

Placement and Internship Report

2019-2020



Placement Office

Indian Institute of Technology, Bombay
July 2020

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Preface

IIT Bombay has had the privilege of admitting the best pool of students into the engineering, science and management programs and most students have succeeded in living up to the expectations of the communities worldwide. The Institute celebrated its 60th year of establishment between March 2018 to March 2019, and the Ministry of Human Resource Development granted the status of Institution of Eminence (IoE) to IITB. The presence of world-class research facilities, vigorous institute-industry collaborations, international exchange programs, interdisciplinary research collaborations and industrial training opportunities help the students of IIT Bombay to excel and be ahead in the competitive professional environment. The Placement season at IIT Bombay was a year-long event, which started in the month of July 2019 and ended on June 30, 2020. The placements were successfully completed in two phases and clearly demonstrated the demand of our graduates among the top recruiters in various segments of the economy. In the backdrop of general uncertainty due to economic slowdown and recessionary trends in job creation, IIT Bombay students confidently participated in the Placement season 2019-20 with the necessary preparatory activities such as Assessments, Career Fair and PCAT Tests during the intervening months. Interview procedure of phase 1, the main event of on-campus placements, was conducted from December 1 to 16, 2019. A total of 1784 students registered for placements and 2028 students registered for internship opportunities. The registered students belonged to engineering, science, humanities and design departments of IIT Bombay in Bachelor's, Master's and Ph.D. programs. Phase 2 was conducted from January 15 to July 10, 2020.

The first event was the "Orientation" in July, during which the Professor-in-Charge and placement staff along with the student representatives addressed the students giving information of the complete placement procedure. Next, there were preparatory activities conducted by the placement cell, in collaboration with other firms. Company officials started approaching the office during July and August months to commence discussions of their job offerings and later filled up the Job Announcement Forms (JAF). Completed JAFs were released to the students in late September. Pre-Placement Talks (PPT) and Career Fair events were organized to facilitate interactions between the registered students and the companies. A few companies conducted extra screening levels prior to the interviews. For the students of the IDC department, the interviews were conducted from December 9 to 15, during phase 1.

December 1, 2019, the first day of campus placements, witnessed some of the giant corporates offering coveted jobs across sectors and recruiting in large numbers, which was pivotal for the success of the placement season 2019-20. The highest number of offers were rolled out by the Engineering and Technology sector, ascertaining the technical proficiency of IIT Bombay students.

Student preparation

The key focus of the placement office is to prepare students for their placement and internships. Keeping the students well prepared for what they are likely to face in the corporate world is the responsibility of every academic institute, and the team here at IIT Bombay takes every necessary step to train and guide the students. Students are exposed to challenging and research-based academics, and a host of sports along with cultural and organizational activities on this vibrant campus. The first event conducted in this direction was “Boot Camps”, in collaboration with Career Cell, for profiles of coding, consultancy, finance, analytics etc. In addition, preparatory programs were arranged to enhance the communication skills, group dynamics and interview skills. Overall, these programs provided an insight into the job domains and prepared the job aspirants to face the challenges of the future. The students were assigned mentors for guidance and a series of aptitude tests were conducted to improve the problem-solving skills. The preparatory activities sourced information from various alumni, where the alumni background was mapped according to student preference. Various department level activities were conducted to cater to individual domain requirements.

Placement Common Aptitude Test (PCAT)

The Placement Office strives to facilitate the recruitment process in the most convenient and optimal manner possible. This year, we conceptualized the IITB- Placement Common Aptitude Test (IITB-PCAT) to step-up the quality and provide objectivity in assessments during the placement process. Every year, hundreds of students at IIT Bombay write about 80 company-aptitude tests during their placements. These aptitude tests are quite exhaustive and stressful when conducted in parallel with the regular curricular activities of the Institute. On an average, a student gets a break of 2-3 hours before each day of placement, where the increased stress levels can affect the performance in the interview, adversely. IITB-PCAT is a standardized test, designed to minimize the number of aptitude tests conducted by the recruiting companies.

Standardization of IITB-PCAT:

The IITB-PCAT was on par with the aptitude tests conducted by third parties for recruitment across campuses. Professor-in-Charge of IITB-Placements oversees the conduct of the test. The test had operating procedures and standards similar to those of JEE and GATE, conducted by IITs in the country. The recruiting companies are invited to subscribe to PCAT, and the test scores were shared with the interested companies through the Job Announcement Forms (JAF).

