

2023

COLLEGE PREDICTOR COMPENDIUM

JEE/JoSAA - Engineering



**CHARITABLE
FOUNDATION**

AN INITIATIVE TO CREATE A COMMUNITY OF 'RISHEY'

PREFACE

Namaskar !

Engineering is considered to be the most popular stream in India. JEE conducted by National Testing Agency (NTA) alone accommodates almost 3 million students to appear the test every year and that is why it is considered to be a Gateway to the Engineering and Technical Institution. The later stage or post examination phase is quite critical where students and parents are lacking the notion of seat matrix and their respective cut offs. Sometimes a few wonderful courses are not taken as early as they should have because of a lack of awareness about them! Do you know that IIT Varanasi offers more courses than IIT Delhi ! Informations are available as per the Institution and counselling form fill up procedure becomes strenuous in order to select the right institution with a course of choice, or sometimes selecting a dream institution with a probable sanguinity of admission choosing a particular course.

In order to eliminate the constraints or at least minimise them - we are initiating this handbook which gives an insight into the coursework available in various institutions, with their respective cut offs in each of the institutions. Basis of these information provided is as per the sixth round of seat allocation by Joint Seat Allocation Authority (JoSAA) in 2022. For any further information, please feel free to contact Ranjeet Dutta on ranjeet.dutta@njgroup.in.

With warmest regards,

Ranjeet Dutta
Manager,
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Editorial Notes

Hello Readers!

Namaskar 🙏 It is my pleasure to introduce this handbook to assist students and their parents to select the most suitable career at the most appropriate institution. We have kept the courses mostly in alphabetic order, but a few courses which are similar by nature but a bit different by name has been kept along with the name of course which is most popular, for example - B.Tech. in Artificial Intelligence and Data Science at IIT Jodhpur and IIT Patna is similar to B.Tech. in Data Science and Artificial Intelligence available at IIT Roorkee, IIT Guwahati and IIT Bhilai. On the other hand, a B.Tech course in Artificial Intelligence is offered at IIT Hyderabad. Hence all these courses are related to Artificial Intelligence and have been kept under its umbrella.

The edition of the book especially aims to cover all courses which is 189 in count, available at 23 IITs, 31 NITs, 27 IIITs and 30 Universities and its campuses covered through the admission channel of Joint Seat Allocation Authority (JoSAA) and qualification through Joint Entrance Examination (JEE).

The edition of the booklet is based on the information available on the site of JoSAA for the year 2022. Even though there is a negligible chance of error for any information provided here, I request the reader to verify the information with the appropriate authorities and exempt us from any form of litigation.

This is the maiden edition of the booklet, please go through our other publications at www.njcf.in and suggest the changes you would like to see in the next edition of the booklet.

Feel free to contact me at ranjeet.dutta@nigroup.in if you have any questions regarding the information or clarity on any information provided in the booklet. I am certain to help you to take the right step on your career ladder !

Thank you.

Regards,

Ranjeet Dutta
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Founder's Pen

Namaskar !

The team of NJCF over a period of last 10 years have dealt with more than 250 students and based on the experience we realised that the students don't have ideas related to various undergraduate courses/programmes. There are wide choices of careers and courses available however only a few of them are known due to which these students only take admission into conventional courses and get an average career path. Therefore to aid the following :

- Career Options - Choice of courses
- Competitive Exams through which one get entrance to good colleges
- Career prospects for each course
- Cutoffs for getting admission in a college

We are glad to launch the first series of **COLLEGE PREDICTOR COMPENDIUM**, for the purpose of helping students to get an idea of the varied options of courses and colleges and it will also serve as a **COLLEGE PREDICTOR** tool based on the scores in the competitive exam.

I am glad that the first **JEE COURSE COMPENDIUM** is launched where the cut offs of the academic year 21-22 are taken and that will help as a tool to students who have appeared for **JEE MAINS** and **JEE ADVANCED** in the academic year 22-23.

The **COLLEGE PREDICTOR COMPENDIUM** is not only restricted to JEE or Engineering but also it will cover **GUJCET** colleges, NATA (Architecture), **Law and Management program** (CLAT, NLAT and other)

NEET (Medical Entrance), **Course in Sciences for Institute of National Importance** and various other programs.

This compendium would be an **Annual Publication** and help students to get aware not only about the colleges but also about the various courses in which a career could be pursued.

There will also be an **ADVANCED SEARCH** available on the **NJCF Application** through which a student can get an idea of various options available to select as a career prior to taking the competitive exam and shall also get an idea of the college in which the student can get admission after taking the competitive exam.

I am sure that this initiative of NJCF will go a long way in helping the STUDENTS to take the RIGHT academic path for a bright future.

Warm regards

Neeraj Choksi
Director,
NJ Charitable Foundation

Acknowledgement

First and foremost I express my sincere gratitude to Mr. Neeraj R. Choksi and Mr. Jignesh R. Desai for encouraging the series - "Consortium of Courses" on their noble foundation NJ Charitable Foundation. I extend my gratitude to Ms. Nima Deokar, Head of NJCF for her constant support and feeds in the development of the booklet.

The main ingredient of the booklet is the information and that would have been incomplete without the data made public by NTA (National Testing Agency) and JoSAA (Joint Seat Allocation Authority). My heartfelt thanks to the entire team of NTA and JoSAA for providing a robust frame of information on various courses with their cut offs.

My special thanks to Mr. Vikas Bhagwagar for putting his enormous efforts in compilation of the data with adequate research.

Further, I extend my vote of thanks to the entire team of NJ Group for conceding their valuable time as and when required.

Finally I would like to thank all readers for selecting and promoting this series in order to induct learners with the horizon of learning.

Happy Reading.

Ranjeet Dutta

Manager,
NJ Charitable Foundation

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Index

Name of Course	P.N.	Name of Course	P.N.
Aerospace Engineering	10	Civil Engineering with Specialization in Construction Technology and Management	26
Agricultural and Food Engineering	11	Computational and Data Science	30
Applied Geology	12	Computational Engineering	30
Applied Geophysics	12	Computational Mathematics	31
Architecture	13	Computer Engineering	32
Artificial Intelligence	14	Computer Science	32
Bio Engineering	16	Computer Science & Engineering	33
Bio Medical Engineering	16	Computer Science and Artificial Intelligence	32
Bio Technology	16	Computer Science and Business	33
Biochemical Engineering	17	Computer Science and Engineering (with Specialization of Data Science and Artificial Intelligence)	33
Bioengineering with M.Tech in Biomedical Technology	17	Computer Science and Engineering with specialisation in Cyber Security	38
Biological Engineering	17	Computer Science and Engineering with Specialization in Data Science	38
Biological Sciences	17	Computer Science Engineering (Artificial intelligence and Machine Learning)	38
Biological Sciences and Bioengineering	17	Computer Science Engineering (Data Science and Analytics)	39
Biotechnology and Biochemical Engineering	17	Computer Science Engineering (Human Computer interaction and Gaming Technology)	39
Biotechnology and Bioinformatics	17	Data Science and Engineering	40
Carpet and Textile Technology	20	Earth Sciences	41
Ceramic Engineering	21	Economics	42
Chemical and Biochemical Engineering	22	Electrical and Electronics Engineering	43
Chemical Engineering	22	Electrical Engineering	44
Chemical Science and Technology	22	Electrical and Electronics Engineering	43
Chemical Sciences	24	Electrical Engineering	46
Chemistry	25	Chemistry with Specialization	25

Name of Course	P.N.	Name of Course	P.N.
Civil and Infrastructure Engineering	26	Electrical Engineering with M.Tech. in Power Electronics	47
Civil Engineering	26	Electrical Eng. with Specialisation In Power System Eng.	47
Civil Engineering and M. Tech. in Structural Engineering	29	Electronics & Communication Engineering	48
Civil Engineering and M. Tech. in Transportation Eng.	29	Electronics and Communication Engineering (Avionics)	50
Civil Engineering and M. Tech. in Environmental Eng.	30	Industrial and Production Engineering	58
Electronics and Communication Engineering (Internet of Things)	51	Industrial and Systems Engineering	58
Electronics and Communication Engineering (Under Flexible Academic Program)	51	Industrial Chemistry	58
Electronics and Communication Engineering (with Specialization of Embedded Systems and Internet of Things)	51	Industrial Design	59
Electronics and Communication Engineering with specialisation in Design and Manufacturing	51	Information Technology	60
Electronics and Communication Engineering with Specialization in Microelectronics and VLSI System Design	52	Information Technology (Under Flexible Academic Program)	60
Electronics and Communication Engineering with specialisation in VLSI and Embedded Systems	52	Information Technology-Business Informatics	60
Electronics and Instrumentation Engineering	53	Instrumentation and Control Engineering	60
Electronics and Telecommunication Engineering	53	Instrumentation Engineering	61
Electronics System Engineering	53	Integrated B. Tech.(IT) and MBA	61
Energy Engineering	54	Interdisciplinary Sciences	61
Engineering and Computational Mechanics	54	Life Science	61
Electrical Engineering (IC Design and Technology)	46	Engineering Design	55
Electrical Engineering (Power and Automation)	46	Engineering Physics	56

