Rulebook - 7th Inter IIT Tech Meet

18th - 20th December 2018, IIT Bombay

7TH INTER IIT TECH MEET 2018

IIT BOMBAY

About Inter IIT Tech Meet

The Inter IIT Tech Meet is a consequence of students of various IITs coming together envisioning a progressive India. We realise that there are countless problems which our country faces due to its population, geographic expanse, climate, infrastructure etc. A lot of efforts are being put by various educational institutes for coming up with technology solutions which could address these issues. Numerous government policies and initiatives have created opportunities for promoting and encouraging the development of technology to address the issues. We feel that that IITs being premier education and research institutes must spearhead these initiatives. Enhanced collaboration between IITs would foster development of technology solutions and also encourage more and more graduating students to pursue this into full time ventures wherein they take this technology from research labs to end users, impacting a million lives.

Inter IIT Tech Meets are envisioned in challenging participants to come up with technology solutions for the problems, compete with teams in a healthy environment, interact with like-minded people across the country and promote transfer of this technology to ventures which will address problems at grass-root levels.

Inter IIT Tech Meet saw its humble beginning in 2012 at IIT Kanpur as Pan IIT Student Initiative and now has grown into annual meet approved by IIT Council with participation from 17 IITs encompassing 500+ students in the 6th edition at IIT Madras. Primarily the Inter IIT would have collaborative events targeting networking and knowledge sharing and competitive events which fueling innovative work with given constraints to meet the mission and vision of Tech Meet.

Following are some of the areas which we are being targeted to meet our objectives:
- Environment and Sustainability - Energy, Waste management, Water conservation etc.
- Technology for healthcare
- Technology for upliftment of agriculture
- Assistive technologies for differently abled/elderly
- Transportation technology
- Technologies enhancing indigenous manufacturing capabilities
- Technologies assisting national defence

Present Inter IIT Structure

7th edition of Inter IIT will be happening over 3 days from 18th-20th December 2018 at IIT Bombay. There will be various events planned over the 3 days which can be broadly classified over two categories - collaboration events and competitive events.

Collaboration events include events which foster interaction between participants. The Inter IIT Tech Meet shall serve as a platform for sharing of ideas. Showcase of projects in varied domains being pursued by students across various IITs is one such event.
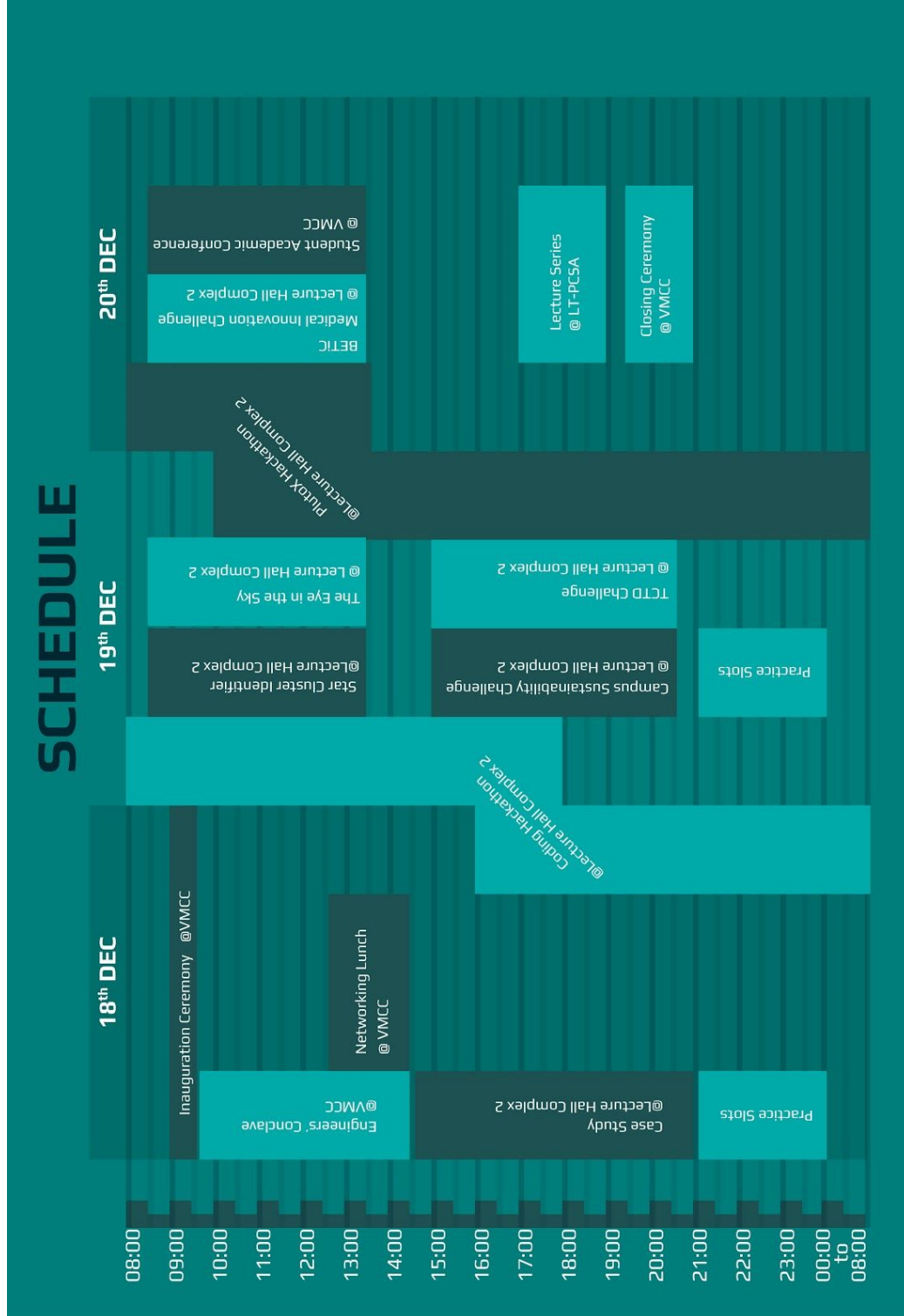
Competitive events will required a problem statement to be floated by the end of September. Teams will be formed by participating IITs which will develop a solution for the problem statement and present, demonstrate or display the concept, solution or prototype. They will be evaluated for performance on criteria mentioned along with the problem statement. These events shall allow challenging industrial problems to be ideated and prototyped. While proposing such problem statements, one must keep in mind that they are suitable for the time frame available. Problem statements should be clearly defined and metric for evaluation should be as specific and clear as possible.