- The test assessed a student's ability in three domains – Quantitative aptitude, Logical Reasoning/ Data Interpretation and Verbal aptitude.
- Each of these sections (domains) are timed separately to assess the relative performance.
- The students are given an opportunity to attempt three PCATs during a placement season. The best performance (best of three tests) in each of the sections is disclosed as the final score to the subscribing recruiter. This gives a more reliable index of a student's performance as against a single score normally obtained from a company test.
- Each subscribing recruiter was asked to submit a preferred weightage for the three sections (Quantitative, Verbal and Logical) based on their shortlisting criterion. The final weighted score is calculated and the student– shortlists were prepared for each firm, offering flexibility as that of the third-party test.

Career Fair

Career fair is a useful resource for candidates to find information about potential employers. One of the main reasons to go to a careers fair to increase student awareness. It was organised in V.M.C.C. foyer in our convention center where potential employers set up booths with members from their human resources (HR) team along with new employees and senior management to tell students attending about their company, their application process and anything else they might want to know. Those attending a career fair were free to ask any questions they wish to prospective employers and take notes on their answers, as well as being able to take any promotional material or freebies that are offered by the firm. If that's not enough of a reason, there was a chance for students to network and capitalize on the vast experience of the team to have interesting and productive conversations. Structure of career fair was simple, companies had 20 minutes to brief about their company in the V.M.C.C. auditorium followed by a much detailed interaction in their information booth. For the employers, career fair was a much better opportunity to interact with students on a one-to-one basis ensuring exchange of quality content with maximum student attention as compared to the conventional Pre - Placement Talks. The event witnessed a footfall of above 1100 students with every student spending at least 30 minutes at the event.

Diverse recruiters

While the placement season has seen recruiters from the entire spectrum of the industry, the initial part of the season was dominated by a variety of firms from sectors like Engineering & Technology, Oil & Gas, IT/Software, Electronic Hardware, Data Analytics, Consulting, Finance/Banking and Fast Moving Consumer Goods (FMCG). There were opportunities provided by the firms with vast learning, travelling experience and varied work culture. Most of these firms are world leaders in their respective domains. We also had some of the major start-ups as recruiters, which were screened based on the financial and technical status. The informal work culture, opportunity to make immediate and visible contributions, chance to own equity etc. seemed to be the attractions offered by such start-ups.

Engineering and Technology

About 428 engineering students selected from IITB have expressed a strong commitment to core companies in the choice of employment. This is primarily attributed to the highly challenging work profile and remuneration package offered to IIT graduates by the recruiters. Large group of students opted for science, engineering and technology-oriented jobs operating in various sectors of the economy.

IT / Software

IITB students known for programming skills have continued to attract recruiters through campus placement over the past several years. This trend was stronger this year. 212 students have been offered IT/Software jobs by 58 companies through the campus placement.

Consulting

Over 85 consulting offers were made by several global leaders, who visited IITB for campus placement this year. These organizations work with large corporations across the world, helping them resolve complex business problems. With the high quality of recruits these companies took last year, their return to the campus was marked by a renewed vigor.

Research & Development

With an increased demand for high-end products and services, a large number of companies strive to develop cutting edge products. The placement season witnessed an increase in the number of organizations hiring fresh graduates for R&D sector. This sector has observed a steady growth, offering premier jobs, where 103 positions were offered by 18 organizations in 2019-20.

Data Analytics

The outstanding analytical and reasoning skills of IITB graduates continued to draw recruiters from the rapidly growing field of data analytics. There were 133 job offers from 35 firms, making the sector one of the biggest recruiters after engineering and information technology. This trend, observed over the last few years, seems to have taken strong roots in the Institute.

Financial Services

Financial, Banking and Fintech companies were prominent recruiters. With many of the top global companies of this sector preferring IITB, the sector saw participation of prestigious companies to recruit the brightest and the best from the campus. A variety of profiles were opened up in the sector as these companies admire the analytical and computational skills of the IITB graduates. Over 98 offers were made by 24 financial service firms this year.

