SARDAR VALLABHBHAI NATIONAL INSTITUTE OF TECHNOLOGY, SURAT

SVNIT

No: Dean (Acad.)/IAAC/ 544 /2022-23 Date: 07/02/2023

The minutes of the 60th meeting of the Institute Academic Advisory Committee (IAAC)

The aforesaid meeting was held on 31st January 2023, 11:00 am onwards in the Institute Conference room, first floor, Administrative Building. The following members attended the IAAC meeting.

Sr. No.	Name	Designation
1	Dr. Anupam Shukla	Director, ***Chairman***
2	Dr. V. L. Manekar	Dean (Planning and Development)
3	Dr. Sushil Kumar	In-charge Dean (Faculty Welfare)
4	Dr. Ravi Kant	Dean (Students' Welfare)
5	Dr. M. A. Desai	Head, Department of Chemical Engineering
6	Dr. G.J. Joshi	Head, Department of Civil Engineering
7	Dr. Rupa G. Mehta	Head, Department of Computer Science and Engineering
8	Dr. A. K. Panchal	Head, Department of Electrical Engineering
9	Dr. P. N. Patel	Head, Department of Electronics Engineering
10	Dr. Suresh Kumar	Head, Department of Chemistry
11	Dr. Jayesh M. Dhodiya	Head, Department of Mathematics and Humanities
12	Dr. Dimple V. Shah	Head, Department of Physics
13	Dr. H. R. Jariwala	Associate Dean (Academic)
14	Dr. D.R. Roy	Associate Dean (Academic)
15	Dr. R.K. Jana	Associate Dean (Academic)
16	Dr. Y.D. Patil	Associate Dean (Planning and Development)
17	Dr. S.S. Arkatkar	Associate Dean (Planning and Development)
18	Dr. H.B. Mehta	Associate Dean (Research and Consultancy)
19	Dr. S.R. Patel	Associate Dean (Students' Welfare)
20	Dr. M.A. Zaveri	Dean (Academic), ***Member-Secretary***
Invitee(s)		

21	Shri Amit C. Patel	In-Charge Deputy Registrar (Academic)
22	Mr. Sarvesh Kumar	Academic Affairs Secretary (AAS)
23	Ms. Janavi Popat	Research Innovation Affairs Secretary

The following could not attend the meeting.

Sr. No.	Name	Designation
1	Dr. Pramod Mathur	Registrar
2	Dr. D.C. Jinwala	Dean (Research and Consultancy)
3	Dr. U.D. Dalal	Dean (Alumni & Resources Generation)
4	Dr. Jyotirmay Banerjee	Head, Department of Mechanical Engineering
5	Mr. Raghav Khandelwal	Students' General Secretary

Items and Resolutions

Item 1	To discuss the reports submitted by the committee about the implementation of the National Education Policy (NEP) 2020 at SVNIT and adopt a resolution for implementation from the Academic year 2023-24. 1. Committee Report No. DCSE/NEP-MEME-ABC/1285/2022-23 dated 5 December 2022 2. Committee Report No. DCSE/NEP-ABC-strategy-planning/648/2022-23 dated 26 July 2022 3. Committee Report No. DCSE/NEP-strategy/1341/2021-22 dated 10 March, 2022
Reso.1	The agenda item discussed in length and Departments are advised to submit their course structure as per NEP within 15 days so that it can be discussed and approved in next IAAC. The template is circulated to HoDs for deciding the Exit-Equivalence Degree awarding, Entry-Requirement, Curriculum Structure and Subjects list for Core / Specialization. The guidelines and the template are attached in **Annexure 1.1 to 1.4** with above reports mentioned in the item.
Item 2	To consider the recommendations of 101th DAAC, Department of Chemical Engineering conducted on 27/12/2022. (Minutes Ref. No. DoChE/154/2022-23 dated 09/01/2023)
	To discuss and adopt resolution regarding guidelines of Ph.D. Programme including admission process. **Annexure 2.1** (resolution no. 3meeting of the DAAC held on 27/12/2022).
Reso.2	Various points mentioned in resolution number 3 of 101th DAAC minutes. The following are the resolutions after discussion: 1. GATE is a standard examination and the candidate should have cleared only once. As per the O.M. of MHRD dated 30 January 2019 NET / GATE National level examination are mandatory. 2. It is resolved that from next academic year 2023-24 the written test requirement as per Academic Rules and Regulation for Doctoral Programmes July 2019 point 2.2.2, is not mandatory for the department. The written test may be conducted at the discretion of the

<table>
<tr><td></td><td>department. The department has to publish the criteria for the selection process on the institute website along with the list of eligible candidates called for the admission process.
3. The department should provide the eligible list of degrees for the PhD admission in the respective discipline approved by a DAAC of the respective department and the same information will be included in the information brochure.
4. With reference to resolution 2.2 mentioned above, the cut-off criteria in a written test is at the discretion of the department. The department has to publish the criteria for the selection process on the institute website along with the list of eligible candidates called for the admission process.
5. The comprehensive examination as per Academic Rules and Regulation for Doctoral Programmes July 2019 point number 3 will be discontinued for the new entrant from the academic year 2023-24.
6. The change in sponsorship letter format is discussed and it will be included in the new academic admission form. The proposed format is attached as Annexure-2.2.
7. The process / product patent granted will be considered towards the granting the pre-synopsis in the thesis evaluation point number 12 of Academic Rules and Regulation for Doctoral Programmes July 2019. It should be read as below:
"The permission for conduct of Pre-synopsis shall be given only when the student has acceptance of (i) minimum TWO Technical papers in Journals enlisted in SCI/SCI(E) (Clarivate Analytics) / Scopus/Web of Science (non-paid journal) or (ii) minimum TWO process / product patents granted or (iii) ONE Technical paper in Journals enlisted in SCI/SCI(E) (Clarivate Analytics) / Scopus/Web of Science (non-paid journal) and ONE process / product patent granted.</td></tr>
<tr><td>Item 3</td><td>To consider the recommendations of DAAC, Department of Civil Engineering.
An 'addition' of a co-supervisor for Ph.D. Student Ayushi Shah (DS21CE009) enrolled in the FIR category (resolution no. 50.3 of the 50th meeting of the DAAC held on 29/11/2022).
<table>
<tr><th>Existing arrangement</th><th>Proposed arrangement</th></tr>
<tr><td>1. Dr. G.J. Joshi
Professor,
Department of Civil Engg.,
SVNIT, Surat</td><td>1. Dr. G.J. Joshi
Professor
Department of Civil Engg.,
SVNIT, Surat
2. Dr. Manoranjan Parida
Director, CSIR – Central Road Research Institute, New Delhi</td></tr>
</table>
A consent letter of Dr. Manoranjan Parida is submitted with the DAAC recommendation.</td></tr>
<tr><td>Reso.3</td><td>Approved as per Academic Regulation 10.6 (c)</td></tr>
<tr><td>Item 4</td><td>To consider the recommendations of DAAC, Department of Computer Science & Engineering, to discuss and adopt resolutions about 'the proposed the four year B.Tech. (CSE-AI) programme proposal to be commenced from the academic Year 2023-24. The DAAC (Department of Computer Science & Engineering) recommended the four year B.Tech. (CSE-AI) programme. (resolution no. 1 of meeting of the DAAC held on 28/07/2022).</td></tr>
<tr><td>Reso.4</td><td>Advised to submit (CSE-AI) curriculum scheme as per NEP within 15 days for discussion in next IAAC.</td></tr>
</table>

Item 5 — To consider the recommendations of DAAC, Department of Electrical Engineering.

(1) A request of Mr. Santosh L. Kakad (D20EL010), working under the supervision of Dr. M.A. Mulla, for the category conversion from the FIR to PEC (resolution no. 1 of the 63rd meeting of the DAAC held on 11/11/2022). The requisite 'No Objection Certificate' from Employer is submitted with the recommendation.

(2) To discuss and adopt resolutions about 'the proposed revised curricula and PEOs, Pos and PSOs of the 'Two' M. Tech. Programmes of the Department of Electrical Engineering.

The DAAC (Department of Electrical Engineering) recommended the revised curricula and PEOs, Pos and PSOs of the following M Tech specializations for the consideration of the IAAC: Power Electronics & Electrical Drives and Power Systems (resolution no. 1, 2 3, & 4 of the 64th meeting of the DAAC held on 22/11/2022).

This revision is made following the resolution 7 of the 51st meeting of the Senate that discusses the credit range and structural refinements etc. https://www.svnit.ac.in/Data/minutes/senate/51st%20Minutes.pdf

(3) An 'addition' of a co-supervisor for Ph.D. Student Tejavath Suresh (D21EL011) enrolled in the FIR category (resolution no. 1 of the 65th meeting of the DAAC held on 23/12/2022).

Existing arrangement	Proposed arrangement
1. Dr. V.A. Shah Professor Department of Electrical Engg., SVNIT, Surat	1. Dr. V.A. Shah Professor Department of Electrical Engg., SVNIT, Surat 2. Dr. Akanksha Shukla Assistant Professor Department of Electrical Engg., SVNIT, Surat

A consent letter of Dr. Akanksha Shukla is submitted with the DAAC recommendation.

(4) To consider examination scheme for the course of Summer Training (EE405) in curriculum of B.Tech IV. (resolution no. 1 of the 66th meeting of the DAAC held on 11/1/2023)

Course Code	Course	L	T	P	Credits	Examination Scheme		
		Hrs	Hrs	Hrs		Internal Marks	External Marks	Total Marks
EE405	Summer Training	0	0	0	02	50	50	100

(resolution no. 1 of the 66th meeting of the DAAC held on 11/1/2023)

(5) To discuss and adopt resolution about the discontinue Ph.D. Written Test and Ph.D. Comprehensive Exam (resolution no. 2 of the 66th meeting of the DAAC held on 11/1/2023).

