MINUTES OF THE 90th MEETING OF THE SENATE held on 23rd Jan, 2023 at 3.00 PM in Senate Hall Administrative Block - A of the Institute Attendance Report

S.No	Name	Designation	Category	Attendance	
1	Dr. Prasad Krishna	Director	Director & Chairman	1	
2	Dr. Sathi Devi P S	Deputy Director	Deputy Director		
3	Dr. Sameer S M	Dean(Academic)	Professor	1	
4	Dr. P. P. Anil Kumar	Dean (ACR) Professor			
5	Dr. Sudhakumar J	Dean (FW)	Professor	1	
6	Dr. Naseer M A	Dean(P&D)	Professor	1	
7	Dr. Madhusudanan Pillai V	Dean(R & C)	Professor	1	
8	Dr. Rajanikant G K	Dean(SW)	Professor		
9	Dr. Chandrakaran S	Professor(HAG),CED	Professor		
10	Dr. M V L R Anjaneyulu	Professor(HAG),CED	Professor		
11	Dr. Madhavan Pillai	Professor(HAG),CED	Professor		
12	Dr. Sankar N	Professor(HAG),CED	Professor		
13	Dr. Shashikala A P	Professor(HAG), CED	Professor	1	
14	Dr. Unnikrishnan G.	Professor(HAG),CHY	Professor		
15	Dr. Ashok S	Professor(HAG),EED	Professor	1	
16	Dr. Jeevamma Jacob	Professor(HAG),EED	Professor	1	
17	Dr. Saly George	Professor(HAG),EED	Professor		
18	Dr. Jose Mathew	Professor(HAG),MED	Professor	1	
19	Dr. Joseph M A	Professor(HAG),MED	Professor	1	
20	Dr. R Sridharan	Professor(HAG),MED	Professor		
21	Dr. Chandrashekaran K	Professor(HAG),PHY	Professor	1	
22	Dr. Pradeep P	Professor(HAG),PHY	Professor		
23	Dr. Sobhan C.B	Professor(HAG),SMS E	Professor	1	
24	Dr. Lity Alen Varghese	Professor, CHED	Professor		
25	Dr. Shiny Joseph	Professor, CHED	Professor		
26	Dr. V Sivasubramanian	Professor, CHED	Professor	1	
27	Dr. Lisa Sreejith	Professor, CHY	Professor		
28	Dr A Sujith	Professor, CHY	Professor		
29	Dr. Lakshmi C	Professor, CHY	Professor		
30	Dr. Parameshwaran P	Professor, CHY	Professor	1	
31	Dr. Santosh G Thampi	Professor(HAG) & HoD, CED	Professor	✓	
32	Dr. Krishnamurthy K	Professor, CED	Professor		

S.No	Name	Name Designation Category		Attendance
33	Dr. Mohammed Ameen	Professor, CED	Professor	
34	Dr. Praveen Nagarajan	Professor, CED	Professor	
35	Dr. Sajith V	Professor, SMSE	Professor	1
36	Dr. K A Abdul Nazeer	Professor, CSED	Professor	1
37	Dr. Madhu Kumar S D	Professor, CSED	Professor	
38	Dr. Priya Chandran	Professor, CSED	Professor	1
39	Dr. Vineeth Paleri	Professor, CSED	Professor	1
40	Dr. Babu A V	Professor, ECED	Professor	
41	Dr. Deepthi P P	Professor, ECED	Professor	1
42	Dr. Sreelekha G	Professor, ECED	Professor	1
43	Dr. Jagadanand G	Professor, EED	Professor	1
44	Dr. Rijil Ramchand	Professor, EED	Professor	1
45	Dr. Sindhu T K	Professor, EED	Professor	1
46	Dr Sushama C M	Professor, MAT	Professor	
47	Dr. Jacob M J	Professor, MAT	Professor	
48	Dr. M S Sunitha	Professor, MAT	Professor	1
49	Dr. Satyananda Panda	Professor, MAT	Professor	
50	Dr. Sunil Jacob John	Professor, MAT	Professor	
51	Dr. A Shaija	Professor, MED	Professor	1
52	Dr. Biju T Kuzhiveli	Professor, MED	Professor	
53	Dr. Joy M L	Professor, MED	Professor	
54	Dr. Manu R	Professor, MED	Professor	1
55	Dr. Raghu C	Professor, PHY	Professor	1
56	Dr. Ravi Varma M K	Professor, PHY	Professor	
57	Dr. M D Anaul Kabir	Professor, SBT	Professor	
58	Dr. Santhiagu	Professor, SBT	Professor	1
59	Dr. N Sandhyarani	Professor, SMSE	Professor	
60	Dr. Suresh Babu T.K	Professor, SOMS	Professor	1
61	Dr.Sunitha K.	Professor, EED	Professor	1
62	Dr. Preetha P	Professor & HOD, EED	Professor	1
63	Dr. Rathinasamy K	Professor & HoD, SBT	Professor	 ✓
64	Dr. Soney Varghese	Professor & HoD, SMSE	Professor	1
65	Dr. Sajith A.S.	Professor, CED	Professor	1
66	Dr. Andrew Thangaraj	IIT Madras	External member	1

S.No	Name	Designation	Category	Attendance
67	Prof. Leena Abraham	TISS, Mumbai	External member	1
68	Prof. Rajan M P	IISER, Trivandraum External member		
69	Dr. Mohammed Firoz C.	Associate Professor & HoD, DAP (I/c) Invitee		1
70	Dr. Haribabu K	Associate Professor & HoD, CHED	Associate Professor & HoD, CHED Invitee	
71	Dr. Subhasree M	Associate Professor & HoD, CSED	Associate Professor & Invitee	
72	Dr. Suni Vasudevan	Associate Professor & HOD CHY	Invitee	1
73	Dr. Jaikumar M G	Associate Professor & HoD ECED	Invitee	1
74	Dr. Mohammed Shafi	Assoc Professor & HoD, SOMS	Invitee	1
75	Dr. Raju Dey	1st Year coordinator	Invitee	
76	Dr. Hanas T	Associate Dean (Academic)	Invitee	1
77	Dr. Dhanaraj K. J.	Associate Dean (Academic)	Invitee	1
78	Dr. Subashini R	Associate Dean (Academic)	Invitee	1
79	Shri. Vishnu Lal	Research affairs Secretary, SAC	Invitee	1
80	Cdr (Dr.) Shamasundara M S	Registrar	Secretary	1

The Secretary welcomed the members present to the 90th meeting of the Senate of the National Institute of Technology Calicut and the Chairperson called the meeting to order at 3.00 PM. Chairman Senate placed on record the excellent services rendered by Prof. C Muraleedharan and Prof. P V Indira, members of the Senate who superannuated from the services of the Institute after the last meeting of the Senate. The Senate also placed on record the appreciation to Prof. P K Rajendrakumar, member Senate, who took voluntary retirement from the services of the Institute. The Chairman placed on record the appreciation for the excellent team work by Faculty Members, Staff and Students of the Institute during the last NBA expert visit which resulted in all the five UG programmes getting accredited for six years. The Chairperson also welcomed all the newly promoted Professors of the Institute as newcomers to the Senate of the Institute.

S90.1 Passing of the Minutes of the 89th meeting of the Senate

The Senate resolved to approve the minutes of the 89th meeting of the Senate held on 1st Nov, 2022 at 3.00 PM in Senate Hall, Administrative Block - A of the Institute.

890.2 Recommendations of the 56th and 57th Meetings of the Board of Academic Council

S90.2.1 Report of the UG Curriculum Revision Committee

Background:

The present curricula were formulated and implemented from 2018 admission onwards. As per the recommendations of 82nd meeting of the Senate, a committee was constituted with Dr Sashikala A P, Professor, CED as Chairperson, Dr. Jayadeep U B, Associate Professor, MED as Convener and representatives of all departments and schools as members. The committee deliberated on the revisions to be incorporated in the B.Tech curriculum and prepared their draft report. The curriculum revision of the B.Arch program was deferred for want of guidelines from the Council of Architecture, and it will be taken up subsequently. This report of the curriculum revision committee was shared with all the departments as well as other stakeholders including students, alumni and industry. The final report of the committee (Given in Annexure-I) was presented in the 56th meeting of the BoAC and the specific recommendations. Dean(Academic) presented the salient features of the curriculum revision committee report and the specific recommendations of the BoAC.