Table 1. Distribution of offers in different sectors of economy

Sector	Number of Offers
Engineering & Technology	428
IT/Software	212
Finance	98
Analytics	133
Consulting	85
Research & Development	103
Services	75
Education	32
FMCG	31
Public Sector Undertaking	10
Total	1207

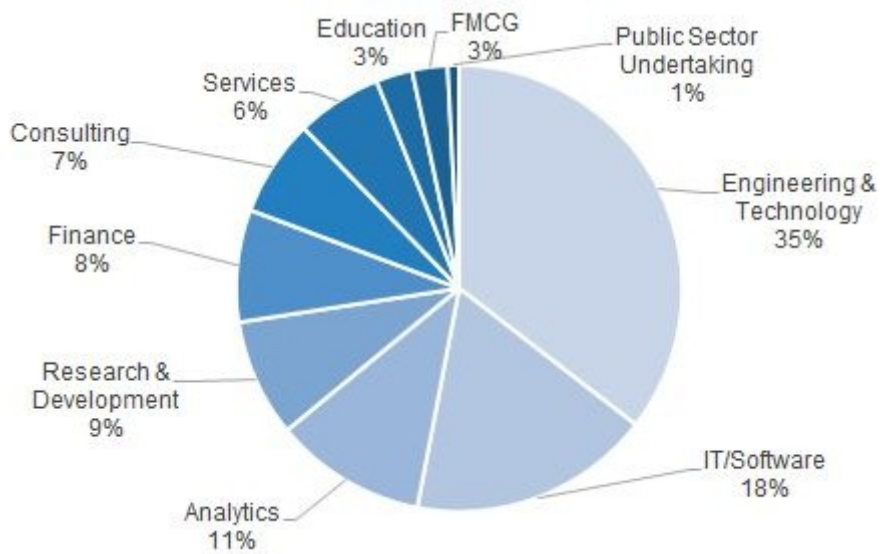


Figure 1. Distribution of offers made in different sectors.

Program-wise statistics

Some students in pursuit of their career might initially register for campus placement and then decide to convert their academic program to Ph.D. or Dual Degree. All the registered students do not necessarily participate actively in campus placements, opting for higher studies abroad or in different streams. It is important to note that students also get placed through channels other than campus placements. The program-wise placement data is provided in Table-2 and Figure-2.

Note: Participated count excludes students, who opted for higher studies or had other career options, and hence de-registered from the placement process.

Table 2. Program-wise placement data 2019-2020

Program	Registered	Participated	Placed	Percentage placed
B.Tech.	601	534	492	92.13
Dual Degree (B.Tech. +M.Tech.)	166	141	133	94.33
M.Tech.	575	507	423	83.43
2-year M.Sc.	144	96	52	54.17
B. Des.	28	15	11	73.33
M. Des.	60	48	42	87.50
4-year B.S.	11	6	5	83.33
Others Programs*	199	97	49	50.51
Total	1784	1444	1207	83.58

*Includes 5 yr. Integrated M.Sc., B.S. + M.Sc., M.Tech. + Ph. D., Ph.D., M.Sc. + Ph.D., M.Phil., IDDD, M.S. by Research(Exit)Degree.

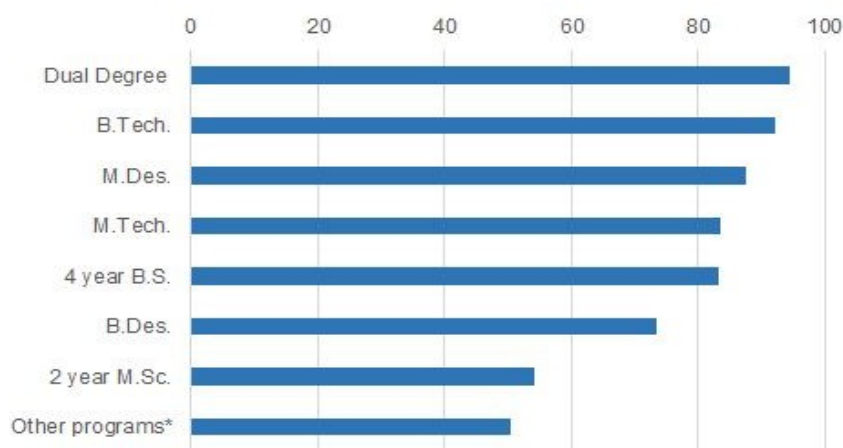


Figure 2. Program-wise placement percentage.

Department-wise statistics

IIT Bombay provides engineering education across different departments, spanning students from under-graduation to Ph.D. The placement team endeavors to get companies from core as well as non-core sectors for students. The placement statistics of students across departments including all domains of jobs offered during the placement season 2019-20 are shown in Table-3.