Name of Course	P.N.	Name of Course	P.N.
Engineering Science	56	Material Science and Engineering	64
Environmental Engineering	57	Materials Engineering	63
Environmental Science and Engineering	57	Materials Science and Metallurgical Engineering	64
Exploration Geophysics	57	Mathematics	65
Food Engineering and Technology	18	Mathematics & Computing	65
Food Process Engineering	18	Mathematics and Data Science	67
Food Technology	18	Mechanical Engineering	68
Food Technology and Management	19	Mechanical Engineering and M. Tech. in Mechanical System Design	71
Geological Technology	19	Mechanical Engineering and M. Tech. in Thermal Science & Engineering	71
Geophysical Technology	57	Mechanical Engineering and M.Tech. in Computer Integrated Manufacturing	71
Handloom and Textile Technology	58	Mechanical Engineering with M.Tech. in any of the listed specialisations	71
Mechanical Engineering with M.Tech. in Manufacturing Engineering	72	Petroleum Engineering	79
Mechanical Engineering with specialisation in Design and Manufacturing	72	Pharmaceutical Engineering & Technology	80
Mechanical Engineering with Specialization in Manufacturing and Industrial Engineering	72	Physics	81
Mechatronics Engineering	73	Planning	82
Metallurgical and Materials Engineering	74	Production and Industrial Engineering	83
Mining Engineering	76	Quantitative Economics & Data Science	84
Mining Machinery Engineering	76	Smart Manufacturing	84
Mining Safety Engineering	77	Statistics and Data Science	84
Naval Architecture and Ocean Engineering	78	Textile Technology	84
Ocean Engineering and Naval Architecture	78		
Manufacturing Science and Engineering	63		
Manufacturing Science and Engineering with M.Tech. in Industrial and Systems Engineering and Management	63		

JEE

Joint Entrance Examination is considered to be the most prestigious aptitude test because of its competitive nature, difficulty level and the weightage it carries as a gateway to Engineering & Technical Institution. It is conducted in two phases, viz. - JEE Mains (2 attempts yearly) and JEE Advance (one attempt yearly and at most two attempts by any candidate). Minimum eligibility is to score at least 75% in the senior secondary school board examination or equivalent. Candidates appearing for senior secondary examination may appear in the examination of the year and the subsequent year. Forms are available around September of every year and the Examination is conducted by National Testing Agency (NTA). Apart from the channel of admission through Joint Admission Seat Allocation Authority hence to be called JoSAA, JEE also acts as gateway of admission into IISc (Indian Institute of Science)., IISER(Indian Institute of Science Education and Research)), **IIFE (Indian Institute of Petroleum and Energy)**, IISST (Indian Institute of Space Science and Technology). We shall discuss their courses and campuses separately. The Course Matrix through JoSAA for JEE channel is given below :

Type of Institution	Number of Institutions	Number of unique courses offered
IIT	23	119
NIT	31	57
IIIT	27	35
Universities	30	46
Grand Total	111	189

Apart from the courses in Engineering, JEE also opens up gateways of several other subjects viz. Economics, Planning and Designing, Applied Geology, Statistics / Interdisciplinary Sciences, Pharmaceutical Sciences, Physics, Chemistry, Life Sciences / Biosciences, Mathematics etc.

The full names of the abbreviated institutions are given in Annexure - A of the booklet.

JoSAA

JoSAA controls the admission in IITs, NITs, IIITs and a few selected Universities. The list of institutions and number of unique courses (in parentheses) offered by them are given below :

List of Institutions for admission through JoSAA			
IIT	NIT	IIIT	Universities
Bhilai (5)	Agartala (14)	IIITM, Gwalior (3)	Assam University, Silchar (3)
Bhubaneshwar (15)	Aizawl (5)	IEST, Howrah (10)	BIT Mesra, Ranchi (14)
Chennai (14)	Bhopal (10)	Nagpur (6)	CIT Kokrajhar, Assam (5)
Delhi (17)	Calicut (11)	Pune (2)	CU of Jammu, Samba (4)
Dhanbad (15)	Delhi (5)	Ranchi (4)	CU of Rajasthan, Ajmer (3)
Dharwad (8)	Dimapur (6)	Chittoor (2)	CSVТУ, Bhilai (2)
Gandhinagar (8)	Durgapur (11)	Kota (2)	GKCIET W.Bengal, Malda(3)
Guwahati (12)	Hamirpur (12)	Bhagalpur (3)	Gurukul Kangri, Haridwar (4)
Hyderabad (15)	Imphal (5)	Bhopal (3)	IICT, Bhadohi (1)
Indore (5)	Jaipur (8)	Kurnool (4)	IIHT, Varanasi (1)
Jodhpur (10)	Jalandhar (11)	Guwahati (2)	IICT, Bhubaneshwar (1)
Kanpur (14)	Jote (5)	Lucknow (4)	IITRM , Ahmedabad (4)
Kharagpur (37)	Kurukshetra (7)	Imphal (4)	IT GGV, Bilaspur (7)
Mandi (7)	Nagpur (9)	Surat (2)	International Institute of IT, Bhubaneshwar (5)
Mumbai (15)	Patna (14)	Tiruchirappalli (2)	International Institute of IT, Naya Raipur (3)
Nagrota (6)	Ponda (5)	Agartala (1)	JKIAPT, University of Allahabad, Prayagraj (2)
Palakkad (5)	Prayagraj (8)	Prayagraj (5)	JNU, Delhi (2)
Patna (9)	Puducherry (5)	Kanchipuram (5)	Mizoram University, Aizawl (6)
Ponda (4)	Raipur (12)	Raichur (1)	NIAMT, Ranchi (4)
Roorkee (18)	Ravangla (5)	Diu (1)	NIEIT, Aurangabad (1)
Ropar (8)	Rourkela (23)	Dharwad (3)	NIFTEM, Sonapat (1)
Tirupati (5)	Shillong (5)	Kalyani (2)	NIFTEM, Thanjavur (1)
Varanasi (25)	Silchar (6)	Sonapat (2)	NERIST, Nirjuli (6)
	Srinagar JK (9)	Kottayam Valavoor (4)	NE Hill University, Shillong (4)
	Srinagar UK (5)	Una (HP) (3)	PTU, Puducherry (9)
	Surat (9)	Baroda (2)	PEC, Chandigarh (9)
	Surathkal (11)	Jabalpur (4)	SLIET, Longowal (7)
	Tadepalligudem (8)		SE, Assam, Tezpur (6)
	Tatanagar (8)		SPA, Bhopal (2)
	Tiruchirappalli (10)		SPA, Delhi (2)
	Warangal (11)		SPA, Vijayawada (2)
			SMVDU, Katra (6)
			University of Hyderabad (1)

Aerospace Engineering (4 and 5 years integrated course)

If you are someone who gets excited wondering how aircraft fly and how they are designed then you must have heard about this field of engineering. Aerospace Engineering is a field that has gained a lot of popularity over the years because of the immense scope that it offers to degree holders. May it be the field of science, technology, military, or space exploration, aeronautical engineers will find a place for themselves in all of these sectors easily. And therefore more and more students are opting for this degree. Now, these Indian Universities give tough competition to their foreign counterparts.

Aerospace Engineering provides applicants with some of the most interesting prospects and careers in some of the world's most prestigious firms and industries. With a growing number of private enterprises and initiatives entering the aerospace industry, the possibilities are expanding. Candidates in this discipline have the option of becoming a pilot or exploring space.

One can get admission in Aerospace Engineering without JEE (Joint Entrance Examination), JEE is not compulsory. Please find below the seat matrix of the field for the year of 2023. For additional information, please contact us on www.njcf.in.

4 years B.Tech. Program

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IEST	Howrah	25391	17298	32149	30615
IIT	Mumbai	2119	4081		
IIT	Kharagpur	5297	10155		
IIT	Kanpur	4683	9510		
IIT	Chennai	3881	8042		
PEC	Chandigarh	34079		60486	

5 years B.Tech. and M.Tech. dual degree

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Kharagpur	5687	12031		
IIT	Chennai	4819	7705		

Apart from seat allocation by JoSAA, JEE Advanced qualification also offers seats in Aerospace Engineering into the Thiruvananthapuram Campus of Indian Institute of Space Science and Technology. The admission procedure is directly controlled by the Department of Science and Technology (DST) in its Undergraduate or Dual degree programs after qualifying in JEE Advanced.

Agriculture Engineering (4 and 5 years integrated course)

Agriculture is considered to be the oldest profession in the history of civilization and application of technology in this arena can be traced as early as in 2000 B.C. where people used river water for irrigation. Further, the nature of soil is tested, the weather suitability is examined for the agricultural yield. Agricultural devices are planned and produced by the engineers.

There are some sub-disciplines in the field of agriculture engineering viz. - Irrigation, Biomechanics & Ergonomics, Agricultural Surveying, Agricultural Structure, Agricultural Machinery, Forestry Engineering etc. There are a few universities and colleges which conduct entrance examinations autonomously. First agricultural engineering and research institute in India was established in Pusa. The field also aims to replace labour with machinery. Please find below the seat matrix of the field for the year of 2022.

4 years B.Tech. Program

- Agricultural and Food Engineering**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Kharagpur	9008	16279		
Assam University	Silchar	84713	77258	186477	159529

- Agricultural Engineering**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
Assam University	Silchar	84713	77258	186477	159529

5 years B.Tech. and M.Tech. dual degree

- Agricultural and Food Engineering**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Kharagpur	11268	18441		

Applied Geology

As the name suggests, this science deals with the study of earth and has a very close relationship with the Earth Sciences and Mining Process. Following are programs offered by IIT Kharagpur with the cutoffs in the year 2022. Please refer to the course of Geological Technologies.

- **4 Years, BS**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Kharagpur	13114	20888		

- **5 Years, Integrated M.Tech.**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Dhanbad	16206	23479		

Applied Geophysics (5 Years, Integrated Master of Technology)

Applied Geophysics is the study of the Earth's crust and near surface to achieve an economic aim, or making and interpreting measurements of physical properties of the earth to determine subsurface conditions usually with an economic objective (e.g. discovery of fuel or mineral deposits). Please refer to the course of Geophysical Technologies too given at the later phase of this booklet in its alphabetic position.

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Dhanbad	15995	22862		

Architecture (5 years program)

The prosperity of a nation is indicated by its visible infrastructure. Architecture is a science that involves the study of designing and building. Although there is a specialised course in institutions that is dedicated to Planning and Designing and we shall discuss that in a later phase of the booklet. The history of architecture is very old and rich, we get evidence of several works of Architecture like Yatu-Gruha and Indraprastha from the scriptures of Mahabharat, Adam's Bridge or Ram Setu, Pushpak

Viman from Ramayan. Indian architects have a great demand on the international market. Architects are professionals who may work as a freelancer. Given below is the seat matrix at several institutions in the year of 2022.

