



Cutting Edge Biotechnology, Bioinformatics and Pharmacy Education

UG/Dual Degree Programs in Biotechnology, Bioinformatics and Pharmacy with multidisciplinary curricula based on fundamental principles of basic and engineering sciences to cater the needs of industry, academia and community healthcare providers.

The Department faculty is trained in world class institutions in modern areas such as genomics, proteomics, bioprocess engineering, synthetic biology, systems biology, medicinal chemistry, nanobiotechnology, computational biology, environmental biotechnology, medical biotechnology, metabolic engineering, etc. Recently JUIT Biotech has been considered by the DBT, Ministry of Science & Technology, Govt of India for Institutional Programme Support on medicinal plants in the category of Centers of Excellence & Innovation in Biotechnology.

State-of-the-Art Infrastructure

One thousand sq. m of working space with 15 labs equipped with modern equipments such as LC-MS, 2-D Electrophoresis, genome sequencer, atomic absorption spectrophotometer, bioreactors, animal and plant cell cultures facilities, pulsed field electrophoresis, gene pulsar, protein purification system, HPLC, fluorescent microscope, ELISA reader, high end servers and workstations.



**Jaypee University of Information
Technology, Waknaghat, Solan-173215**

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Jaypee pips SASTRA to become No.1 private school

BioSpectrum Top 20 Private Biotech Schools

RANK	Name of the Institute	City	Faculty Score	Industry Interaction Score	Infrastructure Score	Placement Score	Overall Score
1	Jaypee University of Information Technology	Solan	55.48	49.61	51.84	16.89	100.00
2	SASTRA University	Thanjavur	68.44	27.27	38.93	35.12	90.49
3	Amity Institute of Biotechnology	Noida (UP)	69.91	2.91	43.52	20.11	76.45
4	Rashtrreeya Vidyalaya College of Engineering	Bangalore	25.98	8.93	53.02	29.36	63.00
5	Vidya Pratishthan's School of Biotechnology	Baramati	10.78	61.00	21.35	8.13	58.08
6	Shoolini University of Biotechnology & Management Sciences	Solan	25.41	28.59	16.17	42.49	52.86
7	Vellore Institute of Technology	Vellore	42.99	14.81	10.36	41.63	50.98
8	KS Rangasamy College of Technology	Namakkal	26.71	37.16	11.13	7.55	46.52
9	Shree Manibhai Virani & Smt Navalben Virani Science College	Rajkot	12.98	1.47	20.06	72.61	39.92
10	Padmashree Group of Institutions	Bangalore	11.42	32.62	16.52	5.01	37.92
11	Jaypee Institute of Information Technology	Noida	37.53	2.24	15.92	9.42	36.13
12	The Oxford College of Science	Bangalore	19.65	0.13	22.95	16.55	30.95
13	Jaipur National University	Jaipur	26.67	3.41	15.79	9.93	30.53
14	The Oxford College of Engineering	Bangalore	15.05	7.30	15.90	18.51	28.24
15	Bannari Amman Institute of Technology	Sathyamangalam, Erode District	12.56	19.57	11.17	7.05	27.93
16	Gokaraju Rangaraju Institute of Engineering and Technology	Hyderabad	8.68	26.91	7.72	7.97	27.87
17	Vydehi Institute of Biotech Science	Bangalore	29.12	0.00	14.36	0.00	26.53
18	Reva Institute of Science & Management	Bangalore	10.75	22.72	7.42	6.50	26.07
19	Maharani Lakshmi Ammanni College for Women	Bangalore	27.10	0.22	11.07	4.24	24.36
20	Acharya Institute of Technology	Bangalore	18.56	0.24	15.08	2.58	21.65
21	Acharya's Bangalore B-School	Bangalore	19.69	1.56	8.46	13.31	21.35
22	Arunai Engineering College	TamilNadu	15.67	0.93	11.26	3.76	18.11
23	T John Group of Institutes	Bangalore	10.02	0.02	15.43	6.15	17.66
24	PES Institute of technology (PESIT)	Bangalore	13.45	0.94	6.48	6.11	14.23
25	DR DY Patil Biotechnology & Bioinformatics Institute	Pune	14.00	0.00	5.06	1.92	12.01
26	Sitadevi Ratanchand Nahar Adarsh College	Bangalore	7.38	0.00	5.93	14.81	11.95
27	Oxbridge College of Science & Commerce	Bangalore	10.94	0.00	4.10	10.00	11.61
28	Dolphin Institute of Biomedical and Natural Sciences	Dehra Dun	9.34	0.09	3.65	6.44	9.54
29	Dayananda Sagar Institution	Bangalore	8.56	1.28	4.17	2.51	9.14

Private BT Schools: SRM University (Chennai in Tamil Nadu), Avinashilingam University for Women (Coimbatore in Tamil Nadu), Presidency College (Bangalore in Karnataka) and, Banasthali University (Tonk in Rajasthan) did not participate in the 2010 survey due to on going admission processes, vacations and participation of teaching faculty in conferences.