Table 3. Department-wise classification of offers

Department	2017-18	2018-19	2019-20
Aerospace	53	50	71
Chemical	92	122	122
Chemistry	17	27	18
Civil	111	102	100
Computer Science	174	207	186
Electrical	185	196	202
Mechanical	179	148	173
MEMS	104	97	97
Energy Science and Engineering	33	34	30
Physics	15	10	4
Applied Statistics and Informatics	24	19	22
Industrial Design Centre	35	59	59
Biosciences and Bioengineering (BSBE)	13	15	21
Others Programs	82	100	102
Total	1117	1186	1207

Salary-wise statistics

The jobs offered by recruiting organizations are divided into various categories based on the gross compensation packages. Factors other than compensation packages, such as job profile, past association etc. may sometimes influence the classification of a company. Salary-wise classification of total offers made in the year 2019-20 is shown in Table 4 and Figure 3.

Table 4. Placement details based on compensation

Range of gross salary (in lakh rupees per annum)	Number of Companies	Number of Offers
Above 16	61	246
Between 13.5 to 16	42	204
Between 11.5 to 13.5	60	315
Between 9.5 to 11.5	58	184
Between 7.75 to 9.5	48	158
Between 6.25 to 7.75	26	72
Between 5 to 6.25	15	25
Between 4 to 5	3	3
Total	313*	1207

*Some organizations may have offered jobs in multiple salary categories.

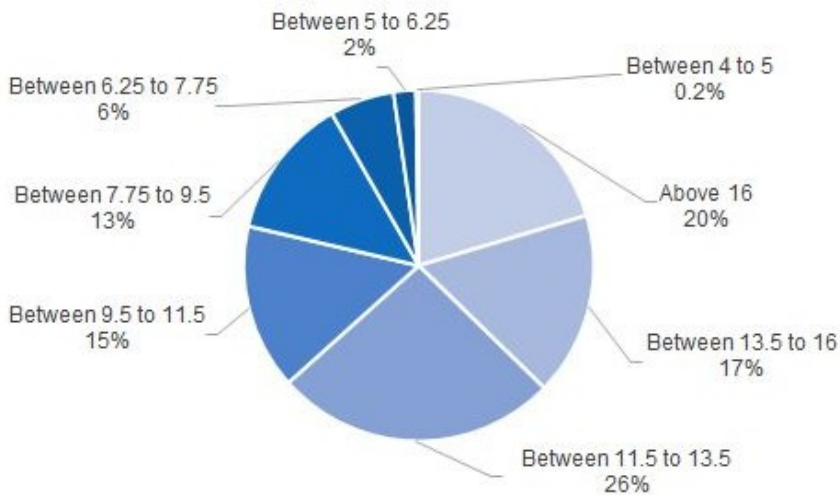


Figure 3. Compensation-wise distribution of offers. (in Lakhs P.A.)

Comparison of average salary, international and Pre-Placement Offers

The Average Gross Salary offered was Rs.16.06 Lakhs and the average CTC was Rs.20.08 Lakhs. Total number of Pre-Placement Offers (PPO) was 113. The number of international offers was 159, including PPOs. This suggests an increasing and a positive trend in the pay package offered by various organizations (Refer to Table 5).

Table 5. Average salary, International and Pre-Placement offer details

Description	2018-2019	2019-2020
Average Gross Salary (in LPA*)	14.11	16.06
Average CTC (in LPA*)	17.49	20.08
Total Number of International Offers	108	159
Total Number of Pre-Placement Offers	131	113

*LPA – Lakhs per annum (in rupees)

Year-wise placement comparison

Despite the challenging market situations over the years, IITB managed to maintain a good attraction for the recruiting firms in the job market. Table 6 and Figure 4 present the comparison of students placed over the last three years.

Table 6. Comparison of the number of students placed in the last three years

Program	2017-18	2018-19	2019-20
B.Tech.	438	475	492
Dual Degree (B. Tech + M. Tech)	157	151	133
M.Tech.	403	402	423
Others	119	158	159
Total	1117	1186	1207

