INDIAN INSTITUTE OF TECHNOLOGY ROPAR
Rupnagar, Punjab-140001

INFORMATION BROCHURE FOR UG PROGRAM

(AY 2023-24)

ABOUT THE INSTITUTE

The Indian Institute of Technology Ropar started functioning from the academic year 2008-09 from the campus of IIT Delhi, the mentor institute. The foundation stone laying ceremony was held on 24 February 2009. The Indian Institute of Technology Ropar was initially registered under the Societies' Registration Act 1860 on 29 July 2009. Subsequently, the Institute has been established by Act of Parliament namely, the Institutes of Technology Act (Amendment) Act 2012 (No. 34 of 2012). The Institute has shifted to its permanent campus in 2018 and currently operates from its permanent campus. The permanent campus of IIT Ropar is spread across 501 acres of land located in Rupnagar in the lap of nature at the banks of river Satluj. The Institute has been awarded the 5 Star GRIHA (Green Rating for Integrated Habitat Assessment) rating, one of the highest national ratings for Green Buildings.

While the master plan is supposed to accommodate 10,000 students, the academic block is already set up for 2,500 students in the first phase. A total of 2,15,739 square meters of area is dedicated for academic and administration blocks along with accommodation for staff and faculty along with sports and hostel facilities.

All hostels are well furnished along with common rooms for recreational activities for each hostel. The campus also has an expansive and airy common dining area. Naturally, there is no compromise with facilities regarding academics and laboratories for undertaking practical or doing some research. New state-of-the-art equipment are available for the students to use in labs. Apart from these academic facilities, other perks of being at IIT ROPAR include excellent sports facilities (different play fields for each sport such as cricket, football, tennis, badminton, basketball, volleyball, etc), utility block, student activity centre (equipment and rooms for the various club activities and other student interest group activities), gymkhana, air-conditioned libraries with plethora of books, cafeterias, gymnasium, medical centre with top notch 24x7 medical facilities.

The Indian Institute of Technology Ropar is ranked 22nd in the engineering category in NIRF 2023 (National Institutional Ranking Framework) and overall ranked 33rd. IIT Ropar is committed to provide state-of-the-art technical education in a variety of fields. The Institute is facilitating transmission of knowledge in keeping with the latest developments in pedagogy. At present, the Institute offers the degree of Bachelor of Technology in Artificial Intelligence and Data Engineering, Civil Engineering, Chemical Engineering, Computer Science & Engineering, Electrical Engineering, Mechanical Engineering, Metallurgical & Materials Engineering, Mathematics & Computing and Engineering Physics. It offers the MSc degree in Physics, Chemistry, Mathematics and M. Sc in Data Science (jointly with IIM Amritsar). It offers the degree of Master of Technology in Computer Science and Engineering, Electrical Engineering, Mechanical Engineering, Chemical Engineering, Civil Engineering, Artificial Intelligence and Biomedical Engineering. All the departments of the Institute offer a doctoral degree. The Institute has held 11 convocations so far. The 2019 entry batch of UG students is about to receive their degrees in the 12th convocation. IIT Ropar has also awarded several PhD degrees. Presently the Institute has 1430 UG students, 422 PG students, 11 Dual Degree students and 779 PhD students.

The overall academic system of IIT Ropar is designed to provide science-based engineering education that will produce quality engineers and scientists. IIT Ropar has implemented a new curriculum from 2017. The curriculum provides broad based knowledge and simultaneously builds a temper for lifelong learning and exploration. A set of science and general engineering courses forms part of the syllabus of the first-year undergraduate students. These courses provide a foundation for further discipline specific topics. In addition to overhauling its UG programs, IIT Ropar has introduced new PG streams.

Career Development and Placement Cell, is actively involved in organizing practical training for the undergraduate students and has been playing a catalytic role in finding placements for its final year students. IIT Ropar has undertaken the task of redefining its vision and mission and of putting a strategic plan to achieve them into action.

IIT Ropar aims to promote research in interdisciplinary areas. The Institute also undertakes a number of research and consultancy projects that are sponsored by various funding agencies, including the Government and Industry. The Institute has taken major research activities in the fields of national importance such as nonconventional energy, sensors, drug delivery, materials synthesis and their modification, image processing, cloud networks, robotics, pattern recognition, renewable energy systems, microelectronics and nanodevices, mathematical biology, fluid dynamics, Pure Mathematics, quantum optics and quantum matter physics, ion beam physics, renewable energy, nanophotonics and metamaterials, surface patterning, sustainable energy, biomechanics, nano fluids, complex fluids, nano composites, Neurocognition, financial mathematics and markets, phonetics, etc. The Institute provides ample funds to the departments and faculty members for the upgradation of laboratories and creation of research facilities. This has enabled our faculty members to take up research projects in frontier and emerging areas of science and technology.

