Placement and Internship Report

2018-2019

Placement Office

Indian Institute of Technology, Bombay

July 2019

Index

Message from Professor-in-Charge

A developing society demands intelligent, hardworking and trained minds to cater to its growing desires and needs. IIT Bombay has always had the privilege of admitting the best lot of students into its engineering, science and management programs, who have succeeded in living up to the expectations of the communities worldwide. The Institute holds its academic ambience in a great esteem, where the students are motivated to garner tangible skill-sets that transform them into leaders of the domains of their interest. It is a pleasure to share that IIT Bombay is recognized as an Institution of Eminence in the country, which is an honor attributable to the apt academic curriculum, R&D, industry interactions, comprehensive development and outreach of our graduates.

The Institute has a coherent and transparent placement policy in place, which is designed to fulfill the aspirations of the graduating students and serve the requirements of the recruiting organizations. We strive to meet the expectations of a wide range of organizations and uniquely talented students. We welcome suggestions to improve the match between the expectations of our recruiters and the abilities of our students. The details of our previous placements can be found on our website.

The placement process at IIT Bombay is a rigorous activity that is driven by the students with support from the officers and staff of the placement office. The present placement team is well accoutered to welcome top recruiters to the campus and is ready with a structured plan for smooth operations during the upcoming season. I would like to express my gratitude to the placement team for their committed support to the placement activities.

Our placement process has been receiving consistent support from our regular recruiters, who we are grateful to for their faith in our Institute's professional and personal value system. I also extend a warm welcome to our new recruiters who will visit us this season for recruitment and look forward to a perpetual relationship with them.

At the outset of the new academic year 2019-20, I would like to invite all our regular and potential recruiters to take part in our forthcoming placement season and experience interacting with and recruiting the most brilliant minds in the country. We look forward to an exuberant participation from your organization during the current academic year.

Prof. Viren Menezes

Preface

IIT Bombay has always had the privilege of admitting the best pool of students into the engineering, science and management programs, who have succeeded in living up to the expectations of the communities worldwide. The Institute celebrated its 60th year of establishment during 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 Drive at IIT Bombay was a year-long event, which started in the month of July 2018 and ended on June 30, 2019. The placements were successfully completed in two phases, clearly demonstrating the demand of our graduates among the top recruiters in various segments of the economy. Interview procedure of phase 1, the main event of on-campus placements, was conducted from December 1 to 16 of 2018, which witnessed a participation of 361 companies including Pre-Placement Offers (PPO). A total of 1695 students registered for placements and 1996 students registered for internship programs. The registered students belonged to engineering, science, humanities and design departments of IIT Bombay in bachelor's, master's and Ph.D. programs. The phase 2 was conducted from January 15 to June 30, 2019.

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. Companies started filling up the "Job Announcement Forms (JAF)" in August, which were released to the students in late September. Pre-Placement Talks (PPT) and Career Fair 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 IDC department, the interviews were conducted from December 11 to 15, during phase 1.

December 1, 2018, 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 2018-19. Placement of 184 students took place that day, re-affirming the faith of top recruiters in IIT Bombay graduates. The placement season saw the presence of several "core" engineering companies on the first day, and recorded an all-time highest number of job offers.

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 is 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 has 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 are shared with the interested companies through the Job Announcement Forms (JAF).

- The test assesses 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 is 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−shortlist is prepared for each firm, offering flexibility as that of the third-party test.

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 382 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. Around 186 students have been offered IT/Software jobs by over 59 companies through the campus placement.

Consulting

Over 120 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 81 positions were offered by 23 organizations in 2018-19.

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 171 job offers from 43 organizations, 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 116 offers were made by 27 financial service firms this year.