● Architecture (5 Years, Bachelor of Architecture)

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
BIT	Ranchi	1183		5086	
IEST	Howrah	944	482	530	70
IIT	Varanasi	19296	27425		
IIT	Kharagpur	17664	24641		
IIT	Roorkee	17464	24098		
NIT	Jaipur	732	422	1389	655
NIT	Bhopal	941	762	2420	1003
Mizoram University	Aizawl	1772			
NIT	Calicut	491	253	342	153
NIT	Hamirpur	985	867	7246	2905
NIT	Patna	1134	998	3544	2052
NIT	Raipur	1046	955	2197	1657
NIT	Rourkela	622	365	1285	1572
NIT	Tiruchirappalli	248	110	797	191
SPA	Bhopal	429			
SPA	Delhi	204			
SPA	Vijayawada	581			
SMVDU	Katra	1709			
NIT	Nagpur	885	688	686	453

Artificial Intelligence

This course is a super-speciality in the field of Computer Science. Sometimes its name varies from institution to institution - like AI and Data Science or Data Science & AI etc. So please refer to the tables corresponding to its alphabetic order of the course names too. The artificial intelligence course covers key concepts like Statistics, Data Science with Python, Machine Learning, Deep Learning, Natural Language Processing (NLP), and Reinforcement Learning through an interactive learning model with live sessions. Sometimes very helpful for actuarial scientists.

The Post Graduate Programme in Artificial Intelligence & Data Science (AI & DS) is focused on providing a solid academic foundation in the core concepts of artificial intelligence and data science along with a deep understanding of their applications to develop professionals that are ahead of the curve in the rapidly changing ecosystem of the technology industry. The programme aims to instil theoretical capabilities and provide the know-how to create practical solutions for enterprise and society. Given below are list of Institutions where one can study the course :

4 Years B.Tech. Programs

- **Artificial Intelligence**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Hyderabad	840	2316		
NIT	Surathkal	2677	4993	4377	4868

Artificial Intelligence and Data Science

The Post Graduate Programme in Artificial Intelligence & Data Science (AI & DS) is focused on providing a solid academic foundation in the core concepts of artificial intelligence and data science along with a deep understanding of their applications to develop professionals that are ahead of the curve in the rapidly changing ecosystem of the technology industry. The programme aims to instil theoretical capabilities and provide the know-how to create practical solutions for enterprise and society.

- **Artificial Intelligence and Data Science**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIIT Design & Manufacturing	Kurnool	34994	34430		
IIT	Jodhpur	3257	6475		
IIT	Patna	3702	8195		

- **Artificial Intelligence and Machine Learning**

Tech course in Artificial Intelligence and Machine Learning which aims to develop a strong foundation by using the principles and technologies that consist of many facets of Artificial Intelligence including logic, knowledge representation, probabilistic models, and machine learning. Following is the cutoff detail of 2022 from JoSAA through JEE channel.

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
BIT	Ranchi	18434		31417	

Biotechnology / Biomedical Engineering / Bioengineering / Biological Engineering

An emerging field which combines physical and biological sciences with innovative tools and technologies. The field is subdivided into several specialities / superspecialities. Given below are the courses as per 4 and 5 years programs with seat matrix following respectively.

4 years B.Tech. course

• Biotechnology

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Jalandhar	48939	54373	111124	99644
NIT	Prayagraj	33152	37193	32997	41242
NIT	Calicut	40636	33641	49187	33896
NIT	Durgapur	48341	44404	48765	38463
NIT	Raipur	53377	58857	88465	88097
NIT	Rourkela	30887	43082	41308	45139
NIT	Warangal	29829	21138	41522	40150
NIT	Tadepalligudem	55101	54098	59346	49430
BIT	Ranchi	54495	NA	80238	NA

• Biotechnology and Biochemical Engineering

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Delhi	4797	10103		
IIT	Kharagpur	7751	13070		
NIT	Agartala	57305	63652	210069	175412

• Biotechnology and Bioinformatics

Bioinformatics is an interdisciplinary field that develops methods and software tools for understanding biological data, in particular when the data sets are large and complex.

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Hyderabad	9150	10714		

- **Biological Sciences and Bioengineering**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Roorkee	7855	13326		
IIT	Guwahati	10112	15770		
IIT	Kanpur	7309	12011		

- **Biomedical Engineering / Biosciences and Bioengineering**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
CU of Rajasthan	Ajmer	70511			
NIT	Raipur	55403	60304	97453	96620
NIT	Rourkela	37093	42872	48726	52674
IIT	Jodhpur	14993	19464		
NE Hill University	Shillong	84517			
IIT	Hyderabad	9840	12043		
IIT	Roorkee	7855	13326		
IIT	Guwahati	10112	15770		

5 years integrated or dual degree programs

- **Biotechnology / Biomedical Engineering / Bioengineering
Biological Engineering**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Mandi	15216	22169		
IIT	Varanasi	13157	21195		
IIT	Varanasi	13885	21747		
IIT	Chennai	8056	5674		
NIT	Durgapur	40790		43307	
IIT	Kharagpur	9330	15908		

Food Technologies / Food Engineering (4 and 5 years programs)

Food engineering is a scientific, academic, and professional field that interprets and applies principles of engineering, science, and mathematics to food manufacturing and operations, including the processing, production, handling, storage, conservation, control, packaging and distribution of food products. The cutoffs based on 2022 seat allocation is given below.

4 years B.Tech. programs

- Food Engineering and Technology

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
CIT	Kokrajhar	80894			
SE	Tezpur	92615			

- Food Process Engineering

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Rourkela	44270	58225	55521	51637

- Food Technology

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
GKCIET	Malda	89387		241643	
NIFTEM	Thanjavur	86239			
SLIET	Longowal	92020			

● Food Technology and Management

Food Technology is a science branch that deals with the techniques involved in the production, processing, preservation, packaging, labelling, quality management, and distribution of food products. The field also involves techniques and processes that are used to transform raw materials into food. During M.Tech, students can also specialise in areas of food processing and management such as Bakery, Alcohol, Nutraceuticals, Oil products etc.

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIFTEM	Sonepat	91348			

5 Years, Integrated Master of Science

● Food Technology

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
BIT	Ranchi	61954		94692	

Carpet and Textile Technology

Carpet and Textile technology is a branch of engineering which deals with the scientific techniques with manufacturing and yearning for different forms of textiles in the factory. The program studies the chemical and physical principles which are utilised for the analysis of the behaviour of the polymers which are used for textile production. The course helps to design and control all aspects of the production process, machinery, products, and fibres.

- **Carpet and Textile Technology**
(4 Years, Bachelor of Technology)

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IICT	Bhadohi	92721			

Ceramic Engineering

One having interest in material science and creating new substances with utility value can study Ceramic engineering which is the science and technology of creating objects from inorganic, non-metallic materials. This is done either by the action of heat, or at lower temperatures using precipitation reactions from high-purity chemical solutions. The term includes the purification of raw materials, the study and production of the chemical compounds concerned, their formation into components and the study of their structure, composition and properties.

It has a close relationship with material science. Given below are the list of Institutions and various programs where Ceramic Engineering can be studied :

4 years B.Tech. Program

- Ceramic Engineering

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Varanasi	13109	21128		
NIT	Rourkela	39652	50572	45215	46220

5 Years, B.Tech and M.Tech. (Dual Degree)

- Ceramic Engineering

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Varanasi	15213	23106		

- Ceramic Engineering and M.Tech Industrial Ceramic

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Rourkela	43625		56106	57803

Chemical and Biochemical Engineering

Biochemical engineers design ways of getting cells to make or do what they need them to, and then to obtain the product in a way that is useful. The cells could be from animals, bacteria or single-celled animals like algae, each type needs to be treated in a different way to get them to do what is needed. Chemical engineering involves the production and manufacturing of products through chemical processes. This includes designing equipment, systems, and processes for refining raw materials and for mixing, compounding, and processing chemicals. They have a close relationship with Production and Manufacturing engineers, Textile and Paint Industries etc.

4 years B.Tech. Programs

- **Chemical and Biochemical Engineering**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Dharwad	15903	22643		

- **Chemical Science and Technology**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Guwahati	8099	14113		

- **Chemical Engineering**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
BIT	Ranchi	54086		67582	
NIT	Jalandhar	41703	44299	73857	50198
IIT	Varanasi	8343	14690		
IIT	Dhanbad	11339	17395		
IIT	Mumbai	2081	4591		
IIT	Delhi	2343	4570		
IIT	Gandhinagar	9270	14914		
IIT	Guwahati	6144	12319		

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Nagrota	15208	22779		
IIT	Jodhpur	11496	19173		
IIT	Kanpur	4649	7739		
IIT	Kharagpur	4846	9398		
IIT	Chennai	4677	8921		
IIT	Patna	12874	20164		
IIT	Roorkee	5075	10128		
IIT	Ropar	10413	17949		
IIT	Tirupati	14290	20254		
IT GGV	Bilaspur	89433			
NIT	Jaipur	25860	31364	29037	27904
NIT	Bhopal	35282	39787	42115	39278
NIT	Prayagraj	23792	31680	24758	29580
NIT	Agartala	52619	54896	181514	179498
NIT	Calicut	29246	40305	42052	39870
NIT	Durgapur	36501	41068	35089	35528
NIT	Hamirpur	42376	46790	102010	103897
NIT	Surathkal	15511	26628	20862	16558
NIT	Raipur	41794	46728	61261	68769
NIT	Tadepalligudem	46908	49130	52908	52263
NIT	Rourkela	20120	26674	23632	32438
NIT	Srinagar-JK	56532	59665		
NIT	Tiruchirappalli	15269	22433	21225	34875
NIT	Warangal	20089	25048	26414	27075

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
SLIET	Longowal	81621			
SVNIT	Surat	34976	40130	43546	41654
NIT	Nagpur	31771	41873	35148	36714

