



Indian Institute of Technology Indore

Minutes of the 46th meeting of the Senate held on September 25, 2024 (Wednesday) 15:00 hrs. at Maitreyi 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. Sandeep Chaudhary (present online)	Dean, Administration
4	Prof. Manish Kumar Goyal	Dean, Infrastructure Development
5	Prof. I. A. Palani (present online)	Dean, Research and Development
6	Prof. Srivathsan Vasudevan	Dean, Student Affairs
7	Prof. Suman Mukhopadhyay (present online)	Dean, Alumni and Corporate Relations
8	Prof. Abhishek Srivastava	Dean, Faculty Affairs
9	Prof. Devendra L. Deshmukh	Dean, Educational Outreach
Head of Departments		
10	Dr. Abhishek Rajput	HoD, Civil Engineering
11	Dr. Ranveer Singh	HoD, Computer Science and Engineering
12	Prof. Vivek Kanhangad (present online)	HoD, Electrical Engineering
13	Prof. Shanmugam Dhinakaran	HoD, Mechanical Engineering
14	Dr. Parimal Kar	HoD, Biosciences and Biomedical Engineering
15	Prof. Abhirup	HoD, Astronomy, Astrophysics and Space Engineering
16	Prof. Niraj Kumar Shukla	HoD, Mathematics
17	Prof. Preeti A. Bhoje (present online)	HoD, Physics
18	Prof. Ruchi Sharma (present online)	HoD, Humanities and Social Sciences
Professors		
19	Prof. Anand Parey (present online)	Mechanical Engineering
20	Prof. Suman Mukhopadhyay (present online)	Chemistry
21	Prof. Sandeep Chaudhary (present online)	Civil Engineering
22	Prof. Vipul Singh	Electrical Engineering



23	Prof. Manish Kumar Goyal	Civil Engineering
24	Prof. I. A. Palani (present online)	Mechanical Engineering
25	Prof. Bhupesh Kumar Lad (present online)	Mechanical Engineering
26	Prof. Ritunesh Kumar	Mechanical Engineering
27	Prof. Dhinakaran Shanmugam	Mechanical Engineering
28	Prof. Abhishek Srivastava	Computer Science and Engineering
29	Prof. Abhirup Datta	Astronomy, Astrophysics and Space Engineering
30	Prof. Amit Kumar (present online)	Biosciences and Biomedical Engineering
31	Prof. Sk. Safique Ahmad	Mathematics
32	Prof. Apurba Kumar Das (present online)	Chemistry
33	Prof. Nirmala Menon (present online)	Humanities and Social Sciences
34	Prof. Pritee Sharma (present online)	Humanities and Social Sciences
35	Prof. Ruchi Sharma (present online)	Humanities and Social Sciences
36	Prof. Preeti Anand Bhobe (present online)	Physics
37	Prof. Vivek Kanhangad (present online)	Electrical Engineering
38	Prof. Srivathsan Vasudevan	Electrical Engineering
39	Prof. Devendra L. Deshmukh	Mechanical Engineering
40	Prof. Pankaj Ramesh Sagdeo	Physics
41	Prof. Ankhi Roy	Physics
42	Prof. Kiran Bala (present online)	Biosciences and Biomedical Engineering
43	Prof. Rupesh Shivaji Devan (present online)	Metallurgical Engineering and Materials Science
44	Prof. Antony Vijesh Villavarayan	Mathematics
45	Prof. Niraj Kumar Shukla	Mathematics
46	Prof. Satyajit Chatterjee	Mechanical Engineering
47	Prof. Kazi Sabiruddin (present online)	Mechanical Engineering
48	Prof. Pavan Kumar Kankar (present online)	Mechanical Engineering
Other Authorities		
49	Dr. Anand Petare	Workshop Superintendent, Central Workshop
Special Invitees		
50	Dr. Eswara Prasad Korimilli (Convener, B.Tech. Chemical)	Metallurgical Engineering and Materials Science
51	Dr. Rajan Singh (Convener, Chemical Engineering)	Chemical Engineering
52	Dr. Suman Majumdar (Convener, DPGC Astronomy Astrophysics and Space Engineering)	Astronomy Astrophysics and Space Engineering