Table 1. Distribution of offers in different sectors of economy

Sector	Number of Offers
Engineering & Technology	382
IT/Software	186
Finance	116
Analytics	171
Consulting	120
Research & Development	81
Services	51
Education	34
FMCG	28
Public Sector Undertaking	17
Total	**1186**

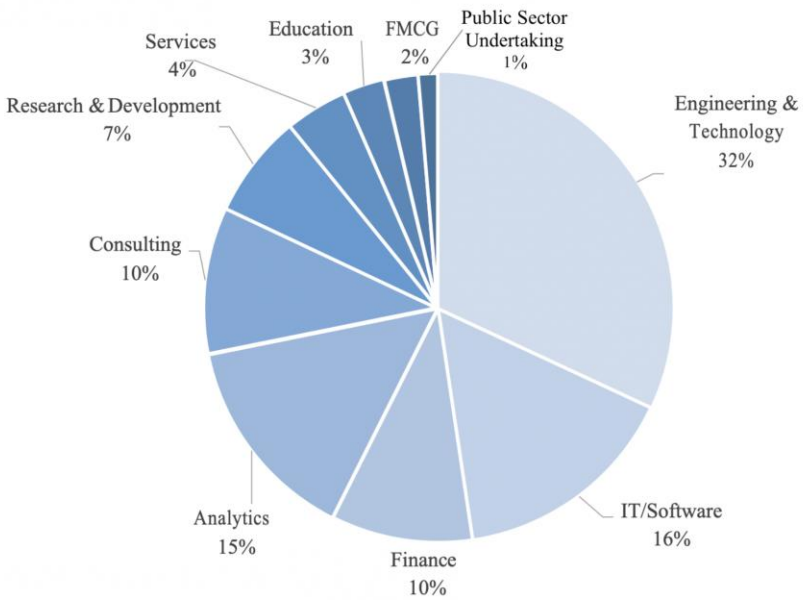


Figure 1. Distribution of offers made in different sectors.

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 stream. 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 2018-2019

Program	Registered	Participated	Placed	Percentage placed
B.Tech.	612	534	475	88.95
Dual Degree (B.Tech. + M.Tech.)	182	158	151	95.56
M.Tech.	524	463	402	86.83
2-year M.Sc.	124	75	57	76.00
B. Des.	22	15	15	100.00
M. Des.	57	49	44	89.80
4-year B.S.	20	18	14	77.78
Others Programs*	154	92	28	30.43
Total	**1695**	**1404**	**1186**	**84.47**

*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.

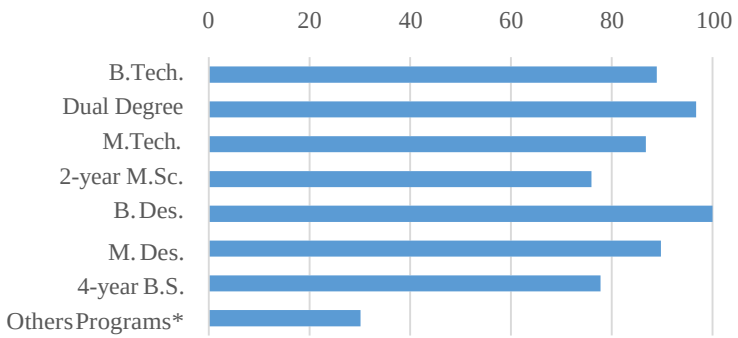


Figure 2. Program-wise placement percentage.

Department-wise statistics

IIT Bombay provides engineering education across 23 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 2018-19 are shown in Table-3.

Table 3. Department-wise classification of offers

Department	2016-17	2017-18	2018-19
Aerospace	48	53	50
Chemical	101	92	122
Chemistry	18	17	27
Civil	89	111	102
Computer Science	181	174	207
Electrical	199	185	196
Mechanical	163	179	148
MEMS	92	104	97
Energy Science and Engineering	35	33	34
Physics	15	15	10
Applied Statistics and Informatics	23	24	19
Industrial Design Centre	25	35	59
Biosciences and Bioengineering (BSBE)	12	13	15
Others Programs	113	82	100
Total	**1114**	**1117**	**1186**

Salary-wise statistics

The jobs offered by recruiting organizations are divided into various categories based on the gross compensation packages. Factors other than compensation package, 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 2018-19 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	57	204
Between 13.5 to 16	50	182
Between 11.5 to 13	56	214
Between 9.5 to 11.5	59	223
Between 7.75 to 9.5	51	163
Between 6.25 to 7.75	42	135
Between 5 to 6.25	23	57
Between 4 to 5	5	8
Total	**343***	**1186**