5 Years, B.Tech. & M.Tech (Dual Degree)/M.Tech./BSMS (Dual Degree)

• Chemical Engineering

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Delhi	3956	7820		
IIT	Kharagpur	6048	11736		
NIT	Durgapur	36424			40714
NIT	Rourkela	31369	39750	38258	45279
IICT	Bhubaneshwar	55707		71808	

• Chemical Sciences

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Roorkee	12342	19536		

Chemistry

The branch of science that deals with the properties, composition, and structure of elements and compounds, how they can change, and the energy that is released or absorbed when they change. One who has interest in developing new cosmetics or chemical solutions to any problem and many more can opt for the subject and excel. Following are the courses related to Chemistry and admission cut offs in 2022 :

4 Years, Bachelor of Science (BS)

- Chemistry

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Mumbai	5500	11453		
IIT	Kanpur	9676	18131		
IIT	Kharagpur	12252	19659		

- Chemistry with Specialization

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Jodhpur	15787	23481		

5 Years, BS & MS (Dual Degree)/Integrated MS

- Chemistry

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Durgapur	50512	63008	54787	50847
NIT	Rourkela	44648	44133	66587	74911
NIT	Warangal	36789		56198	
SVNIT	Surat	58482		108918	
NIT	Agartala	59085		239896	

Civil Engineering

Civil engineering is a professional engineering discipline that deals with the design, construction, and maintenance of the physical and naturally built environment, including public works such as roads, bridges, canals, dams, airports, sewage systems, pipelines, structural components of buildings, and railways. Following are the courses related to Civil Engineering and admission cut offs in 2022 :

4 years B.Tech. Programs

- Civil and Infrastructure Engineering**

Civil Engineering Infrastructure refers to the basic facilities and systems that help society function, including road construction, rail construction, tunnelling, utilities and other systems (excluding the erection of buildings).

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Dharwad	15654	23169		
IIT	Jodhpur	13138	21250		

- Civil Engineering**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
BIT	Ranchi	54036		69852	
CIT	Kokrajhar	73260			
NIT	Jalandhar	43842	51966	76829	101911
IEST	Howrah	48475	58917	48356	49672
IIT	Varanasi	9867	16006		
IIT	Dhanbad	12355	21040		
IIT	Bhubaneswar	13624	21674		
IIT	Mumbai	3471	7079		
IIT	Delhi	4316	8274		
IIT	Gandhinagar	11217	17470		

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Hyderabad	8716	14090		
IIT	Indore	10568	16532		
IIT	Nagrota	15805	23754		
IIT	Kanpur	6297	12716		
IIT	Kharagpur	6556	13117		
IIT	Chennai	6106	10183		
IIT	Mandi	12801	20745		
IIT	Palakkad	15714	23260		
IIT	Patna	13741	21802		
IIT	Roorkee	6853	13274		
IIT	Ropar	11890	19290		
IIT	Tirupati	15176	22601		
IITRM	Ahmedabad	63864			
IT GGV	Bilaspur	86022			
NIT	Jaipur	32584	47829	30422	37806
NIT	Bhopal	42069	52354	47546	52805
Mizoram University	Aizawl	86902			
NIT	Prayagraj	28349	39384	25632	38263
NIT	Agartala	53270	62836	176713	160775
NIT	Jote	55417	57639	185207	
NIT	Calicut	36937	44754	49527	43101
NIT	Delhi	36473	38930	46544	32784
NIT	Durgapur	41543	46680	41294	48329
NIT	Ponda	44720	55546	67991	

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Surathkal	22886	35523	33765	39931
NIT	Shillong	51029	64076	73469	179166
NIT	Dimapur	57268	68533		
NIT	Patna	47354	58792	45220	59778
NIT	Puducherry	48027	51485	234438	172094
NIT	Raipur	46257	57996	63482	71849
NIT	Ravangla	54058	60435	538056	385156
NIT	Tadepalligudem	50813	58093	52709	49148
NIT	Tatanagar	42450	53057	49030	61120
NIT	Kurukshetra	39833	46163	47847	59366
NIT	Imphal	53637	68012	202059	77255
NIT	Aizawl	58024	69057	552207	326350
NIT	Rourkela	26812	37470	28479	34789
NIT	Silchar	46199	55508	64892	76954
NIT	Srinagar-JK	56294	67801		
NIT	Tiruchirappalli	19611	29693	37038	43513
NIT	Srinagar-UK	48474	57751	64225	71837
NIT	Warangal	25762	37045	30199	32020
PTU	Puducherry	71647	66557	427566	
PEC	Chandigarh	55759		90433	
SVNIT	Surat	41528	49328	56756	63636
SE	Tezpur	81716			
SMVDU	Katra	90588			
NIT	Nagpur	38128	48559	42633	53779

5 years, B.Tech. and M.Tech. (Dual Degree)

- **Civil Engineering**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Varanasi	11085	18095		

- **Civil Engineering and M. Tech. in Structural Engineering**

M. Tech. in Civil Engineering with specialisation in Structural Engineering is a two-year postgraduate programme that involves the analysis and design of steel and concrete structures and analysis of structures for dynamic forces and study of advanced materials.

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Bhubaneswar	14224	18771		

- **Civil Engineering and M.Tech in Transportation Engineering**

M.Tech. in Transportation Engineering is a postgraduate Civil Engineering course of two years which is divided into four semesters of study plus two electives. The goal of this degree program is to provide both engineering and management aspects of transportation systems with an emphasis on on-road transportation.

This discipline includes subjects like pavement analysis and design, transportation planning, road transport management and economics, highway traffic analysis and design, numerical methods and applied statistics, etc.

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Bhubaneswar	14813	22114		

- **Civil Engineering and M.Tech. in Environmental Engineering**

M.Tech in Civil Engineering with specialisation in Environmental Engineering is a two-year post-graduate programme focused on management of water resources land and air pollution. The programme imbibes key scientific mathematical and computational concepts for solving the traditional and emerging environmental issues in different geographical settings.

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Bhubaneshwar	15033	21738		

- **Civil Engineering with any of the listed specialisation**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Kharagpur	7540	16354		

- **Civil Engineering with Specialization in Construction Technology and Management**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Patna	46656	59787	46838	61834

- **Computational and Data Science (4 Years, Bachelor of Technology)**

Computational Engineering is a relatively new discipline that deals with the development and application of computational models for engineering. Computational engineering uses computers to solve engineering design problems important to a variety of industries.

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Surathkal	3763	5011	4906	7514

- **Computational Engineering (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Hyderabad	1633	3260		

Computational Mathematics

Computational mathematics refers also to the use of computers for mathematics itself. This includes mathematical experimentation for establishing conjectures (particularly in number theory), the use of computers for proving theorems (for example the four colour theorem), and the design and use of proof assistants.

- **Computational Mathematics (5 Years, Bachelor and Master of Technology (Dual Degree))**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Agartala	36048		145150	

Computer Engineering

This is the course which is in most demand and it has several divisions in terms of speciality and superspeciality. Computer Engineering uses Electrical Engineering as its basis whereas Computer Science deals with logic and development. Following are the courses offered by various institutions related to Computer Science and Computer Engineering :

4 Years, B.Tech. Programs

- **Computer Engineering**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IITRM	Ahmedabad	36529			
International Institute of IT	Bhubaneshwar	28390			
Mizoram University	Aizawl	62650			
NIAMT	Ranchi	46123	47802		
NIT	Kurukshetra	7216	9521	9185	11873

- **Computer Science**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIIT	Lucknow	8532	13295		

- **Computer Science & Artificial Intelligence
(4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIIT	Lucknow	8382	13725		

- **Computer Science and Business (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIIT	Lucknow	9604	15121		

- **Computer Science and Engineering (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
Assam University	Silchar	47777	43313	86274	80429
IIITM	Gwalior	6763	11773		
BIT	Ranchi	15991		24511	
CIT	Kokrajhar	45348			
CU of Jammu	Samba	62544			
CU of Rajasthan	Ajmer	41253			
NIT	Jalandhar	10239	15859	13287	22918
Gurukul Kangri	Haridwar	64720			
IEST	Howrah	12208	18251	9377	14384
IIIT	Nagpur	24793			
IIIT	Pune	15894	21392		
IIIT	Ranchi	31879			
IIIT	Chittoor	26257			
IIIT	Kota	20518			
IIIT	Bhagalpur	36325	38576		
IIIT	Bhopal	23777			
IIIT Design & Manufacturing	Kurnool	33317	33427		

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIIT	Imphal	43500	46086		
IIIT	Surat	20029	26490		
IIIT	Tiruchirappalli	24320	27125		
IIIT	Agartala	33713			
IIITDM	Kancheepuram	15944	20657		
IIIT	Raichur	29888	32684		
IIITVICD	Diu	31786	32512		
IIIT	Dharwad	30859			
IIIT	Kalyani	33997			
IIIT	Sonepat	20072			
IIIT	Valavoor	32181	36332		
IIIT	Una	26667			
IIIT	Baroda	19963	25584		
IIT	Varanasi	897	2309		
IIT	Dhanbad	3009	5914		
IIT	Bhilai	5172	8990		
IIT	Bhubaneshwar	2769	5436		
IIT	Mumbai	61	305		
IIT	Delhi	102	450		
IIT	Dharwad	4777	8272		
IIT	Gandhinagar	1366	3277		
IIT	Ponda	3839	5868		
IIT	Guwahati	589	1762		
IIT	Hyderabad	608	1503		
IIT	Indore	1204	2765		
IIT	Nagrota	4602	8009		
IIT	Jodhpur	2430	5474		
IIT	Kanpur	237	766		
IIT	Kharagpur	303	905		
IIT	Chennai	175	617		

