



Indian Institute of Technology Indore

Minutes of the 50th meeting of the Senate held on 19 February 2025 (Wednesday) 15:00 hrs. at Gargee Seminar Hall, IIT Indore.

Following members attended the meeting:

Chairperson		
1	Prof. Suhas S. Joshi	Director, IIT Indore
Deans		
2	Prof. Vipul Singh	Dean, Academic Affairs
3	Prof. Avinash Sonawane	Dean, International Relation
4	Prof. Manish Kumar Goyal (present online)	Dean, Infrastructure Development
5	Prof. Abhirup Datta (present online)	Dean, Research and Development
6	Prof. Devendra L. Deshmukh (present online)	Dean, Educational Outreach
7	Prof. Satya S. Bulusu (present online)	Dean, IT Infrastructure and Automation
Head of Departments		
8	Dr. Abhishek Rajput	HoD, Civil Engineering
9	Dr. Ranveer Singh (present online)	HoD, Computer Science and Engineering
10	Prof. Vivek Kanhangad (present online)	HoD, Electrical Engineering
11	Prof. Shanmugam Dhinakaran (present online)	HoD, Mechanical Engineering
12	Dr. Ajay Kumar Kushwaha (present online)	HoD, Metallurgical Engineering and Materials Science
13	Dr. Parimal Kar	HoD, Biosciences and Biomedical Engineering
14	Prof. Abhirup Datta (present online)	HoD, Astronomy, Astrophysics and Space Engineering
15	Prof. Tushar Kanti Mukherjee (present online)	HoD, Chemistry
16	Dr. Sanjeev Singh	HoD, Mathematics
17	Prof. Ankhi Roy	Acting HoD, Physics
18	Prof. Ruchi Sharma (present online)	HoD, Humanities and Social Sciences
Professors		
19	Prof. Abhirup Datta (present online)	Astronomy, Astrophysics and Space Engineering
20	Prof. Amit Kumar	Biosciences and Biomedical Engineering
21	Prof. Avinash Sonawane	Biosciences and Biomedical Engineering
22	Prof. G. S. Murthy	Biosciences and Biomedical Engineering
23	Prof. Kiran Bala (present online)	Biosciences and Biomedical Engineering



24	Prof. Mirza Saqib Baig (present online)	Biosciences and Biomedical Engineering
25	Prof. Prashant Kodgire	Biosciences and Biomedical Engineering
26	Prof. Sharad Gupta	Biosciences and Biomedical Engineering
27	Prof. Apurba Kumar Das (present online)	Chemistry
28	Prof. Chelvam Venkatesh (present online)	Chemistry
29	Prof. Satya Silendra Bulusu (present online)	Chemistry
30	Prof. Tushar Kanti Mukherjee (present online)	Chemistry
31	Prof. Manish Kumar Goyal (present online)	Civil Engineering
32	Prof. Anirban Sengupta (present online)	Computer Science and Engineering
33	Prof. Aruna Tiwari	Computer Science and Engineering
34	Prof. Somnath Dey	Computer Science and Engineering
35	Prof. Surya Prakash	Computer Science and Engineering
36	Prof. Sharad Gupta	Convener, Health Center Advisor Committee
37	Prof. Santosh Kumar Vishvakarma	Electrical Engineering
38	Prof. Vipul Singh	Electrical Engineering
39	Prof. Vivek Kanhangad (present online)	Electrical Engineering
40	Prof. Nirmala Menon (present online)	Humanities and Social Sciences
41	Prof. Pritee Sharma (present online)	Humanities and Social Sciences
42	Prof. Ruchi Sharma (present online)	Humanities and Social Sciences
43	Prof. Sanjaram Premjit Khangnaba (present online)	Humanities and Social Sciences
44	Prof. M. Tanveer (present online)	Mathematics
45	Prof. Sk. Safique Ahmad (present online)	Mathematics
46	Prof. Devendra L. Deshmukh (present online)	Mechanical Engineering
47	Prof. I. A. Palani (present online)	Mechanical Engineering
48	Prof. Kazi Sabiruddin (present online)	Mechanical Engineering
49	Prof. Santosh Kumar Sahu (present online)	Mechanical Engineering
50	Prof. Satyajit Chatterjee (present online)	Mechanical Engineering
51	Prof. Shanmugam Dhinakaran (present online)	Mechanical Engineering
52	Prof. Parasharam M. Shirage (present online)	Metallurgical Engineering and Materials Science
53	Prof. Rupesh Shivaji Devan (present online)	Metallurgical Engineering and Materials Science
54	Prof. Ankhi Roy	Physics
55	Prof. Krushna R. Mavani (present online)	Physics
56	Prof. Pankaj Ramesh Sagdeo	Physics
57	Prof. Somaditya Sen	Physics
Special Invitees		