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

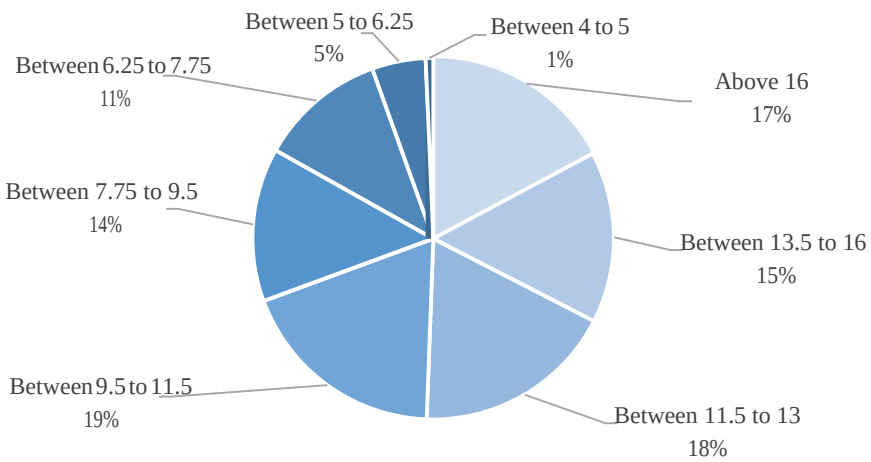


Figure 3. Compensation-wise distribution of offers. (in Lakhs P.A.)

Comparison of average salary, international and Pre-Placement Offers

The Average Gross Salary offered was Rs.14.11 Lakhs and the average CTC was Rs.17.49 Lakhs. Total number of Pre-Placement Offers (PPO) was 131, which was all-time highest. The number of international offers was 108, 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	2017-2018	2018-2019
Average Gross Salary (in LPA*)	12.32	14.11
Average CTC (in LPA*)	15.69	17.49
Total Number of International Offers	75	108
Total Number of Pre-Placement Offers	100	131

*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	2016-17	2017-18	2018-19
B.Tech.	394	438	475
Dual Degree (B. Tech. + M. Tech.)	189	157	151
M.Tech.	396	403	402
Others	135	119	158
Total	**1114**	**1117**	**1186**

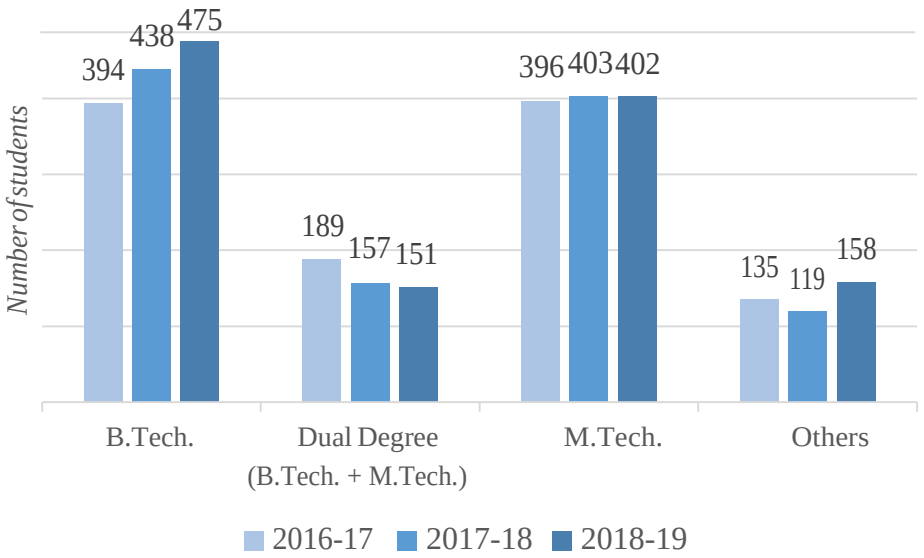


Figure 4. Comparison of student placement over the years.