Institute has a counselling cell to monitor the mental well-being of the students. Its mission is to promote well-being, aiding to develop better understanding of the self, to grow both intellectually and emotionally, to be more satisfied and productive and improve the depth and quality of your life. To hike sound mental health, we provide help in dealing with emotional and behavioural problems such as guilt, anxiety, stress, lack of confidence, low self-esteem, depression and internet addiction of any sort, dependency, personal problems in relationships such as co-dependency, rejection, separation homesickness etc. Counselling Cell does foster and inculcating life skills to make better adjustments and enriching healthy relationships.

The campuses of IIT Ropar are well equipped with all required facilities. Classrooms fitted with multimedia, faculty offices and administrative wings are all in place. There are separate hostels for boys and girls. These hostels are equipped with modern mess units. Faculty recruitment, setting up of laboratories and other support facilities are done on a continuous basis to keep up with the progress.

Motto

Deploy our intellect on the right path

Mission

To foster a transformative learning environment and a culture of excellence enabling creation of knowledge and development of socially responsible, enterprising leaders contributing significantly to national progress and humanity.

Vision

To be a trendsetter among the technology universities born in this millennium.

➢ HOW TO GET ADMISSION IN IIT ROPAR

The students interested in admission at IIT Ropar are required to have passed 10+2 with Physics, Chemistry and Mathematics. In addition, they need to appear for JEE Mains examination held in the month of January and April every year by National Testing Agency (NTA). Please visit the website link: https://nta.ac.in/Engineeringexam OR https://jeemain.nta.nic.in/ for detailed information. The students who qualify JEE (Mains) and meet the cut - off declared by JEE (Advanced) are required to appear for JEE (Advanced) exam held in the month of May/ June every year. For further details please visit https://jeeadv.ac.in/. The students are selected for admission to IITs on the basis of JEE advanced Rank by JOSAA https://josaa.nic.in/

➢ PROGRAMS OFFERED

i)   Undergraduate Programme

S.No	Programme	Department offering the program	Program Code	Seats
1.	B.Tech. in Artificial Intelligence and Data Engineering	CSE, EE and Center for Applied Research & Data Science.	AIB	20
2.	B.Tech. in Chemical Engineering	Chemical Engineering	CHB	35

3.	B.Tech. in Civil Engineering	Civil Engineering	CEB	35
4.	B.Tech. in Computer Science and Engineering	Computer Science and Engineering	CSB	84
5.	B. Tech in Engineering Physics	Physics	EPB	25
6.	B.Tech. in Electrical Engineering	Electrical Engineering	EEB	84
7.	B.Tech. in Mathematics and Computing	Mathematics	MCB	36
8.	B.Tech. in Mechanical Engineering	Mechanical Engineering	MEB	83
9.	B.Tech. in Metallurgical and Materials Engineering	Metallurgical and Materials Engineering	MMB	28

➤ FEE STRUCTURE:

INSTITUTE FEES:

Institute Fees	Indian Nationals	Foreign Nationals
	Amount	
Tuition Fees	Rs.1,00,000/-(per semester)	Rs. 1 Lac for SAARC countries & Rs. 1.5 Lacs for Non-SAARC countries (per semester)
Non-refundable fees	Rs.3000/- (one time payment at the time of admission)	Rs.3000/- (one time payment at the time of admission)

Refundable fees	Rs.4000/-	Rs.4000/-
Other misc. fees	Rs. 7650/-	Rs. 7650/-
Total fees	Rs.1,14,650/-(to be paid at the time of admission)	Rs.1,14,650/- for SAARC Rs. 1,64,650/- for Non-SAARC
Fees per semester	Rs.1,07,650/-	Rs.1,07,650/- for SAARC Rs. 1,57,650/- for Non-SAARC
Hostel and Mess fee structure for UG Students 1.Mess Security Deposit (One Time, Refundable) = 6000/- 2.Mess Admission Fee (One time payment, non-refundable) = 5000/- 3.Hostel Establishment Fee = 1500/- per semester (Subject to increase) 4.Mess Charges = Pay & Eat system or current tender price (approx. Rs.25000/- per semester).		Fees to be deposited at the time of admission: Rs. 37,500/-approx. (subject to revision)

Note:

- The fee payable at IIT Ropar is subject to change as per the Institute rules.
- All SC and ST students will get 100% tuition fee exemption.
- The most economically backward students, whose family income is less than Rs. 1 lakh per annum, shall get full remission of the tuition fee.
- The other economically backward students, whose family income is between Rs. 1 lakh to Rs. 5 lakh per annum, shall get remission of 2/3rd of the tuition fee.
- The SC/ST students who parental income is less than 4.5 lacs will get free messing scholarship.