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58	Dr. Mayur S. Jain	Convener, DUGC, Civil Engineering
59	Dr. Kumar Gaurav	Assistant Registrar, Academic Affairs
60	Mr. Tapesh Parihar	Section Officer, Academic Office
Secretary		
61	Mr. S. P. Hota	Registrar, IIT Indore
Leave of absence		
1	Shri. Unmesh D. Malshe	Director, RRCAT
2	Prof. Abhiram G. Ranade	Professor, Department of Computer Science and Engineering, IIT Bombay
3	Prof. Himanshu Rai	Director, IIM Indore
4	Prof. Sandeep Chaudhary	Dean, Administration
5	Prof. Srivathsan Vasudevan	Dean, Student Affairs
6	Prof. Suman Mukhopadhyay	Dean, Alumni and Corporate Relations
7	Prof. Abhishek Srivastava	Dean, Faculty Affairs
8	Dr. Jayaprakash Murugesan	Chief Warden
9	Dr. Anand Petare	Workshop Superintendent, Central Workshop
10	Prof. Anjan Chakraborty	Chemistry
11	Prof. Biswarup Pathak	Chemistry
12	Prof. Mobin Shaikh	Chemistry
13	Prof. Rajneesh Misra	Chemistry
14	Prof. Sampak Samanta	Chemistry
15	Prof. Sanjay Kumar Singh	Chemistry
16	Prof. Neelima Devarakonda Satyam	Civil Engineering
17	Prof. Abhishek Srivastava	Computer Science and Engineering
18	Prof. Kapil Ahuja	Computer Science and Engineering
19	Prof. Narendra S. Choudhary	Computer Science and Engineering
20	Prof. Neminath Hubballi	Computer Science and Engineering
21	Prof. Abhinav Kranti	Electrical Engineering
22	Prof. Amod C. Umarikar	Electrical Engineering
23	Prof. Mukesh Kumar	Electrical Engineering
24	Prof. Prabhat Kumar Upadhyay	Electrical Engineering
25	Prof. Ram Bilas Pachori	Electrical Engineering
26	Prof. Shaibal Mukherjee	Electrical Engineering
27	Prof. Trapti Jain	Electrical Engineering
28	Prof. Vimal Bhatia	Electrical Engineering
29	Prof. Antony Vijesh Villavarayan	Mathematics
30	Prof. Niraj Kumar Shukla	Mathematics
31	Prof. Swadesh Kumar Sahoo	Mathematics



32	Prof. Anand Parey	Mechanical Engineering
33	Prof. Bhupesh Kumar Lad	Mechanical Engineering
34	Prof. Neelesh Kumar Jain	Mechanical Engineering
35	Prof. Pavan Kumar Kankar	Mechanical Engineering
36	Prof. Ritunesh Kumar	Mechanical Engineering
37	Prof. Shailesh Kundalwal	Mechanical Engineering
38	Prof. Santosh Sattappa Hosmani	Metallurgical Engineering and Materials Science
39	Prof. Preeti Anand Bhobe	Physics
40	Prof. Raghunath Sahoo	Physics
41	Prof. Rajesh Kumar	Physics
42	Prof. Sarika Jalan	Physics
43	Prof. Subhendu Rakshit	Physics
44	Prof. Sudeshna Chattopadhyay	Physics
45	General Secretary, Student Gymkhana	Ex-officio
46	Academic Secretary, Student Gymkhana	Ex-officio

ITEM 50.1: Welcome and Opening remarks by the Chairperson, Senate.

The Chairperson, Senate welcomed all the members to the meeting. He congratulates the Senate for completion of 50th meeting of the Senate. He stated that Dr. Rajesh S. Gokhale, Secretary, Department of Biotechnology (DBT), Government of India gave lots of guidance about programs on Biotechnology, he also gave his overview on our programs being offered by Department of Biosciences and Biomedical Engineering, during his visit on the occasion of 16th Foundation Day on February 17, 2025.