53	Prof. Somnath Dey	Computer Science and Engineering
54	Dr. Abhilasha Maheshwari	Chemical Engineering
55	Dr. Santanu Manna	Mathematics
56	Mr. Neeraj Kumar	Assistant Registrar, Academic Affairs
57	Mr. Tapesch Parihar	Section Officer, Academic Office
Secretary		
58	Mr. S. P. Hota	Registrar, IIT Indore
Leave of absence		
59	Prof. Himanshu Rai	Director, IIM Indore
60	Shri. Unmesh D. Malshe	Director, RRCAT
61	Prof. Abhiram G. Ranade	Professor, Department of Computer Science and Engineering, IIT Bombay
62	Prof. Avinash Sonawane	Dean, International Relation
63	Dr. Ajay Kumar Kushwaha	HoD, Metallurgical Engineering and Materials Science
64	Prof. Tushar Kanti Mukherjee	HoD, Chemistry
65	Prof. Narendra S. Choudhary	Computer Science and Engineering
66	Prof. Neelesh Kumar Jain	Mechanical Engineering
67	Prof. Ram Bilas Pachori	Electrical Engineering
68	Prof. Abhinav Kranti	Electrical Engineering
69	Prof. Vimal Bhatia	Electrical Engineering
70	Prof. Rajneesh Misra	Chemistry
71	Prof. Subhendu Rakshit	Physics
72	Prof. Krushna R. Mavani	Physics
73	Prof. Sarika Jalan	Physics
74	Prof. Avinash Sonawane	Biosciences and Biomedical Engineering
75	Prof. G. S. Murthy	Biosciences and Biomedical Engineering
76	Prof. Santosh Kumar Vishvakarma	Electrical Engineering
77	Prof. Shaibal Mukherjee	Electrical Engineering
78	Prof. Prabhat Kumar Upadhyay	Electrical Engineering
79	Prof. Trapti Jain	Electrical Engineering
80	Prof. Mukesh Kumar	Electrical Engineering
81	Prof. Neelima Devarakonda Satyam	Civil Engineering
82	Prof. Santosh Kumar Sahu	Mechanical Engineering
83	Prof. Aruna Tiwari	Computer Science and Engineering
84	Prof. Kapil Ahuja	Computer Science and Engineering
85	Prof. Prashant Kodgire	Biosciences and Biomedical Engineering
86	Prof. Sampak Samanta	Chemistry
87	Prof. Sanjay Kumar Singh	Chemistry
88	Prof. Biswarup Pathak	Chemistry



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89	Prof. Rajesh Kumar	Physics
90	Prof. Sudeshna Chattopadhyay	Physics
91	Prof. Parasharam M. Shirage	Metallurgical Engineering and Materials Science
92	Prof. Swadesh Kumar Sahoo	Mathematics
93	Prof. Raghunath Sahoo	Physics
94	Prof. Amod C. Umarikar	Electrical Engineering
95	Prof. Somaditya Sen	Physics
96	Prof. Mobin Shaikh	Chemistry
97	Prof. Tushar Kanti Mukherjee	Chemistry
98	Prof. Anjan Chakraborty	Chemistry
99	Prof. Satya Silendra Bulusu	Chemistry
100	Prof. Chelvam Venkatesh	Chemistry
101	Prof. Mirza Saqib Baig	Biosciences and Biomedical Engineering
102	Prof. Anirban Sengupta	Computer Science and Engineering
103	Prof. Neminath Hubballi	Computer Science and Engineering
104	Prof. Santosh Sattappa Hosmani	Metallurgical Engineering and Materials Science
105	Dr. Jayaprakash Murugesan	Chief Warden
106	Dr. Sharad Gupta	Convener, Health Center Advisor Committee
107	General Secretary, Student Gymkhana	Ex-officio
108	Academic Secretary, Student Gymkhana	Ex-officio

ITEM 46.1: Welcome and Opening remarks by the Chairperson, Senate.