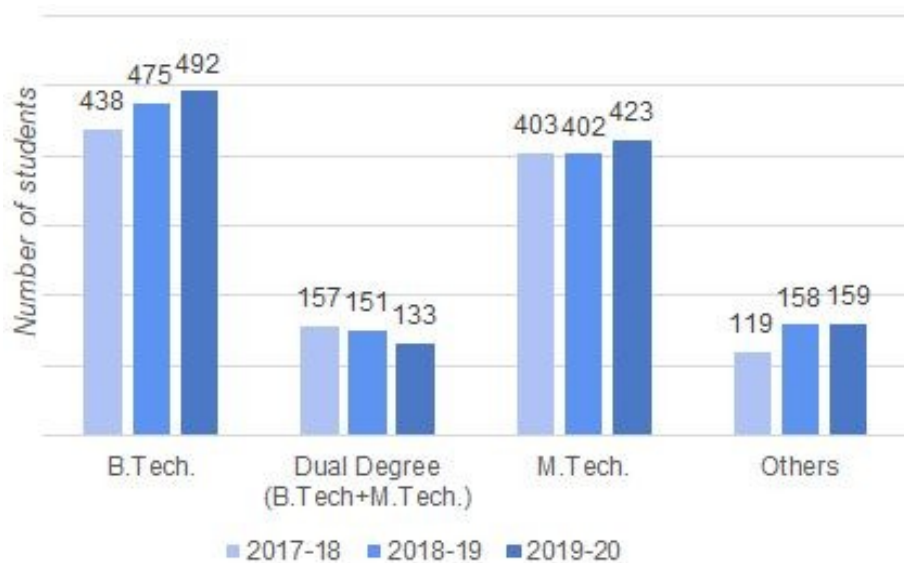


Figure 4. Comparison of student placement over the years.

Sector-wise statistics for different programs

B.Tech. and M.Tech. students maintained almost the same demand amongst companies of various sectors. Sectors like Education and Engineering & Technology expressed greater interest in the students of IIT Bombay than the previous year. Sector-wise statistics for different programs are shown in Table 7 and Figure 5, 6 and 7.

Table 7. Sector-wise statistics for different programs

Sector	B.Tech.	Dual Degree	M.Tech.
Analytics	57	10	46
Consulting	60	18	4
Education	2	3	9
Engineering & Technology	146	39	205
Finance	53	23	7
FMCG	23	4	4
IT/Software	99	9	81
Public Sector Undertaking	4	5	1
Research & Development	23	12	56
Services	25	10	10

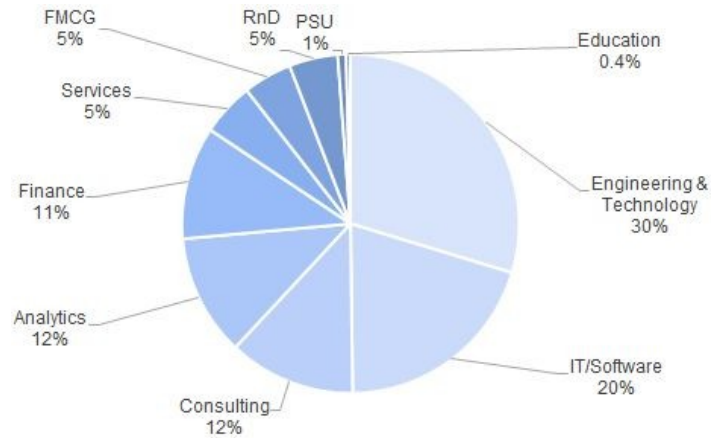


Figure 5. Sector-wise demand for B.Tech.

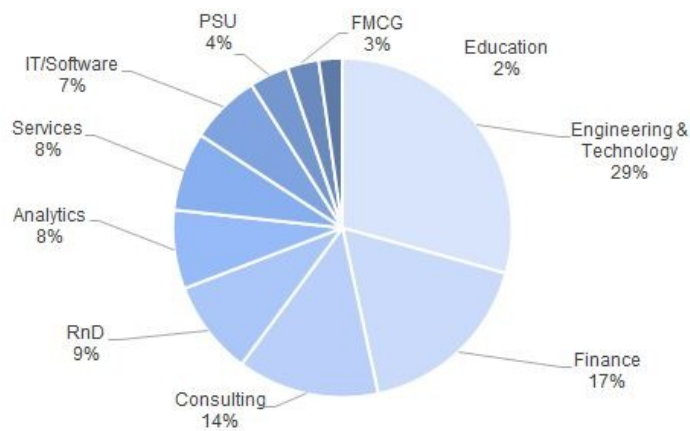


Figure 6. Sector-wise demand for Dual Degree (B.Tech. + M.Tech.)