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Palakkad	4718	7176		
IIT	Patna	2685	6130		
IIT	Roorkee	413	1463		
IIT	Ropar	1883	4951		
IIT	Tirupati	4011	5901		
IT GGV	Bilaspur	56486			
International Institute of IT	Bhubaneswar	25451			
International Institute of IT	Raipur	18038			
JKIAPT, University of Allahabad	Prayagraj	44011			
NIT	Jaipur	4631	6099	5610	7498
NIT	Bhopal	7877	12918	10895	15515
NIT	Prayagraj	4254	6591	5627	9693
NIT	Agartala	19344	29701	58163	56933
NIT	Jote	25609	33831	122748	
NIT	Calicut	4521	5568	10956	11280
NIT	Delhi	8954	12263	13750	18328
NIT	Durgapur	8689	11683	11092	13097
NIT	Ponda	11113	14026	20745	
NIT	Hamirpur	10404	18915	23091	40216
NIT	Surathkal	1689	2641	2957	4197
NIT	Shillong	18501	23932	30668	68312
NIT	Dimapur	30126	36813		
NIT	Patna	13876	20286	15658	24730
NIT	Puducherry	16549	19950	72816	59358
NIT	Raipur	10919	15153	17680	18912
NIT	Ravangla	22196	33161	167997	135754
NIT	Tadepalligudem	18205	19474	15741	15494

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Imphal	24168	36795	186047	177240
NIT	Aizawl	28829	36757	383441	428833
NIT	Rourkela	2883	4429	7686	11540
NIT	Silchar	10898	15217	25022	31041
NIT	Srinagar-JK	22282	30960		
NIT	Tiruchirappalli	996	1852	4080	5239
NIT	Srinagar-UK	17109	19563	27383	43654
NIT	Warangal	2112	3016	1996	3913
NERIST	Nirjuli	44224			
IIITDM	Jabalpur	13707	20015		
PTU	Puducherry	42425	40667	161127	
PEC	Chandigarh	11537		15129	
SLIET	Longowal	49875			
SVNIT	Surat	6677	9290	7522	10409
SE	Tezpur	50601			
SMVDU	Katra	63287			
NIT	Nagpur	5642	7427	6613	12180

- Computer Science & Engineering**
(5 Years, B.Tech. + M.Tech./MS (Dual Degree))

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
JNU	Delhi	24280			

- **Computer Science and Engg (with Specialization of Data Science and Artificial Intelligence) (4 Years, B. Tech / B. Tech (Hons.))**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIIT	Ranchi	30643			
IIT	Varanasi	1318	2983		
IIT	Bhubaneswar	3240	5048		
IIT	Delhi	197	700		
IIT	Gandhinagar	2008	4376		
IIT	Kharagpur	526	1256		
NIT	Hamirpur	12399	11132	25189	41666
UH	Hyderabad	24514			

- **Computer Science and Engineering with Major in Artificial Intelligence (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIIT Design & Manufacturing	Kancheepuram	16536	22958		

- **Computer Science and Engineering with specialisation in Artificial Intelligence and Data Science (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIIT	Imphal	42875			
IIIT	Valavoor	31741	37695		

- **Computer Science and Engineering with specialisation in Cyber Security (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
CU of Jammu	Samba	65728			
IIIT	Valavoor	33928	38170		

- **Computer Science and Engineering with Specialization in Cyber Security (5 Years, Bachelor and Master of Technology (Dual Degree))**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Patna	16890	26028	21937	31655

- **Computer Science and Engineering with Specialization in Data Science (5 Years, Bachelor and Master of Technology (Dual Degree))**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Patna	16322	25030	18854	28908

- **Computer Science Engineering (Artificial Intelligence)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
CSVТУ	Bhilai	58228			

- **Computer Science Engineering (Artificial intelligence and Machine Learning) (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIIT	Nagpur	25717			

- **Computer Science Engineering (Data Science and Analytics) (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIIT	Nagpur	26806			

- **Computer Science Engineering (Data Science) (4 Years, B. Tech / B. Tech (Hons.))**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
CSVТУ	Bhilai	58532			
PEC	Chandigarh	13436		17695	

- **Computer Science Engineering (Human Computer interaction and Gaming Technology) (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIIT	Nagpur	27747			

Data Science and Engineering

Data Science is a unique multidisciplinary confluence of Computer Science, Computational Mathematics, Statistics and Management. Data engineering involves data collection methods, designing enterprise data storage and retrieval. The core data science subjects focus on data analytics, visualisation, predictive modelling and analytics for data-driven decision making.

- **Data Science and Artificial Intelligence
(4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIIT	Dharwad	33873			
IIT	Bhilai	5744	9505		
IIT	Guwahati	951	2168		
IIT	Roorkee	822	2228		
IIIT	Raipur	21267			

- **Data Science and Engineering
(4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Mandi	3974	6490		
IIT	Palakkad	6502	9075		

Earth Sciences

Earth science or geoscience includes all fields of natural science related to the planet Earth. This is a branch of science dealing with the physical, chemical, and biological complex constitutions and synergistic linkages of Earth's four spheres: the biosphere, hydrosphere, atmosphere, and geosphere (or lithosphere). It has close relations with Mining, Geology, Geophysics, Oceanography, Geography etc.

- **Earth Sciences (4 Years, Bachelor of Science)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Kanpur	9614	18408		

Economics

Economics is concerned with the creation, consumption, and transfer of wealth. The study of economics encompasses the major areas of microeconomics, which explores how people and firms produce and consume goods and services, and macroeconomics, which explores mass economic progress and inter-country trade.

- **Economics (4 Years, Bachelor of Science)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Mumbai	2107	4590		
IIT	Kanpur	3300	6825		
IIT	Kharagpur	6173	9527		

- **Economics
(5 Years, Bachelor of Science and Master of Science (Dual Degree))**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Roorkee	6382	11071		

Electrical and Electronics Engineering

Electrical engineering is an engineering discipline concerned with the study, design, and application of equipment, devices, and systems which use electricity, electronics, and electromagnetism. This branch of engineering is considered to be the basis of Computer Engineering. The core discipline has several branches and interdisciplinary segments. Electronic(s) engineering is a sub-discipline of electrical engineering which emerged in the early 20th century and is distinguished by the additional use of active components such as semiconductor devices to amplify and control electric current flow. Following are the courses related Electrical and Electronics and their admission cut offs in 2022 :

- Electrical and Electronics Engineering**
(4 Years, Bachelor of Technology)

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
BIT	Ranchi	32058		40448	
IIT	Patna	7028	12123		
IIIT	Bhubaneshwar	40952			
NIT	Calicut	14988	20796	25305	24093
NIT	Ponda	24397	32379	34261	138121
NIT	Surathkal	7316	10445	9534	15545
NIT	Shillong	35677	40374	53787	202130
NIT	Dimapur	45980	54671		
NIT	Puducherry	35794	37638	162861	141091
NIT	Ravangla	40990	43453	411649	679758
NIT	Tadepalligudem	35819	40442	34414	37756
NIT	Aizawl	46307	53655	857734	
NIT	Tiruchirappalli	6636	8324	12142	15753
NIT	Srinagar-UK	32920	39270	50189	56516
NIT	Warangal	9370	15139	11585	17645
Puducherry Technological University	Puducherry	49007			
NIT	Nagpur	17067	23077	16972	23616

- **Electrical Engineering (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Jalandhar	22643	29305	33865	32901
GKCIET	Malda	71888		177312	
Gurukul Kangri	Haridwar	77394			
IEST	Howrah	29360	37527	22285	26554
IIT	Varanasi	3706	7103		
IIT	Dhanbad	7619	12295		
IIT	Bhilai	11011	16310		
IIT	Bhubaneshwar	6631	10729		
IIT	Mumbai	369	1341		
IIT	Delhi	574	1572		
IIT	Dharwad	10950	16162		
IIT	Gandhinagar	4127	7522		
IIT	Ponda	8630	13758		
IIT	Hyderabad	2466	5070		
IIT	Indore	3828	7458		
IIT	Nagrota	9858	16411		
IIT	Jodhpur	6648	11070		
IIT	Kanpur	1368	3169		
IIT	Kharagpur	1805	3785		
IIT	Chennai	1028	2184		
IIT	Mandi	6946	11782		
IIT	Palakkad	9835	13771		
IIT	Roorkee	2135	5031		
IIT	Tirupati	8600	14530		

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Jaipur	16172	20183	16885	22482
NIT	Bhopal	22508	29944	26067	33716
Mizoram University	Aizawl	76120			
NIT	Prayagraj	12832	20279	11749	18701
NIT	Agartala	38384	48612	106157	99707
NIT	Jote	44246	50377	200935	
NIT	Delhi	21413	24923	30176	39418
NIT	Durgapur	21597	28340	19712	24531
NIT	Hamirpur	27297	34537	52862	77478
NIT	Patna	29831	37390	29577	42759
NIT	Raipur	28263	36151	43555	51291
NIT	Tatanagar	22026	28470	25173	40896
NIT	Kurukshetra	19812	25542	25523	31418
NIT	Imphal	44759	58599	258593	274484
NIT	Rourkela	12655	19312	17580	21311
NIT	Silchar	26952	39179	51080	71388
NIT	Srinagar-JK	42188	51536		
NERIST	Nirjuli	58191			
PEC	Chandigarh	33308		37866	
SLIET	Longowal	68920			
NIT	Surat	20718	26850	27369	33926
SE	Tezpur	67319			
SMVDU	Katra	81105			

- **Electrical Engineering
(5 Years, Bachelor and Master of Technology (Dual Degree))**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Mumbai	866	1901		
IIT	Gandhinagar	5416	10297		

- **Electrical Engineering (IC Design and Technology)
(4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Hyderabad	2582	4772		

- **Electrical Engineering (Power and Automation)
(4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Delhi	797	2088		

- **Electrical Engineering and M.Tech Power Electronics and Drives
(5 Years, Bachelor and Master of Technology (Dual Degree))**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Bhubaneswar	7729	11359		

- **Electrical Engg. with M.Tech. in any of the listed specializations
(5 Years, Bachelor and Master of Technology (Dual Degree))**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Kharagpur	2314	5059		

- **Electrical Engineering with M.Tech. in Power Electronics
(5 Years, Bachelor and Master of Technology (Dual Degree))**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Varanasi	5408	7867		