➢ FINANCIAL ASSISTANCE:

Scholarship for B. Tech Students:

The Institute offers the following scholarships to Undergraduate students:

1. Institute Merit- Cum- Means (MCM) Scholarships.
2. Institute Merit Prizes and Certificates.

3.   Institute Free Studentship.

4.   Free Messing Scholarship

5.   Scholarship provision for students of SC/ST category.

Other Miscellaneous Scholarships from Central Government /State Government / NGO's / some external agencies:

National Scholarships Portal (For all category students): National Scholarships Portal is one-stop solution through which various services starting from student application, application receipt, processing, sanction and disbursal of various scholarships to student are enabled. Here all scholarships' information is available under one umbrella. Various scholarship schemes are launched/offered by Union Government, State Government and Union Territories for students on National Scholarship Portal. Single integrated application is used for all scholarships. The students can opt for these scholarships offered to them by State/Central Government and other external agencies / NGOs. Students are required to apply for these scholarships at https://scholarships.gov.in .

➢ ACADEMIC STRUCTURE:

At present, the institute offers a 4-year program leading to the Bachelor of Technology (B. Tech.) degree in 9 disciplines, viz., Computer Science and Engineering (84 intake), Electrical Engineering (84 intake), Mechanical Engineering (83 intake), Chemical Engineering (35 intake), Civil Engineering (intake 35), Metallurgical & Materials Engg. (Intake 28), Mathematics & Computing (intake 36) and Engineering Physics (intake 25). In addition to this, provision has also been made for the reservation of 10% supernumerary seats for the foreign nationals in B.Tech. Programme. From this Academic Year 2023-24, IIT Ropar started a new BTech program in Artificial Intelligence and Data Engineering (intake 20).

The curriculum followed at IIT Ropar provides a comprehensive education, with a view to producing quality engineer scientists. It facilitates broad based knowledge acquisition and, simultaneously, nurtures a temper of lifelong learning and exploration. Broad objectives of the new curriculum are the following:

(a)   It has focus on producing 21st century engineers and entrepreneurs,

(b)   It offers more flexibility to students,

(c)   It has novel and unique features to attract the brightest of students,

(d)   It has better utilization of manpower and resources,

(e)   It encourages industry academia interaction,

(f)   It makes students more practical in approach,

(g)   It imparts soft/managerial skills in addition to science and engineering fundamentals,

(h)   It develops social responsibilities in students, and

(i)   It prepares them for innovation.

➢ CREDIT SYSTEM

The Institute follows a credit system. Each course has a certain number of credits assigned to it depending on its lecture, tutorial and laboratory contact hours in a week. This is coordinated by a member of the faculty called the course coordinator. He/she has the full responsibility for coordinating the course, coordinating the work of other members of the faculty in the course, holding tests and awarding grades. In case of any difficulty, students are expected to approach the course coordinator and / or faculty advisor of his/her batch, for advice and clarification. Further, on joining every student is provided with a mentor (senior student carefully selected by the Institute) who guides the student in academic, hostel and other related activities.

The student's performance in a course is continuously evaluated throughout the semester and culminates in the award of Grade on a 10-point scale. Performance in a semester is evaluated as the weighted average of grade points secured in all the courses registered in that semester, which is known as Semester Grade Point Average (SGPA). A Cumulative Grade Point Average is the weighted average of the grade points obtained in all the courses registered by the student since they entered the Institute. The teaching programs are characterized by their flexibility and informality. The strong faculty–student interaction on the residential campus provides opportunity to students to work on publications and projects sponsored by the industry and national agencies.

Apart from a Basic B.Tech. IIT Ropar offers B. Tech with minor, concentration, honours and additional internship programmes.

- B.Tech. with Minor: . Students can take 15 credits of the Minor Programme coursework in any other discipline than the major discipline.

- B.Tech. with concentration: Students can take 15 credits of Concentration Programme courses within their discipline. For example, Mechanical Engineering students may choose to specialize in Design, Manufacturing or Thermal and fluids etc.

- B.Tech. with additional internship: Students can take 15 credits of the additional internship. The student can take the additional internship in their 7th or 8th semester. A student doing Basic B. Tech can finish all requirements in 7 semesters. The internship is allowed for doing projects in Research Institute/ Industry.

- B.Tech. with Honours: Students can take 15 credits of Honours-related coursework and 10 credits of Honours Project.

➤ RULES FOR CHANGE OF BRANCH

A. A student is eligible to apply for change of branch at the end of first year only, provided he/she satisfies the following criteria: -

(i) CGPA for GE/OBC category student: - > 7.50 or greater

(ii) CGPA for SC/ST/PD category student: - > 6.50 or greater

(iii) Earned credits at the end of first academic session are 36 credits or more.

B. Change of the branch will be permitted strictly in the order of merit, in each category as determined by CGPA at the end of the first year, subject to the limitation that

(i) the actual number of students in the third semester in the discipline to which the transfer is to be made should not exceed its sanctioned strength by more than 10%, and

(ii) the strength of the branch from which transfer is being sought does not fall below 85% of its sanctioned strength.

A minimum of two (2) students will, however, be eligible for consideration for change of branch from each discipline, irrespective of the regulation B(ii).