Tentative Timeline :
- Problem statement released on website : 1st October 2018
- Review period for other IITs: 1 - 10 th October 2018
- Problem Statement final Frozen : latest by 15th October 2018
- Pre-Meet Review of work (depends on problem statements) : 28 th Nov - 3rd December 2018
- Tech Meet : 18th -20th December 2018 (all venues inside IIT Bombay)

Schedule of events

SCHEDULE

18th DEC

Inauguration Ceremony @VMCC

Engineers' Conclave @VMCC

Networking Lunch @ VMCC

Case Study @Lecture Hall Complex 2

Practice Slots

Coding Hackathon @Lecture Hall Complex 2

19th DEC

Star Cluster Identifier @Lecture Hall Complex 2

The Eye in the Sky @ Lecture Hall Complex 2

Campus Sustainability Challenge @ Lecture Hall Complex 2

TCTD Challenge @ Lecture Hall Complex 2

Practice Slots

Plutox Hackathon @Lecture Hall Complex 2

20th DEC

BETIC Medical Innovation Challenge @ Lecture Hall Complex 2

Student Academic Conference @ VMCC

Lecture Series @ LT-PCSA

Closing Ceremony @ VMCC

Time axis: 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | 00:00 to 08:00

Details & description of events

Inauguration Ceremony: Inauguration of the meet will start with a pledge to remind everyone of mission and vision of the event. It will also highlight that whatever we tinkered for the sake of competition, shouldn't just stop and should be improved beyond, it should, if possible, shaped so as to solve problems of millions round the globe.

Networking Lunch: An informal lunch which aims at enhancing the interaction between the participants from different IITs.

Engineers' Conclave *(category-low prep)*: An event where participants will have to showcase their projects so that the students get to know about the strengths, resources and projects undertaken by different IITs. Every IIT is permitted to present a maximum of 5 projects with participation points for each project.