ITEM 50.2: Confirmation of the minutes of the 49th Meeting of the Senate held on 23 January 2025.

The Senate confirmed the minutes of 48th Meeting of the Senate held on 23 January 2025.

ITEM 50.3: Action Taken Report (ATR) on minutes of 49th Meeting of the Senate held on 23 January 2025.

The Senate noted the actions taken on the decisions of the 49th Meeting of the Senate held on 23 January 2025.

ITEM 50.4: Revised course structure and syllabi of the courses of 3rd year for B.Tech. in Civil Engineering w.r.t. the NEP guidelines.

The Head of Department, Civil Engineering and Convenor, DUGC, Civil Engineering, presented the course structure and detailed syllabi of the 3rd year for B.Tech. in Civil Engineering w.r.t. the NEP guidelines.

After the discussion, the Senate approved the courses of the 3rd year for B.Tech. in Civil Engineering w.r.t. the NEP guidelines with the following remarks as given below:



V Semester

Course Code	Course Title	L-T-P-C	Remarks
ZZ 3XX	Course-III for Minor Program	X-X-X-3	-
CE 3XX	Structural Analysis-II	2- 1- 0-3	• Approved
CE 304	Soil Mechanics-II	2- 1- 0-3	
CE 3XX	Transportation Engineering	2- 1- 0-3	• Approved
CE 3XX	Design of Reinforced Concrete Structures	2- 1- 0-3	• Approved
CE 3XX	Structural Analysis Lab	0- 0- 2-1	• Mention list of representative experiments. • Approved
CE 354	Soil Mechanics Lab-II	0- 0- 2-1	
CE 3XX	Transportation Engineering Lab	0- 0- 2-1	• Approved
CE 3XX	Department Elective (DE -3)	2- 1- 0-3	-
ZZ XXX	Institute Elective-2	2- 1- 0-3	-
Total credit		21/24	

VI Semester

Course Code	Course Title	L-T-P-C	Remarks
ZZ XXX	Course-IV for Minor Program	X-X-X-3	-
CE 3XX	Design of steel structures	2- 1- 0-3	• Approved
CE 301N	Engineering Hydrology	2- 1- 0-3	• Approved
CE 3XX	Computer Aided Design and Drawing Lab	0- 1- 2-2	• Approved
CE 3XX	Introduction to Finite Element Methods	2- 1- 0-3	• Remove requirement of the course Structure Analysis-I as pre-requisite. • Approved
CE 3XX	Department Elective (DE-4)	2- 1- 0-3	-
CE 3XX	Department Elective (DE-5)	2- 1- 0-3	-
ZZ XXX	Institute Elective-3	2- 1- 0-3	-
Total credit		20/23	

Department electives for V Semester:

Course Code	Course Title	L-T-P-C	Remarks
CE 3XX	Water and Wastewater Engineering	2-1-0-3	• Convert book of M.L. Davis from reference book to textbook. • Approved
CE 3XX	Open Channel Hydraulics	2-0-2-3	• Approved

Department electives for VI Semester:

Course Code	Course Title	L-T-P-C	Remarks
CE 3XX	Statistical Hydroclimatology	2-1-0-3	• Approved
CE 3XX	Computational Hydraulics	2-1-0-3	• Approved



ITEM 50.5: Proposed M.Tech. in Biomedical Devices by Department of Biosciences and Biomedical Engineering.

The Head of Department, Biosciences and Biomedical Engineering, presented the course structure and detailed syllabi of the M.Tech. in Biomedical Devices to be started from the AY 2025-26.

Senate approved that the program will be started from AY 2025-26 with 30 seats (27 through GATE and 3 Non-GATE). Mapping of the Non-GATE will be done based on the interview and personal interview.