(6) A request of Mr. Rohit Chirag V (DS16EL003), working under the supervision of Dr. P.B. Darji and Dr. H.R. Jariwala, for the category conversion from the FIR to PEC (resolution no. 3 of the 66th meeting of the DAAC held on 11/1/2023). The requisite 'No Objection Certificate' from Employer is submitted with the recommendation. (Student joined the GE India Industrial Pvt. Ltd., Bangalore on 20th December 2021,

		but he has submitted the application for the Ph.D. category conversion along with NOC on 14th November 2022. He has published 3 journal papers and 4 conference papers and 2 journal papers are under review as per the information received from the supervisors. Looking to his Ph.D. progress and carrier, the category conversation recommended by the DAAC.
Reso.5	Sub item 1 approved as per Academic Regulation 11.3 (d). For sub item 2, Head of the Department is advised to discuss the matter with Dean (Academic) before next IAAC. Sub item 3 approved as per Academic Regulation 10.6 (c). Sub item 4 approved as per DAAC recommendation. Sub item 5 is resolved as follows: With reference to resolution 2.2 mentioned above, the cut-off criteria in a written test is at the discretion of the department. The department has to publish the criteria for the selection process on the institute website along with the list of eligible candidates called for the admission process. The comprehensive examination as per Academic Rules and Regulation for Doctoral Programmes July 2019 point number 3 will be discontinued for the new entrant from the academic year 2023-24. Sub Item 6 of Mr. Rohit Chirag (DS16EL003) has to return scholarship amount of overlap period of 11 days during these days he availed the scholarship from institute and the financial package from industry. As penalty, he has to pay 1 month scholarship amount (Rs. 35000/-) to Account Section. His request for conversion FIR to PEC category is accepted subjected to the return of scholarship amount of overlap period of 11 days and payment of 1 month scholarship (Rs. 35000/-).	
Item 6	To consider the recommendations of DAAC, Department of Electronics Engineering.	
	(1)	To discuss and adopt resolution about the discontinue Ph.D. Comprehensive Exam (resolution no. 1 of the 72nd meeting of the DAAC held on 13/12/2022). Since last couple of years, the inflow of Ph.D. applications has reduced significantly. Selected students, after completion of credit courses, have to undergo a comprehensive examination before they start their research work. As such, actual research is getting delayed and affected. We already have a requirement of 2 SCI/Scopus papers to justify the quality of the research work.
	(2)	To discuss and adopt resolution about the discontinue Ph.D. Written Test. (resolution no. 2 of the 72nd meeting of the DAAC held on 13/12/2022). For Gate-qualified students, the written test should not be conducted. Their admission will be based on the section-specific interviews as per the interest of the candidate's selected research field. For the Non-Gate student, the written test shall be conducted.
Reso.6	Agenda Item discussed in length. Refer Resolution number 2.2 and 2.5.	
Item 7	To consider the recommendations of DAAC, Department of Mechanical Engineering.	
	(1)	An IAAC approval of a request of Mr. Patel Jigar Lallubhai (D17ME004), working under the supervision of Dr. D. I. Lalwani, for extension to submit the thesis. The thesis will be submitted upto 10/12/2022. Synopsis was submitted on 12/04/2022. (resolution no. 65.3 of the 65thmeeting of the DAAC held on 17/10/2022).
	(2)	An 'addition' of a co-supervisor for Ph.D. Student Mr. Rahul Kumar (DS21ME003) enrolled in the FIR category (resolution no. 65.5 of the 65thmeeting of the DAAC held

		on 17/10/2022). **Existing arrangement**: 1. Dr. Prabhanshu, Assistant Professor, Department of Mechanical Engg., SVNIT, Surat **Proposed arrangement**: 1. Dr. Prabhanshu, Assistant Professor, Department of Mechanical Engineering, SVNIT, Surat; 2. Dr. Jyotirmay Banerjee, Professor, Department of Mechanical Engineering, SVNIT, Surat A consent letter of Dr. Prabhashu and Dr. J. Banerjee are submitted with the DAAC recommendation.
Reso.7	Sub item 1 request is approved. Sub item 2 approved as per Academic Regulations 10.6 (c).	
Item 8	To consider the recommendations of DAAC, Department of Mathematics and Humanities	
	(1)	A request of Mr. Hemant Bhardwaj (D19MA002), working under the supervision of Dr. Neeru Adlakha, for the category conversion from the FIR to PEC (resolution no. 44.2 of the 44th meeting of the DAAC held on 04/11/2022). The requisite 'No Objection Certificate' from Employer is submitted with the recommendation.
	(2)	To consider the recommendations of DAAC, Department of Mathematics and Humanities, to discuss and adopt resolutions about the "Dual Degree Programme: Bachelor of Technology and Master of Technology in Mathematics and Computing for the consideration of the IAAC (resolution no. 44.3 of the 44th meeting of the DAAC held on 04/11/2022). This revision is made following the resolution **61.17.1** of the **61st** meeting of the Board of Governors and 5 of the 55th meeting of the Senate that discusses the bifurcate the existing "Department of Mathematics and Humanities" etc. https://www.svnit.ac.in/Data/minutes/senate/55th%20Senate%20Minutes.pdf
Reso.8	Sub item 1 approved as per Academic Regulation 11.3 (d). Sub Item 2 Head of the Department is advised to submit curriculum scheme as per NEP within 15 days or before next IAAC.	
Item 9	To consider the recommendations of DAAC, Department of Physics, to discuss and adopt resolutions about 'the proposed the four year B.Tech. (Engg. Phys.) programme proposal to be commenced from the academic Year 2023-24. The DAAC (Department of Physics) recommended the four year B.Tech. (Engg. Phys.) programme (resolution no. 44.3 and 44.4 of the 44th meeting of the DAAC held on 04/11/2022).	
Reso.9	Head of the Department is advised to submit curriculum scheme as per NEP within 15 days or before next IAAC.	
Item 10	To discuss and adopt the resolution regarding M.Tech. Dissertation Evaluation Committee	
Reso. 10	It is resolved that, M.Tech. Dissertation Evaluation Committee will be re-structured. The evaluation of group of students working in a similar broad area will be carried out by a group of internal examiners consist of minimum three examiners including supervisor. The	

	number of groups of students and examiners will be decided by the HoD based on specialization. There will be no Chairman in Committee and external examiner for evaluation with immediate effect.	
Item 11	To discuss and adopt the resolution regarding Research Progress Committee for Ph.D.	
Reso. 11	It is resolved that Research Progress Committee structure will remain same as per existing, consist of two nominees of examiners one from supervisor and another from DAAC chairman but there will be no Chairman in the Committee with immediate effect. The same committee members will evaluate the Credit Seminar of PhD Scholar.	
Item 12	To discuss and adopt the resolution regarding Time-table Committee (Other than B.Tech-I year)	
Reso. 12	It is resolved that Time-table Committee will be constituted for other than B.Tech-I year from the immediate effect. This committee consists of time table coordinators from the respective department other than first year coordinators and Associate Dean (Academic) will be the chairman of the committee. The committee members' name will be announced in the month of April of every academic year.	
Item 13	To discuss and adopt the resolution regarding Ph.D. Programme and Admission suggested modifications **Annexure 13.1**	
	(1)	For all Engineering Department, GATE will not be compulsory for admission and getting Institute fellowship for FIR student. Candidate with Master's degree in science must have qualified in GATE/NET for fellowship.
	(2)	The number of applications that Institute receive is exceptionally less compared to the actual vacancies available with each department. . Hence, the written test is ideally taken only when excessive number of applications is received by the department. So, the written test should be conducted at the discretion of the department.
	(3)	The comprehensive assessment should be waived off.
	(4)	The selection of candidates based on 35 percentile criteria should be waived off for promoting research based environment and increase participation in admission. The number of students to be rejected should be at the discretion of the department.
	(5)	Nowadays, interdisciplinary research is promoted by the Ministry of Education as well as the Institute. Hence, it is proposed to consider /allow the candidates from other disciplines *Sciences) to directly enrol in the department of interest where he /she wants to conduct the research. PhD. Degree certificate can be suitable modified, in which the PhD title should be mentioned with name of the Institute, but not the specific discipline / department.
	(6)	As per the present rules, there is a requirement to complete 16 credits course work, which includes a compulsory subject "Research Methodology". It is suggested to reduce the credit requirement to 12 credits and "Research Methodology" should not be made compulsory, as research methodology changes with respect to branch, and it should be left to the supervisor whether to allow the Ph.D. student to register for "Research Methodology" or not.
	(7)	As per the present rules, there is need of at least 2 research papers published from the candidates to apply for Pre-synopsis. In this, the process / product patents granted to the candidate should also be considered along with research papers (eg. Candidate

		with one research paper and one process / product patent or candidate with 2 process patents should also be allowed to apply for pre-synopsis). The patents must be the part of the thesis work. Certificate of design is not allowed.
	(8)	The NOC format, for part-time Ph.D. candidates, should be reframed in order to make it possible for the candidates to get it from their parent organizations. Instead of the sponsorship requirement the requirement of merely "No objection for relieving from duties to complete the coursework" should be included in the No Objection Certificate. Relaxation can also be given in relieving for compulsorily stay in campus for one semester. Accordingly, the format of the same is redrafted and attached as Annexure.
	(9)	The paper advertisement for admission to Ph.D. program should also be published at national-level newspapers for wide publicity. Also, the advertisement may be sent to some selected Institutes/Universities by E-mail.
	(10)	B.Tech. students from NITs and selected college who will graduate in 2023 and are among the top 5 rank holders (General /EWS/OBC) or top ten rank holders (SC/ST) in the departments at the end of their Pre-final year will be allowed for early Ph.D. Prgramme. B.Tech. students from IITs who will graduate in 2023 and having a CGPA/CPI not less than 6.0 at the end of their 3rd year will be allowed for early Ph.D. Programme (Ref: Brochure of IIT, Gandhinagar)
Reso. 13	It is resolved that 1) For all Engineering Department, GATE will be compulsory for admission and getting Institute fellowship for FIR student. Candidate with Master's degree in science must have qualified in GATE/NET for fellowship. As per the O.M. of MHRD dated 30 January 2019 NET / GATE National level examination are mandatory. 2) Sub items (2), (3) and (4) refer Resolution number 2.2, 2.4, and 2.5. 3) Sub item 5 is deferred. 4) For sub item (6): It is decided to reduce the credit requirement from 16 credits to 12 credits and the subject "Research Methodology" is not mandatory. Each department is also requested to offer "Research Methodology" at PG level and the same course may be registered by the PhD student from any department. The course code for the "Research Methodology" subject offered by respective department will be different. The 12 credits should be earned within first two semesters. These 12 credits may be earned through (i) three theory courses or (ii) two theory courses and one credit seminar. 5) For sub item (7), refer Resolution number 2.7. 6) For sub item (8), No objection certificate is revised and attached as Annexure. At present there is no relaxation in stay at campus for one semester (Annexure 2.2). 7) For sub item (9) will be discussed in next IAAC. 8) For sub item (10) will be discussed in next IAAC.	
Item 14	To discuss and adopt the Academic Calendar 2023-24	
Reso. 14	It is discussed and approved with minor suggestion which are incorporated. It is attached as **Annexure 14.1.**	

Item 15	To discuss the Minor program running as per NEW education policy NEP 2020 implementation
Reso. 15	For better implementation of Minor and Honors programs it is decided that the Minor and Honors program from respective department will be executed as per NEW education policy NEP 2020.
Item 16	*Any other Item by Chair* To include the date of convocation in the academic calendar for better planning and execution.
Reso. 16	For better planning and execution of convocation program, the convocation date should be announced with academic calendar. After discussion it is resolved that the convocation shall be scheduled either of 15 September which is celebrated as Engineer's Day – a birth anniversary of Dr. Mokshagundam Visvesvaraya or 31 October which is a birth anniversary of the Iron Man of India, Sardar Vallabhbhai Patel.