- **Electrical Engg. with Specialisation In Power System Engineering
(5 Years, Bachelor and Master of Technology (Dual Degree))**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Patna	28590	40876	36664	48757

- **Electronics & Communication Engineering
(5 Years, B.Tech. + M.Tech./MS (Dual Degree))**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
JNU	Delhi	36568			

- **Electronics and Communication Engineering
(4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
Assam University	Silchar	59602	55672	119711	137387
BIT	Ranchi	25139		33548	
CIT	Kokrajhar	61276			
CU of Jammu	Samba	73925			
CU of Rajasthan	Ajmer	55226			
NIT	Jalandhar	15861	22034	22388	28820

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIIT	Pune	21546	27728		
IIIT	Ranchi	40022			
IIIT	Chittoor	36279			
IIIT	Kota	26914			
IIIT	Bhagalpur	41774	40803		
IIIT	Bhopal	33408			
IIIT	Guwahati	30922	31595		
IIIT	Imphal	50493	55551		
IIIT	Surat	27874	30146		
IIIT	Tiruchirappalli	35839	40304		
IIIT	Prayagraj	9700	16845		
IIIT Design & Manufacturing	Kancheepuram	26102	28439		
IIIT	Dharwad	38533			
IIIT	Kalyani	41134			
IIIT	Valavoor	38255	39282		
IIIT	Una	36676			
IIT	Dhanbad	5492	10371		
IIT	Bhubaneshwar	4571	6884		
IIT	Guwahati	1711	4250		
IIT	Roorkee	1443	3142		
IT GGV	Bilaspur	67903			
International Institute of IT	Raipur	31621			

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Jaipur	9470	13954	10555	16838
NIT	Bhopal	15151	22566	17975	22490
Mizoram University	Aizawl	70758			
NIT	Prayagraj	9165	14170	8792	15137
NIT	Agartala	28723	39163	81719	80906
NIT	Jote	34837	46730	158048	
NIT	Calicut	9044	11578	17312	18283
NIT	Delhi	16068	22242	19406	22132
NIT	Durgapur	14177	16975	15843	18956
NIT	Ponda	19172	17698	34076	56984
NIT	Hamirpur	17473	25858	37939	64711
NIT	Surathkal	5179	6966	6612	8562
NIT	Shillong	26298	38391	52895	110161
NIT	Dimapur	38720	48192		
NIT	Patna	20111	26337	21820	35998
NIT	Puducherry	25219	28271	117656	91895
NIT	Raipur	17787	24879	32765	34452
NIT	Ravangla	35394	40321	364197	416257
NIT	Tadepalligudem	26163	30393	23666	23063
NIT	Tatanagar	14940	22177	18907	28724
NIT	Kurukshetra	12864	20991	16390	21376
NIT	Imphal	34632	46650	299170	406203
NIT	Aizawl	40554	43962	743940	675339
NIT	Rourkela	6725	8948	12111	15517
NIT	Srinagar-JK	34383	42286		

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Srinagar-UK	25362	35079	34565	44657
NIT	Warangal	6119	7931	5927	8308
NERIST	Nirjuli	53699			
NE Hill University	Shillong	70358			
Pt. Dwarka Prasad Mishra IIIT, Design & Manufacture	Jabalpur	20861	27954		
PTU	Puducherry	54997	42577	242867	
PEC	Chandigarh	18635		27267	
SLIET	Longowal	59460			
SVNIT	Surat	13606	18334	17510	27163
SE	Tezpur	63616			
SMVDU	Katra	75742			
NIT	Nagpur	11131	12214	11156	14407

- Electronics and Communication Engineering
(5 Years, Bachelor and Master of Technology (Dual Degree))**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Hamirpur	18705	26455	43070	54931

- Electronics and Communication Engineering (Avionics)
(4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
CU of Jammu	Samba	76463			

- **Electronics and Communication Engineering (Internet of Things)
(4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIIT	Nagpur	35885			

- **Electronics and Communication Engineering (Under Flexible Academic Program) (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIIT	Prayagraj	10233	15072		

- **Electronics and Communication Engineering
(with Specialization of Embedded Systems and Internet of Things)
(4 Years, B. Tech / B. Tech (Hons.))**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIIT	Ranchi	38035			

- **Electronics and Communication Engineering with specialisation in Design and Manufacturing (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIIT Design & Manufacturing	Kurnool	40168	41714		

- **Electronics and Communication Engineering with Specialization in Microelectronics and VLSI System Design**
(5 Years, Bachelor and Master of Technology (Dual Degree))

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Patna	23334	34460	25928	39041

- **Electronics and Communication Engineering with specialization in VLSI and Embedded Systems (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIIT	Imphal	52341			

- **Electronics and Electrical Communication Engineering**
(4 Years, Bachelor of Technology)

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Kharagpur	1145	2410		

- **Electronics and Electrical Communication Engineering with M.Tech. in any of the listed specializations**
(5 Years, Bachelor and Master of Technology (Dual Degree))

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Kharagpur	1637	3432		

- **Electronics and Electrical Engineering**
(4 Years, Bachelor of Technology)

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Guwahati	2387	5362		

- **Electronics and Instrumentation Engineering
(4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Agartala	37885	47445	116780	115964
NIT	Dimapur	49298	49560		
NIT	Rourkela	12995	16886	16272	19205
NIT	Silchar	23094	30898	46004	52434
PTU	Puducherry	54212			

- **Electronics and Telecommunication Engineering
(4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IEST	Howrah	21498	30677	19241	18140
IIIT	Bhubaneshwar	38113			

- **Electronics Engineering (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Varanasi	3128	6289		

- **Electronics System Engineering (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIEIT	Aurangabad	60052			

Energy Engineering

Energy engineering or Energy Systems Engineering is a broad field of engineering dealing with energy efficiency, energy services, facility management, plant engineering, environmental compliance, sustainable energy and renewable energy technologies.

- **Energy Engineering (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Mumbai	2381	5022		
IIT	Delhi	2839	6398		
IIT	Guwahati	6320	11990		
NE Hill University	Shillong	76552			

- **Engineering and Computational Mechanics
(4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Delhi	1314	2792		
NIT	Tatanagar	19770	35138	31068	50131

Engineering Design

The engineering design process is a series of steps that engineers follow to find a solution to a problem. The steps include problem solving processes such as, for example, determining your objectives and constraints, prototyping, testing and evaluation. Engineering Design also involves study of computational Mathematics and Physics Principles. It is closely related to the study of Planning and Design (please refer to the course).

- **Engineering Design**
(5 Years, Bachelor and Master of Technology (Dual Degree))

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Chennai	5374	8618		

Engineering Physics

Engineering Physics is a field of Applied Physics. Engineering physicists use scientific and engineering principles to solve problems and develop new processes, products, and technologies. It is closely associated to the course of Engineering Science (please refer).

● Engineering Physics (4 Years, Bachelor of Technology)

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Dhanbad	11483	19740		
IIT	Mumbai	1452	3349		
IIT	Delhi	2925	6738		
IIT	Dharwad	13582	17402		
IIT	Guwahati	6192	13622		
IIT	Hyderabad	6196	10587		
IIT	Chennai	2090	7936		
IIT	Mandi	11691	19876		
IIT	Patna	12318	22268		
IIT	Roorkee	4901	11938		
NIT	Calicut	21125	31347	36882	32132
NIT	Hamirpur	33101	46970	93182	117323

● Engineering Physics (5 Years, Bachelor and Master of Technology (Dual Degree))

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Varanasi	8711	15957		
NIT	Agartala	43277		208017	

● Engineering Science (4 Years, Bachelor of Technology)

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Hyderabad	4207	7402		

Environmental Engineering

Environmental engineers seek solutions to environmental challenges that impact the health and well-being of society and the environment. The technical skills environmental engineers learn are used to develop strategies and technologies to treat and protect the quality of air, water and earth.

- **Environmental Engineering (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Dhanbad	15061	23245		

- **Environmental Science and Engineering
(5 Years, Bachelor and Master of Technology (Dual Degree))**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Mumbai	4736	9590		

- **Exploration Geophysics (4 Years, Bachelor of Science)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Kharagpur	11592	20790		

- **Geological Technology (5 Years, Integrated Master of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Roorkee	11246	17890		

- **Geophysical Technology (5 Years, Integrated Master of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Roorkee	9913	20799		

- **Handloom and Textile Technology (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIHT	Varanasi	91634			

- **Industrial and Production Engineering (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Jalandhar	47051	58505	99013	82743
IT GGV	Bilaspur	92559			

- **Industrial and Systems Engineering (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Kharagpur	4307	9190		

- **Industrial and Systems Engineering with M.Tech. in Industrial and Systems Engineering and Management (5 Years, Bachelor and Master of Technology (Dual Degree))**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Kharagpur	4991	12126		

- **Industrial Chemistry (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Hyderabad	9304	13828		

- **Industrial Chemistry**
(5 Years, Bachelor and Master of Technology (Dual Degree))

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Varanasi	13456	22135		

- **Industrial Design (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Rourkela	34116	39778	44044	49087

- **Information Technology (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Jalandhar	11870	17610	18657	25287
IEST	Howrah	16055	20958	15702	18998
IIIT	Bhopal	26757			
IIIT	Lucknow	10472	14538		
IIIT	Prayagraj	5282	9436		
IIIT	Sonepat	21670			
IIIT	Una	30394			
IIIT	Baroda	21613	27553		
IT GGV	Bilaspur	65392			
International Institute of IT	Bhubaneshwar	29268			
Mizoram University	Aizawl	65057			
NIT	Surathkal	2882	4367	3979	6593
NIT	Raipur	13561	19573	23022	27165

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Srinagar-JK	27989	36330		
NE Hill University	Shillong	65495			
PTU	Puducherry	42802			

- **Information Technology (Under Flexible Academic Program)
(4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIIT	Prayagraj	5704	9657		

- **Information Technology-Business Informatics
(4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIIT	Prayagraj	5598	9882		

- **Instrumentation and Control Engineering
(4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Jalandhar	33012	43125	52773	38293
NIT	Tiruchirappalli	13820	18467	17704	22014
SLIET	Longowal	81283			

- **Instrumentation Engineering (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
CIT	Kokrajar	61390			
IIT	Kharagpur	2533	5533		

- **Integrated B. Tech.(IT) and M. Tech (IT)
(5 Years, Integrated B. Tech. and M. Tech.)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIITM	Gwalior	11191	16910		

- **Integrated B. Tech.(IT) and MBA
(5 Years, Integrated B. Tech. and MBA)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIITM	Gwalior	13731	20093		

- **Interdisciplinary Sciences
(5 Years, Bachelor of Science and Master of Science (Dual Degree))**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Dharwad	16615	24651		

- **Life Science (5 Years, Integrated Master of Science)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Rourkela	53243	65745	78841	80396

Mathematics

A Bachelor's degree in Mathematics is an undergraduate degree that provides theory and training in both applied and core mathematics. A BS in Mathematics provides broad knowledge of mathematics topics with depth in certain areas.