The Senate deliberated on the report and recommendations, and decided to approve the recommendations of the B.Tech curriculum committee report with the following resolutions:

Total Credits	150-153			
Activity Points (AP)	04			
Indian and Foreign languages, Economics, Engineering Management, Financial Management, Design Thinking etc.	9			
Humanities, Social Science, Management				
Digital / Automation Technologies: Courses <u>offered/identified by</u> the Department - relating to programming / automation tools & techniques / Industry 4.0	6			
Department and approved by Institute Innovation Council				
Institute Elective (IE) Entrepreneurship / Innovation Basket: Courses to be proposed by the	18			
Physics/Chemistry/Life Sciences (Any two can be decided by the Departments concerned)	06			
(Course contents can be programme-specific; to be completed by fourth semester)Maths-12, Prof. Communication-3, Prof. Ethics-1	16			
Institute Core (IC)	22			
Open Electives (OE) Courses <u>within the Dept/Other Departments/</u> approved on-line platforms with a cap on the maximum courses from such platforms decided by the Institute from time to time	24–27			
Courses <u>decided</u> by the Dept. The core and elective distribution is left to the respective departments. No core courses in 4th year	80-82			

1. The total number of credits for all B.Tech programs shall be between 150-153. The distribution of credits to the different curriculum baskets is approved as follows:

- Practical components shall be added in at least one or two theory courses per semester (eg: 2 credit theory + 1 credit practical) in addition to regular lab courses if any offered in the semester. Apart from laboratory sessions, options like Mini/Micro projects/case studies/reverse engineering studies etc can be explored for the practical credit.
- 3. The summer internship (2 credits) after S6 shall be mandatory with options to do it in Industry/Academia/R&D labs or within the Institute. It will be evaluated and awarded a letter grade in S7.
- 4. The curriculum shall include Project-Part-I (3 credits), Project-Part-II/Internship or Replacement Electives in S7 (3 credits) and Project-Part-III/Internship/Electives in S8 (6 credits). Project-Part-I shall be mandatory for all students. While the departments have the flexibility to fix the choices in S7, students have the flexibility to fix the choice in S8.
- 5. The Minors can be introduced in the proposed curriculum from the initial implementation stage itself. Honors can be started at a later stage if required. While the preferred format shall be interdisciplinary minors offered by two or more departments together, department level minors can also be offered in interdisciplinary areas relevant to industry.
- 6. The credit/skill based intermediate exit options as per NEP 2020 and National Credit Framework shall be implemented as:
 - a. 50% of credits for the first exit (For a certificate in the respective engineering program)
 - b. 75% of credits for the Second exit (For a Diploma in the respective engineering program)

However, the final modalities on exit policy will be decided later based on further clarifications from appropriate bodies in due course.

7. The activity points proposed by the curriculum revision committee shall be awarded based on whether the students get a pass/fail status for the courses prescribed in the baskets. Modalities for the implementation of activity points shall be prescribed by a committee appointed by Dean(Academic) once the new curriculum is implemented.

Rest of the recommendations of the curriculum revision committee were approved by the Senate in toto.

S90.2.2 Report of the PG Curriculum Revision Committee

Background:

The present curricula were formulated and implemented from 2018 admission onwards for M.Tech/M.Plan/MBA programs and 2016 for MSc Programs respectively. A committee with Dr. Manu R, Professor, MED, as Chairperson, Dr Preetha P, Professor, EED as Convener and representatives of various departments and schools as members was constituted by Dean (Academic) to prepare the guidelines for the revision of PG Curriculum incorporating NEP 2020 and NISP 2019 recommendations. The committee deliberated on the revisions to be incorporated in the PG curriculum and prepared their report, which was circulated to Departments/Schools for their feedback. The final report of the committee (Given in Annexure-II) was presented in the 57th meeting of the BoAC and the BoAC recommendations.

Decision:

The Senate deliberated on the report and recommendations, and decided to approve the recommendations of the PG curriculum revision committee report with the following resolutions:

- 1. The credit definition for the PG programs will be the same as that of the B.Tech program as suggested by the UG curriculum revision committee for easy migration of student credits within and outside the Institute.
- 2. The PG courses shall have total credits as 80 ± 5 in line with the recommendations of the National Credit Framework.
- 3. The Projects for M.Tech programs shall be planned as Project Phase-1, Project Phase-2, Project Phase-3 and Project Phase-4. The "Seminar" course in the existing M.Tech curriculum shall be replaced with Project Phase-1, which will be mandatory in the second semester with 3 credits, Project Phase-2 will be mandatory during summer vacation with 3 credits earmarked in the third semester (as Summer Project) with options to do it in Industry/Academia/R&D labs or within the Institute. Project Phase-3 and Project Phase-4 with 15 credits each are mandatory in the third semester and fourth semester respectively. It is possible to do either Project Phase-3 and Project Phase-4 as Internship in Industry/R&D Labs. The rubrics for the evaluation of Internship shall be chosen differently to suit the nature of work. It would be possible to work on a specific area/problem for all the four phases of the project.
- 4. A Mini project shall be included in the second semester of the M.Sc programs for 2 credits and a mandatory Project Phase-1 in the third semester for 3 credits. It is also proposed that only elective courses and a 6 credit Project Phase-2/Internship shall be included in the final semester. However, students who wish to do Project phase-2 /Internship outside the Institute shall be permitted to overload in the previous semesters for crediting these electives or choose electives from approved online platforms along with the project.
- 5. The provisions in the current M.Plan curriculum for Project and Internship shall be continued in the revised curriculum.
- 6. School of Management Studies (SOMS) is required to discuss the Senate resolution in the School Consultative Committee (SCC) and come up with a curriculum matching with the credit requirements approved by the Senate with provisions for Project/Internship.
- 7. An appropriate mandatory elective basket shall be included in the curriculum of all PG programs to take care of NISP 2019 and NEP 2020 recommendations with courses on Entrepreneurship Development, Research Methodology etc. The curriculum shall include the electives from this basket as mandatory "Institute Elective" for 2 credits. Such courses shall be offered online in the third semester of the program.
- 8. The Senate suggested to allow one exit (PG Diploma) for M.Tech and MBA programs after acquiring 50% of the credits. However, the final modalities on exit policy will be decided later based on further clarifications from appropriate bodies in due course.

S90.3 Report of the committee constituted to review the existing criteria for Direct Ph.D. admissions to explore the feasibility of the candidates working in industry who do not have a PG degree to register for the Direct PhD program in the External Registration category.

Background:

Dean (Academic) presented in the 89th meeting of the Senate that candidates working in industry who do not have PG degree have requested for the possibility of registering for the external PhD programme of the Institute as Direct Ph.D. scholars. The current Ordinances and Regulations applicable for PhD admission (2022 Regulations) permits Direct PhD admission in Scheme-1 only where a student needs to join as a fulltime scholar. As the matter needs more clarity, it was proposed to form a committee to review the current admission criteria for Direct PhD, and suggest recommendation for revision if any. Hence, the Senate resolved to form a committee with the following members to review the existing regulations and admission criteria for Direct PhD and submit suitable recommendations.

- 1. Dr. Rijil Ramchand (Chair, 2022 PhD Regulation committee) : Chairperson
- 2. Dr. Babu A V, Chairperson (PG Admissions)
- 3. Dr. Subashini R, Associate Dean (Academic) : Member

Decision:

The Senate deliberated on the report submitted by the committee and resolved to approve a new PhD scheme (i.e., **Scheme VI**) which will be included in the existing schemes for PhD Admissions in the Ordinances & Regulations for the Ph.D. program 2022 with the following minimum eligibility requirements and other details:

: Member

- The candidates applying for admission to Ph.D. Programmes under Scheme VI must have passed 4-year B.E./B.Tech./B.S./B. Plan./B.Des Degree or 5-year B.Arch/MBBS/BDS degree with a minimum of 50% marks (CGPA 5.0/10) in the qualifying examination. Candidates who secured B. Tech./B.E/B.Arch./B. Plan./B.Des degree under lateral entry should also have passed the three-year diploma in engineering with a minimum of 50% marks. Holders of AMIE/other nationally approved programmes equivalent to B. Tech/B.E. in an appropriate area of study may also be considered eligible.
- 2. It is desirable for the applicants to have patents or research publications in reputed conferences/journals. This may be considered as a desirable eligibility condition for the candidates seeking admission under this category.
- 3. Selection of candidates for the PhD programme under Scheme VI shall be based on their performance in written test and/or interview conducted by the concerned Department/School.
- 4. The applicant must be an employee of the Industry/ R&D organization/ Medical Institution with *five years of total experience* and be engaged in professional work in the broad area to which Ph.D. admission is sought. A no objection-cum-experience certificate (in the format specified by NIT Calicut) issued by the competent authority of the present company/organization/Medical Institution shall be attached along with the application. Such candidates will pursue the PhD programme along with their job.
- 5. Candidates admitted to this program are required to complete the requirements such as Semester registration, DC meetings, Comprehensive examination, Open seminar, Synopsis submission and Thesis submission as per the relevant rules applicable for candidates admitted in Scheme-V. Course work requirements shall be the same as that specified for Direct PhD candidates under Scheme-I.
- 6. When a candidate gets selected for a PhD programme under this category, the guide/(s) will be allocated by the concerned Department/School. Such candidates are required to work on a Ph.D. topic assigned by the guide. However, to improve the collaboration with Industry/R&D organization/ Medical Institutions, those external (Direct) registrants having the facility to carry out the research work at the parent organization can be permitted by the guide to work on a research problem relevant to such organizations.