Member-Secretary, IAAC

Director

Inward No: 828, Date: 10/12/2022

Annexure1.1

Sardar Vallabhbhai National Institute of Technology, Surat

NEP 2020: Multiple Entry and Multiple Exit (ME-ME) and Academic Bank of Credits (ABC) Implementation

DEAN ACADEMIC
S.V.N.I.T., SURAT-7
INWARD No .....
OUTWARD No. 191
Date 09/12/2022

No: DCSE/NEP-MEME-ABC/1285/2022-23
Date: 5 December 2022

Submitted to the Director and Dean Academic for the necessary approval,

To,
1. The Director
2. Dean Academic

Subject:
Report on possible strategy and planning for ME-ME and ABC implementation as per NEP 2020 at SVNIT, Surat

Reference:

1. National Credit Framework Draft Report September 2022 released on 19 October 2022 by the Minister of Education https://www.education.gov.in/sites/upload_files/mhrd/files/National_Credit_Framework.pdf
2. National Academic Depository https://nad.gov.in
3. Presentation and discussion with HoDs, Director and Dean Academic on National Credit Framework-based NEP implementation on 30 November 2022
4. DAAC resolutions of various departments forwarding note by Dean of Academic No. 158 dated 23/11/2022
5. Various deliberations with different departments' faculty members and HoDs
6. Discussion with the Director, Deputy Director, and Associate Dean Academic on 14 July 2022 and Dean Academic, Deputy Registrar Academic on 19 July 2022
7. Committee Report No. DCSE/NEP-ABC-strategy-planning/648/2022-23 dated 26 July 2022
8. Committee Report No. DCSE/NEP-strategy/1341/2021-22 dated 10 March, 2022
9. Committee Office Order No. E/141/1515 dated March 03, 2022

Dear Sir,

National Education Policy 2020 emphasizes the holistic development of learners and competency through the integration of general education, vocational education, and skilling – professional level experience (experiential learning). National Credit Framework (NCrF) presents the implementation guidelines for academic institutions in this direction. In this report, based on NCrF, a possible implementation strategy and planning for multiple entry - multiple exit (ME-ME) and academic bank of credits (ABC) at SVNIT, Surat is described and recommended various actions from points 1 to 7.

To. Dy. Registrar f.n. DAAC

To IAAC file / DVD
Ack. 10.12

The report consists of points (1) Program Level and ME-ME (2) Assignment of Credits (3) Curriculum Structure (4) National Academic Depository (NAD) (5) Admission Student intake – mobility across HEI (6) Grading system for ME-ME (7) Massive Open Online Courses on ABC.

ME-ME enables learning at anytime, anywhere, and at any level. ABC allows to accumulate credits and redeem the credits to earn an academic degree. ME-ME and ABC are the keys to flexible and lifelong learning. The learner can pick and modify educational path which links diverse disciplines. It is an acceleration for the students having gifted learning abilities. ME-ME is possible through students' seamless mobility between or within higher educational institutions, vocational and skilling. For recognizing ME-ME and ABC, the autonomous institutions acting as a regulator and must define (i) assignment of credits (ii) credit validity and expiry duration (iii) criteria for multiple entry, that is, admission criteria, merit-based selection, entrance test, screening (iv) criteria for multiple exit, that is, awarding certificate, diploma, degree and (v) creditisation for the vocational and professional level experience.

In view of the references cited above, and based on DAAC resolutions received from various departments, it is observed that principally, all departments agree on offering (i) B.Tech. Minor and Honors in various fields, Dual degree programs and M.Sc. programs with different specializations, and (ii) various subjects as massive open online courses towards implementation of NEP 2020. In this regard, the various steps are recommended in-line with NCrF which may be implemented from next academic year with the necessary approvals of the IAAC, senate and BoG.

1. Program Level and ME-ME

As per NCrF for any program-level award requires 1200 notional hours of learning equivalent to 40 credits. The Table 1 described below depicts the "Exit – Equivalence for awarding" and "Entry – Requirement". (Reference: Tables 3,5, 6, 8 in NCrF document)

a. Credit points = Program Level x Credit earned in a year

UG 1st year is at Program Level 4.5, if 40 credits are earned which is equivalent to 180 Credit points earned after the first year of UG study. If the student opts to discontinue after the first year of UG, he/she will be awarded UG-Certificate. The entry level requirement at UG 1st year is 12th + JEE merit-based selection.

b. Expiry of Credit points for UG is 7 years, that is, the Credit points validation duration from the first year of UG entry.

c. Expiry of Credit points for PG is 4 years, that is the Credit points validation duration from the first year of PG entry.

UG 2nd year is at Program Level 5, that is, 40 credits are earned in a year, is equivalent to 200 Credit points earned.

d. Additional credit points can be earned through vocational learning or relevant professional-level experiential learning as mentioned in the Table 2.

Table 1: Program Level, Credit points, Exit – equivalence and Entry – requirement

UG / PG / PhD	Program Level	Minimum Credit earned	Credit Points earned	Exit - Equivalence for awarding	Entry – Requirement (UG 7 years, PG 4 years – Credit Expiry)
UG 1st year	4.5	40	180	UG-Certificate	12th + JEE
UG 2nd year	5.0	40	200 (+ credit points through experience)	UG-Diploma	12th + UG-Certificate / 1 year Vocational or Professional experience + Branch Specific Prerequisite
UG 3rd year	5.5	40	220 (+ credit points through experience)	B.Voc. / B.Sc.	12th + (UG-Certificate / 2 years of UG* or UG-Diploma / 1 year experience*) + Branch Specific Prerequisite
UG 4th year	6.0	40	240 (+ credit points through experience)	B.Tech. / B.E.	12th + (UG-Certificate / 3 years of UG* or UG-Diploma / 2 year experience* or B.Voc. / 1 year experience*) + Branch Specific Prerequisite
PG 1st year	6.5	40	260 (+ credit points through experience)	M.Voc.	B.Tech. / (B.Tech. + 1 year experience* or B.Voc. + 2 year experience*), CCMT
PG 2nd year	7.0	40	280 (+ credit points through experience)	M.Tech.	M.Voc. + 1 year experience* + Branch Specific Prerequisite
PhD	8.0	40	320 (+ credit points through experience)	PhD	B.Tech. / (B.Tech. + 1 year experience* or B.Voc. + 2 year experience*), GATE M.Voc. + 2 year experience*, GATE M.Tech. / M.Tech. + experience*, GATE

A student who completed the first year of UG, which is at Program Level 4.5. The credit points earned are 4.5 x 40 = 180. If a student discontinues the general study for relevant experience / vocational training, the credit points earned and accumulated at the time of entry in the second year of UG under ME-ME are depicted below in Table 2 (Reference Table7 in NCrF document).

Table 2: Criticization of Vocational training / Professional level Experience

Type of experience	No. of experience	Weightage factor	Credit points earned
Training	< 1 year	1	180
Proficient	1 to 4 years	1.33	239.4 ≈ 240
Expert	4 to 7 years	1.67	300.6 ≈ 300
Master	> 7 years	2	360

- A student who wants to enter 2nd year of UG with an experience of 1 to 4 years at the vocational or professional level after completion of 1st year of UG, has earned the credit points 180 x 1.33 = 240.
- 2nd year UG entry criteria is 12th + UG-Certificate or 1 year of vocational / professional level experience + Branch specific prerequisite.
- In this case, the student will enter with 240 credit points in 2nd year of UG instead of 180 credit points earned after 1st year of UG.

e. Branch specific prerequisite is an additional screening criterion helping in preparing the merit list for next year's admission. It is in the form of an entrance examination based on discipline-specific subjects mentioned as Branch specific prerequisites.

f. Mutual agreement / understanding among institutes for providing the credits, accepting credits and transferring. NIT Council may provide the common draft for all NITs or it may be suggested by Ministry of Education for all IITs, NITs, IIITs and CFTIs.

2. Assignment of Credits

- 1200 Notional learning hours and 40 Credits can be earned in a year, through two semesters.
- Each semester consists of 600 Notional learning hours and 20 Credits through five subjects and each subject is of 4 number of credits.
- NCrF specifies:
  - 1 Credit equivalent to 14-15 hours of theory / tutorial
  - 1 Credit equivalent to 28-30 hours of workshop / lab work
  - 1 Credit equivalent to 40-45 hours of vocational training or professional-level learning (experiential learning)
- Subject with L-T-P (15 weeks of academic teaching + 2 weeks for examination)
  - 3-0-2: 15 x 3 = 45 Theory, 15 x 2 = 30 Lab hours: 75 academic teaching hours
  - 3-1-0: 15 x 4 = 60 Theory / Tutorial hours: 60 academic teaching hours
  - 3-1-2: 15 x 4 = 60 Theory / Tutorial hours, 15 x 2 = 30 Lab hours: 90 academic teaching hours
  - 10 Notional hours for examination: Mid Semester Examination: 2 hours, Two-unit tests: 2 hours, Practical / Tutorial Exam: 3 hours, End Semester Examination: 3 hours
- On average 80 notional hours of learning per subject
  - Five subjects per semester result in 400 notional hours of learning

- Additional 200 hours of learning through one vocational training or professional level (experiential learning) – skilling results in earning of 4-5 Credits
- Vocational training or Professional level experiential learning should be evaluated by the respective department through appropriate examination for awarding the credits
- It leads a total 600 Notional learning hours per semester with 24-25 Credits.