C. In case of tie in CGPA, the CGPA will be compared up to 3rd decimal place and if the tie still persists, all the students, with the same CGPA, would be allowed to change the branch, even if it violates the upper/ lower limits of 10% and 85% respectively.

D. The condition mentioned in items A(i)-(iii) above will not be insisted upon for a change to a branch in which a vacancy exists with the reference to the sanctioned strength and the concerned student was eligible as per JEE Rank for admission to that branch at the time of entry to IIT Ropar. However, these conditions will continue to apply in the case of students seeking change to a branch to which the concerned student was not eligible for admission at the time of entry to IIT Ropar.

➤ SCOPE AND DESCRIPTIONS OF THE COURSES OFFERED:

Admission to the following UG programmes offered by IIT Ropar, is through JEE (Advanced).

1.   **Bachelor of Technology in Artificial Intelligence and Data Engineering**

The Department of Computer Science and Engineering (CSE), Department of Electrical Engineering (EE), and Centre for Applied Research in Data Science (CARDS) jointly offer a highly competitive four-year program leading to a B.Tech. degree in Artificial Intelligence and Data Engineering (AIDE). This program attempts to provide undergraduate students with balanced

exposure and advanced learning solutions to impart knowledge of advanced technologies such as machine intelligence, also referred to as deep learning and artificial cognition. Additionally, this quality curriculum is designed to allow students to create smart machines, apps, or applications that combine pioneer machine learning, graphics, and visualization technologies. Both departments have jointly taken up the challenge to build the initial momentum and attract more students by providing world-class faculty. We hope to provide better exposure to our students in hardware and experimental work over the course of time and ultimately recruit them to top industrial/research/academic organizations from India and abroad.

2. Bachelor of Technology in Chemical Engineering

The Department of Chemical Engineering has been introduced by IIT Ropar from the academic year 2017-18. The department is presently offering UG (B. Tech), and PG (MTech.) and Ph.D. programs. The department has dedicated faculty members in the thrust areas of chemical engineering such as Catalysis and Reaction Engineering, Energy and Environment, Multiscale Modelling, Soft Matter Engineering and Transport Phenomena and Thermodynamics, Process Control and Optimization. The department is actively engaged in cutting edge research in emerging areas like Complex Fluid Mechanics, Interfacial and Particulate Engineering, Dynamics of Granular Materials, Water Treatment, Mechanics of Living Matter, Computational Fluid Dynamics, Microfluidics, Process Systems Engineering & Data Science, Scientific Computing, Computational Catalysis, Reaction Kinetics and Modelling, Biomass Conversion Processes, Renewable Energy, and Biophysics. In addition to the conventional core courses, the department is offering numerous state-of-the-art courses in emerging research areas. As of April 2023, the department has 47 PhD Research Scholars, 14 MTech. Students and 89 B.Tech. students. The department has research equipment like Viscometer, Force Tensiometer, Mastersizer, Zetasizer, Nanoparticle Tracking Analysis (NTA), Rheometer, Fourier Transform Infra-Red Spectroscopy (FT-IR), Gas Chromatography–Mass Spectrometry (GCMS) and Thermogravimetric Analyzer (TGA). Faculty members in the department have been actively involved with cutting edge research projects from DST, SERB, GoI Ministries (e.g. Textiles, Electronics and Information Technology), ISRO, consultancies with MoE, Government of Punjab, World Bank and many corporate organizations. The department also catalyses industry-academia-government collaboration by promoting faculty entrepreneurs, faculty leadership in multi-disciplinary and inter-institutional consortia and student internship projects with industry,. Research scholars and students are contributing continually to cutting edge research through their innovation under faculty guidance.

3. Bachelor of Technology in Civil Engineering

The B.Tech. Programme in Civil Engineering covers, the fundamental courses and imbibes all traditional aspects of civil engineering including materials, structures, geotechnical, water resources, environment, geomatics and transportation engineering in a holistic mode avoiding unnecessary compartmentalization. Along with strengthening the fundamentals of knowledge in different streams, the UG program also committed to provide the practical orientation

thereby preparing students to address various societal problems. Larger emphasis shall be placed upon the engineering sciences with an objective of producing "thinking" engineers capable of tackling unorthodox engineering challenges. In addition, the focus is on related modern developments in the area of earthquake engineering, smart cities, water resources, remote sensing applications, environment and transportation planning.

4. Bachelor of Technology in Computer Science and Engineering

The Department of Computer Science and Engineering at IIT Ropar offers a highly competitive four-year program leading to a B. Tech degree. The curriculum builds strong foundations in all areas of Computer Science and Engineering. In addition, the choice of electives offers the freedom for one to specialize in one or more areas of Computer Science and Engineering. The quality curriculum promotes independent thinking and learning at an individual's pace. There is great emphasis on hands on training and design as part of course projects. The department strives to provide state of the art infrastructure and facilities to our undergraduate students where they bring their project and research ideas to fruition. The department has taken up the challenge to attract world class faculty in all areas of Computer Science and Engineering. Since the first batch, the industry has always welcomed our graduating students with open arms. Our students have been recruited by top organizations in India and abroad. We hope to continue building on the initial momentum and attract the best students and faculty over the coming years.