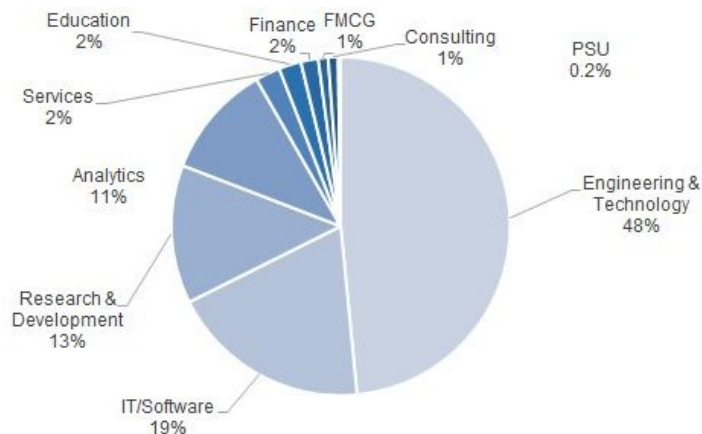


Figure 7. Sector-wise demand for M. Tech.

Internships 2019 – 2020

Industrial exposure and practical experience play a significant role while attempting to enter the corporate world. Internships have thus become really important as they not only provide this exposure and experience but also help in the personal growth and development of the individual.

Students from their second and third year of Bachelor's and first year of Master's programs appear for the internship process. Keeping the diversity of students in mind and the importance of internships in context, the Placement Office strives hard to provide students with the best of the opportunities in their field of interest. The Placement Office also encourages research by providing students the research internship opportunities at esteemed universities.

The Internship season 2019-20 started in July 2019 and continued till June 2020. It saw 901 offers from over 487 organizations. Companies have also benefited as they have offered 164 Pre-Placement Offers (PPO) out of which 113 were accepted.

Department-wise internship offers

Students from all the departments were in demand by firms and universities alike for internship positions. A lot of trends, which were seen in the previous years, continued this year as well. The demand for students from departments such as Computer Science, Mechanical and Electrical Engineering was high. A light increase in the number of M.Sc. and Design internships was also observed in comparison with the previous year. Figure 8 presents the department-wise distribution of internship offers made over the past 3 years.

Table 8. Department-wise internship offers over years

Department	2017-18	2018-19	2019-20
Aerospace	34	49	41
Chemical	131	137	109
Chemistry	21	25	14
Civil	111	100	60
Computer Science	220	203	207
Electrical	176	133	139
Engineering Physics	17	23	22
Energy	23	18	17
Mechanical	158	166	132
MEMS	88	89	59
Others	96	98	101
Total	1075	1041	901

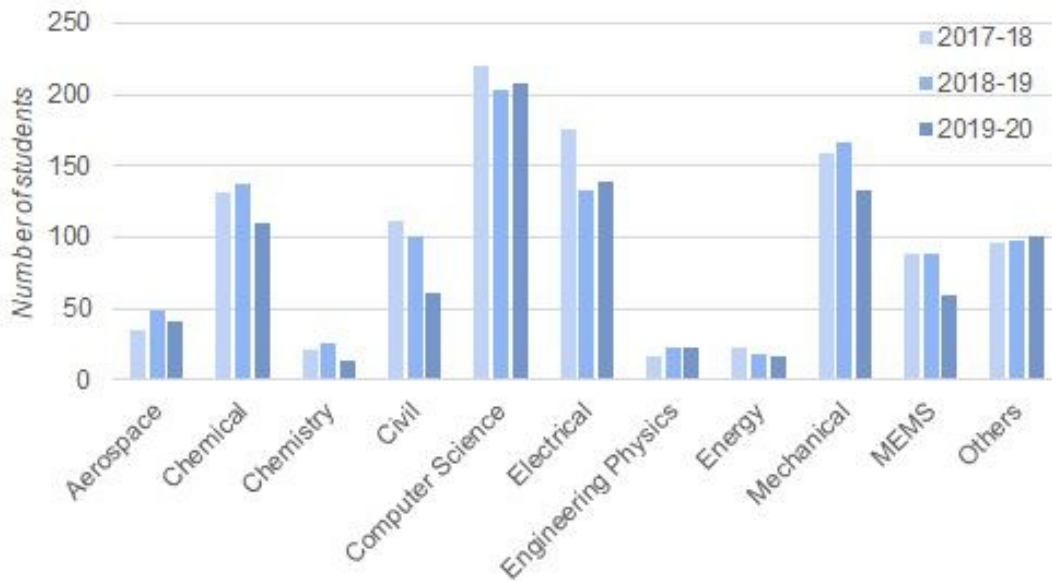


Figure 8. Department-wise internship offers over years.

Summer vs. Winter internship offers

Summer internships usually begin in May and continue till mid-July, whereas winter internships are pursued in the month of December. The number of summer internship offers exceeds the number of winter internships, which is attributable mainly to the longer duration available in summer.