The Chairperson, Senate welcomed all the members to the meeting. He congratulated all newly nominated functionaries; Dr. Sanjeev Singh as HoD- Mathematics, Prof. Somnath Dey as ADoAA (PG & Ph.D.), Prof. Pavan Kumar Kankar as ADoA (Fin. and MMS) and Prof. Antony Vijesh as Live Committee in-charge.

It was further informed to the Senate members that the institute would initiate a new program BS (Design)/B. Des. under School of Innovation and the proposal will be put in the next Senate meeting. The Chairperson, Senate additionally mentioned that in order to improve the NIRF ranking we must put more emphasis on research and development.

ITEM 46.2: Confirmation of the minutes of the 45th Meeting of the Senate held on 07 August 2024.

The Senate confirmed the minutes of 45th meeting of the Senate held on 07 August 2024.

ITEM 46.3: Action Taken Report (ATR) on minutes of 45th meeting of the Senate held on 07 August 2024.



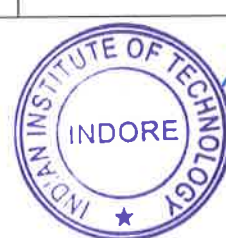
The Senate noted the actions taken on the decisions of the 45th meeting of the Senate held on 07 August 2024.

ITEM 46.4: UG Curriculum of B.Tech. Chemical Engineering for 4th semester as per New Education Policy-2020.

The Convener, Chemical Engineering presented the Syllabi of the courses of 4th semester for B.Tech. 'Chemical Engineering' w.r.t. the NEP guidelines.

After the discussion, the Senate resolved the following Syllabi of the courses of 4th semester with the following remarks as given below:

Course Code	Course Name	Weekly Contact Hours L-T-P	Total Credits	Senate remarks:
2nd Year (4th Semester)				
ZZ xxx	Course - II, Minor program	X-X-X	3	
MA 204N	Numerical Methods	2-0-2	3	Already approved.
ChE 202	Fluid Mechanics	2-1-0	3	Approved with remarks: 1. Update the course outcome and module titles. 2. Textbook no-1 interchanged to textbook -2.
ChE 204	Chemical Reaction Engineering	2-1-0	3	Approved
ChE 206	Separation Processes	2-1-0	3	Approved.
ChE 252	Fluid Mechanics lab	0-0-2	1	Approved with remarks: 1. Use bullet points instead of the number of representative experiments. 2. Re-write the outcome.
ChE 254	Reaction Engineering lab	0-0-2	1	Approved with remarks:



				<ol style="list-style-type: none"> 1. Use full form of abbreviations. 2. Use bullet points in the list of representative experiments instead of number.
ChE 258	Computational Chemical Engineering Lab -1	0-0-3	1.5	<p>Approved with remarks:</p> <ol style="list-style-type: none"> 1. Avoid to mention the name of any software. It should be mentioned 'such as MATLAB/Julia etc.)'. 2. Use bullet points in the list of representative experiments instead of number. 3. Navier-Stokes equations to be removed from experiment no. 8.
ChE 2xx	Department Elective - 2	2-1-0	3	-
ZZ 2xx	Institute Open Elective - 1	2-1-0	3	-
	Total	12-5-9	21.5/ 24.5	-
Elective Course				
ChE 208	Process Data Analytics & Monitoring	2-1-0	3	Approved.

ITEM 46.5: UG Curriculum of B.Tech. Space Science and Engineering for 5th semester and 6th semester as per New Education Policy-2020.

The Head of Department Astronomy, Astrophysics and Space Engineering presented the Syllabi of the courses of 5th semester and 6th semester for B.Tech. 'Space Science and Engineering' w.r.t. the NEP guidelines.