5. Bachelor of Technology in Electrical Engineering

The B. Tech. program in Electrical Engineering attempts to provide the students with a balanced exposure in these major areas of the discipline: Electronics Engineering, Computer Technology, Analog & digital communication engineering, Control & instrumentation, Electrical machines & power engineering. The core curriculum of the undergraduate program includes at least two core theory courses and two core laboratory courses in each area. This is subsequently augmented with suitable elective courses in third and fourth year. Currently popular electives include VLSI, embedded systems, digital signal processing, medical electronics, digital communication, wireless networks and optical communication. Undergraduate projects included as part of the final year curriculum emphasize experimental work and exposure to hardware in all four areas.

5. Bachelor of Technology in Engineering Physics:

Department of Physics jointly with the Department of Electrical Engineering offers four years B. Tech. Program in Engineering Physics starting from the Academic Year 2022-23 for highly motivated students. The program is designed to bridge up the gap between Physics and Engineering and is inclined towards semiconductor technology. The program will prepare the students interested in Physics with an exposure to Engineering. In addition to the basic degree, the students would be able to take a concentration program in either Physics or Electrical

Engineering. They would also be able to take minor courses from the Departments other than Physics and Electrical Engineering. The students after completing the program would be trained enough to work in Semiconductor Industry, Finance, another technology-based research etc. in India as well abroad. The program aims for highly motivated students with high JEE ranking.

7. **Bachelor of Technology in Mathematics and Computing**

The Department of Mathematics in collaboration with the Department of CSE offers a new programme from the Academic Year 2019-20 namely, B.Tech. in Mathematics & Computing with focus on Artificial Intelligence. This program provides students a formidable combination of Mathematics and Computer Science by concentrating on areas where Mathematics and Computing are most relevant to each other. The program will prepare graduates well for advanced degrees and careers in a variety of fields in industry. The curriculum is designed in such a way that this programme provides a perfect platform for those who seek strong mathematical and analytical components with a specialization in AI. The electives available to students cover a vast range of topics like Mathematical modelling, Pure Mathematics, Theoretical computer science, Fluid Mechanics, Computer architecture, IOT, Algorithms, Game theory, Financial Mathematics, Data science, Time-series analysis, Mathematical Image Processing and others. There is great emphasis on hands-on experience and the Department is trying to put a lab component in almost every course. The program attracts students with top JEE ranks.

8. **Bachelor of Technology in Mechanical Engineering**

The Department of Mechanical Engineering is one of the founding departments of the Institute. It is also one of the largest departments of the Institute, housing 25 faculty members with varying research expertise. The department has faculty in all the major areas of mechanical engineering such as, mechanics and design, fluids and thermal engineering, materials and manufacturing. The Department of Mechanical Engineering offers B.Tech., MTech. and Ph. D programs. Currently, the department offers B. Tech. in Mechanical with minors in many fields. The department also offers Master's Degrees in four disciplines, viz. Manufacturing Engineering (MF), Mechanics and Design (MD), Thermal & Fluids Engineering (TF), and Computational Mechanics. In addition to the conventional core courses, the department offers state of the art courses such as product design and realization, sustainability for engineers, continuum mechanics, medical devices and equipment, biomechanics, noise and vibration, finite element analysis, energy science and technology, robotics and mechatronics, micromanufacturing and deep learning of physical systems. The laboratories have state-of –the –art facilities with the aim of strengthening teaching and research. The main thrust areas of research of the department are Additive Manufacturing, Bio-Mechanical Engineering, Energy Efficiency and Sustainability, Intelligent Mechanical Systems, and Micro/Nano Engineered Systems.

9.   Bachelor of Technology in Metallurgical and Materials Engineering

The Department of Metallurgical and Materials Engineering offers B.Tech. and PhD programs. The Department has faculty in all the major areas of Metallurgical and Materials Engineering. The focus areas of the department are Physical Metallurgy, Extractive Metallurgy, Mechanical Metallurgy, Computational Materials Engineering, Energy Materials, Functional Materials and related areas. The Department provides a platform for interdisciplinary studies with academia and industry. The curriculum is designed to encourage innovative thinking to enable students to be Industry ready. The Department encourages student-faculty interaction.

➢ **Faculty:**

Faculty members of the Institute are selected through a rigorous selection process. The approximate mean age of a faculty member at IIT Ropar is 35 years. The faculty members who have been selected from the best institutes from India and abroad embody the spirit of enthusiasm that comes with youth. Faculty members lay as much emphasis on the development of their technical know-how as on ethical and moral development; so when the student graduates she/he makes not just a good engineer but also a good human being. IIT Ropar takes the best raw material (JEE qualified students) and the faculty carves them out into engineers and entrepreneurs of tomorrow.