3. Curriculum Structure

For seamless student's movement among higher educational institutes, a possible curriculum structure is described in Table 3, maintaining the percentage contribution of subjects from all disciplines.

a. The subjects can be categorized into
   - Core Subjects (Mandatory)
   - Core Subjects (Optional)
   - Other Discipline Subjects (Science, Humanities, Other Engineering disciplines)
   - Elective Subjects, Specialization Subjects for Minor and Honors

b. Inclusion of Vocational training and Professional level experience (internship, relevant experience)

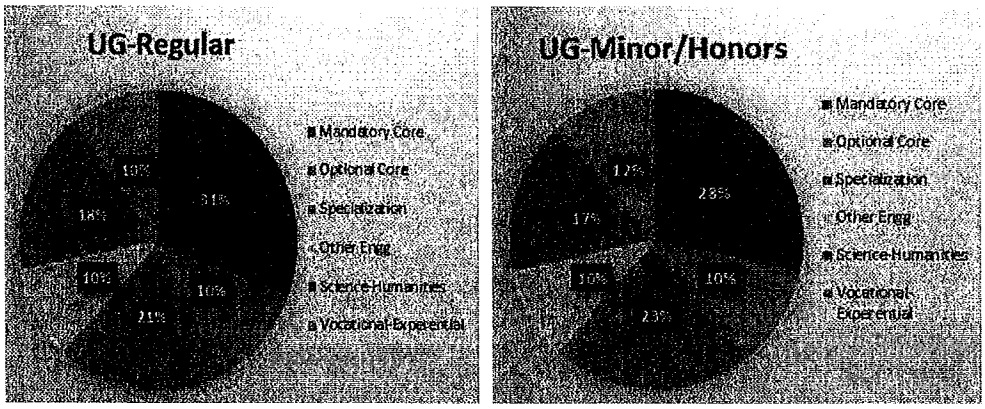
Table 3: Curriculum Structure Semester-wise

Sem	Mandatory Core Subjects (#)	Optional Core Subjects	Elective – Specialization	Other Engineering	Science	Mathematics	Humanities Art Management	Vocational / Professional
1	1			1	1	1	1	1
2	1			2		1	1	1
3	2	1	1	1				
4	2	1	1				1	1
5	2 (3)	1	2					
6	2 (3)	1	2					1
7	2 (0)		2 (4)				1	1

(#) for minor / honors

c. For earning credits
   - Pool of subjects in each category column-wise
   - Choice-basedubject selection
   - 1-2 Core Subjects (Mandatory) discipline-wise must for credit earning
   - Remaining 3-4 Subjects from Core Subjects (Optional), Elective – Specialization, Other Engineering disciplines, Science, Mathematics, Humanities, Art, Management
   - Inclusion of Vocational Training / Professional level Experience
   - Students can earn additional credits in any semester

d. Approximate Credit Distribution for UG Programs



For example, UG-Computer Science and Engineering program – pool of subjects

○ Core Subjects Discipline-wise (Mandatory) • Fundamentals of Computer Programming • Introduction to Computer System and Networking • Data Structure • Discrete Mathematics • Algorithm Design and Analysis • Computer Architecture and Organization • Microprocessor and Interfacing • Automata and Formal Language • Database Management System • Operating System • Computer Network • System Software • Principles of Programming Languages	○ Core Subjects Discipline-wise (Optional) • Object Oriented Technology • Software Engineering • Embedded Systems • Parallel Architecture • Information Security • Artificial Intelligence • Distributed Computing • Game Theory • Graph Theory
○ Other Engineering Subjects • Signal and Systems • Network Analysis • Digital Logic Circuits • Communication Theory • Environmental Engineering • Engineering Mechanics • Thermal Engineering • Engineering Graphics • Engineering Mechanics • Adaptive Signal Processing • VLSI Design • Satellite Communication	○ Vocational training • Institute based ○ Python Programming ○ C/C++ Programming ○ Java Programming ○ R Programming ○ Power BI • Industry based ○ R Programming ○ AWS Microsoft certification ○ CISCO certification

○ Science • Physics • Chemistry • Quantum Physics • Nano technology ○ Mathematics • Engineering Mathematics • Linear Algebra and Probability	○ Professional (Experiential learning) • Institute based ○ Mini project / Sponsored project • Industry based ○ Developer, Programmer ○ Network / System Administrator
○ Art and Humanities • Communication Skill • Foreign Language • Writing Skill • Critical Thinking • Communication Design • Visual Communication ○ Management • Business Analytics • Marketing and Innovation • Design Thinking • Banking Technology • Finance and Project Management	○ Elective – Specialization Subjects • High Performance Computing • Cloud Computing • Cyber Security • Forensic Analysis • Deep Learning • Machine Learning • Multimedia Communication and Protocol • Cellular Network • Mobile Computing • Cyber Physical System • Wireless Network • Soft Computing • Cryptography • Block Chain • Ethical Hacking • Web Engineering • Big Data • Computer Vision • Image Processing • Robot Vision • Internet of Things

e. Minor and Honours 7th Semester Specialization – 4 subjects (CSE-example)
For example, B.Tech. Mech. Minor in CSE or B.Tech. Mech. Specialization in Data Science, B.Tech. Mech. Minor in Data Science

○ B.Tech. Mech Minor in Data Science • Data Structure and Algorithm • Database Management System • Fundamental of Data Science • Machine Learning	○ B.Tech. CSE Honors in Data Science • Fundamental of Data Science • Information Retrieval • Deep Learning • Big Data Analytics
○ B.Tech. Civil Minor in Block Chain • Data Structure and Algorithm • Information Security • Basics of Cryptography • Block Chain Technology	○ B.Tech. CSE Honors in System Security • Information Security • Advanced Cryptography • Network Security • Security for IoT

Example: ME-ME for Computer Science and Engineering Program

Year	Core Subjects (Mandatory)	Exit – for awarding Degree	Entry – Requirement
I	Fundamentals of Computer Programming Introduction to Computer Systems and Networking Vocational Training- 1 (Python Programming) Vocational Training- 2 (C/C++ Programming)	Certificate in Computer Programmer	12^{th} + JEE
2	Data Structure Database Management System Algorithm Design and Analysis Computer Architecture and Organization / Microprocessor and Interfacing Vocational Training -3 (Hardware Maintenance)	Diploma in Computer Technology	12^{th} + UG-Certificate / 1 year Vocational or Professional experience + Branch Specific Prerequisite: Computer Programming Computer System Computer Networking Vocational Training at Programming level
3	Automata and Formal Language Operating System Computer Network System Software	Diploma in Computer Engineering or B.Voc. In Computer Science and Engineering	12^{th} + (UG-Certificate / 2 years of UG* or UG-Diploma / 1 year experience*) + Branch Specific Prerequisite: Data Structure Algorithm, DBMS Computer Architecture/Organization
4	Branch specific mandatory 4 core subjects Or 4 specialization for Minor / Honors Vocational Training - 4	B.Tech. in Computer Science and Engineering	12^{th} + (UG-Certificate / 3 years of UG* or UG-Diploma / 2 year experience* or B.Voc. / 1 year experience*) + Branch Specific Prerequisite: Automata Operating System Computer Network System Software

4. National Academic Depository (NAD)

a. Digital locker – account opening, appointing a nodal officer at institute
b. Storage choice – (i) at NAD (by NIC) (ii) at the institute itself
    - Degree / Certificates stored at the institute itself and linked to NAD (ii) option preferred
c. Selection of mark sheet and certificate templates
d. Integration with existing MIS system for generating .CSV file of template

5. **Admission Student intake – mobility across HEI**
    a. Screening and merit-based supernumerary seats
        - For every 100 number of regular students through JEE additionally 30 number of supernumerary seats
        - Two divisions – each of 50 students (100 number of regular students)
        - Additionally, 15 students in each division - supernumerary seats
        - Total students in each division varies – does not exceed 65
    b. Open advertisement for available seats in each year of UG (maximum 15 with a constrain of 65 student strength of each division)
    c. Mobility based on available number of supernumerary seats and merit through written examination based on Branch Specific Prerequisites

6. **Grading system for ME-ME**
    a. Instead of 10 CGPI and grading of AA, AB, ...
    b. International equivalence 4-point system
    c. Two levels of result: Satisfactory (Pass), Not satisfactory (Repeat)
    d. For a Subject - On a 4-point scale: >= 2.5 for Satisfactory (Pass) otherwise Not satisfactory (Repeat)
    e. Assessment mechanism – 4 tools
    f. Each tool contributes 1 point towards satisfactory if marks obtained are > 60%
    g. Supplementary for Not-satisfactory (Repeat) student

Assessment mechanism	4 points	Satisfactory
Tutorial / Practical	1	1 (Mandatory)
Continuous Evaluation Unit tests	1 (0.5 + 0.5)	Both or either of one
Mid term	1	
End Sem	1	1 (Mandatory)

7. **Massive Open Online Courses on ABC**
    a. Department may offer the number of massive open online courses – certificate-based courses
    b. Vocational training may be offered under MOOC
    c. Evaluation will be similar to that of regular courses
    d. On satisfactorily clearing the subject, the certificate for earned credits will be uploaded on NAD
    e. Appropriate Fees for MOOC course for registration and examination may be decided by the institute

This is for your kind perusal.