After the discussion, the Senate resolved the following syllabi of the courses of 5th semester and 6th semester with the following remarks:

Course Code	Course Name	Weekly Contact Hours L-T-P	Credit	Senate remarks
3rd Year (5th Semester)				
ZZ XXX	Course III - Minor Program	X-X-X	3	-
AA 307	Space Systems - Orbits and Payloads	2-1-0	3	Approved with remarks: 1. Include generic case studies on relevant space missions. 2. Mention edition of the books.
AA 309	Space Instrument Design	2-1-0	3	Approved with remarks: 1. Course syllabus bullet point no. 5 should be made first. 2. Re-format the books like the name of the author should come first then title of the book. 3. Make Sensors as separate bullet point. 4. The course title is changed from Detectors for Space-I to Space Instrument Design.
AA 311	Statistical Physics and Radiative Transfer	2-1-0	3	Approved
AA 313	Fluid Dynamics	2-0-0	2	Approved with remarks: 1. The L-T-P-C of the course should be changed to 2-1-0-3 instead of 2-0-0-2 and include one more bullet point in the syllabus accordingly.
AA 315	Data Analytics and Visualization for Space	1-0-4	3	Not approved. 1. Too many details given in Module 1 and 2 may be avoided. Rather it can be

				<p>mentioned as a recap.</p> <p>2. Include a list of representative experiments for lab components.</p> <p>3. Revise the syllabus and put up again for senate approval through SUGC.</p>
AA XXX	Departmental Elective III	2-1-0	3	-
ZZ XXX	Institute Open Elective-II	2-1-0	3	-
	Total	13-5-4	20/23	(Total credit changed to 21/24)
Department Electives -(III) *:				
AA 303	IoT for Space Applications	2-1-0	3	Approved.
AA 317	Galaxies and Cosmology	2-1-0	3	Approved with remarks to include edition of the books.
AA 319	Launch Vehicle and Propulsion Systems	2-1-0	3	Approved with remarks: 1. In the last bullet point instead of "basics of testing..." to "basics of simulation, testing...". 2. Interchange textbook S. No. 1 to S. No. 3.
3rd Year (6th Semester)				
ZZ XXX	Course IV - Minor Program	X-X-X	3	-
AA 306	Signals and Communication in Space	2-0-2	3	Approved with remarks: 1. Mention the list of representative experiments in bullet points instead of lab components. 2. Include more textbook as suggested.
AA 312	Atmospheric Physics and Remote Sensing	2-0-2	3	Approved with remarks to restrict to three reference books only.



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AA 308	Guidance, Navigation and Control	2-1-0	3	Approved with remarks: 1. Update the syllabus instead of mentioning so many details. 2. Include pre-requisite.
AA 304	Radiowave Propagation and Antenna Applications	2-0-2	3	Approved with remarks to shift reference book S. No- 2 as textbook No-2.
AA XXX	Departmental Elective IV	2-1-0	3	-
AA XXX	Departmental Elective V	2-1-0	3	-
ZZ XXX	Institute Open Elective - III	2-1-0	3	-
	Total	14-4-6	21/24	

Department Electives (IV and V):

AA 310	Satellite Imaging	2-0-2	3	Approved with remarks: 1. Basic of signal processing should be pre-requisite. 2. PCA should be part of module- Thematic Information Extraction. 3. Name of basic image enhancement techniques needs to be added. 4. Mention the list of representative experiments in bullet points instead of practical.
AA 318	Meteorology and Climate Modelling	2-0-2	3	Approved with remarks to modify 'History of satellite' to 'Introduction to satellite'.
AA 320	Advanced Space Instrument Design	2-0-2	3	Approved with remarks: 1. The course title is changed from Detectors for Space-II to Advanced Space Instrument Design. 2. Mention the list of representative experiments



				in bullet points instead of practical.
AA 322	Computational Electromagnetics	2-1-0	3	Approved
AA 301N	High Energy Astrophysics and Transient Sky	2-1-0	3	Approved.
AA 324	Space Informatics	2-1-0	3	Approved with remark to change the course credits from 2-1-0-3 to 2-0-2-3
AA 374	Computational Fluids and Structures	2-1-0	3	Approved.

