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FEATURE
INCUBATION - HATCH THE RIGHT IDEAS
STUDY ENGINEERING ABROAD
INDUSTRY-ACADEMIA INTERFACE IN ENGINEERING
WHAT TO DO AFTER JEE MAIN?

ARE ENGINEERING INSTITUTES CLOSING DOWN?

INDIA'S 100 BEST ENGINEERING RESEARCH INSTITUTES

We present the best research institutions in Science and Technology domain...

by Nimesh Chandra

cademia-Industry interface is the signature term for driving innovations. A lot many administrative heads of engineering institutes talk about the need for technological competency and capacity building for its effective usage. However, the fundamental truth is that very few institutes in India actually invest in creating an innovation ecosystem. This is evident from the exercise undertaken for assessing the research performance of the top 600 engineering institutes in the country. The annual average publication in refereed journals (as indexed in Scopus 2012-14) of these 600-odd institutes add to around 34,500, at an average of less than 60 papers per institute. However, if one takes the best 100 institutes, the corresponding figures add to 29,650 at an average of 277 papers from each institution. The top ten institutes in overall research output comprise 7 mature IITs with a combined average annual publication count of 9,200-odd records in the last three years, one deemed university and two state-public universities.
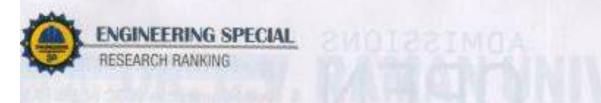
Institute	Publication (25)	Productivity (25)	Citation Impact (15)	H-index Score (15)	IP Filed Score (5)	IP Stock Score (15)	Total Score (100)	Rank
Indian Institute of Technology, Kharagpur	25.00	15.71	3.23	13.45	3.63	15.00	76.02	1
Indian Institute of Technology, Bombay	21.64	14.22	3.47	15.00	5.00	10.00	69.33	2
Indian Institute of Technology, Delhi	23.25	16.93	2.72	11.38	1.61	11.88	67.77	3
Indian Institute of Technology, Kanpur	16.06	16.11	3.53	11.38	1.61	7.92	56.61	4
Indian Institute of Technology, Madras	20.39	14.25	2.85	12.93	3.39	1.88	55.69	5
Indian Institute of Technology, Roorkee	17.58	16.80	3.16	12.93	0.16	0.21	50.84	6

Institute	Publication (25)	Productivity (25)	Citation Impact (15)	H-index Score (15)	IP Filed Score (5)	IP Stock Score (15)	Total Score (100)	Rank
Institute of Chemical Technology, Mumbai	6.52	25.00	3.99	8.79	0.00	6.46	50.76	7
Jadavpur University, Kolkata	12.51	8.77	2.25	9.83	0.00	13.68	47.04	8
Anna University Chennai, CEG Campus	13.60	20.20	1.27	8.79	0.00	2.71	46.57	9
Indian Institute of Technology, Guwahati	11.77	12.16	3.72	12.93	0.00	0.63	41.21	10
VIT University, Vellore	21.44	5.99	1.29	9.31	0.16	0.00	38.19	11
Indian Institute of Engineering Science and Technology, Shibpur	10.62	13.75	2.18	8.79	0.00	0.00	35.34	12
National Institute of Technology, Tiruchirapalli	7.54	14.38	2.64	8.28	0.08	0.21	33.13	13
National Institute of Science Education and Research, Bhubaneswar	1.61	11.07	7.69	11.90	0.00	0.00	32.27	14
Indian Institute of Technology, Indore	1.92	12.13	7.04	10.86	0.00	0.00	31.95	15
Indian Institute of Science Education & Research, Pune	2.02	11.55	7.56	9.83	0.00	0.00	30.96	16
Indian Institute of Science Education and Research, Kolkata	2.48	13.95	5.64	7.76	0.00	0.00	29.83	17
School of Engineering, Cochin University of Science and Technology, Ernakulam	4.36	19.43	1.36	4.14	0.00	0.42	29.71	18
ABV- Indian Institute of Information Technology and Management, Gwalior	1.01	24.00	1.18	3.10	0.00	0.00	29.29	19
National Institute of Technology, Rourkela	6.83	9.55	2.53	7.24	0.32	0.42	26.89	20
Indian Institute of Science Education and Research, Thiruvananthapuram	0.19	6.55	14.42	5.69	0.00	0.00	26.85	21
Indian Institute of Technology, Ropar	1.23	10.02	5.49	7.24	0.08	0.00	24.06	22
Indian Institute of Space Science and Technology, Thiruvananthapuram	0.19	2.93	15.00	5.69	0.00	0.00	23.81	23