Case Study *(category-low prep)*: A competition wherein a business problem will be given on spot. Each team is expected to analyse the problem and pitch a technology driven solution within the given time period

Campus Sustainability Challenge *(category-high prep)*: This challenge is aimed at providing universities with an opportunity to obtain information on campus greening and sustainable development initiatives from round the world and to introduce methodological approaches and projects which aim to integrate the topic of sustainable development in campus design and operations. In this challenge, every team will have to identify a problem on their campus addressing which could considerably improve the campus life and propose a solution to address the problem. The problems will be primarily in three domains a) Energy Utilisation and Management b) Food & Waste Management c) Water Conservation. The solution shall include developing technological innovation, fabricating the Proof-of-Concept, it's implementation and analysis of impact of the proposed solution. There will be a mid-term submission wherein a report has to submitted on problem identified and solution methodology to be followed. During the Tech Meet, contingents will submit a report and demonstrate/showcase the technology they developed, results of trials of implementation and analysis of potential impact of the solution once it is deployed on their campus.

Coding Hackathon *(category-low prep)*: It will be on-spot hackathon. Details of the problem will be released during event. Other details will be made available on website soon.

TCTD Challenge *(category-high prep)*: A problem statement in domain of technology for agriculture shall be posed as a challenge to the participants. More information about TCTD can be found here.

PlutoX Hackathon *(category-mid prep)***:** This will be an on-spot hackathon on PlutoX platform developed by Drona Aviation.

BETiC Medical Innovation Challenge *(category-high prep)*: Participants will be challenged with problem statements to develop technology driven solutions for problems in biomedical domain. More information about BETiC can be found here.

Star Cluster Identifier *(category-low prep)*: The problem will involve data analysis and inference from dataset(s) for a globular star cluster. The datasets would have the coordinates, color index (for different wavelengths) and magnitude of every star in the cluster. The task would involve using the datasets appropriately to analyze the globular cluster to determine some parameters and peculiarities of the same. Theoretical information necessary for understanding the cluster dynamics will be provided during the hackathon. Standard scientific computing and plotting softwares and packages like MATLAB, Numpy or Matplotlib will be sufficient for the task.

The Eye in the Sky *(category-mid prep)*: This challenge is introduced to create awareness about the research problem of satellite image classification among the student community. In this competition, participating teams are expected to propose a code using a training dataset, for satellite image classification techniques and implement it for a given data set of satellite imagery.

Student Academic Conferences (*category-mid prep)*: SAC aims to provide an opportunity for undergraduate students from all disciplines to present their research in a professional academic setting. Here, Student Research refers to any scholarly or creative activity ranging from scientific experimentation, service-learning, and literary criticism, to case-study design, and artistic expression. All contingents will submit abstract entries which will be capped to certain number of entries per IIT. The abstracts will be invited in several domains. Professors will shortlist from amongst the abstracts and the selected abstracts will then be invited to submit papers which will be presented in front of a panel of professors during the Tech Meet. There will be some participation points as well as some individual awards.

Lecture Series: Talks based on TEDx format. Several distinguished speakers will come and share their knowledge, experience and wisdom.

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Closing Ceremony: This will be the last event of the 7th Inter IIT Tech Meet. All the positions will be awarded in the closing ceremony. The meet will be declared closed at the end.

Scoring, Ranking and Medal System:

There is a pre-decided fixed qualifying score for each event. Each participating team is expected to exceed this qualifying score to be eligible for receiving Gold/Silver/Bronze in any event. **Qualifying score for each event is mentioned in its problem statement.**

Once a team exceeds the qualifying score, it will be scored further on the following basis:
- The scores of candidates/teams qualifying the threshold (qualifying score) shall be normalised such that highest scorer will be mapped to a score of 100 and qualifying score will be mapped to a score of 0
- Gold shall be awarded to all candidates/teams scoring greater than equal to 90 after normalisation
- Silver shall be awarded to all candidates/teams scoring greater than equal to 70 but less than 90 after normalisation
- Bronze shall be awarded to all candidates/teams scoring greater than equal to 50 but less than 70 after normalisation
- Each Gold in an event contributes 100% of the event points towards the total overall tally
- Each Silver in an event contributes 60% of the event points towards the total overall tally
- Each Bronze in an event contributes 40% of the event points towards the total overall tally
- Qualifying the threshold (qualifying score) ensures that team receives 10% of event points irrespective whether they receive Gold/Silver/Bronze

The event scores as per the different categories are as follows:
- ❖ Low-prep competitions: 150 points
- ❖ Mid-prep competitions: 250 points
- ❖ High-prep competitions: 400 points