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	49	23	54
Consulting	61	25	15
Education	6	3	10
Engineering & Technology	109	48	195
Finance	73	17	14
FMCG	23	2	1
IT/Software	91	12	69
Public Sector Undertaking	5	3	3
Research & Development	26	14	40
Services	32	4	1

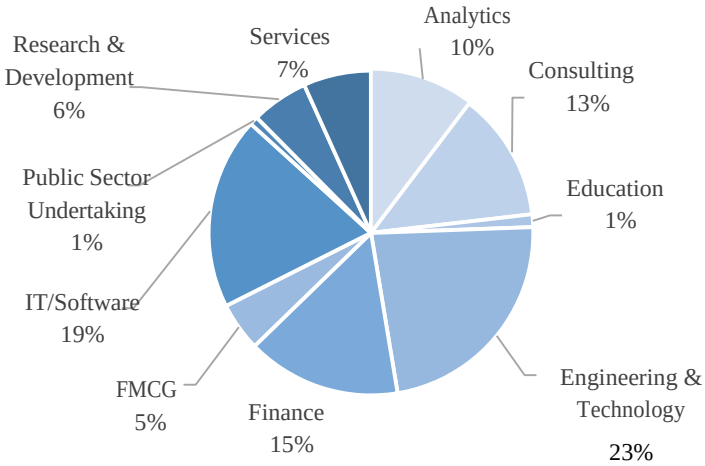


Figure 5. Sector-wise demand for B. Tech.

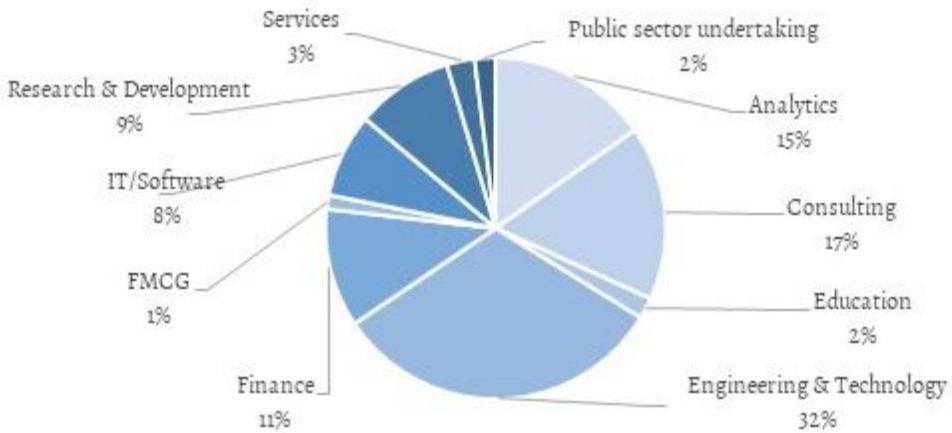


Figure 6. Sector-wise demand for Dual Degree (B.Tech. + M.Tech.)

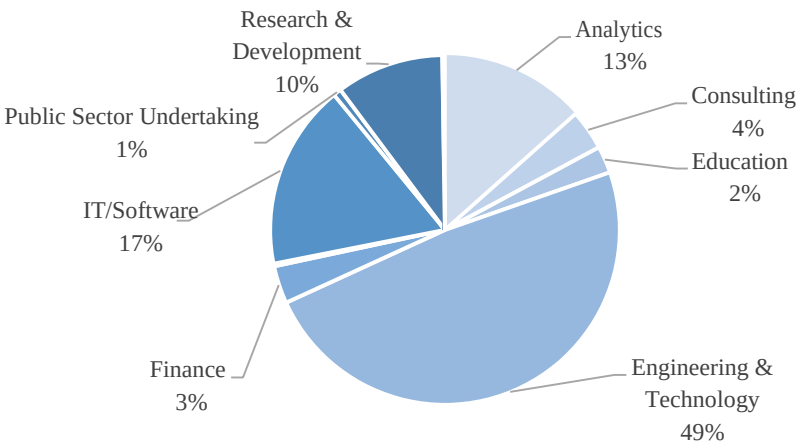


Figure 7. Sector-wise demand for M. Tech.

Internships 2018 – 2019

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 one's personal growth and development.

Students from their second and third year of Bachelor's and first year of Master's programs appear for the internship recruitment. 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. Placement Office also encourages research by providing students the research internship opportunities at esteemed universities.