- **BS in Mathematics (4 Years, Bachelor of Science)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Mumbai	2158	3895		

Manufacturing Science and Engineering

Manufacturing Science and Engineering is the branch of engineering that focuses on the capability to plan how manufacturing takes place, to research and develop tools, and processes. It also attempts to combine the facilities and systems for producing quality products with the optimum expenditure of capital.

- Manufacturing Science and Engineering
(4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Kharagpur	5858	12657		

- Manufacturing Science and Engineering with M.Tech. in
Industrial and Systems Engineering and Management
(5 Years, Bachelor and Master of Technology (Dual Degree))**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Kharagpur	6924	15722		

- Material Science and Engineering
(5 Years, Bachelor and Master of Technology (Dual Degree))**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Patna	47468	59718	52295	

- Materials Engineering (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Delhi	4259	10094		
IIT	Gandhinagar	11707	15820		
IIT	Nagrota	16258	23570		
IIT	Jodhpur	14435	21265		

- **Materials Science and Engineering
(4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Kanpur	6535	12794		
NIT	Calicut	40391	39140	51523	35098
NIT	Hamirpur	48591	54614	105774	135413

- **Materials Science and Metallurgical Engineering
(4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Hyderabad	8722	13850		
NIT	Bhopal	46608	55724	53006	54637

- **Materials Science and Technology
(5 Years, Bachelor and Master of Technology (Dual Degree))**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Varanasi	13359	20893		

Mathematics

Mathematics is considered the king of all sciences and the route to all forms of knowledge / research. Mathematics is an inevitable part of Engineering. There are various courses on Mathematics in several engineering institutions. Given below are the seat matrix of various admissions.

- Mathematics (5 Years, Integrated Master of Science)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Rourkela	30444	42197	67927	59375
NIT	Warangal	25256		42981	
SVNIT	Surat	53412		85967	

- Mathematics & Computing
(5 Years, Bachelor of Science and Master of Science (Dual Degree))**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Roorkee	1680	4106		
NIT	Agartala	36116		222456	

- Mathematics and Computing (4 Years, Bachelor of Science)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Kharagpur	1335	3665		
IIT	Patna	5785	10027		

- **Mathematics and Computing (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Delhi	308	942		
IIT	Dharwad	7126	10810		
IIT	Ponda	5555	9985		
IIT	Guwahati	1061	2617		
IIT	Hyderabad	1135	2592		
IIT	Ropar	3199	5982		
NIT	Hamirpur	14254	23976	36781	64729

- **Mathematics and Computing
(5 Years, Bachelor and Master of Technology (Dual Degree))**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Varanasi	2369	4314		
IIT	Delhi	401	1026		

- **Mathematics and Computing (5 Years, Integrated Master of Science)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
BIT	Ranchi	34333		65558	

- **Mathematics and Computing
(5 Years, Integrated Master of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Dhanbad	4750	10634		

- **Mathematics and Computing Technology
(5 Years, Bachelor and Master of Technology (Dual Degree))**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Patna	15006	32646	23577	37621

- **Mathematics and Data Science
(5 Years, Bachelor and Master of Technology (Dual Degree))**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Bhopal	16225	18494	20949	27915

- **Mathematics and Scientific Computing
(4 Years, Bachelor of Science)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Kanpur	1143	2856		

Mechanical Engineering

Mechanical engineering is one of the broadest engineering disciplines. Mechanical engineers design, develop, build, and test. They deal with anything that moves, from components to machines to the human body.

• Mechanical Engineering (4 Years, Bachelor of Technology)

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
BIT	Ranchi	44402		55052	
NIT	Jalandhar	34280	45828	55635	79275
GKCIET	Malda	71978		160967	
Gurukul Kangri	Haridwar	90331			
IEST	Howrah	37096	47205	29299	49021
IIT Design & Manufacturing	Kancheepuram	46322	54748		
IIT	Varanasi	7083	13852		
IIT	Dhanbad	9601	17320		
IIT	Bhilai	14425	22181		
IIT	Bhubaneshwar	9074	17941		
IIT	Mumbai	1406	3036		
IIT	Delhi	1882	4401		
IIT	Dharwad	13892	20073		
IIT	Gandhinagar	7223	12243		
IIT	Ponda	13031	18120		
IIT	Guwahati	5088	12511		
IIT	Hyderabad	5273	10167		
IIT	Indore	7509	14751		
IIT	Jodhpur	9711	16969		

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Kharagpur	3350	9315		
IIT	Chennai	2786	7823		
IIT	Mandi	10038	16438		
IIT	Palakkad	13278	19521		
IIT	Patna	10861	19143		
IIT	Roorkee	4189	9783		
IIT	Ropar	8199	16694		
IIT	Tirupati	12187	17981		
IITRM	Ahmedabad	63351			
IT GGV	Bilaspur	83117			
NIT	Jaipur	21909	34957	22831	35687
NIT	Bhopal	32509	44596	36528	46493
NIT	Prayagraj	20976	29749	19151	32244
NIAMT	Ranchi	67687	74771		
NIT	Agartala	46244	58582	153958	134027
NIT	Jote	50451	60055	238400	
NIT	Calicut	23029	33078	32212	40076
NIT	Delhi	26275	37103	41467	51612
NIT	Durgapur	31045	44080	31048	39660
NIT	Ponda	33729	45813	52998	
NIT	Hamirpur	35285	47877	70269	99900
NIT	Surathkal	12255	23709	16161	33689
NIT	Dimapur	53423	65046		
NIT	Patna	38480	48214	37677	57960

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Raipur	36992	48000	50192	64655
NIT	Ravangla	47258	58990	560614	724006
NIT	Tadepalligudem	43673	55275	45802	47100
NIT	Tatanagar	28752	45863	33115	54050
NIT	Kurukshetra	27951	43404	36183	46531
NIT	Imphal	50614	59174	270606	348044
NIT	Aizawl	51976	64220	847546	776488
NIT	Rourkela	16717	24080	20917	26989
NIT	Silchar	34989	45036	59377	76659
NIT	Srinagar-JK	48387	63701		
NIT	Tiruchirappalli	10181	21310	16341	27023
NIT	Srinagar-UK	40381	53691	53750	56520
NIT	Warangal	14937	25909	18206	25722
NERIST	Nirjuli	57148			
IIITDM	Jabalpur	42704	50859		
PTU	Puducherry	67326	65980	359172	
PEC	Chandigarh	43814		55024	
SLIET	Longowal	81357			
SVNIT	Surat	30373	44575	37157	55683
SE	Tezpur	72026			
SMVDU	Katra	88879			
NIT	Nagpur	23541	37372	23508	35344

- **Mechanical Engineering**
(5 Years, Bachelor and Master of Technology (Dual Degree))

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Varanasi	7912	14576		

- **Mechanical Engineering and M. Tech. in Mechanical System Design**
(5 Years, Bachelor and Master of Technology (Dual Degree))

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Bhubaneswar	11159	16897		

- **Mechanical Engg. and M. Tech. in Thermal Science & Engineering**
(5 Years, Bachelor and Master of Technology (Dual Degree))

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Bhubaneswar	12484	21755		

- **Mechanical Engg. & M.Tech. in Computer Integrated Manufacturing**
(5 Years, Bachelor and Master of Technology (Dual Degree))

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Mumbai	1492	4102		

- **Mechanical Engg. with M.Tech. in any of the listed specializations**
(5 Years, Bachelor and Master of Technology (Dual Degree))

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Kharagpur	5197	11336		

- **Mechanical Engineering with M.Tech. in Manufacturing Engineering (5 Years, Bachelor and Master of Technology (Dual Degree))**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Bhubaneswar	11778	19294		

- **Mechanical Engg. with specialization in Design and Manufacturing (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIIT	Kurnool	50245	55980		

- **Mechanical Engg. with Specialization in Manufacturing & Industrial Engineering (5 Years, Bachelor and Master of Technology (Dual Degree))**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Patna	41906	44095	44450	60188

Mechatronics Engineering

Mechatronics is a multidisciplinary field that refers to the skill sets needed in the contemporary, advanced automated manufacturing industry. At the intersection of mechanics, electronics, and computing, mechatronics specialists create simpler, smarter systems.

- **Mechatronics Engineering (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIIT	Bhagalpur	48815	53866		
IIT	Bhilai	10333	22429		
PTU	Puducherry	61182		277508	

Metallurgical and Materials Engineering

Metallurgical engineers conduct testing to ensure the safety of materials, develop sustainable materials and processes for recycling existing materials, investigate material failures, and create testing procedures to ensure materials can withstand extreme environments. The field has various specialities and super specialities and has tremendous potential in terms of developing a career.

Also see courses related to Applied Geology mentioned above which has a close relationship with the field of mining. Courses related to Mining Engineering and their cut offs of the year 2022 for admission through JoSAA are listed on the next page.

