



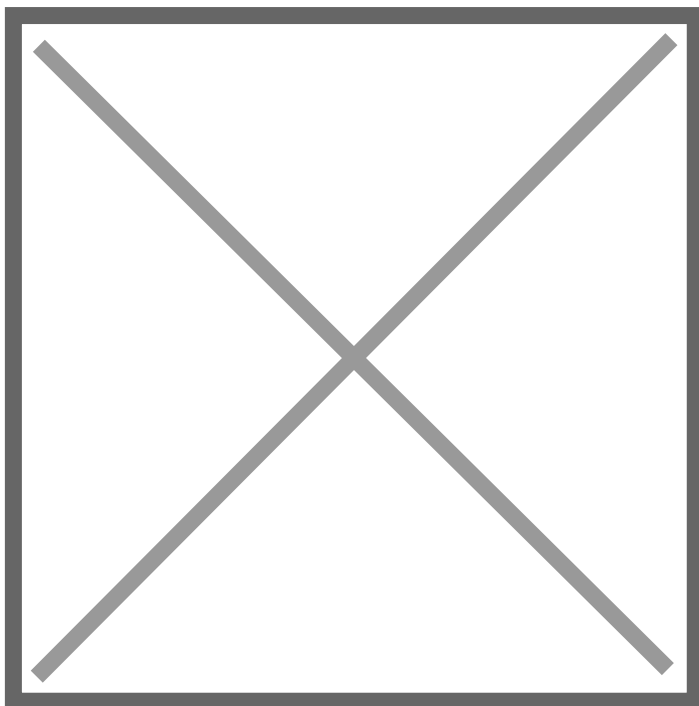
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BioSpectrum Biotech Schools Survey 2008 (Part-1)

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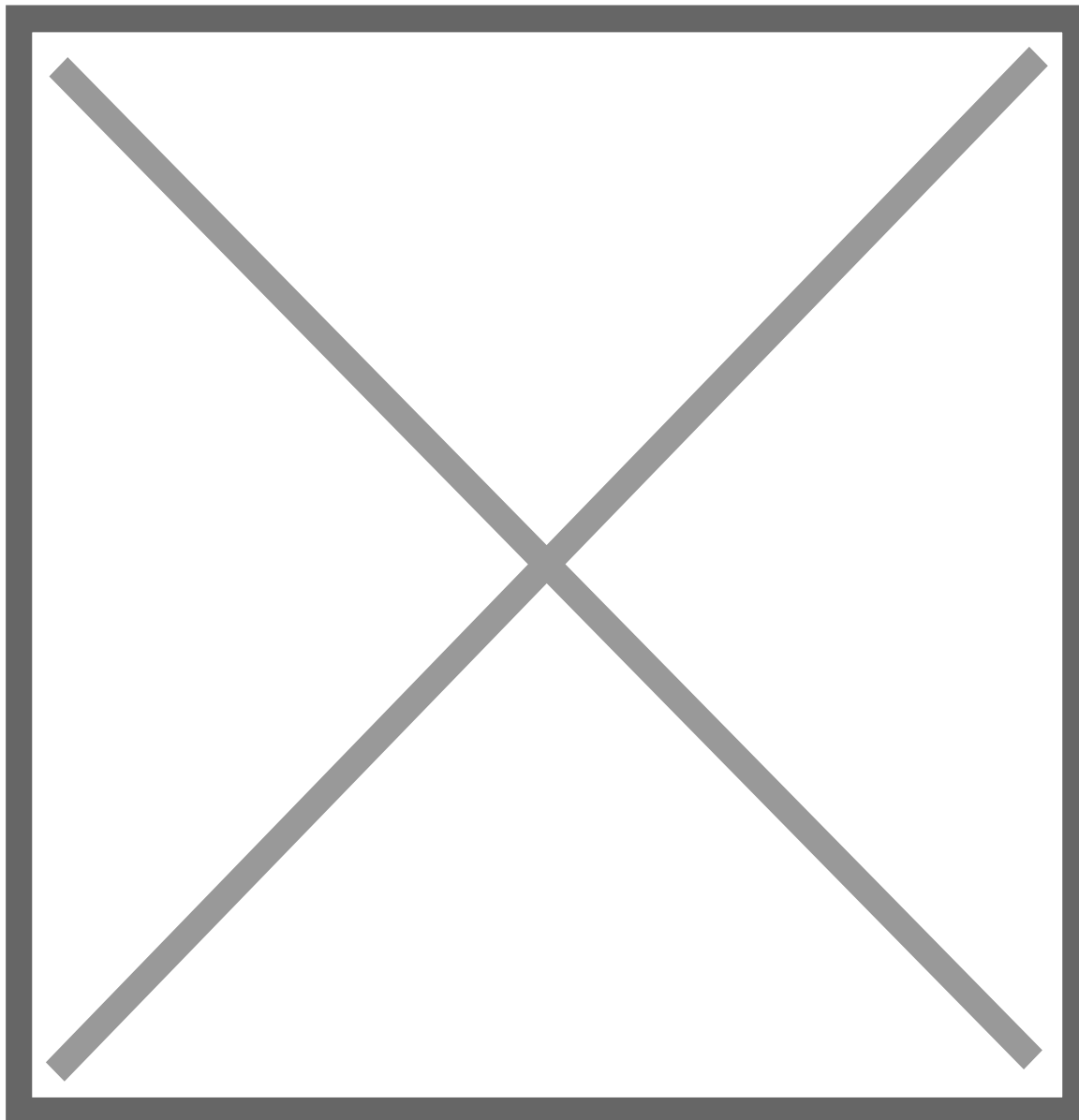