7. The structure of tuition fee and other miscellaneous fee for the candidates admitted to this Scheme shall be same as that of Scheme-V. Such candidates will not be eligible for any Institute fellowship.

S90.4 Ratification of approvals given by Chairman, Senate

S90.4.1 Permission granted to Mr. Neeraj Kummaragunta, Roll No. B160939EC for rejoining the program in Winter 2022-23

Mr. Neeraj Kummaragunta, Roll No. B160939EC discontinued the program in 2020 and was under medical treatment. He made a request to rejoin and complete the B.Tech degree program along with a fitness certificate from the doctor. His request was approved by the Chairman, Senate subject to ratification by the Senate.

Decision:

The permission granted by the Chairman, Senate was ratified by the Senate

S90.4.2 Permission granted to Mr. Sabyasachi Rahut, Roll No. B211245AR for continuing the program alongwith 2022 UG Admission batch.

Mr. Sabyasachi Rahut, Roll No. B211245AR could not earn the minimum credits in the first year to register for the third semester as per the applicable regulations of the B.Arch programme. He made a request to continue the program along with the 2022 UG Admission batch. The request was recommended favorably by FA and HoD based on which the same was put up with Chairman, Senate for approval. Chairman, Senate approved his request subject to ratification in the Senate.

Decision:

The permission granted by the Chairman, Senate was ratified by the Senate

S90.4.3 Permission granted to Mr. Rahul Rathana Prasath N M, Roll No. B210130AR for continuing the program alongwith 2022 UG Admission batch.

Mr. Rahul Rathana Prasath N M, Roll No. B210130AR could not attend the classes in the third semester due to personal reasons. He could not clear all the first year subjects and currently has backlogs of 5 subjects in the first year. He made a request to continue the program along with the 2022 UG Admission batch. The request was recommended favorably by FA and HoD based on which the same was put up with Chairman, Senate for approval. Chairman, Senate approved his request subject to ratification in the Senate.

Decision:

The permission granted by the Chairman, Senate was ratified by the Senate

S90.4.4 Approval for the guidelines on registration and grading policy for SWAYAM/NPTEL courses - reg

As per the decision taken in 84th Meeting of Senate and considering the clause R.10.4 of Ordinances and Regulations for Ph.D programme (applicable to 2022-23 Admission onwards), it was required to issue guidelines on Registration and Grading Policy for Swayam/NPTEL courses. Hence, the guidelines were submitted to the Chairman, Senate for approval (Annexure-III). The Chairman Senate approved the same subject to ratification in the senate.

Decision:

The permission granted by the Chairman, Senate was ratified by the Senate

S90.4.5 Extension granted to PhD scholar Mrs. Nishamol P H, Roll No. P130045CS for completing the PhD programme.

Mrs. Nishamol P H, Roll No. P130045CS completed the maximum duration for the PhD program as per the applicable regulations. She has requested for a one semester extension to complete the work and submit the thesis. Her request duly recommended by guide and doctoral committee was placed for approval from Chairman, Senate. The Chairman, Senate approved the request subject to ratification in the Senate.

Decision:

The permission granted by the Chairman, Senate was ratified by the Senate

S90.4.5 Temporary discontinuation from MBA program granted to Mohammed Nadheem C P, Roll No. M220041MS to pursue his startup idea which is currently incubated at NITC TBI.

Mohammed Nadheem C P, Roll No. M220041MS made a request for temporary discontinuation from the MBA program to pursue his start-up idea which is currently incubated at NITC TBI. The request duly recommended by the department was placed for approval from Chairman, Senate. Chairman, Senate approved the same subject to ratification in the Senate.

Decision:

The permission granted by the Chairman, Senate was ratified by the Senate

S90.5 Any other item approved by the Chair

S90.5.1 Ratification of approval granted for the modifications proposed in existing syllabus for course ME3032D Automobile Engineering for including recent topics relevant to industry as a part of Co–teaching scheme

The Department of Mechanical Engineering proposed to include Co-teaching faculty from TATA ELXSI for offering the course ME3032D Automobile Engineering. In connection with the same, it was proposed to include a few more industry relevant topics in the third module of the course as mentioned in the enclosed syllabus. The Chairman, Senate approved the modifications subject to ratification of the Senate.

Decision:

The permission granted by the Chairman, Senate was ratified by the Senate

S90.5.2 Ratification of six week extension granted to Rajina Rahiman V, Roll No. P120116AR for submitting the thesis.

Rajina Rahiman V, Roll No. P120116AR had submitted the synopsis on 31st Oct 2022 and was planning to submit the thesis by mid of January 2023. However, due to some personal reasons the scholar is unable to complete the thesis for submission in January 2023. She requested an extension of six weeks for the submission of the thesis. The request was recommended and forwarded by the guide and doctoral committee for favorable consideration. The same was permitted by the Chairman, Senate subject to ratification by the Senate.

Decision:

The permission granted by the Chairman, Senate was ratified by the Senate

S90.5.3 Consideration of Proposal from Office of Dean Academic to discuss and propose modalities for offering PhD programmes by Multidisciplinary Centres

It is noted that the current PhD ordinances and regulations do not include the modalities for offering PhD programmes by Multidisciplinary Centres of the Institute. It is proposed that a subcommittee may be constituted for studying the matter and propose modalities for the same. The committee shall give detailed suggestions on all aspects of the proposed PhD programme starting from the admission to the award of degree by the Institute.

Decision:

The Senate entrusted Dean (Academic) to constitute a committee to discuss and propose modalities for offering PhD programmes by the Multidisciplinary Centres of the Institute

S90.5.4 Implementation of Government policies like NEP-2020, NISP-2019, ABC, National Higher Education Qualifications Framework (NHEQF), National Credit Framework (NCrF) at NIT Calicut

Based on the recent guidelines from MoE, Institute is required to implement NEP-2020, NISP-2019, ABC, National Higher Education Qualifications Framework (NHEQF) and National Credit Framework (NCrF)

Decision:

The Senate entrusted the Chairman, Senate to constitute a task force for the implementation of Government policies like NEP-2020, NISP-2019, ABC, National Higher Education Qualifications Framework (NHEQF), National Credit Framework (NCrF) at the Institute.

S90.5.5 Submission by Prof. T. K. Suresh Babu, Member Senate

A submission was received from Prof. T. K. Suresh Babu to clarify a few questions on offering PG courses in view of the proposed curriculum revision. The Senate deliberated on the same. The queries and the clarifications by the Senate are listed below:

1. Can two department offer courses with same name, but different course code. If so is there any clause on the content of the syllabus.

FACT : MBA & ME(IE) curriculum has courses with same name, but different course code with syllabus common to the tune of 15% to 50%

ME6125D Organizational Behavior	MS6103D Organizational Behavior
ME6149D Financial Management	MS6112D Financial Management
ME6124D Human Resource Management	ME6113D Human Resource Management
ME6122D Consumer Behavior	MS7147D Consumer Behavior
ME6143D Enterprise Resource Planning	MS7164D Enterprise Resource Planning

Clarification: Yes. There are no rules prevailing at present that prevent two departments offering courses with the same name but with different course codes. No specific rules are imposed on the syllabi of such courses.

2. Can two department offer courses with different name, and different course code but content 60-80% same.

FACT

MS6102D-Marketing Management- Concepts and Application	ME6121D- Marketing Management
MS6107D-Business Statistics	ME6102D-Statistics for Management

MS7137D-	Entrepreneurship	&	new	venture	ME6147D-Tech Entrepreneurship
creation					

Clarification: Yes. There are no rules prevailing at present that prevent departments offering courses with different names and course code but with overlap in contents.

3. There are 4 ME course code subjects in MBA curriculum approved by the Senate. Can the MS Faculty offer this course?

Clarification: Yes. The ordinances and regulations of M.Tech/MBA programs do not specify the Departments of the course faculty.

4. Can a faculty from one department guide a PG project or a scholar from another department, independently?

Clarification: Yes. The ordinances and regulations do not prevent such interdepartmental project guidance. However, a co-guide shall be inducted from the Department where the student is enrolled.

5. Is there any limit on the number of elective course that a student be permitted to take from other department courses?