ENGINEERING SPECIAL
RESEARCH RANKING

Institute	Publi-cation (25)	Produc-tivity (25)	Citation Impact (15)	H-index Score (15)	IP Filed Score (5)	IP Stock Score (15)	Total Score (100)	Rank
SASTRA University, Thanjavur	6.17	5.10	2.83	9.31	0.24	0.00	23.65	24
National Institute of Technology, Durgapur	4.19	10.14	2.55	6.72	0.00	0.00	23.60	25
Indian Institute of Science Education and Research, Mohali	0.92	7.82	6.62	7.24	0.24	0.00	22.84	26
Thapar University, Patiala	6.19	6.93	2.20	6.72	0.16	0.42	22.62	27
Sardar Vallabhbhai National Institute of Technology, Surat	3.48	8.03	2.68	7.24	0.16	0.00	21.59	28
West Bengal University of Technology, Kolkata	0.73	15.61	1.41	3.10	0.00	0.00	20.85	29
Birla Institute of Technology, Mesra	4.49	6.65	1.91	6.21	0.00	1.04	20.30	30
Indian Institute of Science Education and Research, Bhopal	0.64	6.61	6.12	6.21	0.40	0.00	19.98	31
Tezpur University, Tezpur	1.56	10.51	2.72	4.66	0.08	0.42	19.95	32
Indian Institute of Technology, Hyderabad	2.55	8.04	2.82	6.21	0.16	0.00	19.78	33
Indian School of Mines, Dhanbad	4.86	7.23	1.86	5.69	0.00	0.00	19.66	34
Motilal Nehru National Institute of Technology, Allahabad	3.78	8.02	1.53	6.21	0.08	0.00	19.62	35
BITS, Pilani	5.42	4.28	2.11	6.21	0.00	1.25	19.27	36
National Dairy Research Institute, Karnal	2.52	8.61	1.27	4.14	0.00	2.29	18.83	37
Indian Institute of Technology, Banaras Hindu University, Varanasi	2.35	4.29	4.30	7.76	0.00	0.00	18.61	38
Indian Institute of Technology, Patna	1.46	10.05	2.17	4.66	0.08	0.00	18.42	39
Indian Institute of Technology, Bhubaneswar	1.38	7.10	3.36	5.17	0.32	0.00	17.33	40
National Institute of Technology, Kurukshetra	2.43	10.27	0.98	3.10	0.08	0.42	17.28	41