Senate gave the following general remark:

- The suggested books should be in appropriate format.
- Mention name author(s) first then title of the books.
- Include ISBN no. of all books.
- Mention editions of all books.

ITEM 46.6: Syllabus of proposed new courses.

The proposals of new courses presented by HoD/Convener, DPGC of the respective different departments. After the discussion, the Senate resolved these courses with the following remarks as given below:

S. No.	Course code and Title of the Course	Contact Hours (L-T-P-C)	Senate Remarks:
1	ChE 602/ ChE 402: Process Optimization	2-1-0-3	Approved with remarks to add relevant case studies of Chemical Engineering.
2	ChE 604/ ChE 404: Advanced Soft Matter	2-1-0-3	Approved.
3	ChE 606/ ChE 406: Heterogeneous Catalysis and Reactor Design	2-1-0-3	Approved.
4	ChE 608/ ChE 408: Computational	2-1-0-3	Approved.



	Synthetic Systems Biology		
5	CS 218: Programmable and Interoperable Blockchains	2-1-0-3 (½ sem.)	Approved.
6	MA 312: Analytical methods in Partial Differential Equations	2-1-0-3	Approved.
7	MA 316: Spectral Graph Theory	2-1-0-3	Approved.
8	MA 221: Stochastic Calculus for Finance	2-1-0-3	Approved.
9	MA 315: Mathematical Foundations for Cryptography	2-1-0-3	Approved.
10	ME 462/ ME 662: Continuum Mechanics	2-1-0-3	Approved.
11	ME 466/ ME 666: Theory of Plasticity	2-1-0-3	Approved.

ITEM: 46.7: Cross-listing of courses.

The following is the list of courses which were proposed to be offered by the different departments for cross-listing. After the discussion, the Senate resolved these courses with the following remarks as given below:

S. No.	Course code and course title	Proposal	Remarks
1	CS 642: Algebraic Graph Theory	To be cross listed as CS 642/ CS 442C.	Approved.
2	EE 601: Power Electronics	To be cross listed as EE 601/ EE 401C. (Updated the existing syllabus EE: 601: Power Electronics and to be cross listed as EE 401C)	Approved.
3	MA 402 Industrial Statistics	To be cross listed as MA 402/ MA 602	Approved.
4	MA 404 Foundation of Approximation Theory	To be cross listed as MA 404/ MA 604	Approved.



5	MA 406 Graph Theory	To be cross listed as MA 406/ MA 606	Approved.
6	MA 408 Mathematical Theory of Waves	To be cross listed as MA 408/ MA 608	Approved.
7	MA 414 Time Series Analysis	To be cross listed as MA 414/ MA 614	Approved.
8	MA 416 Integral Equations	To be cross listed as MA 416/ MA 616	Approved.
9.	AA 608: Astrostatistics/ Astronomical Data Analysis	To be cross listed as AA 408/ AA 608	Approved.

ITEM: 46.8: ITEM: 46.8: Reporting Items:

Item No- 46.8.1: Approval for certificate to be given for UG inbound program.

The Senate approved the same.

Item No-46.8.2: Approval for updating dual degree (PG + Ph.D.) format.

The Senate requested to represent the case once again and put up the same in the coming Senate Meeting.

Item No-46.8.3: Approval for amendment in the maximum duration of PhD scholarship.

The Senate approved the same.

Item No-46.8.4: Approval for amendment in the MEQ of PhD advertisement of MEMS department.

The Senate approved the same.

ITEM: 46.9: Any other item with the permission of the Chair.

Nil.



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



(Mr. S. P. Hota)
Registrar and Secretary, Senate