There is no uniform rule on this as far as PG programs are concerned. However, the number of such electives are limited to 2 for the UG programs.

S90.5.6 Ratification of permission granted to Mr. Mohammed Hussain K, Roll No. B201134ME for continuing in the B.Tech programmed alongwith with 2021-22 B.Tech Admission Batch.

Mr. Mohammed Hussain K, Roll No. B201134ME has a shortage of 3 credits to move to the 5th semester. He had discontinued the course due to medical reasons. Now he has requested to join back alongwith 2021-22 B.Tech admission batch and continue his studies. His request for the same was permitted by the Chairman, Senate subject to ratification in the Senate.

Decision

The permission granted by the Chairman, Senate was ratified.

The meeting concluded at 6.30 PM with thanks to the Chairman and members.

Registrar & Secretary

Report of the Committee for UG Curriculum Revision 2022

1.0 Introduction

Engineering education – especially undergraduate education – has undergone several paradigm shifts in goals and objectives over the last century. One of the major reforms in the engineering curriculum was during the period 1935-1965 as "Stanford and other American engineering schools began replacing machine shop, surveying, and drawing classes with science and mathematics courses" [1]. The Second World War and post war developments, including the initiation of the third industrial revolution, motivated this change. In May 1952, the President of the American Society for Engineering Education (ASEE), S. C. Hollister, appointed a committee to examine the state of engineering education in the United States of America. The report of this committee, now commonly referred to as the Grinter Report [2], brought about a sea change in the training of engineers and became a foundational document for engineering education. Since then, the engineering curriculum in most of the universities world-wide have been going through several reforms which included: (i) a shift from hands-on and practical emphasis to engineering science and analytical emphasis, (ii) a shift to outcomes-based education and accreditation, (iii) a shift to emphasizing engineering design, (iv) a shift to applying education, learning, and social behavioral sciences research, and (v) a shift to integrating information, computational, and communications technology in education [3]. The fourth industrial revolution (Industry 4.0), with the seamless integration of information, computational, and communications technologies, has brought extensive changes in the engineering profession. This has resulted in a wide gap between the expectations of the society from the engineering profession and the training these professionals are given in our institutions. Finally, the situation has reached a state wherein after four years of extensive undergraduate education, we need to plan for "finishing schools" to make these professionals employable.

The Government of India, emphasizing its prominent role as a major stakeholder and decision maker, has introduced two major policy changes recently - *National Innovation and Startup Policy (NISP) 2019* [4] and *National Education Policy (NEP)* 2020 [5]. NISP will enable the students, faculty, and staff of Higher Education Institutions (HEIs) to actively engage in innovation and entrepreneurship related activities. This framework will also facilitate the Ministry of Education (MoE) in bringing uniformity across HEIs for patent filing and ownership of Intellectual Property (IP) rights, for commercial licensing of technologies developed in the institutes, and a common startup policy across institutes. The NEP emphatically states that "The world is undergoing rapid changes in the knowledge landscape. With various dramatic scientific and technological advances, such as the rise of big data, machine learning, and artificial intelligence, many unskilled jobs worldwide may be taken over by machines, while the need for a skilled workforce, particularly involving mathematics, computer science, and data science, in conjunction with multidisciplinary abilities across the sciences, social sciences, and humanities, will be increasingly in greater demand".

In this context, it is important that our engineering curriculum is designed to prepare students for acquiring the relevant knowledge and skills so that they gain the ability and retain their motivation to pursue a career in engineering. Education must also help to build character, enable the learners to evolve as ethical and rational human beings, while at the same time ensure that they become employable professionals. This requires the curriculum designers to decide very carefully what topics they need to include in the curriculum, and at the same time, to be willing to gracefully omit those topics which are no longer relevant. Therefore, the institute level curriculum should ideally be a broad framework, with ample flexibility for different departments to design their own programmes, and at the same time providing the space for the learners to pursue their multidisciplinary interests.

Many institutions in the country are currently at various stages of aligning their curricula with the new government policies. In our institute, the UG curriculum is automatically due for revision in 2022. Accordingly, an Institute level committee with members from various departments was formed vide Note: NITC/Dean(Acad.)/Curriculum Revision/2021/1 dated 29-Apr-2021 by Dean (Academic), with Dr. A.P. Shashikala (Professor, CED) as the Chairperson.

This committee met several times during the last couple of months and through detailed deliberations has prepared a draft curriculum for the UG programmes of NIT Calicut. The draft curriculum presented in this report proposes some major reforms in an attempt to fulfill the expectations of all stakeholders.

This report presents the major decisions taken by the curriculum committee ranging from categories of courses to possible graduation options for the students. In the next section, we present the basic principles of this curriculum revision followed by the course categories including details of elective baskets. The three possible graduation options proposed for every undergraduate programme are presented next. Finally, we provide a set of guidelines for the effective implementation of this curriculum. This report also contains a sample curriculum framework (Appendix I), for ready reference.

2.0 Basic Principles

- 1. There shall be a proper definition of credits. This definition shall focus on the efforts expected from the students during the academic programme.
- 2. Acknowledging the varying levels of aspirations and commitments, the motivated students are to be provided options for an in-depth study in their own field or interdisciplinary / multidisciplinary studies.
- 3. Departments/Schools are to be given more flexibility in defining the structure and contents of their programmes. This is with the understanding that the academicians within the departments have enough knowledge and exposure to design their programmes effectively in consultation with their Department Advisory Boards (DAB). The proposed curriculum structure shall not sacrifice this flexibility for uniformity requirements, especially when the uniformity requirements arise from operational considerations.
- 4. The curriculum shall be easily adaptable to the recommendations of NEP-2020 and NISP-2019.

3.0 Definition of Credits and Total Credits Requirement

A credit is defined as *three hours of student effort per week per semester*. For example, a theory credit usually implies one hour of classroom / direct faculty instruction (contact hour) and two hours of self-study by a student of moderate interest and ability. This definition can

be applied to all types of courses and other academic activities by the students, and can facilitate the transfer of credits between institutes as envisaged in the NEP and implemented by MoE [6]. Furthermore, it is consistent with the existing curricular structure of the UG programmes and the credit definition adopted in the PG curriculum revision 2018.

The *total number of credits* to be earned for getting a B.Tech. degree from the institute will be in the range between 150 and 160. Departments/Schools shall have the freedom to fix the *minimum* number of credits to be earned for their B.Tech. programmes within this range. An illustration of the expected effort from an "average student" for meeting these requirements is given in Appendix II.

4.0 Course Categories

The committee proposes various course categories from which the credits required for the B.Tech. programme are to be earned. An overview of these categories and the expected number of credits from them is provided in the Table below:

Course Category	Credits	Section with Details	
Institute Core (IC)	22 (8 pre-defined courses)	Section 4.1	
Program Core (PC) and Program Electives (PE)	100-110	Section 4.2	
Open Electives (OE)	6-10	Section 4.3	
Elective Baskets (EB)	18	Section 4.4	
Activity Points (AP)	4	Section 4.5	

4.1 Institute Core (IC)

This category consists of 8 courses which are compulsory for all B.Tech. programmes in the institute, with a total of 22 credits, as follows:

Mathematics – I, II, III, IV Offered by the Dept. of Mathematics	[4 courses]	12 Credits
Professional Communication <i>Offered by SOMS</i>	[1 course]	03 Credits
Professional Ethics Offered by the Dept. running the Pro	[1 course] ogramme	01 Credit
Basic Science [Any 2 of Physics / Chemistry / Life Dept. running the B.Tech. Programm Offered by the Dept. of Physics / Dep	[2 courses] Science, as decided by the ne] pt. of Chemistry / SoBT	06 Credits

Though the Institute Core courses are compulsory for all programmes, *the course* contents may be made programme-specific, and decided by the department offering the

course in consultation with the department running the B.Tech. programme. In addition, if the departments/schools require more courses of this type, they can include such courses as Programme Core.

4.2 Programme Core (PC) and Programme Electives (PE)

This category contains all the mandatory courses as well as electives for any particular programme. The total credits in this category can vary within the range 100-110 credits, and the Departments/Schools can distribute this total credits between its core and elective courses. If necessary, the courses offered by other departments may be included in the Programme Core / Elective upon mutual agreement. Workshops, Laboratories, Seminar, etc. may also be included as Programme Core / Electives if the Department/School requires. Only guidelines to be followed are that the theory and laboratory Programme Core courses must be completed by the end of the sixth semester and the Programme Elective courses should be introduced from the fourth semester.

Credit waiver for Programme Elective courses may be considered in lieu of courses done from other reputed institutes in India or abroad, on approval by the competent authorities.