Institute	Publi-cation (25)	Produc-tivity (25)	Citation Impact (15)	H-index Score (15)	IP Filed Score (5)	IP Stock Score (15)	Total Score (100)	Rank
Delhi Technological University, Delhi	2.96	6.62	1.94	5.69	0.00	0.00	17.21	42
Faculty of Engineering and Technology, Guru Nanak Dev University, Amritsar	0.18	8.49	3.63	4.66	0.00	0.21	17.17	43
International Institute of Information Technology, Hyderabad	1.60	9.91	1.17	4.14	0.00	0.00	16.82	44
National Institute of Technology, Surathkal	4.05	7.35	0.96	4.14	0.00	0.00	16.51	45
Dr B R Ambedkar National Institute of Technology, Jalandhar	1.76	8.44	1.75	3.62	0.08	0.00	15.65	46
SRM University, Chennai	3.88	1.50	2.15	6.72	0.00	0.00	14.25	47
PSG College of Technology, Coimbatore	4.77	3.82	0.81	3.62	0.65	0.00	13.67	48
National Institute of Technology, Hamirpur	1.41	5.85	2.20	4.14	0.00	0.00	13.60	49
Kongu Engineering College, Erode	1.91	1.58	1.51	4.14	0.00	4.38	13.52	50
National Institute of Technology, Calicut	2.44	5.19	1.52	4.14	0.00	0.00	13.29	51
Indian Institute of Information Technology, Design and Manufacturing, Jabalpur	0.50	8.49	1.43	2.59	0.00	0.00	13.01	52
University College of Technology, Osmania University, Hyderabad	1.73	6.86	0.69	2.59	0.00	1.04	12.91	53
Jaypee University of Information Technology, Solan	1.67	5.70	1.84	3.10	0.24	0.21	12.76	54
Sant Longowal Institute of Engineering and Technology, Longowal	0.98	3.10	3.42	5.17	0.00	0.00	12.67	55
Malaviya National Institute of Technology, Jaipur	2.10	5.13	1.09	4.14	0.16	0.00	12.62	56
Maulana Azad National Institute of Technology, Bhopal	1.01	2.70	3.65	5.17	0.00	0.00	12.53	57
Indian Institute of Information Technology, Allahabad	0.67	10.01	0.37	1.03	0.00	0.21	12.29	58

Institute	Publi-cation (25)	Produc-tivity (25)	Citation Impact (15)	H-index Score (15)	IP Filed Score (5)	IP Stock Score (15)	Total Score (100)	Rank
Guru Jambheshwar University of Science and Technology, Hisar	1.61	2.50	2.90	5.17	0.00	0.00	12.18	59
BITS Pilani (Hyderabad Campus), Hyderabad	1.19	4.39	2.36	4.14	0.00	0.00	12.08	60
Pondicherry Engineering College, Puducherry	2.23	6.68	0.39	2.59	0.00	0.00	11.89	61
National Institute of Technology, Warangal	2.71	5.01	1.03	3.10	0.00	0.00	11.85	62
Jaypee Institute of Information Technology, Noida	1.88	3.93	1.51	4.14	0.00	0.00	11.46	63
College of Engineering, Pune	2.52	4.86	0.43	3.10	0.40	0.00	11.31	64
Bharath University, Chennai	1.98	0.82	1.60	6.72	0.00	0.00	11.12	65
Thiagarajar College of Engineering, Madurai	2.49	3.79	1.10	3.62	0.08	0.00	11.08	66
Guru Gobind Singh Indraprastha University, Delhi	0.22	4.89	2.62	3.10	0.16	0.00	10.99	67
Sri Sivasubramaniya Nadar College of Engineering, Chennai	2.79	3.96	0.41	3.62	0.00	0.00	10.78	68
Indian Institute of Technology, Gandhinagar	0.55	4.73	2.28	3.10	0.00	0.00	10.66	69
Indian Institute of Technology, Mandi	0.36	4.71	2.27	3.10	0.00	0.00	10.44	70
Coimbatore Institute of Technology, Coimbatore	1.31	4.04	1.02	3.62	0.00	0.00	9.99	71
Banasthali University, Banasthali	0.90	4.09	1.73	3.10	0.00	0.00	9.82	72
Dayalbagh Educational Institute, Agra	0.08	5.76	1.85	2.07	0.00	0.00	9.76	73
College of Technology and Engineering, Maharana Pratap University of Agriculture and Technology, Udaipur	0.58	6.17	0.90	2.07	0.00	0.00	9.72	74
Kalyani Government Engineering College, Nadia	0.09	5.13	1.85	2.59	0.00	0.00	9.66	75