BioSpectrum Biotech Schools Survey 2008 (Part-1)

Top Public BT Institutes in India

Rank 1	University of Hyderabad, Hyderabad
Rank 2	Jawaharlal Nehru University (JNU), New Delhi
Rank 3	Rajiv Gandhi Centre for Biotechnology (RGCB), Trivandrum
Rank 4	Institute of Chemical Technology, Mumbai
Rank 5	Guru Gobind Singh Indraprastha University, New Delhi
Rank 6	National Dairy Research Institute, Karnal
Rank 7	GB Pant University of Agriculture and Technology, Pant Nagar
Rank 8	University of Kashmir, Hazaratbal
Rank 9	Banaras Hindu University, Varanasi
Rank 10	The Maharaja Sayaji Rao University of Baroda, Vadodara

Amongst all institutes and colleges, which are imparting education at the BTech, MTech MSc or PhD levels in biotech, University of Hyderabad emerges as the best top-ranked institution in the country. It is followed by Jawaharlal Nehru University, New Delhi in the second position, Rajiv Gandhi Centre for Biotechnology (RGCB), Trivandrum in the third position, Institute of Chemical Technology, Mumbai in the fourth and GGS Indraprastha University in the fifth position. While RGCB ranked first in the last year's survey, University of Hyderabad secured the top rank this year.



Rank 1: University of Hyderabad, the Top Biotech School

The School of Life Sciences at the University of Hyderabad, tops the 2008 survey. The top-ranked university is a teaching and research institute with a multidisciplinary approach and offers courses in MSc Biotechnology; M Sc. Animal Biotechnology; MSc. Plant Biotechnology; MTech Medical Biotechnology and PG Diploma in Bioinformatics. The total intake across various programs is around 63 students and with full time faculty strength of 42 and 30 of them have over five years of experience and are PhDs. The institute had a total cash inflow of Rs 60 lakh from royalties for the year 2006-07. The school ranked No.1 on the faculty and industry interaction scores.

Rank 2: Centre for Biotechnology, Jawaharlal Nehru University, Delhi, is second in the ranking. The institute runs one of the finest masters degree programs in biotechnology. The center has a very successful MSc biotech program, which selects the best of the students from the merit list prepared on the basis of an All India Entrance Test conducted by JNU. The department has a very strong faculty with few of them having more than one PhD degree. It ranks very high in the infrastructure (second), faculty (fourth), and industry interaction (third) indices.