Table 9. Summer vs. Winter internship offers

Total number of internships	Summer internships	Winter internships
901	703	198

Companies vs. Universities internship offers

Companies of various business sectors offer internship positions to the students. This option presents an opportunity to gain industrial exposure and broaden one's skill-set in the domain of interest. The Institute recently started the credit-based internship program, by means of which the students could leverage the performance of their internship towards the academic credit requirement.

Table 10. Companies vs. Universities internship offers

Total number of internships	Company offers	University offers
901	791	110

Country-wise internship offers

Reputed foreign universities and firms have an affinity towards IITB-students. The Table 11 and Figure 9 show the country-wise internship offers from different foreign firms and universities. Students have received the greatest number of internship offers from the USA followed by Germany, Japan & other countries in the world. This indicates the preference of IITB-students in other countries.

Table 11. Country-wise international internship offers from universities and firms

Country	Number of internship offers
USA	25
Germany	15
Japan	13
France	8
South Korea	7
Australia	6
Denmark	5
Canada	5
Taiwan	5
Malaysia	3
Austria	2
Slovenia	2
Switzerland	1
Italy	1
Amsterdam	1
Hong-kong	1
Luxembourg	1
England	1

Figure 9. Country-wise distribution of international internship offers from universities and firms.



Conclusion

The graduating students of IIT Bombay have taken the next step in their lives. They have joined the top recruiters in various segments of the economy. The firms participating in the placement seasons over the years appreciated the efforts put in by the students to deliver their best. The new recruiters got a glimpse of campus placement activities and we look forward to strengthening our relations with them over the years to come. The months of training that students endured were fruitful with the efforts of the placement office including the student placement team, combined with an excellent academic system and the opportunity for all-round development. The Placement office has taken additional efforts to expand the global outreach and invite more companies resulting in more international offers. The importance of the efforts, which were put forth, are reflected well in the QS World Ranking and NIRF Ranking of IITB, placement being a major contributing factor here.

This year witnessed several new organizations visiting IITB for the first time and efforts shall be required to foster long-term relationships with all these organizations in the near future. Judging from the increased corporate competitiveness, heightened student aspirations, a rapidly changing job market and an increasingly insecure global economy, it is clear that campus placements will be more intensely sought by both students and companies. Placement team has achieved greater milestones and the overall number of students getting placed has remained good with our constant endeavors to create a good placement season. Despite the challenging situation raised due to COVID-19, the participating companies managed to honor their respective job offers except in a very few cases. This clearly shows the confidence the corporates have in the Institute.

Annexure-1

DEPARTMENT-WISE STATISTICS for 2019-2020

Department	Program	Participated	Placed	% Placed
Aerospace Engineering	B.Tech.	34	31	91.18
	M.Tech.	40	35	87.50
	Ph.D.	7	3	42.86
	Dual Degree (B.Tech+M.Tech.)	2	2	100
	M.S. by Research (Exit) Degree	0	0	0
Department total		83	71	85.54
Centre for Research In Nano-Technology and Science	Ph.D.	4	1	25.00
Department total		4	1	25.00
Chemical Engineering	B.Tech.	100	94	94.00
	M.Tech.	33	24	72.73
	Ph.D.	10	4	40.00
	M.Tech.+Ph.D.	0	0	0
	Dual Degree (B.Tech+M.Tech.)	0	0	0
Department total		143	122	85.31
Chemistry	5 year Integrated M.Sc.	2	0	0
	Ph.D.	12	4	33.33
	2 year M.Sc.	18	7	38.89
	4 year B.S.	6	5	83.33
	Dual Degree (B.S.+M.S.)	2	2	100
Department total		40	18	45.00
Civil Engineering	B.Tech.	76	66	86.84
	M.Tech.	45	29	64.44
	Ph.D.	2	1	50
	Dual Degree (B.Tech+M.Tech.)	4	4	100
Department total		127	100	78.74