Institute	Publi- cation (25)	Produc- tivity (25)	Citation Impact (15)	H-index Score (15)	IP Filed Score (5)	IP Stock Score (15)	Total Score (100)	Rank
Visvesvaraya National Institute of Technology, Nagpur	1.12	2.79	1.53	3.62	0.00	0.42	9.48	76
Anna University Tiruchirappalli, BIT Campus	1.36	3.03	1.22	3.62	0.00	0.00	9.23	77
Government College of Technology, Coimbatore	1.39	5.69	0.56	1.55	0.00	0.00	9.19	78
Veer Surendra Sai University of Technology, Sambalpur	0.04	2.16	3.32	3.62	0.00	0.00	9.14	79
Manipal Institute of Technology, Manipal	1.92	0.98	1.30	4.66	0.00	0.00	8.86	80
Indraprastha Institute of Information Technology, Delhi	0.13	6.19	0.92	1.55	0.00	0.00	8.79	81
Shivaji University, Kolhapur	0.17	0.58	3.74	4.14	0.00	0.00	8.63	82
Karunya University, Coimbatore	1.31	0.84	1.89	4.14	0.00	0.00	8.18	83
Kalasalingam University, Virudhunagar	1.23	1.74	1.47	3.62	0.00	0.00	8.06	84
Indian Institute of Technology, Jodhpur	0.03	5.20	1.22	1.55	0.00	0.00	8.00	85
Kalinga Institute of Industrial Technology, Bhubaneswar	1.26	1.20	1.62	3.62	0.00	0.21	7.91	86
Mepco Schlenk Engineering College, Sivakasi	0.69	1.95	1.16	3.10	0.00	0.42	7.32	87
College of Agricultural Engineering and Technology- Punjab Agricultural University, Ludhiana	0.20	3.81	1.13	2.07	9.00	0.00	7.21	88
Sam Higginbottom Institute of Agriculture, Technology and Science, Allahabad	0.11	1.13	2.16	3.10	0.56	0.00	7.06	89
Vels University, Chennai	0.14	1.86	1.72	3.10	0.00	0.00	6.82	90
National Institute of Technology, Silchar	0.69	3.19	0.73	2.07	0.00	0.00	6.68	91
University Institute of Engineering and Technology, Panjab University, Chandigarh	0.31	2.64	1.11	1.55	0.40	0.63	6.64	92

Institute	Publi-cation (25)	Produc-tivity (25)	Citation Impact (15)	H-index Score (15)	IP Filed Score (5)	IP Stock Score (15)	Total Score (100)	Rank
JSS Mahavidyapeetha Sri Jayachamarajendra College of Engineering, Mysore	0.02	0.84	2.53	3.10	0.00	0.00	6.49	93
Alagappa College of Technology, Chennai	0.04	0.49	2.73	3.10	0.00	0.00	6.36	94
Sri Jayachamarajendra College of Engineering, Mysore	0.00	0.53	2.49	3.10	0.00	0.00	6.12	95
Pandit Deendayal Petroleum University, Gandhinagar	0.09	2.45	1.45	2.07	0.00	0.00	6.06	96
North Eastern Regional Institute of Science and Technology, Nirjuli	0.22	2.28	1.96	1.55	0.00	0.00	6.01	97
National Institute of Technology, Agartala	0.74	2.10	0.96	2.07	0.00	0.00	5.87	98
Velammal Engineering College, Chennai	0.96	2.01	0.64	2.07	0.00	0.00	5.68	99
Saveetha Engineering College, Saveetha Nagar, Thandalam, Chennai	1.06	2.60	0.35	1.55	0.00	0.00	5.56	100

Methodology

For ranking purpose, the peer reviewed scholarly publication records are searched from Scopus® database of Elsevier BV – one of the largest indexing and abstracting database of global coverage. The publication records of institutes were searched using an in-built 'affiliation search' box. The institutes or universities which have departments other than engineering, their publication records were restricted to publications from engineering departments only. For example to search records from MS university Baroda, following search string are used: 'AFFIL ((Engineering OR Technology OR Biotechnology OR Nanotechnology OR Electronics OR Instrumentation OR Communication OR Computer) AND (Maharaja Sayajirao University of Baroda OR MS university)) AND PUBYEAR > 2011 AND PUBYEAR < 2015. The analysis was limited for three years i.e 2012, 2013, and 2014. The retrieved records were further analysed for total number of citations and h-index. For intellectual property (patents) granted and patent applications (filed), the records were searched from Indian Patent Office website. For granted patents, all the patents granted till date, were considered; while for applications, the search was restricted to the three-year period. ◘