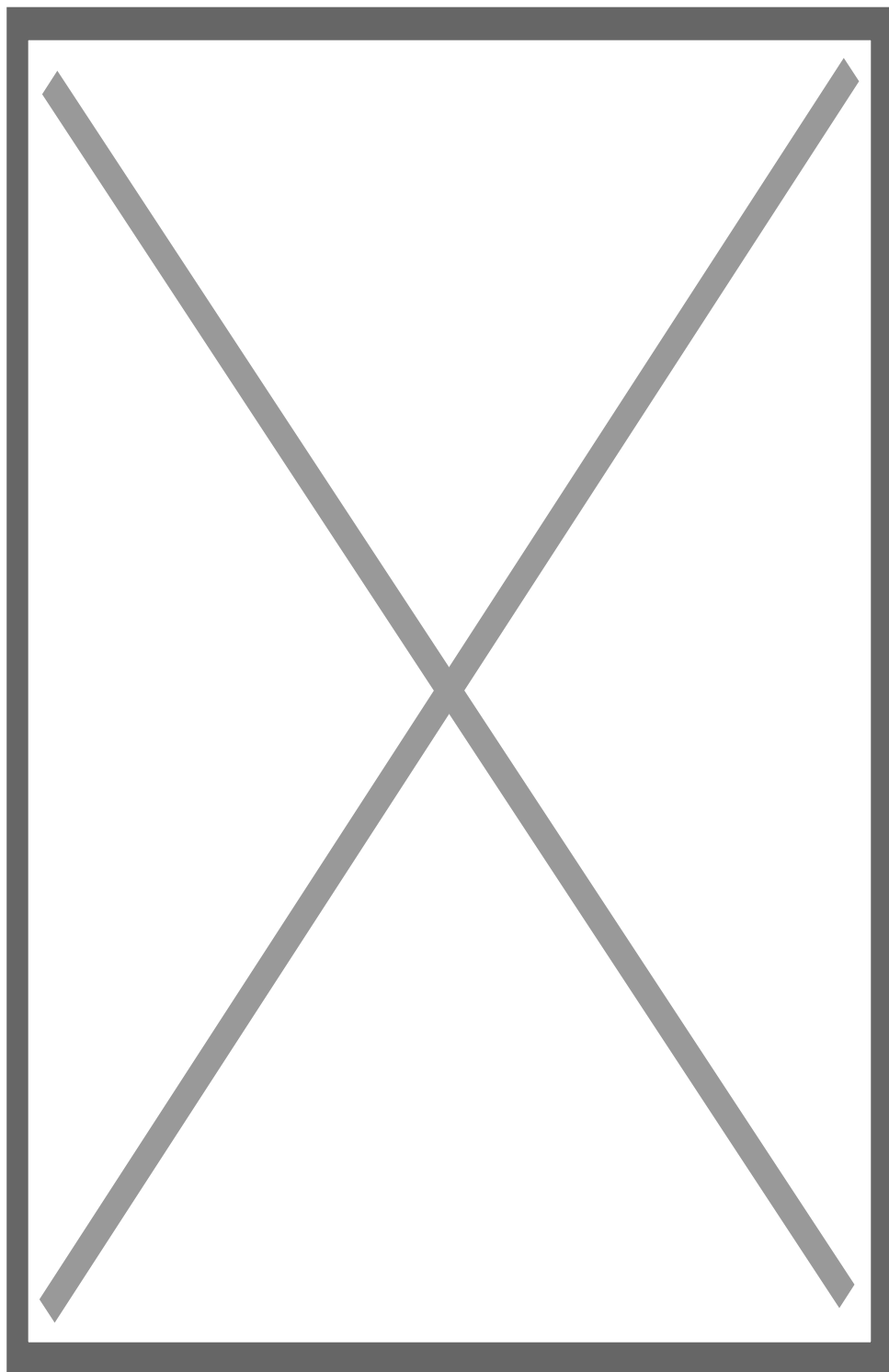
Rank 3: Rajiv Gandhi Centre for Biotechnology (RGCB), Trivandrum, is the third-ranked institute in this year's survey. It was the topper in the last survey. The institute has a full-time faculty strength of 26, with 21 of them having a PhD. The faculty on an average has 30 national publications and 1902 international publications. The department has six granted biotech related patents to its credit and has government sponsored projects worth Rs 61.74 crore in hand. The department runs short-term