➢ **Facility:**

The institute is actively involved in collaboration programs with international organizations and universities. The institute has the following facilities other than the basic academic facilities. Virtual Classrooms (NKN) Two virtual classrooms have been set up at IIT Ropar. NKN interconnects the institutions engaged in research, higher education and scientific development in the country.

➢ **Library**

The Central Library functions as the primary information resource centre and repository of printed and electronic resources for teaching and research activities at the institute. Apart from textbooks and recommended reading materials prescribed for each course offered at the institute, the library houses a growing collection of research monographs, reports, multi-volume reference works, dictionaries, encyclopaedias, handbooks, and so on. The library facilitates access to electronic journals through its participation in consortia, such as E-Shodh Sindhu. The library also subscribes to several e-journals directly from publishers as well as through reputed subscription agencies. At present, users can consult more than 24,000 books (available on shelves) and thousands of electronic books, journals. Online access is also provided to economic and political databases, scientometric databases such as Scopus, MathSciNet, and Web of Science.

The library operations have been automated using LIBSYS 7 (EJB Version) software. The Online Public Access Catalogue (OPAC), which is in the public domain, enables users to search documents in

possession of the library. The library is using the Radio Frequency Identification Technology (RFID), a state-of-the-art auto identification technique which helps in self-servicing and enhanced security. A separate e-resources section is provided in the library to browse CDs and DVDs of books, theses, and dissertations. The library has developed an institutional digital repository (IDR) using open-source software (DSpace) to archive and provide online access to the intellectual output of the institute. IDR is available publicly. These steps will significantly enhance the library's efficiency in making the resources available to the academic community at large and also enable the institute to participate in various inter-library initiatives at national and international levels. Library also provides access to Indian Research Information Network System (IRINS) developed by INFLIBNET which gives comprehensive information about the research profiles of IIT Ropar.

The library is offering extensive research support services such as citation analysis, usage of reference management tools, copyright and plagiarism support etc. The library has subscriptions to Turnitin & Urkund, standard academic anti-plagiarism tools and Grammarly, an English grammar checking tool to improve the quality of writing and research publications. The library is continuously striving to identify and adopt the emerging academic and research support tools and helping the institute in achieving its vision and mission.

> ### Hostel Accommodation

The Institute campus has three 3 boys' hostels (Satluj, Beas, Chenab) and 1 girl hostel (Raavi) with a total capacity of 2010 available at the main campus. In addition to this there is one boy's hostel and 2 girls' hostel at Transit campus. All hostels are well furnished along with common rooms for recreational activities for each hostel. The campus also has an expansive and airy common dining area. All hostels are provided with excellent drinking water facilities. Each hostel has common facilities - indoor, recreation and games. The hostel complex also includes a few shops that cater to the basic needs of the residents. IIT Ropar also provides gymnasium facilities within its campus for its students. Lush green IIT campus add enormous fuel in the daily life of the students. We have lively and enchanting campus life wherein the students are provided with all the amenities for the recreational activities. Here at IIT Ropar students rejuvenate their hidden talent and relive their hobbies. State of the art classrooms with Audio visual aids and state of the art laboratories with latest research facilities enhance the teaching learning process while high-tech library with tremendous books, journals, periodicals etc help them to connect with the entire world of information and knowledge. We have also introduced drastic changes to the mess menu with detailed options given to students w.r.t the food items they would like to have in the Mess by fixing the base menu and providing extra items in the menu which they student can opt for at an extra cost. At IIT Ropar, students relish research and extracurricular activities to grow as an aspiring engineer with moral and ethical integrity.

➢ Health Care

The Institute Medical Centre is located in a separate building adjoining the hostel complex in Transit campus and in Main Campus. Several doctors, pharmacist, and staff nurse have been appointed to attend to campus residents in case of medical emergency. We have a state-of-the-art ambulance for medical emergencies. In addition, the Institute relies on the friendly support of a few super specialty hospitals in the city of Ropar, Mohali and Chandigarh for providing state-of-the-art medical care to its members.

➢ Student Activities

The Institute has a Society for Publication and Communication Skills Development. In addition, there are Music, Dance, Dramatics, Arturo Photography, Fine Arts clubs, Girl up Club, Electoral Club, Epicure-The Cooking Club, Literary, Music clubs and also Science & Technology, Robotic Societies, Monochrome, Computer Integrated Manufacturing, Astronomy, Quiz, Coding clubs, where the students can participate and develop a well– rounded personality. Apart from above all, an Outdoor Adventure and Social Activities Club and Fitness club are also there for the wellness of Students.

General Facilities the Institute has a branch of SBI as well as a Post office to cater to the needs of the faculty members, staff and students.

➢ General Facilities

The Institute has a Bank branch of SBI as well as a Post office to cater to the needs of the faculty, staff and students.