4 years B.Tech. / B.Tech.(Hons.) / BS Programs‘

- **Metallurgical and Materials Engineering**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Bhubaneshwar	14122	18693		
IIT	Kharagpur	6920	12375		
IIT	Chennai	6305	11090		
IIT	Patna	14895	23213		
IIT	Roorkee	7246	13613		
IIT	Ropar	13034	20128		
NIT	Jaipur	38962	46000	41069	46153
NIT	Durgapur	45818	51650	44601	47533
NIT	Surathkal	22615	37160	29315	34048
NIT	Raipur	49194	57290	79916	75910
NIT	Tadepalligudem	51926	57568	57886	60121
NIT	Tatanagar	43897	51878	44966	60135
NIT	Rourkela	30012	43517	32837	35030
NIT	Srinagar-JK	58636	68612		
NIT	Tiruchirappalli	22850	34969	33757	48954
NIT	Warangal	26725	35745	34175	38593
PEC	Chandigarh	58870		101745	
NIT	Nagpur	43344	50100	46088	51191

- **Metallurgical Engineering**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Varanasi	11057	18033		

- **Metallurgical Engineering and Materials Science**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Mumbai	3783	8417		
IIT	Indore	11310	18446		

- **Metallurgy and Materials Engineering**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IEST	Howrah	49260	57914	46547	49072
NIAMT	Ranchi	81642	78656		

- **Mineral and Metallurgical Engineering**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Dhanbad	13881	22092		

5 Years, B.Tech. and M.Tech. (Dual Degree)

- **Metallurgical and Materials Engineering**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Bhubaneswar	14970	21645		
IIT	Kharagpur	8364	16871		
NIT	Rourkela	34003	44862	49183	50458

Mining

A mining engineer may manage any phase of mining operations, from exploration and discovery of the mineral resources, through feasibility study, mine design, development of plans, production and operations to mine closure. It is a specialised discipline in applied Earth Sciences and offers several specialisation like mining safety, mining management

- Mining Engineering (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IEST	Howrah	52509	62958	50893	55891
IIT	Varanasi	12824	22613		
IIT	Dhanbad	15145	23279		
IIT	Kharagpur	8739	16942		
NIT	Surathkal	27100	42823	46108	55333
NIT	Raipur	52201	61983	81053	92938
NIT	Rourkela	36630	53916	37391	38937
NIT	Nagpur	45763	56173	48730	56994

- Mining Engineering
(5 Years, Bachelor and Master of Technology (Dual Degree))**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Varanasi	14632	23258		
IIT	Kharagpur	9932	19411		
NIT	Rourkela	42504	56588	47212	56404

- Mining Machinery Engineering (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Dhanbad	15618	23356		

- **Mining Safety Engineering**
(5 Years, Bachelor and Master of Technology (Dual Degree))

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Kharagpur	11583	20265		

Ocean Engineering and Naval Architecture

Ocean Engineering & Naval Architecture is a discipline that embraces diverse areas of engineering sciences. In a broad sense, this discipline is concerned with design, development, operation and planning of systems that operate in the marine and ocean environment.

- **Naval Architecture and Ocean Engineering
(4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Chennai	7966	13887		

- **Ocean Engineering and Naval Architecture
(4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Kharagpur	8355	15927		

- **Ocean Engineering and Naval Architecture
(5 Years, Bachelor and Master of Technology (Dual Degree))**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Kharagpur	9383	16710		

Petroleum Engineering

Petroleum engineering is a field of engineering concerned with the activities related to the production of Hydrocarbons, which can be either crude oil or natural gas. Exploration and production are deemed to fall within the upstream sector of the oil and gas industry.

- **Petroleum Engineering (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Dhanbad	12864	22202		

Pharmaceutical Engineering & Technology

Pharmaceutical engineering involves the research, development, creation, and manufacturing of medicinal drugs. The engineering process starts by identifying a specific condition or ailment and researching the effects of past and current drugs used to treat it.

4 Years B.Tech. Program

- Pharmaceutical Engineering & Technology

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Varanasi	14311	21754		

5 Years, Bachelor and Master of Technology (Dual Degree)

- Pharmaceutical Engineering & Technology

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Varanasi	15463	22526		

Physics

Physics is a natural science that links its theoretical and practical application with every field of Engineering, Science and Technology. As other disciplines, it has many branches of speciality and superspeciality viz. Nuclear Physics, Geophysics, Astro-Physics, Modern Physics, Engineering Physics etc. Few of the courses we have discussed above. Related courses are covered in two forms - either 4 years Bachelor of Science or 5 years Master of Science integrated coursework or dual degree program.

- Physics (4 Years, Bachelor of Science)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Kanpur	6383	12428		
IIT	Kharagpur	8366	17376		

- Physics
(5 Years, Bachelor of Science and Master of Science (Dual Degree))**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Chennai	4318	10266		
IIT	Roorkee	8679	14469		
NIT	Agartala	56086		221856	

- Physics (5 Years, Integrated Master of Science)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
BIT	Ranchi	57965		88885	
NIT	Rourkela	26604	46532	55234	48733
NIT	Warangal	26534		41501	
SVNIT	Surat	48611		101132	

- Physics with Specialization (4 Years, Bachelor of Science)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Jodhpur	14449	22795		

Planning

Bachelor of Planning is a 4-year UG degree course studying planning techniques for human settlements. in planning for aspiring professionals. Throughout the course students gain skills like designing, numeracy, sketching and computer-aided designing. Planning engineers determine and develop the most suitable and economically viable construction and engineering methods for projects. They are involved throughout the development stages, and are present on site during the build to oversee procedures.

- **Planning (4 Years, Bachelor of Planning)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Bhopal	663	779	3018	2428
SPA	Bhopal	818			
SPA	Delhi	347			
SPA	Vijayawada	825			

Production and Industrial Engineering

Production engineering is the science of creating safe and efficient processes for transforming raw materials into finished items. Production engineers work in a variety of fields and hold different titles, such as industrial engineer, production manager and production engineering assistant. Industrial engineers develop job evaluation programs, amongst other duties. Industrial engineers find ways to eliminate wastefulness in production processes. They devise efficient systems that integrate workers, machines, materials, information, and energy to make a product or provide a service

- **Production and Industrial Engineering
(4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
BIT	Ranchi	58561		77321	
IIT	Delhi	3589	9192		
IIT	Roorkee	5786	12679		
NIT	Prayagraj	31416	44602	29625	48469
NIAMT	Ranchi	77581	76576		
NIT	Tatanagar	43739	52503	51627	64401
NIT	Kurukshetra	40895	47459	49987	58678
PEC	Chandigarh	54597		92397	

- **Production Engineering (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Agartala	57696	63738	218300	200159
NIT	Calicut	35771	45484	50741	54244
NIT	Tiruchirappalli	25823	34211	27154	37619

- **Quantitative Economics & Data Science
(5 Years, Integrated Master of Science)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
BIT	Ranchi	39569		73660	

- **Smart Manufacturing (4 Years, Bachelor of Technology)**

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIIT Design & Manufacturing	Kancheepuram	47308	54961		
Pt. Dwarka Prasad Mishra IIIT, Design & Manufacture	Jabalpur	46924	57923		

- **Statistics and Data Science (4 Years, Bachelor of Science)**

Data science involves the collection, organisation, analysis and visualisation of large amounts of data. Statisticians, meanwhile, use mathematical models to quantify relationships between variables and outcomes and make predictions based on those relationships

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
IIT	Kanpur	1082	3060		

- **Textile Technology (4 Years, Bachelor of Technology)**

Textile Technology is a division of engineering where the principles of scientific techniques are utilised for manufacturing and development in all types of yarns and textile fabric from textile fibres. Please refer to the course of Handloom Technologies and Carpet Technologies mentioned above.

Institute	Location	Closing Rank			
		AI Open	AI Girls SN	HS OPEN	HS Girls SN
NIT	Jalandhar	52827	63338	117715	112661
IIT	Delhi	5796	12034		

Annexure A

Sr.No	Institute Short Form	Institute Full Form
1	Assam University	Assam University, Silchar
2	BIT	Birla Institute of Technology, MESRA, Ranchi
3	CIT	Central Institute of Technology
4	CSVТУ	Chattisgarh Swami Vivekanada Technical University
5	CU of Jammu	Central University of Jammu
6	CU of Rajasthan	Central University of Rajasthan
7	GKCIET	Ghani Khan Choudhary Institute of Engineering and Technology
8	Gurukula Kangri	Gurukula Kangri Vishwavidyalaya
9	ICT	Institute of Chemical Technology
10	IICT	Indian Institute of Carpet Technology
11	IEST	Indian Institute of Engineering Science and Technology
12	IIHT	Indian Institute of Handloom Technology
13	IIIT	Indian Institute of Information Technology
14	IIITDM	Pt. Dwarka Prasad Mishra Indian Institute of Information Technology Design & Manufacture, Jabalpur
15	IIT	Indian Institute of Technology
16	IITRM	Institute of Infrastructure, Technology, Research and Management
17	IITVICD	IIIT, Vadodara International Campus Diu (IITVICD)
18	International Institute of IT	International Institute of Information Technology
19	IT GGV	Institute of Technology, Guru Ghasidas Vishwavidyalaya
20	JKIAPT, University of Allahabad	J.K. Institute of Applied Physics & Technology, Department of Electronics & Communication, University of Allahabad
21	JNU	Jawaharlal Nehru University
22	Mizoram University	Mizoram University
23	NE Hill University	North-Eastern Hill University
24	NERIST	North Eastern Regional Institute of Science and Technology
25	NIAMT	National Institute of Advanced Manufacturing Technology
26	NIEIT	National Institute of Electronics and Information Technology
27	NIFTEM	National Institute of Food Technology Entrepreneurship and Management
28	NIT	National Institute of Technology
29	PEC	Punjab Engineering College
30	PTU	Puducherry Technological University
31	SE	School of Engineering
32	SLIET	Sant Longowal Institute of Engineering and Technology
33	SMVDU	Shri Mata Vaishno Devi University
34	SPA	School of Planning & Architecture
35	UH	University of Hyderabad