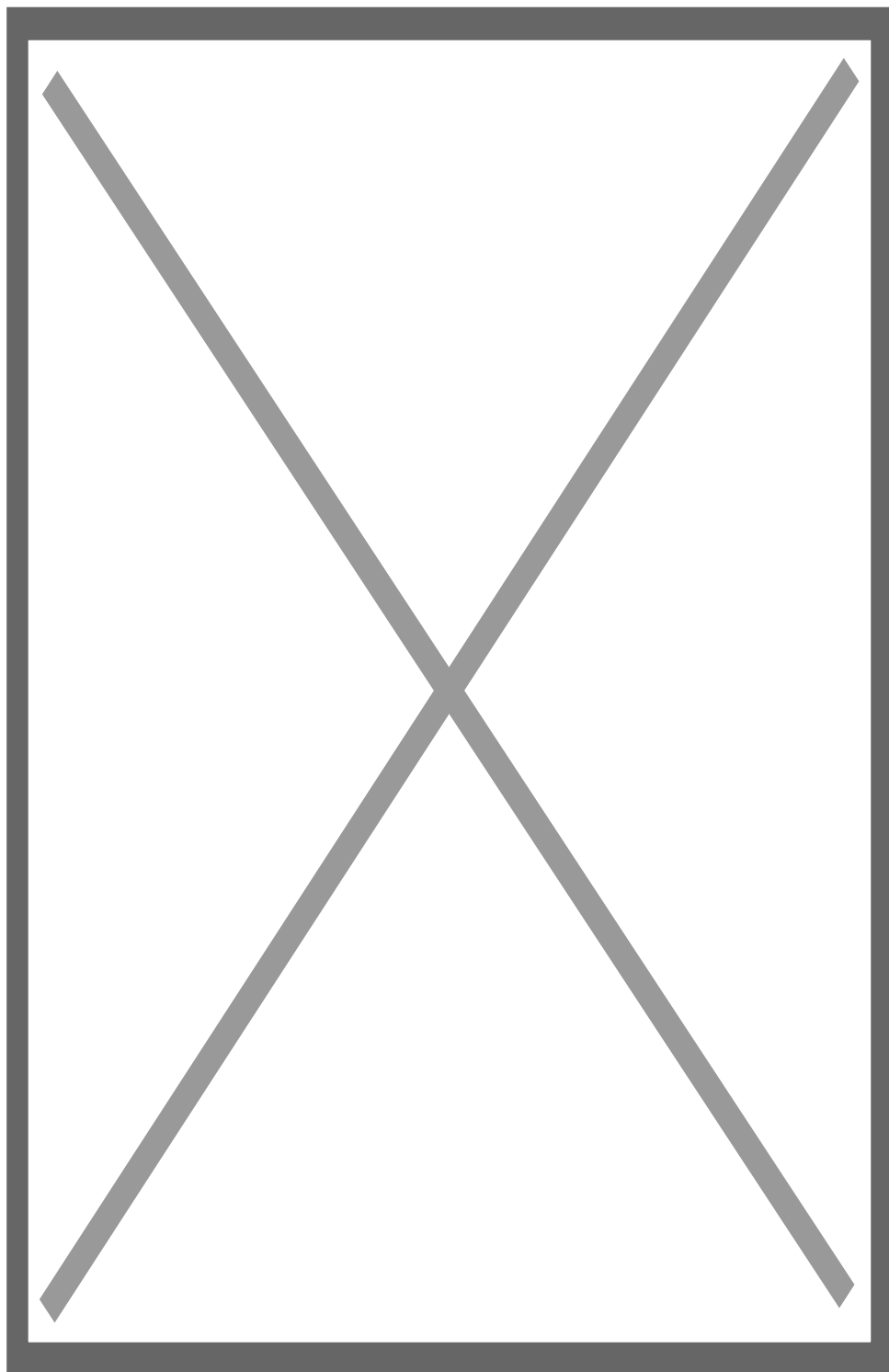
PG courses and has 38 students pursuing PhD. It is the top ranked institute on the infrastructure score.