List of events and their max points

Name of Event	Category	Max Points
Inauguration Ceremony	--	--
Engineers' Conclave	Collaboration Event	150
Networking Lunch	Collaboration Event	--
Case Study	Low-prep Competition	150
Coding Hackathon	Low-prep Competition	150
Star Cluster Identifier	Low-prep Competition	150
The Eye in the Sky	Mid-prep Competition	250
Campus Sustainability Challenge	High-prep Competition	400
TCTD Challenge	High-prep Competition	400
BETiC Medical Innovation Challenge	High-prep Competition	400
PlutoX Hackathon	Mid-prep Competition	250
Student Academic Conference (SAC)	Mid-prep Competition	250*
Lecture Series	Collaboration Event	--
Inter IIT Tech Board Meeting	--	--
Closing Ceremony	--	--

* SAC invites at most 20 abstracts from each IIT. Based on selected abstracts, invitation will be sent to invite one of the authors of the abstract to present in SAC as a part of the contingent from their respective IIT. Each paper presented by a particular IIT in the SAC shall earn them 50 event points which will be capped at 250 points. More than 5 abstracts can get accepted but the event points for the presentation will be capped at 250.

Contingent Details

Name of Event	Category	Team size*
Engineers' Conclave	Collaboration Event	5
Case Study	Low-prep Competition	3
Coding Hackathon	Low-prep Competition	4
Star Cluster Identifier	Low-prep Competition	4
The Eye in the Sky	Mid-prep Competition	3
Campus Sustainability Challenge	High-prep Competition	4
TCTD Challenge	High-prep Competition	4
BETiC Medical Innovation Challenge	High-prep Competition	4
PlutoX Hackathon	Mid-prep Competition	4
Student Academic Conference (SAC)	Mid-prep Competition	On Invitation$
Inter IIT Tech Board Meeting	--	3
Total	**--**	**38 + SAC Invitations**

 * which will be allowed to be present for the event during the Tech Meet during demonstrations and presentations

$ Abstracts which get selected shall be invited to send one of the authors of the abstract as a part of the contingent of their IIT to present in SAC.

Contingent Fees:

Following is the split for the contingent fees to be paid for each contingent member by the participating IITs.

Description	Cost per person (in INR)
Hostel Stay	600
Mess	600
T-Shirt	250
Bag	200
Participation Kit	100
Networking Lunch	250
Total	**2000**

About IIT Bombay Campus

All the contingents are advised to install the **InstiApp** available on Android playstore for movement across the campus. A map of the IIT Bombay Campus is provided on the next page for your ready reference. Following are some useful venues:

Eateries:
Every hostel has its own mess, General Store and Canteen. Other than those, there are four eateries: The Campus Hub (Near Hostel 5), Brews n Bites (Hostel 8), Aroma's Delight (Opposite to Hostel 1) and Gulmohar Garden Cafeteria (Near Convocation Hall) and Gulmohar Restaurant. Places nearest to to the events' venues are The Gulmohar Restaurant and Gulmohar Garden Cafetaria. Hostel 10 canteen is also a nice option.

Medical Stores:
There are two medical stores, one at the IITB Hospital and the other at YP Gate.

Emergency Contact Numbers
Security:
You may call on the below mentioned numbers for emergency complaints regarding animal intrusions, eve teasing complaints etc.
QRT(Quick Response Team): 9167398598; 9167398599; 9833337979; 9833338989

Hospital:
For Ambulance Call Internal No (from any telephone inside campus) : 1110
For contacting IITB Hospital : 022 25767051 / 53

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IIT BOMBAY Campus Map

Legend

Roads
- Walk Way
- Sub Road
- Main Road

⬤ Bus Stop

Map is not to scale. Map does not cover all the residential areas.