➢ Student Life at Institute

At present, the transit and main campuses have excellent facilities for several sports, including a cricket field, three lawn tennis courts, a football field, a hockey field, a gymnasium, a basketball court, badminton courts, an athletics track, table tennis room and also facilities for several athletic events. The institute encourages its students to participate in inter - IIT sport events and other competitions. Space for recreational and creative activities is also available.

➢ CAREER DEVELOPMENT & PLACEMENT CELL

The Career Development and Placement Cell of IIT Ropar facilitates the participation of graduating students in the campus placement process in the fourth year. In addition, it also provides assistance to all B. Tech students in finding mandatory summer internship opportunities at the end of third year as well as one semester long internships (to be undertaken in seventh or eighth semester) for students opting for B. Tech with Additional Internship program at end of fourth semester in companies and research organizations anywhere in world.

Every year IIT Ropar students receive overwhelming response from industries for campus recruitment. For the year 2022-23 with average salary of 20.94 lakh/annum, the placement process resulted in 78.85% of our students getting placed. 93.24% of Computer Science students, 79.10% of Electrical Engineering students, 71.67% Mechanical Engineering students, 73.68% Chemical Engineering, 50%, Civil Engineering students, 78.57% Metallurgical and Materials Engineering & 94.12% Mathematics & Computing students were offered positions in core technical, consultancy and IT companies. Some of the premier companies where our 2023 passing out batch students got placed are:

Swiggy, Gemini Solutions, Goldman Sachs, Microsoft, Flipkart, D E Shaw, Nutanix, Commvault, GE Healthcare, Chegg.com, Sprinkler, Contata, MAQ Software, GAIL, IOL Chemicals, Honeywell, Codenation, TEXAS Instrument, Amazon, Arista Networks, Expedia, Samsung, Saavn, Maruti Suzuki, TESCO, Zomato, WIPRO, True Chip, SCA Technologies, Cubastion Consulting and many more. This year, the number of preplacement offers (PPOs) has also increased from 30 last years (2020-21) to 51 (UG) & 5 (PG) this year (2021-22). The first-time recruiters included Google, Urban Company, CoinDCX, Cashfree Payments, Toppr, Nuture.Farm, ICICI Bank, Ernst Young, Udaan, Bajaj Autos.

A good number of internship opportunities were also offered to the students this year by various organizations. Some of the premier companies/institutes that have offered summer internships to our students (2023 graduating batch) are:

Amazon Development Center India Pvt.Ltd., Microsoft, Goldman Sachs, Arista, Networks, Wipro, Publicis Sapient, Walmart Global Tech, Strand Life Sciences, Google, Flipkart, Code Unity, Microsoft, Hyperverge, Indian Institute of Technology Guwahati, Indian Institute of Technology Delhi, Indian Institute of Technology Patna, , American Express, Decimal Point Analytics, Indian Institute of Technology Mandi, Shipsy, Tech Indus One, University of Waterloo, Truminds, Oracle, Salesforce, Kanvic Consulting, Samsung Research Institute Bangalore, Morgan Stanley, Wallmart Labs, Trident, GE Healthcare, The Perfect Future, Accenture, Siemens, Expertrons, Analog Devices, National Chung Cheng University Taiwan, DERL Hyderabad, Boot CampX, University of Hyderabad, Honda Motorcycles and Scooters Ltd, Washington State University, Livespace Etc.

➢ INDUSTRY AND ALUMNI RELATIONS

Industry relations

The Industrial Consultancy & Sponsored Research (ICSR) office works in the direction to strengthen the relations with industry and reputed international research institutes in order to develop strong research and academic collaborations. The institute is well connected to Industry and is a member of Confederation of Indian Industry (CII). Industry Institute Conclaves are conducted in the Institute to develop Industrial Associates of the institute. The Conclaves are focused on bringing together industry leaders and academia together on the same platform to discuss and brainstorm topics related to industrial expectations from institutions, curriculum structure and discuss issues and opportunities related to industrial projects & consultancy. Experts from the industries are invited regularly to deliver lectures under Industrial Lecture Series. Centre for Innovation and Business Incubation (CIBI) of the institute is already hosting six startups, which is a part of Technology Business Incubator (TBI).

Alumni relations

Our Institute has been actively working to sustain the bonding and to ensure greater participation of its alumni in its academic and extra curricular activities through various initiatives in association with the IIT Ropar Alumni Association (founded in Feb. 2013). Some of the initiatives are as follows:

1. Alumni Student Mentorship Program (ASMP): It's a platform for tapping in the multitude of experience and knowledge of the alumni for the benefit of the students and alumni alike. As distinguished IIT Ropar graduates, alumni hold a wealth of information and knowledge that current students can benefit from. Their expertise and advice are more valuable to students wanting to sail a similar kind of boat ranging from MBA (India, Abroad), MS, various kinds of jobs, civil services, entrepreneurship, etc.