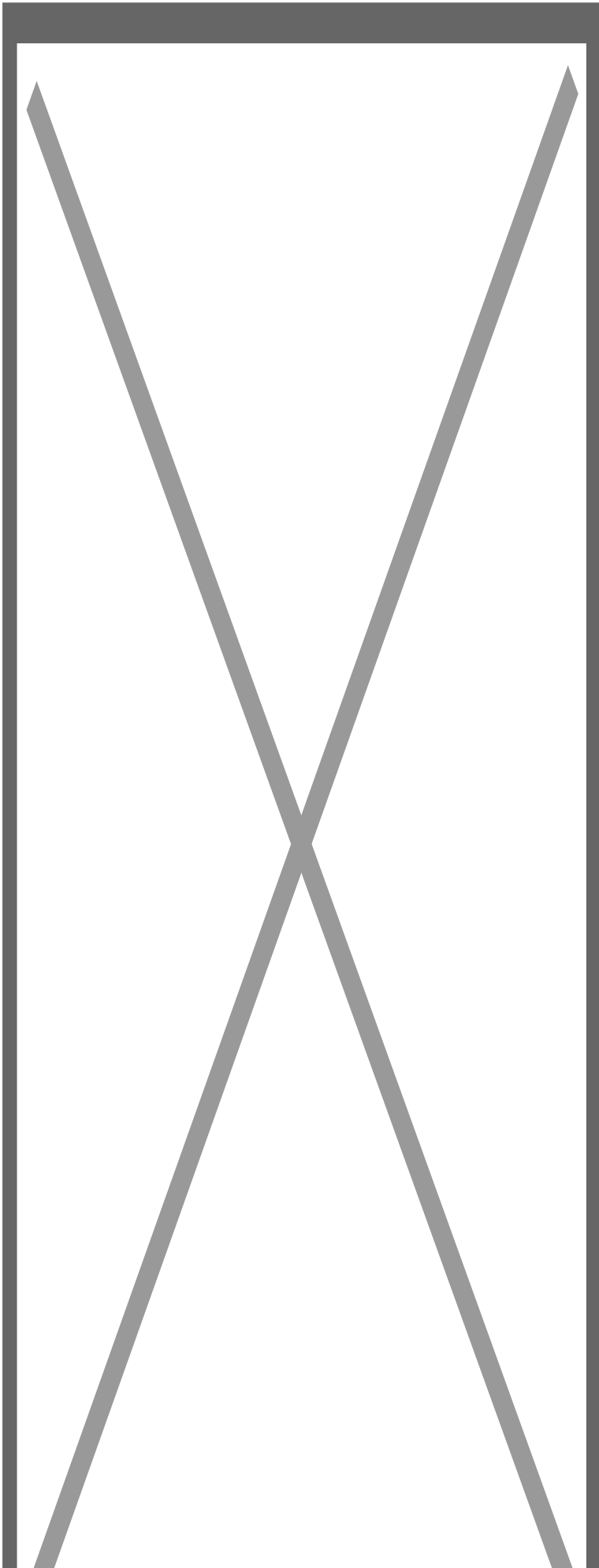
Rank 4: Institute of Chemical Technology (ICT), Mumbai, the fourth-ranked public institute, offers MTech (Bioprocess Technology) as an interdisciplinary course. The total intake for this course, with DBT fellowship seats as well as industry sponsored seats, is 30. The institute has spent approximately Rs 225 crore on infrastructure and the department has raised about Rs 4.72 crore through industry sponsored projects and Rs 33.12 crore came through government sponsored projects. It is ranks very high on faculty and industry interaction parameters (second).