Bungalows

Bungalow	Grid	Code
Bungalow 1	C3	A1
Bungalow 2	C3	A2
Bungalow 3	C3	A3
Bungalow 4	C3	A4
Bungalow 5	C3	A5
Bungalow 6	C3	A6
Bungalow 7	C3	A7
Bungalow 8	C2	A8
Bungalow 9	C2	A9
Bungalow 10	C2	A10
Bungalow 11	C2	A11
Bungalow 12	C3	A12
Bungalow 13	C3	A13

SEARCH BY GROUPS AND SERIAL NUMBERS

Academic, Non academic and Lab's

Name	Grid	No.
Aerospace Engg.	B5	1
Bio-diesel Lab.	B5	2
Bio-science & Bio-energy 1	B4	3
Bio-science & Bio-energy 2	B5	4
Bio-science & Bio-energy 3	A4	5
Central Library	B4	6
Centrifugal Lab	B5	7
CESE	B4	8
Chemical, Chemistry	B4	9
Civil Engg.	B4	10
Computer Science & Engg.	B4	11
Computer Science Dept.	B4	12
Construction Div.	B5	13
CSRE.	B4	14
Cummins Engine Research facility	B5	15
Earth Science	B4	16
Electrical Engg.	B4	17
Electrical Engg. Annex	B5	18
Ele. Maintenance Dept.	B5	19
Energy Systems Lab	B5	20
Estate Stores	B5	21
Heat Pump Lab	B4	22
Heat Transfer Lab	B4	23
Heavy Structure Lab.	B5	24
Humanities and Social Sciences (HSS)	B4	26
Hydraulics Lab	B4	27
Hydraulics Lab (new)	B4	28
IC Engine Lab	B4	
IDC	B4	29
Inter-disciplinary Prog. in Systems and Control Engg.	A4	5
IRCC	B4	30
KReSIT Building	B4	11
Lecture Hall Complex-1	B4	31
Lecture Hall Complex-2	B4	32
Machine Tool Lab	B4	33
Main Building	B4	34
Mathematics	B4	35
Mechanical Engg.	B4	36
Metallurgical Engg.	B4	37
Micro Fluidics Lab	B5	38
NanoTech. & Science Research Centre (ACRE)	A4	39
NASA.	B4	40
ONGC Research Centre	B4	41
OrthoCad Lab	B4	42
Physics	B4	43
Power House	B5	44
Printing Press	B5	45
SAC	A4	46
SAMEER	A5	47
SEMT Lab	B5	48
SITAC	B5	49
Solar Lab	B5	50
SOM	B4	30
Sophisticated Analysis Instrument Facility (SAIF)	B4	39
Steam Power Lab.	B5	51
Stores and Estate office	B5	52
Thermal Hydraulic Test Facility	B5	53
UG Lab/S2 Bay.	B5	54

Hostels

Hostel 1 – H1, Hostel 2 – H2, Hostel 3 – H3, Hostel 4 – H4, Hostel 5 – H5, Hostel 6 – H6, Hostel 7 – H7, Hostel 8 – H8, Hostel 9 – H9, Hostel 10 – H10, Hostel 10 Girls' Hostel (B3) – H10+, Hostel 10A Girls' Annex (B3) – H10A, Hostel 10A Girls (P. Staff) (B5) – H10A, Hostel 11 Girls' Hostel (A3) – H11, Hostel 12 – H12, Hostel 13 – H13, Hostel 14 – H14, Hostel 15 – H15

Residential

Name	Grid	No.
Ananta	A5	55
Aravali	A5	56
B-19	C2	57
Director's Bungalow (A1)	C3	58
Guest House/Jalvihar	A3	59
DRDO.	B3	60
Guest House/Vanvihar	B3	61
Nilgiri.	B4	62
Old Multistoried Building	C3	63
Shivalik	C2	57
Staff Hostel	B3	65
Tansa House (Proj. Staff)	A3	65
Vidya Niwas	A5	66
Vihar House	A5	67
White House	C2	68

Auditoriums and Halls

Name	Grid	No.
Convocation Hall	B4	69
G Gaitonde Lecture Hall	B4	70
Lecture Hall Complex-1	B4	31
Lecture Hall Complex-2	B4	32
PC Saxena Auditorium (LT)	B4	71
Seminar Hall	B4	72
Victor Menezes CC	B4	73

Food

Name	Grid	No.
Brewberry Cafe	A3	74
Gulmohar Restaurant	B3	75
Nestle Cafe (Coffee Shack)	B4	76
Staff Canteen	B4	77

Banks and ATMs

Name	Grid	No.
ATM - Canara Bank	A3	82
ATM - Canara Bank	B3	83
ATM - Canara Bank	B3	84
ATM - State Bank	A4	85
ATM - State Bank	B3	86
Canara Bank	C2	78
State Bank	C3	79