2. Hangout with alumni: Conducting regular Alumni-Student interaction sessions including webinars, podcasts, and in-person meets, when feasible, to bridge the gap between them and allow the experiences, learnings, exam preparation strategies, and above all, their valuable college memories, to reach the existing students. In this, we have alumni speak about various topics based on students' responses and needs.

3. Alumni Student Relationship Cell (ASRC): The ASRC has been linked with the placement and internship team of IIT Ropar, for facilitating more and better opportunities to the students through alumni in the form of internships, live projects, and placements. The vast alumni network spread over hundreds of corporate giants brings home the opportunity to call them for hiring at our campus.

4. Recreational Activities: The Alumni office and ASRC plan to regularly engage with the alumni via recreational activities like inter-year online games and championships, organized in collaboration with various clubs of IIT Ropar. These initiatives are meant to foster healthy and vibrant relationships with these much precious jewels of the institute.

5. Alumni Awards: To recognize, appreciate and encourage our emerging young alumni members for their leadership potential and professional and/or societal impactful contributions and accomplishments, to enhance the awareness of their achievements and contributions, and to strengthen our bonding with emerging alumni members, Emerging Young Alumni Awards are instituted.

The Alumni have shown a lot of enthusiasm in participating in these initiatives and to keep working towards building a brand for our young institute IIT Ropar.

➢ RECREATIONAL/EXTRA CURRICULAR ACTIVITIES

In order to take care of various students activities, we have a Student Affairs Section with the following functional units:

1. **Board of Hostel Affairs (BOHA)**

2. **Board of Cultural Activities (BOCA)**

3. **Board of Science & Technology (BOST)**

4. **Board of Sports Activities (BOSA)**

5. **Board of Literary Activities (BOLA)**

6. **Board of Academic Affairs (BOAA)**

7. **Outdoor Adventure and Social Activities Club**

Under the aegis of BOCA Movie Club, IIT Ropar hosts movies every week for the entertainment of the campus community. BOCA also celebrated the annual poetic festival Rashmi at IIT Ropar with the aim to let the budding poets and connoisseurs of poetry come on stage and showcase their talent. BOCA also conducted the following SPIC MACAY events under its aegis. Many other cultural activities are organized/participated by the students within the campus and in other Institutions situated all over India.

➤ BOARD OF SCIENCE AND TECHNOLOGY

Science and Technology Clubs are set up to kindle and nurture the love for technology, each club with its own specialization and guest lectures by prominent personalities in the world of technology and science.

A student spends his/her time constructively by engaging in the activities of these clubs. The students can thus represent IIT Ropar at various national and international competitions and events, bringing laurels to the institute and allowing students to showcase their creativity without bounds, through any of these clubs. Over the semester, fortnightly meetings of the clubs are held, apart from the time invested by members in their club projects. The institute has also started Innovation Club under the ages of BOST wherein the students are encouraged to participate and evolve innovative ideas for implementation.

Zeitgeist 2023 (Techno-Cultural Fest)

The twelfth edition of ZEITGEIST along with the sixth edition of ADVITIYA of its Annual Techno-Cultural Festival, from 23rd to 26th March 2023, with its inauguration on 23rd March. Total footfall was around 25000 with 5000 registration of students from all over India. Various technical, cultural and entertainment events were organized. Many workshops and lectures were delivered by renowned personalities. Alumni talks were also organized.

Board of Sports Activities (BOSA)

We have a Board of Sports Activities (BOSA) which encourages the students to participate in local / Inter / Intra-college / Hostel Sports Activities to boost their performance in inter IIT Sports meet under the guidance of professional coaches.

 Various sports facilities such as Athletics, Football, Cricket, Hockey, Tennis, Basketball, Volleyball and Table Tennis including gymnasium are being upgraded to enhance the quality of facilities at the Institute. There are international level modern sports fields / grounds with floodlights facilities. Every year, IIT Ropar is organizing an Annual Sports Festival "AAROHAN" in which students of various IITs, Colleges, Institutes and Universities participate in more than 13 sports events.

➤ LOCATION AND ACCESSIBILITY

The Institute is located at Ropar, the headquarters of Rupnagar district, Punjab. This institute, with its establishment, joins a string of premier educational institutions in Punjab. The town of Ropar, the district headquarters, is 42 kms from Chandigarh, the capital of Punjab. Rupnagar is well connected by

both road (National highway NH21/NH205) and railways (the Delhi - Ambala - Una railway line passes through Rupnagar).

By Air:

The nearest international airport is in Chandigarh, about 50kms from Rupnagar. Any visitor wishing to come to Rupnagar/Ropar could take a flight from his/her respective place to Chandigarh, if available, or a flight from Delhi to Chandigarh and then take a taxi from the airport to reach the campus of Indian Institute of Technology Ropar (IIT Ropar) which is approximately one-and-a-half-hour journey.

By Train:

There are regular trains running between Delhi and Rupnagar. The Delhi Ambala Una railway line passes through Rupnagar. The duration of the journey is around six hours from Delhi.

➢ Contact Us:

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