Dr. Akanksha Shukla
Asst. Prof. DoEE

Dr. Twinkle Singh
Asst. Prof. DoMH

Dr. Debesh Ranjan Roy
Asso. Prof. DoP

Dr. H. R. Jariwal
Assoc. Prof. DoEE

Prof. Mukesh A. Zaveri
Professor, DoCSE

Inward No. 323 Date: 27/7/2022

Annexure1.2

Sardar Vallabhbhai National Institute of Technology, Surat
Regarding NEP 2020 and Academic Bank of Credits Implementation

No: DCSE/NEP-ABC-strategy-planning/ 648 /2022-23
Date: 27 July 2022

Submitted to the Director and Dean Academic for the necessary approval,

Reference:
1. Committee Office Order No. E/141/1515 dated March 03, 2022
2. Committee Report No. DCSE/NEP-strategy/1341/2021-22 dated 10 March, 2022
3. Discussion with the Director, Deputy Director, and Associate Dean Academic on 14 July 2022 and Dean Academic, Deputy Registrar Academic on 19 July 2022

Dear Sir,

For implementing the ABC and NEP, with reference to above references, following are the proposals submitted for necessary approval and which may be forwarded to various department for further discussion.
The department can prepare the final proposal and it can be forwarded through the DAAC to IAAC and Senate for necessary approval.

Proposal 1:

For implementing ABC, at initial stage, various courses can be offered under Academic Bank of Credits. The department has to identify the possible set of courses that it can offer. The mode of the conduction of the course, the syllabus, and examination pattern must be announced accordingly for registering the course on the ABC site. The candidate who registers for such course may earn the credits and the credits in transcript form can be uploaded on the ABC site. This implementation is similar to the MOOC – massive open online courses available on SWAYM-NPTEL platform.

Department Name:				
Sr. No.	Course offered	Scheme (Credits)	Mode	Prerequisite
1				
2				
....	....			

For example,

Department Name:	Computer Science and Engineering			
Sr. No.	Course offered	Scheme (Credits)	Mode	Prerequisite
1	Operating System	3-0-2 (4) Marks 100-0-50 Syllabus Appendix	Online	Data Structure and Programming, Computer Architecture and Organization
2				

The list of such course must be approved by DAAC and it should be forwarded to IAAC for further approval and implementation.

Proposal 2:

For implementing multiple entry and exit, aiming to develop good, thoughtful, creative individuals, enabling the student to develop interest in specialized areas inline with NEP 2020 themes and directives provided to higher educational institute, the existing UG programs can be extended to Minors and Honors in the final year.

The implementation strategy is as follows:

1. First year is common as it exists currently, entry through 10+2 and JoSAA.
2. At end of first year based on the merit, the student has three choices to complete the UG degree (i) Regular degree program (exists currently as it is), (ii) Fast track degree program with (a) Minor in other disciplines or (b) Honors with specialization in the same discipline.
3. For fast-track degree program – Second and Third years of UG program the curriculum structure will be different to accommodate the core subjects in these two years. In the final year, seventh semester, the student (a) for Minor in other disciplines – has to learn five courses and one mini project, (b) for Honors in same disciplines with specialization – has to learn five courses and one mini project.
4. Eight semester is an internship for all three - regular, minor, and honors degree programs.
5. One division of 30 or 60 students may be decided for Minor and Honors programs.

For example, Department of Computer Science and Engineering

First Semester (Common – Existing Scheme)		
No.	Subject Name	Credits
1	Mathematics-I	4
2	Branch Specific Course-I	4
3	Mechanics, Lasers and Fiber Optics	4
4	Applied Chemistry	4
5	Engineering Drawing	4
6	Energy & Environmental Engineering	4
7	Holistic Empowerment & Human Values	0
	Total	24

Second Semester (Common – Existing Scheme)		
No.	Subject Name	Credits
1	Engineering Mechanics	4
2	Fundamentals of Computer & Programming	4
3	English & Professional Communication	3
4	Workshop Practice	2
5	Physics of Materials and Nuclei	4
6	Branch Specific Course-II	4
7	Mathematics-II	4
	Total	25

Third Semester (Regular – Existing Scheme)		
No.	Subject Name	Credits
1	Discrete Mathematics	4
2	Data Structures	5
3	Computer Organization	5
4	Digital Electronics & Logic Design	5

Fourth Semester (Regular – Existing Scheme)		
No.	Subject Name	Credits
1	Linear Algebra and Statistical Analysis	4
2	Microprocessor and Interfacing Techniques	5
3	Database Management System	5
4	Design and Analysis of Algorithms	5

5	Digital Communication	4
	Total	23

5	Automata and Formal Languages	4
	Total	23

Fifth Semester (Regular – Existing Scheme)		
No.	Subject Name	Credits
1	Operating Systems	5
2	Computer Networks	5
3	Machine Learning	4
4	Professional Ethics, Economics and Business Management	4
5	Core Elective-1	3
6	Institute Elective-1	3
7	Seminar	1
	Total	25

Sixth Semester (Regular – Existing Scheme)		
No.	Subject Name	Credits
1	Information Security and Cryptography	5
2	Artificial Intelligence	5
3	System Software	5
4	Innovation, Incubation and Entrepreneurship	3
5	Core Elective-2	3
6	Core Elective-3	3
7	Institute Elective-2	3
	Total	27

Third Semester (Fast-track)		
No.	Subject Name	Credits
1	Discrete Mathematics	3
2	Data Structures	5
3	Computer Organization	5
4	Microprocessor and Interfacing Techniques	5
5	Database Management System	5
6	Automata and Formal Languages	3
	Total	26

Fourth Semester (Fast-track)		
No.	Subject Name	Credits
1	Design and Analysis of Algorithms	4
2	Operating Systems	5
3	Computer Networks	5
4	Professional Ethics, Economics and Business Management	4
5	Institute Elective-1	3
6	Core Elective-1	3
	Total	24

Fifth Semester (Fast-track)		
No.	Subject Name	Credits
1	Distributed Systems	4
2	System Software	5
3	Artificial Intelligence	4
4	Software Engineering	3
5	Institute Elective-2	3
6	Core Elective-2	3
7	Core Elective-3	3
	Total	25

Sixth Semester (Fast-track)		
No.	Subject Name	Credits
1	Information Security and Cryptography	5
2	Innovation, Incubation and Entrepreneurship	3
3	Machine Learning	4
4	Core Elective-4	3
5	Core Elective-5	3
6	Core Elective-6	3
7	Seminar	2
	Total	23

Seventh Semester (Regular – Existing Scheme)

Seventh Semester (Minor in CSE)

No.	Subject Name	Credits
1	Distributed Systems	5
2	Cloud Computing	4
3	Cyber Laws and Forensics	5
4	Core Elective-4	3
5	Core Elective-5	3
6	Core Elective-6	3
7	Project	3
	Total	26

No.	Subject Name	Credits
1	Data Structures and Algorithms	5
2	Computer Organization	4
3	Database Management System	5
4	Operating Systems	5
5	Computer Networks	4
6	Project	3
	Total	26

Seventh Semester (Honors in Data Science)		
No.	Subject Name	Credits
1	Foundations of Data Science	3
2	Information Retrieval	5
3	Big data Analytics	5
4	Data Visualization	5
5	Deep Learning	5
6	Project	3
	Total	26

Eighth Semester		
No.	Subject Name	Credits
1	Industrial Training	10
	Total	10

Total Credits earned (Semester 1 to 8):
UG Degree Program Regular: 24+25+23+23+25+27+26+10=183
UG Degree Program (Minor/Honor) Fast-track: 24+25+26+24+25+23+26+10=183

The department has to discuss the curriculum structure for Second and Third year for fast track and the courses in the seventh semester for minor and honors respectively. The structure is to be forwarded through the DAAC for further approval and implementation.

For multiple entry and exit:
1. Diploma student may be permitted to Second year of UG program.
2. Student who completes UG program – Regular degree, may be permitted for the registration in seventh semester for pursuing final year of Minor or Honors in the span of three years from the date of Regular degree awarded.
3. Student who completes Fast-track Second and Third year and wants an exist, may be permitted and awarding Diploma degree. If student wants to join Final year of UG program in a span of three years, either in Minor or Honors, may be permitted and on successful completion of final year the UG degree may be offered.

Proposal 3:

For implementing NEP, promoting higher education, Dual degree program may be offered. For Dual Degree program with multiple entry and exit:
1. First year is common as it exists currently, entry through 10+2 and JoSAA and takes direct admission to Dual Degree program (Five years integrated program (B.Tech. + M.Tech.).
2. Diploma student may be permitted to Second year of UG program.

3. Student who entered the UG program of B.Tech. based on 10+2 and JoSAA and opts for fast-track program, i.e., Second year and Third year as described in Proposal 2 and based on merit may be allowed to join Dual Degree, i.e., Five years integrated program (B.Tech. + M.Tech.). That is after third year, two additional years of M.Tech. may be studied.

The department has to discuss the curriculum structure for Dual Degree program. The structure is to be forwarded through the DAAC for further approval and implementation.

Proposal 4:

For science students, promoting higher education, developing good, thoughtful, creative individuals, enabling the student to develop interest in specialized areas, existing M.Sc. programs may be restructured to accommodate multiple exist and entry.

1. Entry 10+2 and JoSAA, entry open for three-year B.Sc. or five-year M.Sc. integrated programs – one division for each at the time of admission.
2. First three years of M.Sc. to be restructured for exit after three years as B.Sc.
3. Student having B.Sc. degree can enter the system for M.Sc. program at Fourth year of Five years integrated program.
4. The student who exists after three years, opting for B.Sc., may be permitted to join at Fourth year of Five integrated program in a span of three years of awarding B.Sc. degree.
5. To cultivate interest in specialized areas, after Three years of M.Sc., student can opt for specialization in a particular discipline or field, i.e., M.Sc. Mathematics with specialization in Data Science, or M.Sc. Mathematics with specialization in Data Visualization, or M.Sc. Physics with specialization in Satellite Engineering.

The department has to discuss the curriculum structure for (i) restructuring first three years for an exist with B.Sc. degree (ii) M.Sc. five-years integrated program with specialization so Fourth year structure revision. Fifth year will be fully project work or industry internship. The structure is to be forwarded through the DAAC for further approval and implementation.

Dr. Akanksha Shukla
Asst. Prof. DoEE

Dr. Twinkle Singh
Asst. Prof. DoMH

Dr. Debesh Ranjan Roy
Asso. Prof. DoP

Dr. H. R. Jariwala
Assoc. Prof. DoEE

Prof. Mukesh A. Zaveri
Professor, DoCSE

1. The Director
2. The Deputy Director
3. Dean Academic
4. Deputy Registrar Academic

Annexure1.3

No. DCSE/NEP-strategy/ 1341 /2021-22
Date: 10 March 2022

Committee Report

Subject: Regarding strategic planning for implementation of New Education Policy at SVNIT Surat
Reference: No. E/141/1515 dated March 03, 2022

The committee referred the NEP 2020 documentation and IIITA document regarding FAP (Flexible Academic Programme) implementation. Based on the discussion among committee members following points are summarized towards the strategic planning for implementation of New Education Policy at SVNIT, Surat.