World-class infrastructure aids research pursuits

By strengthening its specialized centers for research and by improving its world-class infrastructure, Jaypee has become the No.1 private biotech school in India

The Department of Biotechnology at Jaypee University of Information Technology (JUIT) offers four-year BTech programs in biotechnology and bioinformatics, a five-year MTech program in biotechnology, and a six-year dual degree BPharm-MPharm course.

JUIT has been running post-graduate programs in biotechnology, bioinformatics and pharmacy—the three main pillars of bio-based industries—that provide a rare opportunity to faculties and students to learn with broad horizons and do projects in a holistic and conclusive manner. JUIT intends to strengthen research infrastructure in order to expose students to world-class research and also to provide them with hands-on training using latest technologies.

The biotech department receives about 4,000 applications every year for the 90 seats it offers. The department is equipped with 12-15 labs providing practical training in various areas of biotechnology. The bioinformatics curriculum includes courses on algorithm design, machine learning, computational high throughput screening and drug designing, bioprograming and scripting languages.

Last year, JUIT has achieved several milestones in education and research. The Department of Biotechnology & Bioinformatics has got the Institutional Program Support for establishing the Centers of Excellence and Innovation in Biotechnology and funding to the tune of ₹8 crore was allotted jointly by the Department of Biotechnology, Government of India, and the Jaypee University. The center would be the first-of-its-kind in India, setup exclusively with modern research facilities to pursue advanced research in genomics, proteomics, metabolomics and bioinformatics of high value medicinal plants. The overall goal of this center would be to elucidate the missing links in the biosynthetic pathways of major chemical constituents of medicinal herbs so as to develop gene markers for the identification, cataloguing and conservation of genetically superior strains of high-value herbs in the north-western Himalayas.

So far, the faculties of the biotech department were awarded with R&D projects worth ₹4 crore from different funding agencies such as the DBT, DST, ICMR and DRDO. Three patents were filed last year. A new specialized center of research,

'Center of Genomics and Bimolecular Engineering,' at JUIT, will aim to strengthen modern areas of biotechnology such as metabolic engineering, synthetic biology and computational systems biology. ■

Jaypee University of Information Technology Department of Biotechnology and Bioinformatics



FactFile

Name of the Department: Department of Biotechnology & Bioinformatics

Courses: BTech in biotechnology & bioinformatics, and integrated MTech in biotechnology

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INTERVIEW

“Our curriculum enriches knowledge and skills of students”

— Dr RS Chauhan, head, Department of Biotechnology and Bioinformatics, JUIT



Q How do you promote the academia-industry relationship at JUIT?

The interaction between academia and industry is crucial, especially in the changing global employment scenarios. Industry has been raising concerns over the disproportion in the total engineering/science graduates passing out and their probability of getting recruited by companies. This problem can be tackled through interactions between industry and academia, so that intellectual and infrastructural resources of each can complement in bringing out best products and processes of practical value. Jaypee University of Information Technology (JUIT) has initiated several programs to interact with the industry, which include compulsory summer industrial training for students, regular scientific interactions with the industry personnel so as to prioritize our research programs, and to get support from the industry for our R&D activities. All these initiatives have been implemented to open up our students to real world problems.

Q What are the strengths of biotech courses offered at JUIT?

JUIT has implemented biotech curriculum with a strong engineering base, which includes courses in electronics and communication, computer science and IT, materials science, and biomathematics, in addition to core courses in biotechnology. The curriculum enriches the knowledge and skills of students so that they can excel not only in biotech but also in other emerging branches such as nanobiotech and biomedical engineering.

A distinctive feature of our BTech curriculum is the project work in last two semesters wherein the students are asked to come up with a research problem aimed at addressing unanswered questions in any area of biological sciences or any other branch of science and technology. The biotech department has introduced an innovative system of elective modules to the final year students wherein the students are



“JUIT provides a pleasant environment that is conducive to the holistic growth of an individual. The college focuses on the overall development of an individual for a promising career growth”

Sonali Singh, final year student of integrated MTech in biotech, JUIT

given a choice of choosing modules to strengthen their knowledge and skill profile in a particular technology. The elective module system complements the theoretical knowledge of students related to their project work. In addition to undergraduate programs, the JUIT runs PhD program in biotech, bioinformatics and pharmacy with a provision of teaching assistantship of ₹15,000 per month to scholars analogous to American Universities so that the students get an opportunity to conduct labs while pursuing their research.

Q What are your views on the need for regulation of private biotech institutes?

I would be very happy to have stringent regulations on quality of education not only in private biotech institutes, but also in government institutes as well. Barring a handful of universities/institutes in India, the biotech educational programs are run without adequate and appropriate infrastructure, thereby resulting in grossly under-qualified and under-trained manpower. Most of the educational institutes, both private and government, are producing graduates who are more of bench workers rather than thinkers or planners. Biotech or any other branch of science or engineering requires expertise at both these levels with sufficient academic competence and vision to identify a problem and design a strategy to solve it. We at the JUIT are training and producing BTech/MTech graduates who are more of thinkers and planners. ■

Rahul Koul in New Delhi