After the discussion, the Senate approved the following course structure and syllabi of its courses with the following remarks as given below:

**Course Structure for M.Tech. (2 year), M.Tech. + Ph.D. Dual Degree
in Biomedical Devices from AY 2025-2026**

Minimum Educational Qualification (MEQ) (For Indian applicants):

i. B.E./B.Tech. /AMIE or equivalent in Biomedical Engineering (BM), Biotechnology (BT), Chemical Engineering (CH), Computer Science and Information Technology (CS), Electrical Engineering (EE), Electronics and Communication Engineering (EC), Engineering Physics (EP), Instrumentation Engineering (IN), Mechanical Engineering (ME), Metallurgy & Materials Science (MT), Engineering Sciences (XE), Pharmaceutical Technology (PY) (with the first division as defined by the awarding Institute/University)

OR

ii. M.Sc. or equivalent in Biotechnology (BT), Electronics / Electronic Sciences (EC), Ergonomics (ER), Materials Science (MS), Physics (PH), (with the first division as defined by the awarding Institute/University),

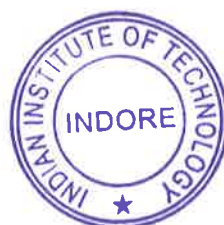
OR

iii. *Health Sciences such as MBBS (Medicine) / BDS (Dental), B. Pharm. (Duration 4 years or more) (with the first division as defined by the awarding Institute/University)

Qualifying Examination (QE):

Valid GATE score in Biomedical Engineering (BM), Chemical Engineering (CH), Computer Science and Information Technology (CS), Electrical Engineering (EE), Electronics and Communication Engineering (EC), Physics (PH), Instrumentation Engineering (IN), Mechanical Engineering (ME), Metallurgy & Materials Science (MT), Life Sciences (XL), Biotechnology (BT), Engineering Sciences (XE).

*Non-GATE (i.e., Option iii in MEQ) students must pass in all India-level postgraduate entrance examinations for corresponding disciplines such as INI_CET/NEET-PG/NEET-MDS/JIPMER/PGI Chandigarh/AFMC-Pune/DNB Part I for MBBS/BDS, GPAT/ All India level selection examination for B.Pharm. Eligibility/rank certificates for all such all India-level entrance examinations are required. The candidate should have qualified the entrance exam (as per the qualification criterion of the respective exam for that exam year and category) and the score obtained should be valid (as per the duration of validity for the respective exam) at the time of application to the M.Tech. program.



Categories of Admission:

Indian applicants: Teaching Assistantship (TA); (ii) Highly motivated sponsored candidate (SW) on full-time basis from highly reputed R and D organizations such as DRDO, ISRO, BHEL, C-DAC, ADE, ADA, etc. and highly reputed Industries; (iii) Defense Forces (DF): Candidates sponsored by the Defense Forces; (iv) Regular Institute Staff (IS) of IIT Indore on part-time basis only.

Candidates of SW, DF and IS categories will not be provided any scholarship.

Selection Criteria: The admission of students (under TA category) to M.Tech. in Biomedical Devices program will be based on:

- a) their qualifying discipline and the valid GATE score and written test or interview or both.
- b) for non- GATE candidates, admission will be based on a valid score in the respective qualifying exam and written test or interview or both.

Duration of the Program: Two years (Full-time).

Total Intake: 30 TA (27 through GATE, 3 Non-GATE).

Scholarship (only for TA category Indian students): As per MoE norms.



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Course Structure for two-year Full-time M.Tech. in Biomedical Devices

1st Year: Semester-I

Course code	Course Title	Contact Hours (L-T-P-Credits)	Remarks
BSE 614*	General Physiology	2-1-0-3	• Already approved course.
BSE 635*	Biomaterials and Nano-biotechnology	2-1-0-3	• Already approved course.
BSE 637*	Bioelectronics and Biomedical Sensors	2-1-0-3	• Already approved course.
BSE 644/444*	Biomedical Signal and Image Processing	2-1-0-3	• Already approved course.
BSE 6XX	Medical Device Design and Dissection	0-1-4-3	• Approved.
BSE 6XX/4XX	Modeling and Controls in Medical Devices	2-1-0-3	• Need not to mention case studies specifically. • Approved.
BSE 6XX	Elective-I	2-1-0-3	-
BSE 6XX	Clinical Immersion	0-0-2-1	• Approved.
Total credits		22	
Additional course (as per the requirement basis)			
HS 641*	English Communication Skills	2-0-2	-

1st Year: Semester-II

Course code	Course Title	Contact Hours (L-T-P)	Remarks
BSE 643/443*	Applied Biomechanics	2-1-0-3	• Already approved course.
BSE 6XX/4XX	Measurement and Testing of Medical Devices	2-1-0-3	• Approved.
BSE 6XX	Design of Implantable and Surgical Devices	2-0-2-1.5 (3/2 Half Sem)	• Approved.
BSE 6XX	Regulatory Framework and Quality Compliance	2-2-0-2 (4/2 Half Sem)	• Approved.