4.3 **Open Electives (OE)**

The objective of these courses is to guarantee some interdisciplinary exposure to all the students of the undergraduate programme. Therefore, Open Elective courses are to be credited from other Departments / Schools / approved platforms like SWAYAM, with the total credits ranging from 6-10 as decided by the department, outside the core specialization of the student and subject to the rules regarding the overlap in course contents. For the students registering for Minor Programmes, these courses will have to be credited in consultation with the Department(s)/School(s) where the students are planning to enroll for the Minor Programme.

Core courses of other departments may also be credited as Open Electives subject to satisfying the pre-requisites required, if any. This option might become especially useful in case of students enrolling for Minor Programmes. Hence, the students may be given the freedom to credit different kinds of electives, in any semester, within the stipulated credit requirements.

4.4 Elective Baskets (EB)

These are a collection of elective courses, which are essential for the completion of the B.Tech. programme. A minimum of 18 credits are to be earned from this elective basket. Additional courses, if any, over and above the credit requirements of any category in this section, may be included by the Department/School in its Programme Core and Programme Elective categories (Section 4.2).

4.4.1 Innovation / Entrepreneurship (IE)

This basket contains elective courses introduced to cater to the recommendations of NISP-2019. Totally 3 credits are to be earned under this category. The course(s) belonging to this category are to be proposed by the individual Departments/Schools and approved by the Institute Innovation Council (IIC).

4.4.2 Digital / Automation Technologies (DA)

These courses target to impart the knowledge necessary for the students to become successful professionals in this era of digital transformations. The DA basket may consist of courses relating to programming languages / computational methods / automation tools / CAD/CAM or such topics within the broad framework of Industry 4.0. A total of 6 credits are to be earned from this basket and the courses are expected to be offered by the Department/School running the B.Tech. programme itself.

4.4.3 Humanities and Management (HM)

These courses aim at improving the social and managerial awareness, and skills of our students. It can also cater to the passions of some individual students interested in languages and literature. The suggested courses include Indian / Foreign Languages, Economics, Design Thinking and various Management courses. Total credits allotted for this category is 9. These courses are expected to be offered by SOMS or by other Department(s) under mutual agreement with the Department running the B.Tech. programme.

4.5 Activity Points (AP)

During the course of their study, B.Tech. students are expected to engage in various activities leading to their all-round development. These activities ensure that the undergraduate education is holistic, and at the same time useful and fulfilling to the learner.

This basket aims to motivate the students to participate in various activities to obtain a minimum of 80 activity points, which are required to earn the 4 credits allocated for it, by the end of the programme. These credits will not be counted for the CGPA calculation.

Activities from which the points can be earned are broadly categorized into two: *mandatory courses* like Environmental Studies and *non-mandatory activities* like sports and club activities. Details of the activities and the points that can be obtained are given in Appendix III.

5.0 General Guidelines

- 1. Curriculum shall be programme-specific from the first year itself. Since Minor Programmes (discussed in Section 6.0) give more flexibility to a larger number of students to choose their streams of interest, branch change option after the first year shall be discontinued.
- 2. Standard course code conventions in the existing curriculum shall be continued the course code consists of two letters, followed by four digits and then a letter:
 - a. The first two letters indicate the department.
 - b. First digit indicates the level of the course.
 - c. Second digit indicates the specialization to which the course belongs.
 - d. Third and fourth digits together indicate the type of course:

- i. 01 10: Core theory courses in Monsoon Semester
- ii. 11-20: Core theory courses in Winter Semester
- iii. 21 90: Elective courses
- iv. 91 99: other types of courses like laboratory courses, seminars, projects, etc.
- e. The last letter is a code to indicate the corresponding curriculum revision
- 3. New course codes shall have the letter 'E' at the end, instead of the letter 'D'.
- 4. The programme curriculum is expected to be framed such that all the core theory and laboratory courses are completed by the end of the sixth semester (third year).
- 5. There are three parts for the course "Project", one each in sixth, seventh and eighth semesters. Out of these, only the first part in the sixth semester is mandatory for all. Departments / Schools have the freedom to decide whether Project 2 is to be made mandatory or not. Project 3 shall preferably be done as an internship in Industry / own Entrepreneurial venture / R&D organizations / other academic institutions of repute in India or abroad. Otherwise, Project 3 may be done in the institute; or substituted by Programme Elective courses of equivalent credits. Enough flexibility shall be provided to students to choose topics independently or connected for these three components and form project groups across the departments. Total credits for all the projects together shall not exceed 15.
- 6. The number of credits in the final semester (eighth semester) shall be kept minimum (typically 10), to facilitate internship, product development, entrepreneurship or research. The last component of the project shall preferably be done as an internship in the industry / R&D organizations / other academic institutions of repute. However, the students adopting a slow-paced programme can decide to credit some of the elective courses of previous semesters in the eighth semester.
- 7. B.Tech. students, having a CGPA of 7.5 or more, may be allowed to credit M.Tech. or other PG courses from third year (fifth semester) onwards.
- 8. Though the multiple *Exit Options* as envisaged in NEP-2020 are not explicitly stated in this report, the introduction of discipline-wise courses from the first semester will help in incorporating meaningful exit options, once it is decided to introduce the same.

6.0 Honours and Minor Programmes

Students shall have the freedom for either in-depth studies in their own field (Honours Programme) or Interdisciplinary / Multidisciplinary studies (Minor Programme), to be chosen according to their own interests, subject to the availability of seats (for Minor Programmes). Either of these options would require extra efforts, and will be optional for the students. Further, the students can either opt for Honours or a Minor Programme, but not both.

The *Honours Programme* is aimed at the hard-working and meritorious students interested in more in-depth studies in their own field. Those students who are registering for this programme are required to undergo four additional courses (12-16 credits), chosen from specially-designed Honours Basket of courses (which can include the courses of PG streams in the respective Department/School), as stipulated by the Department/School. Further, they are required to maintain a CGPA of 8 throughout, and a minimum of C grade in all the Honours Programme courses. Honours Programme courses will not be considered for CGPA calculation of the B.Tech. degree.

The *Minor Programme* is aimed at students who are interested in interdisciplinary or multidisciplinary studies. Students registered for Minor Programme also are required to undergo four additional courses (12-16 credits), stipulated by the Minor offering Department(s)/School(s). Furthermore, the students registering for a Minor Programme will have to credit two of the Open Elective courses in consultation with the Minor offering Department(s)/School(s). There is no CGPA restriction for Minor Programmes, but the number of seats available for any particular programme may be limited. It is essential for the students to obtain a minimum of C grade for all Minor Programme courses to continue in a Minor Programme. Minor Programme courses (other than the Open Electives) will not be considered for CGPA calculation of the B.Tech. degree.

Both Honours and Minor Programmes shall start from the fourth semester. It is mandatory for all the Departments/Schools having a B.Tech. programme to offer the Honours Programme and at least one Minor Programme, and run the same if 20 or more students register for it. Other Departments, Schools and Centres not offering B.Tech. Degree programmes are also encouraged to offer Minor Programmes. It is recommended that the Minor Programme (for example, "Structural Engineering" instead of "Civil Engineering"). Interdisciplinary Minor Programmes also may be offered by two Departments/Schools together (for example, "Mechatronics" by ECED and MED, or "Bioinformatics" by CSED and SOBT). Though the Minor Programmes are offered for the students of other Departments/Schools, students belonging to either of the participating Departments/Schools may be allowed to register for such Interdisciplinary Minor Programmes.

Separate grade cards shall be issued to all the students enrolling for Honours or Minor Programmes, showing the grades and CGPA obtained in the Honours or Minor Programme courses, irrespective of whether the student has completed the Honours/Minor.

7.0 Conclusions

This is the final report of the UG curriculum committee proposing the changes to be incorporated in NITC B.Tech. curriculum from the academic year 2022-23. This is the modified version of the preliminary report, revised by incorporating suggestions received from all the Department Consultative Committees of the institute. Feedback received from the major stakeholders, including the faculty members, graduating batch of B.Tech. students, alumni belonging to the last three graduating years, and industry partners, were also considered while finalizing the report. Since a report from the Council of Architecture is awaited shortly, recommendations for modifying the B.Arch. curriculum is not included in this report.

Many changes are incorporated in the curriculum to make it compatible with NEP and NISP guidelines. Also, more flexibility is introduced in the curriculum for the offering Departments/Schools and the students. Having a precise definition of a credit will make it more conducive for credit transfer, if the requirement arises. The basic curriculum framework is designed to promote the all-round development of the undergraduate students and make them socially responsible and industry-ready professionals. Additionally, Minor and Honours Programmes are proposed to promote interdisciplinary/multidisciplinary skills and in-depth knowledge respectively, for students with diverse and greater aspirations.