Rank 5: The School of Biotechnology at Guru Govind Singh Indraprastha University, is the fifth-ranked biotech institute. It spends more than Rs 2 crore on infrastructure and has 10 labs dedicated to biotech students. The school has a strong research program and PhD is offered in various disciplines of biotechnology like agricultural, environmental, industrial, biomedical and pharmaceutical biotechnology. The institute has got about Rs 1.97 crore from new government sponsored projects commissioned between 2003 and 2007. It ranks third by infrastructure and second by placement score.

Note: The February issue of BioSpectrum will carry an in-depth analysis on how the public institutes have fared and will give insights into major achievements. The February issue will also feature the analysis and ranking of the private biotech schools.







Methodology

The fourth BioSpectrum Top Biotech Schools study includes information pertaining to BTech, Masters and PhD courses but not of BSc courses. This study was conducted during November-December 2007. To maintain objectivity and avoid biases in ranking the institutes, BioSpectrum based its methodology on measurable and quantifiable data. As a result, the research team did not seek perceptions and opinions of stakeholders such as students or industry to rank the institutes. The BioSpectrum team sent questionnaires to over 200 public and private institutes and followed up with them. We received over 20 questionnaires from the government institutes and an equal number from the private institutes.

Step - I: Identification of parameters for ranking of the institutes

Like the previous years' studies, the parameters suitable for ranking of the institutes were identified in consultation with experts from the industry, education and R&D. Suitability of a parameter was decided after telephonic discussion with 15 experts. From the discussion it emerged that faculty, industry interface, infrastructure and placements were the most important parameters on which the institutes should be ranked. These parameters have been used for ranking of the institutes this year as well.

Step - II: Importance ranking of the parameters

A structured questionnaire was used to take the opinion of 15 experts on relative importance of the four parameters prior to the study. Their opinion was taken into consideration to decide on weights to be assigned to each parameter.

The following means emerged based on data received from experts:

Faculty and infrastructure emerged as the two most important parameters ahead of placement and industry interaction. These two parameters get nearly two third importance in the overall ranking. In the present study also these weights have been applied to parameter scores of an institute to arrive at the final score.

Step - III: Data collection, analysis and ranking of the institutes

A pre-tested structured questionnaire was sent to directors/principals/deans of biotech institutes by the BioSpectrum team. BioSpectrum scrutinized and validated the responses given by the institutes for accuracy, consistency and sufficiency of the data, data entry, analysis of the data and ranking of the institutes.

The research team spent considerable amount of time accurately analyzing the filled in data for each institute. For each institute, a score was arrived at for each parameter. For a particular parameter, the score was a composition of each of the sub-parameters.

- Faculty score of an institute would be composed of faculty per student, qualification of faculty members, research articles published, contribution of the faculty to national and international journals, patents filed and granted.
- Infrastructure score would be similarly composed of capital expenditure on lab equipment and consumables, expenditure on books and journals, and availability of dedicated and shared PCs per student. Similar scores were arrived at for industry interaction and placement using sub-parameters.
- Appropriate and largely consistent weights were used for sub-parameters wherever necessary. To give an example, faculty members with PhDs and above were given a higher weight than non-PhDs to arrive at the qualification score. Similarly, publications in international journals were given a higher weight than publications in national journals.
- More recent publishing of papers, or more recent patents filed/ granted have been given higher weights during analysis.
- Sub-parameter scores were indexed with hundred points being granted to the institute with highest score for a particular sub-parameter. Indexed scores were then added up for each institute to arrive at the total score for a particular parameter. Scores were then averaged on hundred.

- Each of the parameters (faculty, infrastructure, industry interaction, and placements) was further weighed as per weights provided by experts to arrive at the total score of an institute.
- The institutes were then ranked as per this score on an overall basis.
- The ranking was done separately for public and private institutes.