scenario as far as biotech is concerned. As long as we don't have a proper faculty, we will not be able to maintain the uniformity in the courses. In most of the institutes, there are one or two permanent faculties to teach and that is not enough to impart the right education. Even at Jawaharlal Nehru University (JNU), we currently have 11 faculty members, who have been able to guide students in a very good way, but at the same time, we actually require 15 more faculty members.

Q How has been the relationship of JNU with the biotech industry?
School of Biotechnology at JNU holds the privilege of being the first university department of biotechnology to have transferred several technologies in the area of biotech, many of which are at advanced stages of commercialization with more in the pipeline.

Also, many major companies approached the school for campus recruitment. However, rather than opting for jobs in industry most of the MSc holders from JNU decided to pursue higher studies (PhD in India or abroad). This is due to the fact that they are well aware of the fact that they will face stagnation in their career with only an MSc degree.

Q How is the demand for manpower in biotech industry?
The hype created about the manpower requirement for biotech industry is artificial. Of course, the manpower requirement is there, but not in that big way as being projected now. The industry has to reinvent itself and do some in house innovation. There is huge potential, still there are many unexplored areas that seek attention. The way academia can help the industry is by providing the quality manpower. And for that the need for specialized courses is necessary as teaching everything won't help. Otherwise, it will be like churning out students who are jack of all trades and master of none. We have to create thinkers and leaders not workers. We actually need entrepreneurs with intellectual capacity that drives innovation.

rse structure is well-designed and the curriculum is well-integrated. The USP of the course is that we get complete picture of the research techniquesâ€?
-- Manish, PhD student in biotechnology, JNU

Rahul Koul in New Delhi