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Members of the Committee:

- 1. Prof. A.P. Shashikala (Chairperson)
- 2. Dr. Ashish Awasthi, MAT
- 3. Dr. Baiju G. Nair, SoBT
- 4. Dr. Chithra K., DAP
- 5. Dr. Deepak M., EED
- 6. Mr. Jaikumar M.G., ECED
- 7. Prof. Lity Alen Varghese, CHED
- 8. Prof. N. Sandhyarani, SMSE
- 9. Dr. K. Muhammad Shafi, SoMS
- 10. Dr. Parameshwaran P., CYD
- 11. Prof. Sameer S.M., ECED
- 12. Prof. T.M. Madhavan Pillai, CED
- 13. Dr. Vari Sivaji Reddy, PHY
- 14. Dr. Vinod Pathari, CSED
- 15. Dr. Jayadeep U.B. (Convener), MED

Appendix I: Sample Curriculum Framework

Semester-I

Sl. No.	Course Code	Course Title	L	Т	Р	Credits	Category
1.		Mathematics I				3	IC
2.		Physics/Chemistry/Life science				3	IC
3.		Professional Communication*				3	IC/PC
4.							PC
5.							PC
6.							PC
7.							PC
8.							PC
	Total Credi	ts					

*Professional Communication: either in first or second semester

Semester-II

Sl. No.	Course Code	Course Title	L	Т	Р	Credits	Category
1.		Mathematics II				3	IC
2.		Physics/Chemistry/Life science				3	IC
3.		Professional Communication*				3	IC/PC
4.							PC
5.							PC
6.							PC
7.							PC
8.							PC
	Total Credits	5					

*Professional Communication: either in first or second semester

Semester-III

Sl. No.	Course Code	Course Title	L	Т	Р	Credits	Category
1.		Mathematics III				3	IC
2.		Professional Ethics*				1	IC/PC
3.		DA-1*				3	PC/DA
4.							PC
5.							PC
6.							PC
7.							PC
8.							PC
	Total Credits						

*DA-1/Professional Ethics: either in third or fourth semester

Semester-IV

Sl. No.	Course Code	Course Title	L	Т	Р	Credits	Category
1.		Mathematics IV				3	IC
2.		DA-1*				3	PC/DA
3.		Professional Ethics*					IC/PC
4.							PC/PE
5.							PC/PE
6.							PC/PE
7.							PC/PE
8.		Minor-1 / Honours-1				3/4	MC
		Expected Activity					
		Points credited					
		should be a minimum					
		of 20					
	Total Credits						

Institute Core courses must be completed within the first four semesters Minor and Honours courses shall start in the fourth semester *DA-1 / Professional Ethics: either in third or fourth semester

Semester-V

Sl. No.	Course Code	Course Title	L	Т	Р	Credits	Category
1.		Humanities-1				3	HM
2.		OE-1				3	OE
3.		DA-2@				3	PC/DA
4.							PC/PE
5.							PC/PE
6.							PC/PE
7.							PC/PE
8.		Minor-2 / Honours-2				3/4	MC/HC
	Total Credits						
	2. aithor in fift	h or givth gomestor					

@DA-2: either in fifth or sixth semester

Semester-VI

Sl. No.	Course Code	Course Title	L	Т	Р	Credits	Category
1.		Humanities-2				3	HM
2.		OE-2				3	OE
3.		DA-2@					PC/DA
4.							PC/PE
5.							PC/PE
6.							PC/PE
7.		Programme Core (Project 1)				3	РС
8.		Minor-3 / Honours-3				3/4	MC/HC

	Expected Activity Points credited should be a minimum of 40			
Total Credits				

@DA-2: either in fifth or sixth semester

Semester-VII

Sl. No.	Course Code	Course Title	L	Т	Р	Credits	Category
1.		Humanities-3				3	HM
2.		Innovation/ Entrepreneurship				3	IE
3.		OE-3*				3	PE/OE
4.							PE
5.							PE
6.							PE
7.		Project 2 / Program Elective				3	PE
8.		Minor-4 /Honours-4				3/4	MC/HC
	Total Credits						

*Third OE is optional to departments

Semester-VIII

Sl. No.	Course Code	Course Title	L	Т	Р	Credits	Category
1.		Project 3* / Programme Electives				6	PE
2.		Activity Basket to have a minimum of 80 points				4	AP
	Total Credits						

* Preferably done as Internship / Product development / Entrepreneurship / Research project

Appendix II: Credit Calculation based on Expected Student Effort

(This calculation is done by assuming that the S8 internship is the "norm". However, the students adopting a slow-paced programme can decide to credit some of the elective courses of previous semesters in the eighth semester.)

Case 1: Total Credits for the B.Tech. Programme is 150

Excluding Activity Points (4 credits) and Eighth Semester Internship (6 credits), total credits remaining = 150 - 10 = 140140 in 7 semesters = 20 credits per semester

Average weekly effort expected:

Case 1a) Only B.Tech.: 60 hours in every semester (except the eighth semester) Case 1b) B.Tech. with 12-16 credits for Minor/Honours: 69-72 hours from 4 to 7 semesters

Case 2: Total Credits for the B.Tech. Programme is 160

Excluding Activity Points (4 credits) and Eighth Semester Internship (6 credits), total credits remaining = 160 - 10 = 150150 in 7 semesters = 21.4 credits per semester

Average weekly effort expected:

Case 2a) Only B.Tech.: 64 hours in every semester (except the eighth semester) Case 2b) B.Tech. with 12-16 credits for Minor/Honours: 73-76 hours from 4 to 7 semesters

Appendix III: Details of Activity Points

Minimum Total Points Required: 80

Credits Awarded: 4

Sl. No.	Category	Points
1	Mandatory Courses: Environmental Studies, Indian Constitution, Value Education and Sustainable Technologies	40 (Max.) (sum of grade points in each course)
2	NSS / NCC / Similar activities	25 (Max.)
3	Optional Courses from approved platforms [Not given the credit elsewhere in the curriculum]	15 (Max.) (sum of grade points in each course)
4	Physical Education / Sports activities	25 (Max.)
5	Miscellaneous Activities for Holistic Development [including Dept. Associations, Professional bodies, SAC, Clubs, Hackathons, Departmental activities, Organizing the events, etc.]	No limit
6	Entrepreneurship and Professional initiatives [including Startups, Publications, Patents]	No limit

Note: Guidelines for awarding the Activity Points may be arrived at by another committee with representation from various stakeholders, including the students.

Annexure: Summary of Feedback Received on Curriculum Revision

1. Faculty Members of NIT Calicut

Total number of responses: 125

2. Alumni / Current Final-year Students

Total number of responses: 522

3. Industry / Other Institutes

Total number of responses: 29

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This form is no longer accepting resp	ponses					
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Who has responded? Email jayadeep@nitc.ac.in						
Who has responded? Email jayadeep@nitc.ac.in hanas@nitc.ac.in						
Who has responded? Email jayadeep@nitc.ac.in hanas@nitc.ac.in teja@nitc.ac.in						
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Name 125 responses	
Jayadeep U B	A
Saleel Ismail	
Sreeraj T P	
Arun P	
Anil Pinapati	
Bimal P.	
Tom Skaria	
Chandra Shekar Bestha	
Deepak M	•
Your Department/School (primary affiliation)	
125 responses	
12.8%	 Architecture and Planning Biotechnology Chemical Engineering



Feedback

1. Please go through the details of Minor and Honours Programmes given below. What is your opinion on the implementation of the revised curriculum with these additional options for B.Tech. degree?

123 responses



2. In the present curriculum of NITC, the first year courses are common for all B.Tech. Programmes, whereas a programme-specific curriculum from the first-year itself is proposed in the revised one. In this regard, please suggest which one of the following is preferable:

123 responses





4. What is your opinion on dedicating a full semester for internship in S7 or S8 for B.Tech. students to work in industry / R&D organizations / other academic institutes in India or abroad / initiate their own entrepreneurial ventures?



5. In the current curriculum, we have core courses in Professional Communication, Economics, Industrial Engineering & Management. Further, students have options to take their Open Electives in these areas. In the new curriculum, a Humanities, Social Science and Management Elective Basket with 3 courses (each of 3 credits, where the students have options to choose the courses) is proposed, along with a core course on Professional Communication. What is your opinion on this modification?



6. Presently, there are no compulsory courses related to Innovation and Entrepreneurship in the B.Tech. curriculum of NITC. In the revised curriculum, it is proposed to introduce one compulsory course – which could be different for different students – in this area. Give your opinion regarding this change.



7. In the current curriculum, we have four OT (Category: Others) courses - Value Education, Physical Education, NSS, Environmental Studies - which are counted in total credits, but not for the CGPA calculation. These courses are awarded only a Pass/Fail grade. What is your opinion on changing them from Pass/Fail type so that they can be included in the CGPA calculation?