The Internship season 2018-19 started in July 2018 and continued till June 2019. It saw 1041 offers from over 475 organizations. Companies have also benefited as they have offered 162 Pre-Placement Offers (PPO) out of which 131 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	2016-17	2017-18	2018-19
Aerospace	39	34	49
Chemical	158	131	137
Chemistry	16	21	25
Civil	98	111	100
Computer Science	187	220	203
Electrical	182	176	133
Engineering Physics	30	17	23
Energy	39	23	18
Mechanical	164	158	166
MEMS	117	88	89
Others	77	96	98
Total	**1107**	**1075**	**1041**

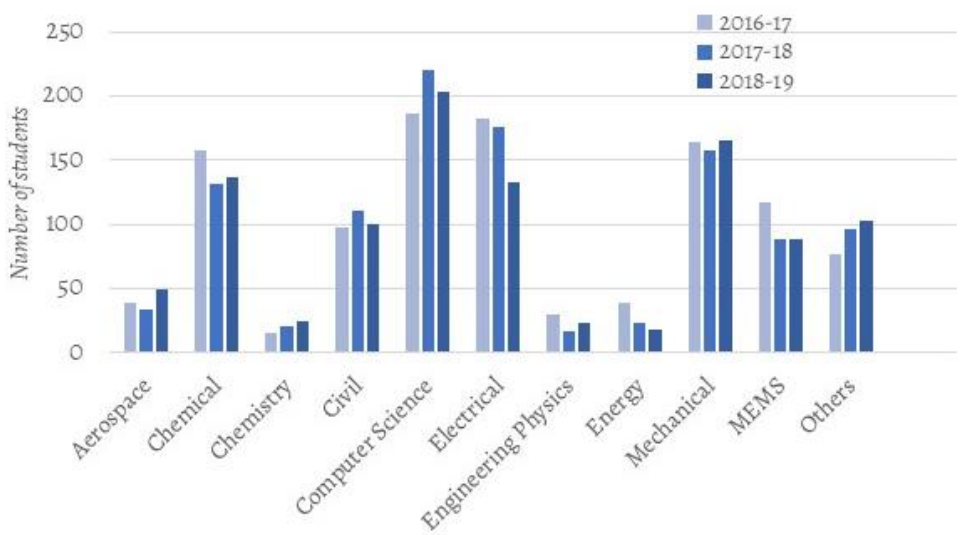


Figure 8. Department-wise internship offers over years.

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 Internship	Winter Internship
1041	856	185

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. This year, the Institute started the much-awaited credit-based internship program, by means of which the students could leverage the performance in their internship towards the academic credit requirement.