BSE 6XX	Medical Device Laboratory	0-0-3-1.5	- Need not to mention name of any specific software. - Use Experiment and/or Mini Project. - Approved.
BSE 698	PG Seminar Course	0-2-0-2	Approved.
BSE 6XX	Advance Clinical Immersion Training	0-0-2-1	Approved.
BSE XXX	Elective-II	2-1-0-3	-
ZZ XXX	Elective-III	2-1-0-3	-
Total credits		20.0	

2nd Year: Semester-III

Course code	Course Title	Contact Hours (L-T-P)	Remarks
BSE 6XX/4XX	Preclinical and Clinical Trial Design	2-1-0-3	Approved
BSE 7XX	M.Tech. Research Project (Stage-I)	0-0-30-15	Approved.
Total credits		18	

2nd Year: Semester-IV

Course code	Course Title	Contact Hours (L-T-P)	Remarks
BSE 8XX	M.Tech. Research Project (Stage-II)	0-0-36-18	Approved.
Total credits		18	
Total minimum credits to be earned during the program		78	

* Already approved existing course

Courses for Electives

	Course code	Course Title	Contact Hours (L-T-P)	Remarks
Stream 1: Medical devices and	BSE 604/404*	Biomedical Imaging	2-1-0-3	Already approved course.



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Instrumentation	BSE 636*	Biomedical Instrumentation	2-1-0-3	• Already approved course.
	BSE 640*	Biomedical Microsystems	2-1-0-3	• Already approved course.
	BSE 6XX/4XX	Wearable Devices and Sensors	2-1-0-3	• Will be presented in subsequent meeting.
Stream 2: Regenerative Medicine	BSE 646*	Biofabrication	1-0-4-3	• Already approved course.
	BSE 639*	Tissue Engineering and Regenerative Medicine	2-1-0-3	• Already approved course.
	BSE 638*	Mechanobiology and Electrophysiology	2-1-0-3	• Already approved course.
	BSE 608*	Advanced Drug Delivery Systems	2-1-0-3	• Already approved course.

* Already existing course

Suggestive institute electives related to the program:

Course code	Course Title	Contact Hours (L-T-P)	Remarks
ME 679*	Additive Manufacturing	2-1-0-3	• Already approved course.
ME 604*	Microfluidics	2-1-0-3	• Already approved course.

@In addition to this course list, a student can also opt from the PG courses being offered by the other department/school as well as BSBE.

* Already existing course

NOTE: 1. Request for conversion from M.Tech to M.Tech + PhD dual degree will be considered after evaluating the research potential of the promising and motivating PG students at the end of the **third semester of their program**. Confirmation of the PhD program in the FA category will be subject to successfully qualifying for CSIR/UGC-JRF or equivalent fellowship.

2. If the student opts for a Dual Degree Programme but cannot complete the requirements of a PhD, an **exit option** with the M.Tech degree can be earned at the end of the final semester of the normal M.Tech programme by getting the M.Tech research project examined in the standard manner as per the requirements for the award of an M.Tech degree.



3. The enhancement in the scholarship, if any, from M.Tech. to PhD will be from the beginning of the fifth semester or from the date on which all requirements for the award of M.Tech. degree are fulfilled, whichever is later.

ITEM: 50.6: Reporting Items:

Item No- 50.6.1: Notesheet for allotment of new Ph.D. students to Thesis Supervisor, who have Ph.D. those who have completed five years and yet to submit the thesis.

The Senate approved the same.

Item No- 50.6.2: Note sheet for considering CSIR-UGC (Ph.D.) at par with CSIR-UGC-NET-LS.

The Senate approved the same.

ITEM: 50.7: Any other item with the permission of the Chair.

Item No- 50.7.1: Discussion on admission under Sports Quota.

Associate Dean, Academic Affairs (UG) presented the matter.

The Senate discussed the matter and approved it with the following remarks:

- There will be one supernumerary seat in each B.Tech. program for sports quota admissions.
- Merit will be based on sport ranking.
- Reservation roster will not be applicable on supernumerary seats.

The meeting ended with thanks to the Chair.



(Professor Suhas S. Joshi)
Director and Chairperson, Senate



(S. P. Hota)

Registrar and Secretary, Senate