- IIITA document presents implementation strategy for NEP 2020 and Academic Bank of Credit system. Flexible Academic Programme is the name suggested by IIITA.
- IIITA proposal needs to be refined for implementation as per the institute requirements as there are number of points not addressed completely in IIITA document.

National Education Policy (NEP) 2020 theme

- Higher education contributes sustainable livelihood and economic development of nation
- Education aiming to develop good, thoughtful, creative individuals
- Enable an individual to develop interest in specialized areas, character, ethical and constitutional values, intellectual curiosity, spirit of service and scientific temper
- Holistic and Multidisciplinary development of individual and institute
- Promoting vocational training, creativity, entrepreneurship
- Setting up multidisciplinary education and research university

Adopting NEP 2020 policy and creating Flexible Academic System through Academic Bank of Credit, Multiple exit and entry and promoting Higher Education, research, entrepreneurship activities.

1. Institute has already prepared plan for 2025, 2030 and 2040
2. Promoting higher education – proposing number of PG courses in different disciplines and interdisciplinary courses as per Perspective Plan – 9 UG and 19 PG new programmes are proposed
3. Flexible Academic system
    a. Academic Bank of Credit
        - Identifying the discipline wise courses and registering with ABC system
        - Tie up with industry and foreign universities for advanced courses
        - Total credits to be earned as per AICTE guidelines for completing B.Tech. equivalent degree
        - Total credits to be earned for Diploma or ITI equivalent degree or certification
        - Minimum number of credits to be earned in specific time duration
        - Prerequisite for registering individual course for registration
        - Teaching (online), Examination system and Practical exposure (offline)
        - Course registration fee
        - Eligibility (science, non-science streams)
        - Allowing the students to register for ABC admitted through JoSAA for multiple exit and entry
    b. Multiple exit and entry

- Eligibility for the person (science, non-science streams)
- Allowing the individuals through NAT (National level Aptitude Test)
- Allowing 10+2 pass-out students through JoSAA
- Completing two years of B.Tech. programme (equivalent to Diploma)
- Covering all core subjects in a span of three years (for fast-track B.Tech.)
- Fast-track B.Tech. completion may opt for Two years M.Tech. programme
- Four years B.Tech. (Three years of B.Tech. and Final year of specialization in any discipline – allowing minor degrees in other discipline and specialization degrees in emerging topics in the same discipline
    - For example, B.Tech. CSE student may opt for B.Tech. minor in ECE at final year – allowing to study in depth and breadth wise various subjects as two semester – odd and even cover 6 to 8 subjects and mini project / internship in minor stream
    - B.Tech. CSE student may purse specialization in Data Science at final year – allowing degree B.Tech. CSE (Data Science)
- Five years integrated – Dual degree programme (B.Tech. + M.Tech.)
- Early entry PhD programme (exceptional B.Tech. students after completing three years of B.Tech. or first year of M.Tech. programme)
- Science related programme
    - M.Sc. Integrated programmes – three years exit – allowing B.Sc. degree
    - M.Sc. Mathematics – with specializations and similar for Physics and Chemistry areas

c. Promoting creativity, interest in specialized area, sustainability, societal and community related projects and economic development
    - Entrepreneur Cell – ASHINE – active in promoting number starts up and till now 40+ companies registered
    - Patents – number of patent sanctioned 40+
    - MSME – Certificate courses of one year duration (ITI equivalent)
    - Skill development – tie up with industries for ITI level courses – eligibility any discipline, no age bar
    - Multidisciplinary courses under CIDER
    - UNNAT Bharat – Community Service-related compulsory projects

The above proposal is in line with various steps that should be taken by Higher Education Institutions (HEIs) in various directions suggested by NEP 2020 (a) to (m) – under each step – suggestions for implementation at SVNIT, Surat are highlighted.

(a) Mitigate opportunity costs and fees for pursuing higher education
- Industry sponsored courses in the different disciplines

(b) Provide more financial assistance and scholarships to socio-economically disadvantaged students
- Students will be provided the scholarship as per the Government scheme
- Industry sponsorship can be availed through joint programmes

(c) Conduct outreach on higher education opportunities and scholarships
- Industry sponsored projects, Research projects from different government agencies, fellowship programmes at international institutions

(d) Make admissions processes more inclusive
- National aptitude test (NAT) proposed by the Government for admission

(e) Make curriculum more inclusive
- Curriculum and Syllabus revision as per the emerging technologies and industry-institute interaction as per their need

(f) Increase employability potential of higher education programmes
- More internship and industry sponsored projects
- Projects related to local community and self-sustained, recycling based technology

(g) Develop more degree courses taught in Indian languages and bilingually
- National language and English already in place

(h) Ensure all buildings and facilities are wheelchair-accessible and disabled-friendly
- Institute has already setup such facility

(i) Develop bridge courses for students that come from disadvantaged educational backgrounds
- First year level such courses have been introduced
- For different entry points prerequisite courses can be introduced

(j) Provide socio-emotional and academic support and mentoring for all such students through suitable counselling and mentoring programmes
- Mentoring and counselling system is in place

(k) Ensure sensitization of faculty, counsellor, and students on gender-identity issue and its inclusion in all aspects of the HEI, including curricula
- Continuous Education Programmes is in place, students and faculty members are upgrading their knowledge through different learning platforms like SWAYAM, Coursera, NPTEL and short-term training programmes

(l) Strictly enforce all no-discrimination and anti-harassment rules
- Rules are in place to take care of such matters

(m) Develop Institutional Development Plans that contain specific plans for action on increasing participation from SEDGs, including but not limited to the above items.
- Perspective plan for short-term (2025), mid-term (2030) and long-term (2040) already proposed and it is in pipeline for necessary approval.

The above suggestions may be implemented through DAAC and IAAC resolutions following the necessary senate approval.

10/03/2022
Dr. Akanksha Shukla
Asst. Prof. DoEE

10/03/2022
Dr. Twinkle Singh
Asst. Prof. DoMH

Dr. Debesh Ranjan Roy
Asso. Prof. DoP

10.3.22
Dr. H. R. Jariwal
Assoc. Prof. DoEE

10/3/2022
Prof. Mukesh A. Zaveri
Professor, DoCSE

Copy To,
1. The Director
2. The Deputy Director
3. The Registrar

Annexure 1.4

Detailing for implementation from the department

1. Accepting as per NCrF – National Credit Framework, the defined Program Levels, Credit at each Program Level, and Credit Points earned at each Program Level as mentioned in Table 1. The Credit points earned is equal to Program Level * Credit earned in one year.

Table 1: Program Level, Credit points, Exit – Equivalence and Entry – Requirement

UG / PG / PhD	Program Level	Minimum Credit earned	Credit Points earned	**Exit - Equivalence for awarding**	Entry – Requirement (UG 7 years, PG 4 years – Credit Expiry)
UG 1st year	4.5	40	180 (4.5 x 40)	**UG-Certificate**	1. 12th and JEE
UG 2nd year	5.0	40	200 (+ credit points through experience)	**UG-Diploma**	1. 12th 2. UG-Certificate and 1 year of Vocational or Professional experience 3. Screening based on Branch Specific Prerequisite (written test)
UG 3rd year	5.5	40	220 (+ credit points through experience)	**B.Voc. / B.Sc.**	1. 12th 2. UG-Certificate and 2 years of Vocational or Professional experience **or** 2. UG-Diploma and 1 year of Vocational or Professional experience 3. Screening based on Branch Specific Prerequisite (written test)
UG 4th year	6.0	40	240 (+ credit points through experience)	**B.Tech. / B.E.**	1. 12th 2. UG-Diploma and 2 years of Vocational or Professional experience **or** 2. B.Voc. and 1 year of Vocational or Professional experience 3. Screening based on Branch Specific Prerequisite (written test)
PG 1st year	6.5	40	260 (+ credit points through experience)	**M.Voc.**	1. B.Tech. and GATE, CCMT 2. B.Tech. and 1 year of Vocational or Professional experience **or** 2. B.Voc. and 2 years of Vocational or Professional experience
PG 2nd year	7.0	40	280 (+ credit points through experience)	**M.Tech.**	1. M.Voc. and 1 year of Vocational or Professional experience 2. Screening based on Branch Specific Prerequisite (written test)

PhD	8.0	40	320 (+ credit points through experience)	**PhD**	B.Tech. and GATE (direct admission) **or** B.Tech. and 1 year of Vocational or Professional experience **or** B.Voc. and 2 years of Vocational or Professional experience M.Tech. **or** M.Voc. and 2 years of Vocational or Professional experience

2. Validity and Expiry of the Credit earned for UG program B.Tech. is 7 years, that is, the duration for total credits earned from entry at Program level 4.5 and exit at Program level 6.0 is 7 years. The B.Tech. degree should be earned in a span of 7 years.

3. Validity and Expiry of the Credit earned for PG Program M.Tech. is 3 years, that is, the duration for total credits earned from entry at Program level at 6.5 and exit at Program level 7.0 is 3 years. The M.Tech. degree should be earned in a span of 3 years.

4. Accepting the inclusion of Vocational Training, Field Experience, or Experiential Learning along with our General Education system as part of the Curriculum structure. The credit points earned through Vocational Training and Field Experience or Experiential Learning will be part of will be included in the CGPA / SGPA. The credit point calculation for Vocational and Experiential learning is mentioned in Table 2.

Table 2: Criticization of Vocational training / Professional level Experience

Type of experience	No. of experience	Weightage factor	Credit points earned
Training	< 1 year	1	180
Proficient	1 to 4 years	1.33	239.4 ≈ 240
Expert	4 to 7 years	1.67	300.6 ≈ 300
Master	> 7 years	2	360

5. Each department will provide the Exit -Equivalence for awarding a degree at the end of each Program Level. That is, the name for UG-Certificate, UG-Diploma, B.Voc./B.Sc., B.Tech., M.Voc., M.Tech., and PhD. For example, for Department of Computer Science and Engineering
    a. UG-Certificate – Computer Operator or Computer Programmer
    b. UG-Diploma – Diploma in Computer Technology or Diploma in Computer Science and Engineering
    c. B.Voc./B.Sc. – B.Voc. in Computer Science and Engineering
    d. B.Tech. – Computer Science and Engineering

6. Branch-specific prerequisite is an additional screening criterion helping in preparing the merit list for next year's admission through a written test.