Table 10. Companies vs. Universities internship offers

Total number of internships	Company offers	University offers
1041	893	148

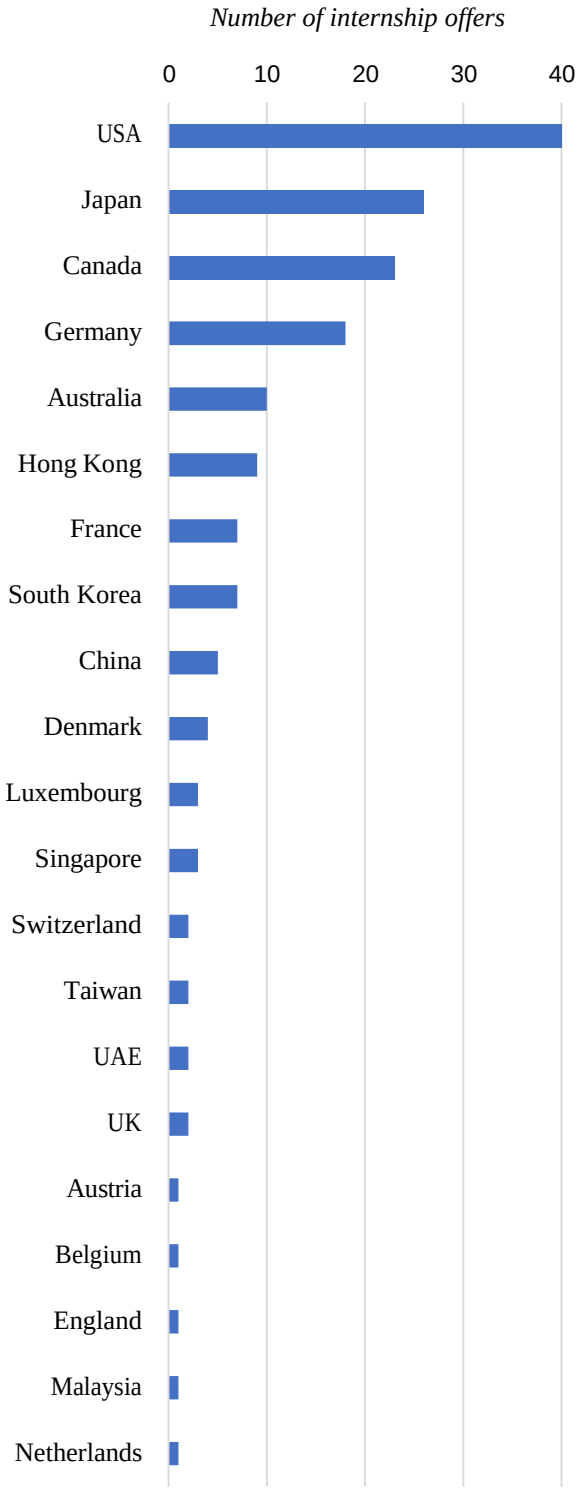
Country-wise internship offers

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 Japan, Germany & 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	40
Japan	26
Canada	23
Germany	18
Australia	10
Hong Kong	9
France	7
South Korea	7
China	5
Denmark	4
Luxembourg	3
Singapore	3
Switzerland	2
Taiwan	2
UAE	2
UK	2
Austria	1
Belgium	1
England	1
Malaysia	1
Netherlands	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 the glorified 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 excellent academic system and the opportunity for all-round development. The importance of the efforts, which were put are reflected well in the QS World Ranking and NIRF Ranking of IITB as well, since placement is 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 relationship 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. Following this, the recruiters have shown that they want to capture and nurture the fresh minds of students, which is also why the number of pre-placement offers were the highest ever this year. Placement team has achieved greater milestones and overall number of students getting placed has remained good with our constant endeavors to create a good placement season.

Annexure-1

DEPARTMENT-WISE STATISTICS for 2018-2019

Department	Program	Participated	Placed	% Placed
Aerospace Engineering	B.Tech.	28	22	78.57
	M.Tech.	28	18	64.29
	Ph.D.	2	0	0
	Dual Degree (B.Tech+M.Tech.)	11	10	90.91
	M.S. by Research (Exit) Degree	0	0	0
Department total		**69**	**50**	**72.46**
Centre for Research In Nano-Technology and Science	Ph.D.	6	1	16.67
Department total		**6**	**1**	**16.67**
Chemical Engineering	B.Tech.	104	94	90.38
	M.Tech.	27	20	74.07
	Ph.D.	9	1	11.11
	M.Tech.+Ph.D.	1	0	0
	Dual Degree (B.Tech+M.Tech.)	7	7	100
Department total		**148**	**122**	**82.43**
Chemistry	5 year Integrated M.Sc.	1	1	100
	Ph.D.	1	0	0
	2 year M.Sc.	17	11	64.71
	4 year B.S.	18	14	77.78
	Dual Degree (B.S.+M.S.)	2	1	50
Department total		**39**	**27**	**69.23**
Civil Engineering	B.Tech.	82	67	81.71
	M.Tech.	39	32	82.05
	Ph.D.	4	2	50
	Dual Degree (B.Tech+M.Tech.)	2	1	50
Department total		**127**	**102**	**80.31**