Computer Science & Engineering	B.Tech.	109	107	98.17
	M.Tech.	78	77	98.72
	Ph.D.	1	1	100
	M.S by Research (Exit)Degree	1	1	100
Department total		189	186	98.41
Earth Sciences	M.Tech.	13	6	46.15
	Ph.D.	0	0	0
	Dual Degree (M.Sc. + Ph.D.)	0	0	0
	2 year M.Sc.	8	3	37.50
Department total		21	9	42.86
Electrical Engineering	B.Tech.	51	46	90.20
	IDDD (B.Tech+M.Tech.)	2	2	100
	M.Tech.	80	77	96.25
	Ph.D.	18	10	55.56
	M.Tech.+Ph.D.	2	1	50
	M.S by Research (Exit)Degree	2	2	100
	Dual Degree (B.Tech+M.Tech.)	66	64	96.97
Department total		221	202	91.40
Humanities & Social Sciences	Ph.D.	0	0	0
	M.Phil.	0	0	0
Department total		0	0	0
Mathematics	2 year M.Sc.	7	6	85.71
	Ph.D	1	1	100
Department total		8	7	87.50
Mechanical Engineering	B.Tech.	96	86	89.58
	M.Tech.	69	56	81.16
	Ph.D.	9	2	22.22
	Dual Degree (B.Tech+M.Tech.)	31	29	93.55
Department total		205	173	84.39
Metallurgical Engineering and Materials Science	B.Tech.	55	51	92.73
	M.Tech.	37	25	67.57

	Ph.D.	6	2	33.33
	IDDD (M.Tech.+M.Sc)	1	1	100
	Dual Degree (B.Tech+M.Tech.)	19	18	94.74
Department total		118	97	82.20
Physics	Ph.D.	3	0	0
	Dual Degree (M.Sc. + Ph.D.)	0	0	0
	2 year M.Sc.	12	4	33.33
Department total		15	4	26.67
Industrial Design Centre (Mobility & Vehicle Design)	M.Des.	5	4	80
Industrial Design Centre (Industrial Design)	M.Des.	13	11	84.62
Industrial Design Centre (Visual Communication)	M.Des.	10	9	90
Industrial Design Centre (Visual Communication)	Dual Degree (B.Des+M.Des)	3	3	100
Industrial Design Centre (Animation & Film Design)	M.Des.	9	7	77.78
Industrial Design Centre (Interaction Design)	M.Des.	10	10	100
Industrial Design Centre (Interaction Design)	Dual Degree (B.Des+M.Des)	3	3	100
Industrial Design Centre	B.Des	15	11	73.33
Industrial Design Centre	M.Des	1	1	100
Department total		69	59	85.51
Energy Science and Engineering	M.Tech.	26	20	76.92
	Ph.D.	0	0	0
	Dual Degree (M.Sc. + Ph.D.)	0	0	0
	Dual Degree (M.Tech. + Ph.D.)	0	0	0
	Dual Degree (B.Tech+M.Tech.)	13	10	76.92
Department total		39	30	76.92
Environmental Science and Engineering	M.Tech.	12	9	75.00

	Ph.D.	1	0	0
	Dual Degree (M.Sc. + Ph.D.)	0	0	0
	2 year M.Sc.	0	0	0
Department total		13	9	69.23
Industrial Engineering and Operations Research	M.Tech.	16	15	93.75
	Dual Degree (M.Sc. + Ph.D.)	0	0	0
	2 year M.Sc.	6	3	50
Department total		22	18	81.82
Systems and Control Engineering	M.Tech.	9	7	77.78
	Ph.D.	1	1	100
	Dual Degree (M.Tech. + Ph.D.)	1	1	100
Department total		11	9	81.82
Engineering Physics	B.Tech.	13	11	84.62
	Dual Degree (B.Tech+M.Tech.)	6	6	100
Department total		19	17	89.47
School of Management	Ph.D	1	1	100
Department Total		1	1	100
Applied Statistics and Informatics	2 year M.Sc.	25	22	88.00
Department total		25	22	88.00
Geoinformatics and Resources Engineering	M.Tech.	19	19	100
	M.Tech+Ph.D	1	1	100
	Ph.D.	1	1	100
Department total		21	21	100
Applied Geophysics	2 year M.Sc.	3	1	33.33
Department total		3	1	33.33
Technology and Development	M.Tech.	11	10	90.91
Department total		11	10	90.91
Biotechnology (BSBE)	Ph.D.	1	0	0
	2 year M.Sc.	13	7	53.85
	Dual Degree(M.Sc+PhD)	1	0	0

Department total		15	7	46.67
Biomedical Engineering (BSBE)	M.Tech.	19	14	73.68
	Ph.D.	2	0	0
	Dual Degree (M.Tech + Ph.D.)	0	0	0
Department total		21	14	66.67
Climate Studies	Ph.D.	0	0	0
Department total		0	0	0
Total of All Departments		1444	1207	83.58