7. Entry -Requirement as suggested in the following table for Multiple Entry and Multiple Exit (MEME) allowing lifelong learning and holistic development.

8. For NEP supernumerary seats of 30 which is to be considered as lateral entry from the second year of B.Tech. UG program. This is additional seats on every 100 seats of regular students admitted as per the intake through JoSAA.

9. The advertisement in the month of July 1st week of the academic year may be announced for the lateral admission under NEP 2020 for the available supernumerary seats through the merit based on a written test as per Branch-specific prerequisite subjects and Entry-Requirements criteria's mentioned in the Table 1.

10. As per National Credit Framework, the credit assignment and evaluation will be decided by the regulatory education organization. The guidelines for the credit assignment as mentioned NCrF:

    - 1200 Notional learning hours and 40 Credits can be earned in a year, through two semesters.
    - Each semester consists of 600 Notional learning hours and 20 Credits through five subjects and each subject is of 4 credits.
    - NCrF specifies:
        - 1 Credit equivalent to 14-15 hours of theory / tutorial
        - 1 Credit equivalent to 28-30 hours of workshop / lab work
        - 1 Credit equivalent to 40-45 hours of vocational training or professional-level learning (experiential learning)
    - For implementing the above credit assignment
        - Subject with L-T-P (15 weeks of academic teaching + 2 weeks for examination)
            - 3-0-2: 15 x 3 = 45 Theory, 15 x 2 = 30 Lab hours: 75 academic teaching hours
            - 3-1-0: 15 x 4 = 60 Theory / Tutorial hours: 60 academic teaching hours
            - 3-1-2: 15 x 4 = 60 Theory / Tutorial hours, 15 x 2 = 30 Lab hours: 90 academic teaching hours
            - 10 Notional hours for examination: Mid Semester Examination: 2 hours, Two-unit tests: 2 hours, Practical / Tutorial Exam: 3 hours, End Semester Examination: 3 hours
        - On average 80 notional hours of learning per subject
            - Five subjects per semester result in 400 notional hours of learning
        - Additional 200 hours of learning through one vocational training or professional level (experiential learning) – skilling results in earning of 4-5 Credits
        - **It results in a total 600 Notional learning hours per semester with 24-25 Credits.**

11. The existing curriculum structure should be revised for implementing NEP 2020. One of the major themes is the seamless student movement among higher educational institutes.

    A possible curriculum structure is described in Table 3, maintaining the percentage contribution of subjects from all disciplines.

    a. The subjects can be categorized into
        1. Core Subjects (Mandatory)
        2. Core Subjects (Optional)
        3. Other Discipline Subjects (Science, Humanities, Other Engineering disciplines)
        4. Elective Subjects, Specialization Subjects for Minor and Honors
        - There will be a minimum of five subjects from 1 to 4 categories in each semester.

- Each subject will be scheduled in the existing time slots that are followed by the institute.

b. Inclusion of Vocational training and Professional level experience (internship, relevant experience) of 160-200 Hours which is 8 hours/week in six months of duration, half-yearly results into earning 4-5 credits in a particular semester.

c. 8th Semester – 4th year of UG program – Vocational or Professional experience in the form of an internship is mandatory of for 16 weeks, that is, 16 x 5 x 8 = 640 notional learning hours equivalent to 16 credits (640 hours / 40 hours per credit).

d. The total number of credits for a UG program: 7 semesters x minimum 5 subjects x minimum 4 credits results into 140 credits plus 16 credits in 8th semester, that is, total 156 credits.

e. So additionally, **three Vocational or Professional training each of 4-5 credits in 1st, 2nd, and 3rd year of UG program** which results into 12-15 credits. It will allow fulfilling a minimum requirement of 160-180 credits for a UG program degree.

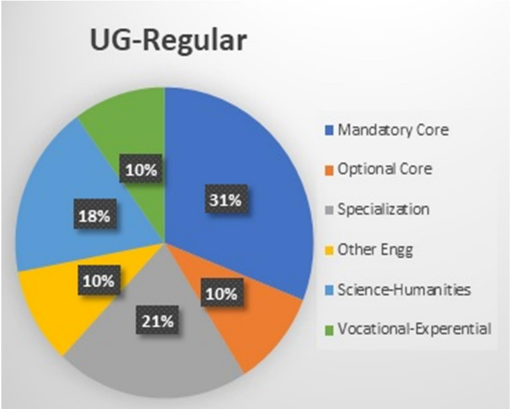
f. At present, Six numbers of Vocational or Professional training are proposed from the First year to the Third year of UG.

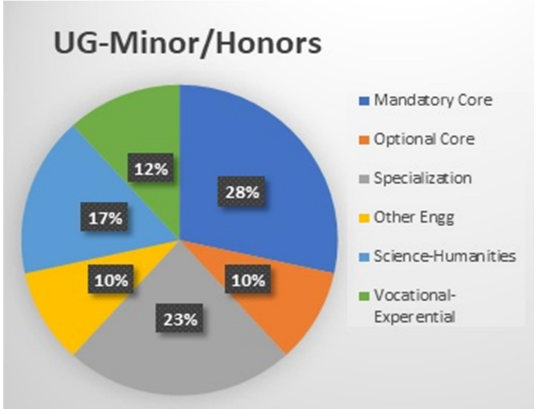
Table 3: Template for Curriculum Structure Semester-wise

Sem	Mandatory Core Subjects (#)	Optional Core Subjects	Elective – Specialization	Other Engineering	Science	Mathematics	Humanities Art Management	Vocational / Professional
1	1			1	1	1	1	1
2	1			2		1	1	1
3	2	1	1	1				
4	2	1	1				1	1
5	2 (3)	1	2					
6	2 (3)	1	2					1
7	2 (0)		2 (4)				1	1
8								1*

(#) for minor / honors

12. The curriculum structure depicted in Table 3 ensures the credit distribution as per the standard norms which is shown in the following charts which may be considered as reference.





13. The above curriculum structure provides Choice Based Credit System (CBCS), Other than Mandatory subjects, the student has a choice of subjects that can be selected from the different Categories of Subjects, that is, Optional Core, Elective / Specialization, Other Engineering Discipline, Humanities and Management, Science and Mathematics.
14. Each department is requested to revise the curriculum structure as per following table which may be considered as a template.

Year	Subjects	Code	Schemes	Credits	Notional hours	Exit-Equivalence for awarding a degree	Entry-Requirement
1st of UG	Mandatory Core					**UG-Certificate** – Computer Operator or Computer Programmer	1. 12th and JEE
	Other Engineering						
	Science						
	Mathematics						
	Humanities						
	Vocational	VSXXX	0-0-8	4	160 (20 x 8)		
				20	600		
	Mandatory Core						
	Other Engineering						
	Other Engineering						
	Mathematics						
	Humanities						
	Vocational	VSXXX	0-0-8	4	160 (20 x 8)		
				20	600		

				40	**1200**		
2nd of UG	Mandatory Core					**UG-Diploma** - Diploma in Computer Technology or Diploma in Computer Science and Engineering	1. 12th 2. UG-Certificate and 1 year of Vocational or Professional experience 3. Screening based on Branch Specific Prerequisite (written test)
	Mandatory Core						
	Optional Core						
	Elective						
	Other Engineering						
				20	600		
	Mandatory Core						
	Mandatory Core						
	Optional Core						
	Elective						
	Humanities						
	Vocational	VSXXX	0-0-8	4	160 (20 x 8)		
				20	600		
				40	**1200**		
3rd of UG	Mandatory Core					**B.Voc. / B.Sc.** – B.Voc. in Computer Science and Engineering	1. 12th 2. UG-Certificate and 2 years of Vocational or Professional experience **or** 2. UG-Diploma and 1 year of Vocational or Professional experience 3. Screening based on Branch Specific Prerequisite (written test)
	Mandatory Core						
	Optional Core						
	Elective						
	Elective (Specialization for Minor / Honor)						
				20	600		
	Mandatory Core						
	Mandatory Core						
	Optional Core						
	Elective						
	Elective (Specialization for Minor / Honor)						
	Vocational	VSXXX	0-0-8	4	160 (20 x 8)		
				20	600		
				40	**1200**		
4th of UG	Elective					**B.Tech.**	1. 12th 2. UG-Diploma and 2 years of Vocational or
	Elective						
	Elective (Specialization – Minor/Honor)						

	Elective (Specialization – Minor/Honor)						Professional experience **or** 2. B.Voc. and 1 year of Vocational or Professional experience 3. Screening based on Branch Specific Prerequisite (written test)
	Humanities						
				20	600		
	Vocational / Professional	VSXXX /PSXXX	0-0-40	20	800 (20 x 40)		
				20	800		
				40	**1200**		

For example, MEME for UG Program Computer Science and Engineering

15 Teaching weeks + 2 Examination weeks (10 Hours)

Observation:

1. **Need revision of curriculum structure for 1st year, 2nd year, 3rd year, and 4th year as per Table mentioned in previous point.**
2. **Include Vocational and Professional Experience in the first year for UG-Certificate at present 0 Credits and number of hours not specified**
3. **Need to define the track for specialization for offering Minor and Honors**

Year	Subjects	Code	Schemes	Credits	Notional hours	Exit-Equivalence for awarding a degree	Entry-Requirement
1st of UG	**Mandatory Core** Introduction to Computer Science	CS101	3-0-0	3	65	**UG-Certificate** – Computer Operator or Computer Programmer	2. 12th and JEE
	Mandatory Core Introduction to Programming	CS103	3-0-2	4	85		
	Other Engineering Digital Electronics & Logic Design	EC103	3-0-2	4	85		
	Other Engineering Basics of Electrical Engineering	EE105	3-0-2	4	85		
	Other Engineering Digital Communication	EC105	3-0-2	4	85		
	Mathematics Mathematics-I	MA115	3-1-0	4	70		