Computer Science & Engineering	B.Tech.	108	106	98.15
	M.Tech.	100	99	99
	Ph.D.	2	2	100
Department total		**210**	**207**	**98.57**
Earth Sciences	M.Tech.	4	2	50
	Ph.D.	2	0	0
	Dual Degree (M.Sc. + Ph.D.)	1	0	0
	2 year M.Sc.	6	6	100
Department total		**13**	**8**	**61.54**
Electrical Engineering	B.Tech.	43	42	97.67
	IDDD (B.Tech+M.Tech.)	1	1	100
	M.Tech.	78	78	100
	Ph.D.	20	11	55
	M.Tech.+Ph.D.	2	1	50
	Dual Degree (B.Tech+M.Tech.)	63	63	100
Department total		**207**	**196**	**94.69**
Humanities & Social Sciences	Ph.D.	0	0	0
	M.Phil.	3	2	66.67
Department total		**3**	**2**	**66.67**
Mathematics	2 year M.Sc.	7	6	85.71
Department total		**7**	**6**	**85.71**
Mechanical Engineering	B.Tech.	98	88	89.8
	IDDD (B.Tech+M.Tech.)	2	0	0
	M.Tech.	49	38	77.55
	Ph.D.	9	2	22.22
	Dual Degree (B.Tech+M.Tech.)	22	20	90.91
Department total		**180**	**148**	**82.22**
Metallurgical Engineering and Materials Science	B.Tech.	65	52	80
	M.Tech.	32	21	65.63
	Ph.D.	3	0	0

	M.Tech.+Ph.D.	1	1	100
	Dual Degree (B.Tech+M.Tech.)	27	23	85.19
Department total		**128**	**97**	**75.78**
Physics	Ph.D.	1	0	0
	Dual Degree (M.Sc. + Ph.D.)	6	0	0
	2 year M.Sc.	4	2	50
Department total		**11**	**2**	**18.18**
Industrial Design Centre (Mobility & Vehicle Design)	M.Des.	8	6	75
Industrial Design Centre (Industrial Design)	M.Des.	11	11	100
Industrial Design Centre (Industrial Design)	B.Des.	15	15	100
Industrial Design Centre (Visual Communication)	M.Des.	10	9	90
Industrial Design Centre (Animation & Film Design)	M.Des.	10	8	80
Industrial Design Centre (Interaction Design)	M.Des.	10	10	100
Department total		**64**	**59**	**92.19**
Energy Science and Engineering	M.Tech.	17	12	70.59
	Ph.D.	1	0	0
	Dual Degree (M.Sc. + Ph.D.)	1	0	0
	Dual Degree (M.Tech. + Ph.D.)	1	0	0
	Dual Degree (B.Tech+M.Tech.)	22	22	100
Department total		**42**	**34**	**80.95**
Environmental Science and Engineering	M.Tech.	5	5	100
	Ph.D.	0	0	0
	Dual Degree (M.Tech. + Ph.D.)	1	1	100
	2 year M.Sc.	1	0	0
Department total		**7**	**6**	**85.71**
Industrial Engineering and Operations Research	M.Tech.	22	21	95.45

	Dual Degree (M.Sc. + Ph.D.)	0	0	0
	2 year M.Sc.	6	6	100
Department total		**28**	**27**	**96.43**
Systems and Control Engineering	M.Tech.	12	11	91.67
	Ph.D.	0	0	0
	Dual Degree (M.Tech. + Ph.D.)	0	0	0
Department total		**12**	**11**	**91.67**
Engineering Physics	B.Tech.	6	4	66.67
	Dual Degree (B.Tech+M.Tech.)	4	4	100
Department total		**10**	**8**	**80**
Applied Statistics and Informatics	2 year M.Sc.	25	19	76
Department total		**25**	**19**	**76**
Geoinformatics and Resources Engineering	M.Tech.	22	22	100
	Ph.D.	1	0	0
Department total		**23**	**22**	95.65
Applied Geophysics	2 year M.Sc.	3	3	100
Department total		**3**	**3**	**100**
Technology and Development	M.Tech.	13	10	76.92
Department total		**13**	**10**	**76.92**
Biotechnology (BSBE)	Ph.D.	1	0	0
	2 year M.Sc.	6	4	66.67
Department total		**7**	**4**	**57.14**
Biomedical Engineering (BSBE)	M.Tech.	15	13	86.67
	Ph.D.	2	1	50
	Dual Degree (M.Tech. + Ph.D.)	3	1	33.33
Department total		20	**15**	75
Climate Studies	Ph.D.	2	0	0
Department total		**2**	**0**	**0**
Total of All Departments		**1404**	**1186**	**84.47**