School

Name	Grid	No.
Campus School	C5	80
Central School	C1	81
Kendriya Vidyalaya (KV)	C5	81

Activities and Sports

Name	Grid	No.
Badminton Court	A3	82
SAC	A4	46
Staff Club	B3	83
Swimming Pool	B3	83
Swimming Pool (new)	A4	84
Tennis Court	B3	86

Others and Medical

Name	Grid	No.
Boat House	B2	87
Hospital.	B3	88
Kshitij Udyan	B3	89
Lake Side Gate.	C1	90
Main Gate	C4	91
Market Gate	B4	92
Medical Store	C4	93
NCC Office.	A4	94
Post Office.	C2	95
Sarovar Udyan	C2	96
Shishu Vihar	B3	97
Temple (Padmavati Devi)	B1	98
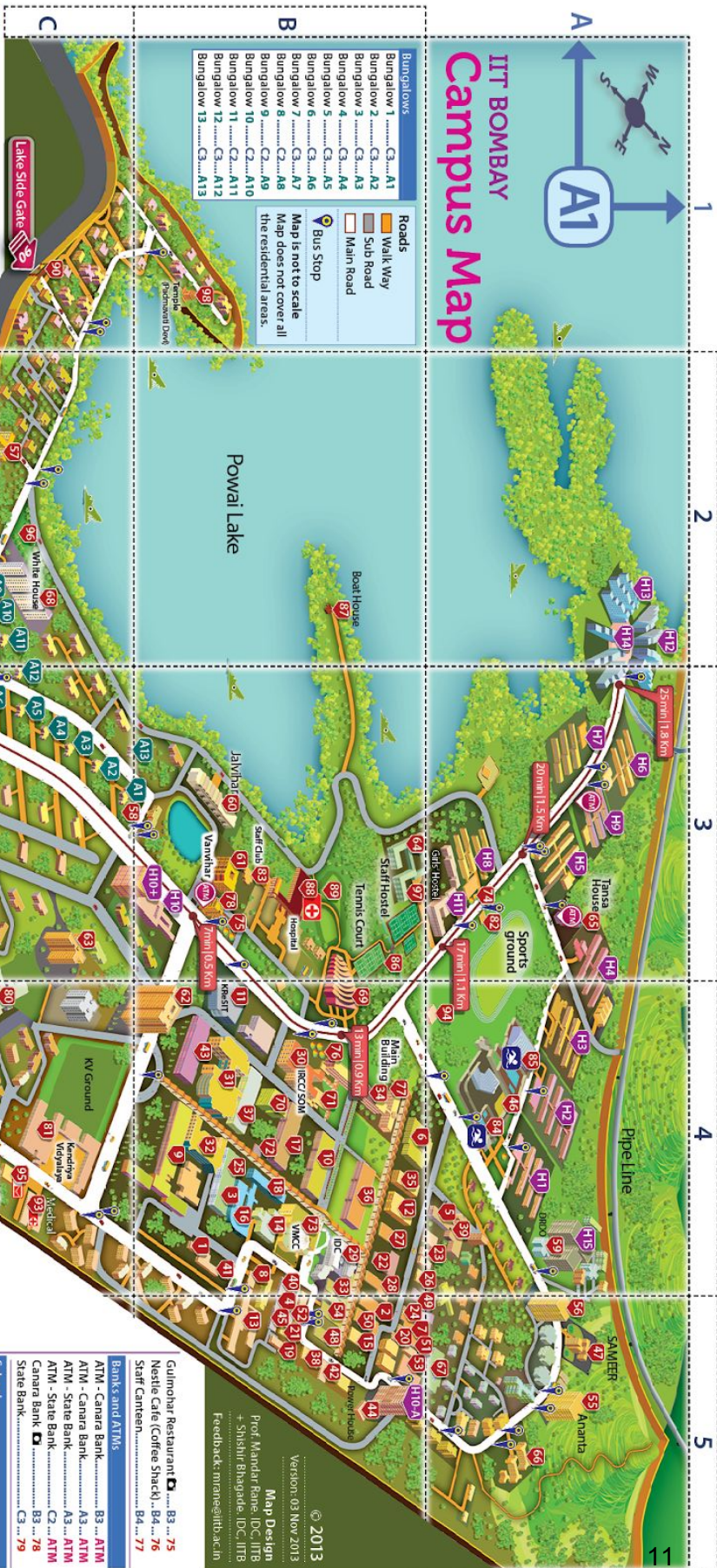
Map labels: Powai Lake · Boat House · White House · Jalvihar · Vanvihar · Staff Club · Staff Hostel · Girls Hostel · Tennis Court · Sports ground · Main Building · Hospital · KV Ground · Kendriya Vidyalaya · Temple (Padmawati Devi) · Pipe Line · SAMEER · Ananta