8. Currently, our curriculum requires a student to earn a fixed minimum of 160 credits for completing the B.Tech. degree (including the credits for the OT courses) in all the departments. Do you think we need to change this requirement in the new curriculum?







10. In the existing curriculum, 102 credits out of 160 are allotted to the departments for distribution among Programme Core and Department electives. Different B.Tech. programmes have different PC and DE credits. Do you think this flexibility should be retained in the new curriculum too?

124 responses





12. In the current curriculum, for crediting PG electives B.Tech. students must have a minimum CGPA of 7.5. What is your opinion on this restriction?



on the placement.

13. Any other comments / suggestions?	
37 responses	
Nil	
No	
no	
For the course 'Environmental Studies', the grade may be used for CGPA calculation	
Need to be considered NCC also.	
1. NEP 2020 proposes a holistic, student-centric, flexible and multidisciplinary education. The new	
humanities, art, science and technology. A creative combination of the disciplines for the courses	
with multiple entries and exit points is one of the highlights of NEP, 2020. Accordingly, flexible	

student-centric common courses for the first 2 -3 semesters is recommended. Though the proposed curriculum suggests a minor degree, the overall structure is department centric with a major focus



Name	
522 responses	
Dev Sony	•
Sivanageswararao Seelamsetti	
Sunanda Panwar	
Praveen SP	
Abhiram Haridas	
Mohamed Hasin Afsal	
Nived Madhusoodanan	
Shubham Yadav	
ARJUN B J	•

Roll Number (as per NIT Calicut Records)
522 responses
B180297CS
B181007CH
B170709CH
B180047EE
B150177CS
B180198CH
B130130Can
B180287CS





Feedback

1. Please go through the details of Minor and Honours Programmes given below. What is your opinion on the implementation of the revised curriculum with these additional options for B.Tech. degree?

504 responses



2. In the present curriculum of NITC, the first year courses are common for all B.Tech. Programmes, whereas a programme-specific curriculum from the first-year itself is proposed in the revised one. In this regard, please suggest which one of the following is preferable:

517 responses





4. Currently we have an optional 2 months summer internship window at the end of third year. What is your opinion on making this 2 months internship mandatory for all B.Tech. students in the new curriculum?





6. In the current curriculum, we have core courses in Professional Communication, Economics, Industrial Engineering & Management. Further, students have options to take their Open Electives in these areas. In the new curriculum, a Humanities, Social Science and Management Elective Basket with 3 courses (each of 3 credits, where the students have options to choose the courses) is proposed, along with a core course on Professional Communication. What is your opinion on this modification?

498 responses





8. In the current curriculum, we have four OT (Category: Others) courses - Value Education, Physical Education, NSS, Environmental Studies - which are counted in total credits, but not for the CGPA calculation. These courses are awarded only a Pass/Fail grade. What is your opinion on changing them from Pass/Fail type so that they can be included in the CGPA calculation?



9. Currently, our curriculum requires a student to earn a fixed minimum of 160 credits for completing the B.Tech. degree (including the credits for the OT courses) in all the departments. Do you think we need to change this requirement in the new curriculum? ^{516 responses}



10. Any other comments / suggestions?

127 responses

No

None

Project should be made optional for B.Tech students like almost all IITs, students focused on noncore careers should be allowed to compensate project credits with electives. Not everyone is interested in research.

Dedicating a semester completely for internship will be of great advantage for the students as they will be able to convert that into a full time job if they perform well. Most of the universities abroad have this system and is proved to be of great value.

For Mechanical Engineering, inter disciplinary courses need to be introduced like Reliability and Maintenance Engineering wherein not just the design aspects but the maintenance aspects are also introduced.

Since the nation is going forward with Start ups, Start up culture need to be emphasized rat apart from focussing on academics and research. Courses related to entrepreneurship, start ups need to be encouraged. Start up culture need to be encouraged not only in academics but outside academics as well. This can be done through organising Start up Summit. Collaboration with



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M.tech(Chemical rea...

Principal Civil Structur...

Name

29 responses

Swetha H S

C S RAO

Ashwin Zachariah

Bharat Medasani

Marilyn George

BIJO VARKEY

Dinesh Kanna R

Nancy A

Designation

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0

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Associate Professor

29 responses



Glen Felix Lobo

Estimation Manager

Conversational AI dev... Head - CoE Electrifica... Manufacturing Engineer

SoC Design Engine

Scientist

.

Name of the Organization 29 responses	
Bridgei?i Analytics Solutions (part of Accenture)	
bigbasket	
MES	
LiveU Inc	
Princeton Plasma Physics Laboratory	
Brown University	
MRF Limited	
Ford Motor Pvt Itd	

Feedback

1. Please go through the details of Minor and Honours Programmes given below. What is your opinion on the implementation of the revised curriculum with these additional options for B.Tech. degree?

29 responses





3. Suggest what should be the appropriate percentage of programme-specific courses (including department electives) in the overall curriculum of the B.Tech. Programme:





5. What is your opinion on dedicating a full semester for internship in S7 or S8 for B.Tech. students to work in industry / R&D organizations / other academic institutes in India or abroad / initiate their own entrepreneurial ventures?





7. In the current curriculum, we have core courses in Professional Communication, Economics, Industrial Engineering & Management. Further, students have options to take their Open Electives in these areas. In the new curriculum, a Humanities, Social Science and Management Elective Basket with 3 courses (each of 3 credits, where the students have options to choose the courses) is proposed, along with a core course on Professional Communication. What is your opinion on this modification?

27 responses





9. Currently, our curriculum requires a student to earn a fixed minimum of 160 credits for completing the B.Tech. degree (including the credits for the OT courses) in all the departments. Do you think we need to change this requirement in the new curriculum? ²⁹ responses



10. Any other comments / suggestions?

19 responses

Take an input from intern students, check for the industry specific skills and add to the curriculum.

Introduce Coding course for other Btech departments(ECE/Mech,Civil..) as well apart from CS/IS .

Using historical final grades of courses, we can map out which courses have high a fail rate among students and analyze the root cause for the high fail rate.

1. Is the course content above the scope of an average btech student?

2. Can the course instructor do anything different to make the course more engaging for the average student? For example the course structure can be combined with practical projects or research to allows the student to immerse themselves in the course content and make the course "less painful"

One such example from the previous 2008 ME curriculum was "Heat and Mass transfer" in S5.

At the end of the day, the student should feel that they've learned something which may not always be an easy task, but be engaging enough to able to apply the skills in their continued academic and professional careers.

Annexure: Minimum and Maximum Percentage of Programme Core and Programme Elective Courses

The following Pie charts give the minimum and maximum percentages of Programme Core and Programme Elective courses in the proposed B.Tech. curriculum.



Notes:

- 1. The contents of courses in Institute Core (IC) and Elective Basket (EB) also may be modified to suit the specific programmes.
- 2. Courses offered by other departments / schools also might be included in Programme Core (PC). For example, if a department / school wants to have more Basic Science courses than proposed in this curriculum, such courses can be included in PC.

Annexure II

Report of the PG Curriculum Revision Committee

A committee comprising of the following members was constituted by Dean (Acad) vide order NITC/ Dean (Acad.) /Curriculum Revision/2021dated 29/04/2021 to prepare the guidelines for the revision of PG Curriculum incorporating NEP 2020 and NISP 2021 guidelines.

- 1. Dr. Manu R, MED (Chairperson)
- 2. Dr Preetha P, EED (Convener)
- 3. Dr Priya Chandran, CSED
- 4. Dr Ravi Varma, PHY
- 5. Dr Sunil Jacob John, MAT
- 6. Dr Radha Ramanan, SoMS
- 7. Dr Sajith A S, CED

The following members were later inducted based on the requests from the concerned departments.

- 1. Dr. Bimal P., DAP
- 2. Dr. Anuj A. Vargeese, CHY.
- 3. Dr. Dhanaraj K. J., ECED

Dr. Dhanaraj K. J. was later replaced by Dr. Raghu C. V. as the representative of ECED.

The committee identified the following salient features in the NEP2020 guidelines as relevant to Master's level education and tried to develop the guidelines for the new PG curriculum to be implemented with effect from the academic year 2022-23.

- Multidisciplinary education
- Flexible curricular structure
- Internship, Innovation and Incubation

Multi-disciplinary approach in post-graduate education

The existing curricular structure of the PG programmes at NIT Calicut allows the students to choose electives from the list of approved courses as per the curriculum, which includes the option for choosing courses from other departments also with the approval of the Programme Coordinator. The students are permitted to audit additional courses during the third and fourth semesters which are helpful for their project work.

The committee is of the opinion that provision for the multi-disciplinary approach as envisioned by NEP2020 is already existing in the current curriculum and the same can be continued as such. The PG students must be allowed to choose electives across departments, without losing the essence of their specialization. In order to enable the students to choose the electives judiciously and to gain in-depth domain-specific knowledge, the departments may propose elective baskets in various streams/specialisations.

Programme duration, Curricular structure and Credit requirements

NEP2020 advocates maximum flexibility in programme and curricular structure. However, the committee proposes to have post-graduate programmes of two-year duration only at NIT Calicut. All the post-graduate programmes should have their second year (third and fourth semesters) devoted for project work. Science departments will design their new curriculum to incorporate this change, keeping in mind the bridge gap which may arise when a three-year degree holder joins the M.Sc. programme.

From an administrative point of view, it is suggested that uniform programme structure and credit requirements be followed for all M.Tech. programmes. Similarly, all M.Sc. programmes, M. Plan and MBA programmes may follow their own unique programme structure and credit requirements. Even though the credit requirement for the group of programmes such as M.Tech., M.Sc., M.Plan and MBA are identical, the distribution of credits between core and elective courses can be decided by the concerned department.

The committee is of the opinion that only four-year B.Tech. graduates need to be admitted to M.Tech programmes. However, the admission eligibility criteria for the M.Sc., MBA and M.Plan programmes can accommodate both three-year and four-year UG degree holders.

Modification of M.Tech curriculum to accommodate three-year B.Tech. graduates will be taken up at a later stage. The committee recommends appropriate exit policy to be incorporated in the rules and regulations. Students who exit the PG programme after acquiring the prescribed requirements (minimum credit requirement, completion of mini-project or any other criteria, published in advance by the department) will be eligible for a PG Diploma, wherever applicable. Candidates may re-join at a later point of time and complete the remaining requirements and make themselves eligible for the award of PG Degree.

The departments may propose five-year integrated PG programmes with multiple entry-exit options in case demand for such programmes exist.

Departments may also propose Industry sponsored/supported PG programmes with the curricular structure same as the other PG programmes. However, the theory courses will be delivered through online mode. Laboratory/practical courses and evaluation will be carried out in offline mode.

Internship, Innovation and Incubation

NEP2020, as part of holistic education, proposes internship so as to expose the students to the practical side of their learning and to improve their employability. The committee is of the opinion that the Departments may encourage the students to undergo two months internship in industry/research organisations during summer vacation. Wherever possible, students must be permitted to undergo one semester/one year internship in industry as it will expose them to the industry practice and may lead to placement. The departments can specify the quantum and quality of work commensurate with PG project work, and the number of students who can be permitted to take up internship in industry.

The committee also suggests introduction of a compulsory course on 'Entrepreneurship Development' to be offered by Centre for Innovation, Entrepreneurship & Incubation (CIEI). Alternatively, an elective basket of courses related to Innovation, Entrepreneurship and Incubation can be offered by CIEI.

Since NEP 2020 advocates flexibility, the offering departments must be permitted to modify the programme structure, credit requirements and other programme-specific requirements within the broad guidelines recommended by the PG Curriculum Revision Committee.

1. Dr. Manu R, MED (Chairperson)	2. Dr. Priya Chandran, CSED
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3. Dr. Ravi Varma, PHY 4. Dr. Sunil Jacob John, MAT

5. Dr. Preetha P., EED 6. Dr. Radha Ramanan, SoMS

7. Dr. Sajith A. S., CED 8. Dr. Bimal P., DAP

9. Dr. Anuj A. Vargeese, CHY. 10.Dr. Raghu C. V., ECED



NATIONAL INSTITUTE OF TECHNOLOGY CALICUT

Dean (Acad)/Proc/SWAYAM/2022-23/72

09-12-2022

PROCEEDINGS

Sub: Registration and Grading Policy for SWAYAM Courses

In continuation with the decision taken in 84th Meeting of Senate and considering the clause R.10.4 of Ordinances and Regulations for Ph.D programme (applicable to 2022-23 Admission onwards), following guidelines on Registration and Grading Policy for Swayam courses are issued with the approval of competent authority. These guidelines are applicable from 2022-23 academic year onwards.

Guidelines for Registration

UG:

- Institute SWAYAM coordinator (ISC) shall provide the details of courses which will be offered by NPTEL in the upcoming semester, to faculty and students
- Students from 5th and higher semesters will approach their respective Faculty advisors with a request to credit the interested courses. Only courses with a minimum of 12 week duration having structured evaluation for awarding marks shall be considered. FA is required to ensure that the course calendar aligns with the Institute academic calendar.
- FAs shall share the consolidated list of such courses to department AQMC for approval.
- AQMC chairperson shall provide the list of approved courses along with the details of a mentor faculty for each approved course to the Head of the Department.
- HoDs shall forward the consolidated list of all courses approved by AQMC to the ISC before the commencement of semester.
- ISC shall verify the course details and assign course codes for new courses (As per the format SWxxyyy xx is the specialization code of NPTEL and yyy is running number in that specialization in NITC)
- ISC will share these details to DTTCs through respective HoDs for making it available in the respective time tables and also to IMS for creating these courses in the database.
- Interested students may register for the courses as open elective along with the normal semester registration as per the procedure in IMS.
- During enrollment, FAs shall ensure that the students have opted for the courses with the mentor allotted from the departments for UG for that course.
- Students will not be allowed to add or drop a course after the add/drop day specified in the Institute academic calendar



NATIONAL INSTITUTE OF TECHNOLOGY CALICUT

PhD (July 2022 admission onwards):

- Institute SWAYAM coordinator (ISC) shall provide the details of courses which will be offered by NPTEL in the upcoming semester, to faculty and students
- Scholar and supervisor will propose the courses to be credited to DC for approval. Only courses with a minimum 12 week duration having structured evaluation for awarding marks shall be considered. It is required to ensure that the course calendar aligns with the Institute academic calendar.
- PhD Coordinator/Nominee shall act as mentor faculty for all such courses and shall provide the list of approved courses to the Head of the Department.
- HoDs shall forward the consolidated list of all courses to the ISC before the commencement of semester.
- ISC shall verify the course details and assign course codes for new courses (As per the format SWxxyyy xx is the specialization code of NPTEL and yyy is running number in that specialization in NITC)
- ISC will share these details to DTTCs through respective HoDs for making it available in the respective time tables with PhD coordinators/Nominee as mentors and also to IMS for creating the course in the database.
- Interested research scholars may register for the courses along with normal semester registration as per the procedure in IMS.
- During enrollment, PhD coordinators shall ensure that the scholars have opted for the course with the PhD Coordinator/Nominee as mentor.
- Students will not be allowed to add or drop a course after the add/drop day specified in the Institute academic calendar



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Guidelines for Grading

ISC shall provide the details of courses registered and completed by the students of the Institute (both UG and PhD) to all HoDs. Grading policy (absolute/relative) for a course shall be arrived at, after collecting the statistics related to that course from the NPTEL portal/course faculty. The following cases shall be considered for the same.

<u>UG</u>

Case-1: All the students who credited the course are from a single department

- Course mentor will collect the statistics of all courses from the NPTEL portal/course faculty.
- AQMC and course mentors of all students will finalize the grades
- Course mentor shall enter the marks and grading scheme in IMS

Case-2: Students from multiple departments have credited the same course

- Name of such courses along with departments from which students have credited those courses will be provided by the ISC
- ISC will further collect the statistics of all such courses from the NPTEL portal/course faculty.
- A committee consisting of ISC and AQMC Chairs of the respective departments involved will finalize the grades.
- AQMC chairs shall inform the grading policy to the respective course mentors who will in turn enter the grades in IMS for the students.

Special Note: If the statistics pertaining to any course is not available within the deadline for mark entry in IMS, absolute grading policy as per Institute norms shall be applied on the marks obtained by students for such courses.

PhD (July 2022 admission onwards)

Case-1: All the students credited the course are from single a department

- PhD coordinator of the Department shall collect the statistics of all such courses from the NPTEL portal/course faculty.
- A committee consisting of PhD coordinator(s) and supervisors of all students will finalize the grades



NATIONAL INSTITUTE OF TECHNOLOGY CALICUT

- PhD coordinator shall enter the marks and grading scheme in IMS

Case-2: Students from multiple departments have credited a course

- Name of such courses along with departments from which students have credited those courses will be provided by the ISC
- ISC will further collect the statistics of all such courses from the NPTEL portal/course faculty.
- A committee consisting of ISC and PhD coordinators of the departments concerned will finalize the grades.
- Respective PhD coordinators shall enter the results in IMS.

09-12-2022

Sameer S M Dean Academic