Gates: Lake Side Gate (90) · Main Gate (91) · Market Gate (Y-Point Gate) (92)

Directions: Andheri (towards airport) · Kanjurmarg

Distance markers: 0 min 0 Km · 7 min 0.5 Km · 13 min 0.9 Km · 17 min 1.1 Km · 20 min 1.5 Km · 25 min 1.8 Km

Getting to IIT Bombay

Air Ports

International flights land at Terminal 2, Chhatrapati Shivaji International Airport (Sahar Airport), which is about 10 kms from IIT Bombay. The Domestic Airport is at Terminal 1A and Terminal 1B (Santa Cruz), which is about 15 kms. Call taxis and Pre-paid taxis and auto rickshaws are available at the airports.

Railways

There are multiple railway stations where you can get off train. These include: CST, Dadar, Kurla, Thane, Mumbai Central, Andheri, Bandra and Borivali. From any railway station, you can reach IITB using any of the following modes:

- Travel by Auto Rickshaws, Taxis or cabs from the railway station to reach IIT from the nearest stations. Several Cab companies including Ola and Uber function well in Mumbai.
- Book a Bus or any other mode of transport in advance for your entire contingent from the railway station to IIT Bombay
- Travel by Bus, BEST bus network functions well
- Travel by Suburban Railway transport (Also called Mumbai Local). Those coming by Central Railway Suburban train will have to get down at Kanjur Marg, Vikhroli or Ghatkopar which are the nearest stations from IITB. If you are coming by the Western Railway Suburban train you will have to get down at Andheri, Bandra, Goregaon or Malad and then hire an auto/taxi/cab.

If you're planning on travelling by Bus or Local, we suggest that you use the m-Indicator App available on Android Play Store and App Store for bus numbers, train timings and bus and train routes.

Bus

Powai is the nearest bus stop. If the bus does not stop at Powai, Vikhroli is the nearest bus stop which is about 3 Km from IITB. Autos/Taxis or cabs can be used to travel to IITB..

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Facilities/Amenities provided by IITB:

IIT Bombay will take care of-

The accommodation and food expenses of the visiting contingents, which includes:

- A Booklet
- An Identity Card; Please note that it is mandatory to carry both this I-Card and your Institute's I-Card inside as well as outside IIT Bombay Campus. Entry will not be granted to any participant to IITB Campus without these I-Cards
- Mattresses
- Hospitality Kit
- Wifi connectivity

Please **note** that IITB will not be responsible for providing Blankets or any kind of woollens. The temperature in December drops to about 18° C. Even though it is not very cold, it is advisable to carry a jacket/ hoodie and blanket etc.

Code of Conduct:

Violations of criminal statutes may result in appropriate Institute disciplinary actions. Also all the students participating in the meet are expected to follow some basic set of rules. Committing any one or more of the following offences may result in disciplinary action such as points penalty or disqualification..

A. Participation in any act or threat, physical or mental, perpetrated for the purpose of submitting a student or any other person to physical pain or discomfort, indignity or humiliation, at any time.

B. Unauthorised entry into any premises including Lakeside area and Sameer Hill

C. Disobedience of order issued by, or making a false official statement to, any Institute Official, faculty, staff member or other authorised individuals.

D. Failure to present identification upon request by any Institute official, faculty, staff member, or other authorised individuals.

E. Participation in or promoting any disruptive activity or disrupting a lawful assembly on the campus

F. Possession of firearms, explosives, or any other weapon on campus..

G. Manufacturing, possessing, having under control, selling, using or being party thereto of any dangerous drugs.

H. Smoking/drinking or having in possession, any alcoholic or intoxicating beverage(s) in the campus.

I. Defacing or destroying any property of the Institute, or another institution, or of another person.

J. Unauthorised possession of any key equipment or material belonging to the Institute, Department or hostel.

K. The presence of students in hostels of the opposite sex at any time except during official open visitation period (namely between 6:30 a.m. and 11:30 p.m.)

Contact Details

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