	Humanities Holistic Empowerment & Human Values	HU107	0-0-1	0	15		
				23	490		
	Mandatory Core Data Structures	CS102	3-1-2	5	100		
	Mandatory Core Web Programming and Python	CS104	3-0-2	4	85		
	Other Engineering Energy & Environmental Engineering	CIME 106	3-0-2	4	85		
	Science Physics	PH104	3-0-0	3	65		
	Mathematics Mathematics-II	MA116	3-1-0	4	70		
	Humanities English & Professional Communication	HU110	3-0-0	3	65		
	Professional Experience Community Project	CS106	**0-0-8**	**4**	**160 (20 x 8)**		
				27	630		
				50	**1120**		
2nd of UG	**Mandatory Core** Computer Organization	CS203	3-1-0	4	70	**UG-Diploma** - Diploma in Computer Technology or Diploma in Computer Science and Engineering	1. 12th 2. UG-Certificate and 1 year of Vocational or Professional experience 3. Screening based on Branch Specific Prerequisite (written test based on following subjects) Computer Programming, Computer System, Computer
	Mandatory Core Database Management Systems	CS205	3-1-2	5	100		
	Mandatory Core Design and Analysis of Algorithms	CS207	3-1-2	5	100		
	Optional Core Object Oriented Programming	CS209	3-0-2	4	85		
	Mathematics Discrete Mathematics	CS201	3-1-0	4	70		
				22	425		
	Mandatory Core Microprocessor and Interfacing Techniques	CS202	3-1-2	5	100		

	Mandatory Core Operating Systems	CS204	3-1-2	5	100		Networking, Vocational Training at Programming level
	Mandatory Core Computer Networks	CS206	3-0-2	4	85		
	Mandatory Core Automata and Formal Languages	CS208	3-1-0	4	70		
	Optional Core Artificial Intelligence	CS210	3-0-2	4	85		
				22	440		
				44	**865**		
3rd of UG	**Mandatory Core** System Software	CS301	3-1-2	5	100	**B.Voc. / B.Sc.** – B.Voc. in Computer Science and Engineering	1. 12th 2. UG-Certificate and 2 years of Vocational or Professional experience **or** 2. UG-Diploma and 1 year of Vocational or Professional experience 3. Screening based on Branch Specific Prerequisite (written test based on following subjects) Data Structure Algorithm, DBMS, Computer Architecture / Organization
	Optional Core Machine Learning	CS303	3-0-2	4	85		
	Management Professional Ethics, Economics and Business Management	HU301	3-0-0	3	65		
	Elective	CS3AA	3-0-2	4	85		
	Elective (Specialization – Minor/Honor)	CS3XX	3-0-0	3	65		
	Vocational CI/CD Tools	CS305	**0-0-8**	**4**	**160 (20 x 8)**		
				23	560		
	Optional Core Information Security and Cryptography	CS302	3-1-2	5	100		
	Elective Cloud Computing	CS304	3-1-2	5	100		
	Elective	CS3BB	3-0-2	4	85		
	Elective (Specialization – Minor/Honor)	CS3CC	3-0-2	4	85		
	Elective (Specialization – Minor/Honor)	CS3YY	3-0-0	3	65		
				21	435		
				44	**995**		

4th of UG	**Optional Core** Distributed Systems	CS401	3-0-2	4	85	**B.Tech.**	1. 12th 2. UG-Diploma and 2 years of Vocational or Professional experience **or** 2. B.Voc. and 1 year of Vocational or Professional experience 3. Screening based on Branch Specific Prerequisite (written test based on following subjects) Automata Operating System, Computer Network, System Software
	Elective	CS4AA	3-0-2	4	85		
	Elective (Specialization – Minor/Honor)	CS4BB	3-0-2	4	85		
	Elective	CS4CC	3-0-0	3	65		
	Management Innovation, Incubation and Entrepreneurship	HUXXX	3-0-0	3	65		
	Professional Mini Project	CS403	0-0-8	4	160 (20 x 8)		
				22	545		
	Professional	CS402	0-0-40	20	800 (20 x 40)		
				20	800		
				42	**1345**		

15. Define the specialization tracks for Minor, Honors – allowing interdisciplinary specialization as per the CIDER (Centre for Interdisciplinary Education and Research) proposal. The specialization track is achieved through the set of elective subjects for Minor (in another discipline) and Honor (in its own discipline). These specialization subjects can be distributed from 5th, 6th, and 7th semesters.
    For example,

○ B.Tech. Mech Minor in Data Science • Data Structure and Algorithm • Database Management System • Fundamental of Data Science • Machine Learning	○ B.Tech. CSE Honors in Data Science • Fundamental of Data Science • Information Retrieval • Deep Learning • Big Data Analytics
○ B.Tech. Civil Minor in Block Chain • Data Structure and Algorithm • Information Security • Basics of Cryptography • Block Chain Technology	○ B.Tech. CSE Honors in System Security • Information Security • Advanced Cryptography • Network Security • Security for IoT

16. Each department will provide a pool of Mandatory Core, Optional Core and Elective Subjects. The department will also provide Vocational training, it may be Institute based or Industry based. The department will also provide a valid list of Professional experience (Experiential learning) or Field work

for earning the credits. For Vocational training and Professional experience, the student will be evaluated through an assessment mechanism devised by the department.

For example, UG-Computer Science and Engineering program – pool of subjects

○ Core Subjects Discipline-wise (Mandatory) • Introduction of Computer Programming (CS103) • Introduction to Computer System and Networking (CS101) • Data Structure (CS102) • Discrete Mathematics (CS201) • Algorithm Design and Analysis (CS207) • Computer Architecture and Organization (CS203) • Microprocessor and Interfacing (CS202) • Automata and Formal Language (CS208) • Database Management System (CS205) • Operating System (CS204) • Computer Network (CS206) • System Software (CS301) • Principles of Programming Languages	○ Core Subjects Discipline-wise (Optional) • Object Oriented Technology (CS209) • Software Engineering • Embedded Systems • Parallel Architecture • Information Security (CS302) • Artificial Intelligence (CS210) • Distributed Computing • Game Theory • Graph Theory
○ Other Engineering Subjects • Signal and Systems • Network Analysis (EE105) • Digital Logic Circuits (EC103) • Communication Theory (EC105) • Environmental Engineering (CIME106) • Engineering Mechanics • Thermal Engineering • Engineering Graphics • Engineering Mechanics • Adaptive Signal Processing • VLSI Design • Satellite Communication	○ Vocational training • Institute based ○ Python Programming ○ C/C++ Programming ○ Java Programming ○ R Programming ○ Power BI • Industry based ○ R Programming ○ AWS Microsoft certification ○ CISCO certification
○ Science • Physics • Chemistry • Quantum Physics • Nano technology ○ Mathematics • Engineering Mathematics (MA115) • Linear Algebra and Probability (MA116)	○ Professional (Experiential learning) • Institute based ○ Mini project / Sponsored project • Industry based ○ Developer, Programmer ○ Network / System Administrator
○ Art and Humanities • Communication Skill	○ Elective – Specialization Subjects • High Performance Computing

• Foreign Language • Writing Skill • Critical Thinking • Communication Design • Visual Communication ○ Management • Business Analytics • Marketing and Innovation • Design Thinking • Banking Technology • Finance and Project Management	(CS326) • Cloud Computing (CS304) • Cyber Security • Forensic Analysis • Deep Learning (CS433) • Machine Learning (CS303) • Multimedia Communication and Protocol • Cellular Network • Mobile Computing • Cyber Physical System (CS362) • Wireless Network • Soft Computing • Cryptography • Block Chain (CS439) • Ethical Hacking (CS364) • Web Engineering • Big Data • Computer Vision • Image Processing • Robot Vision • Internet of Things

Annexure2.1

ANNEXURE 1

Following are the recommendations regarding PhD program and admission in PhD program at SVNIT.

1. The compulsory requirement of GATE qualification for Engineering discipline should be removed for students having M.Tech /M. E. with required CGPA (as per the existing norms), for FIR category with stipend.
   Justification: Following are some of the Institutes that are offering PhD admission to the students without compulsion of GATE score with scholarship:
   a. IIT Kanpur
   b. IIT Delhi
   c. IIT Ropar
   d. IIT Mandi
   e. MNIT Jaipur
2. The number of applications that we receive is exceptionally less compared to the actual vacancies available with the department. (e.g. from last 3-4 semesters, DoChE received around 4-5 applications against the vacancy (more than 30). The written test is ideally taken only when excessive number of applications are received by the department. So, written test should be conducted at the discretion of the department.
3. Nowadays, interdisciplinary research is promoted by the Ministry as well as the Institute. Hence, it is proposed to consider/allow the candidates from other disciplines to directly enrol in the department of interest where he/she wants to conduct the research.
   PhD degree certificate can be suitably modified, in which the PhD title should be mentioned with name of the Institute, but not the specific discipline.
4. The selection of candidates based on 35 percentile criteria should be waived off for promoting research-based environment and increase participation in admission. The number of students to be rejected should be at the discretion of the department.
5. The comprehensive assessment should be waived off.
6. The format of Sponsorship Letter to be submitted for the PEC candidates should be reframed as No Objection Certificate and is suggested in Annexure 2.
7. There is a need of at least 2 (two) research papers from the candidate to apply for pre-synopsis as of now. In this, the process/product patents granted to the candidate should also be considered along with research papers (e.g. candidate with 1 research paper and 1 process patent or candidate with 2 process patents should also be allowed to apply for pre-synopsis). The patents must be the part of the thesis work. Registration of design is not allowed.

Sunita Gupta

DC and M.A.

Annexure 2.2

No Objection Certificate for Part-Time External Candidates.
(This should be typed on Letter Head of the Sponsoring Organization)

To,
The Director,
Sardar Vallbhbhai National Institute of Technology,
Surat 395 007

Sub.: No objection Certificate to pursue Ph.D. Programme in Part Time External (PEC) Category

Dear Sir,

We hereby have no objection to the candidature of Mr./Ms._____,

who is an employee in our Organization, for joining Ph.D. programme in _____at your institute as a PART-TIME External Candidate.

We grant him/her permission to attend the classes during the first year of Ph.D. programme to complete the course work requirements.

Signature of Head of Organization
With seal and Date

The Director,
SVNIT SURAT

Annexure13.1

PhD Program Admission Suggested modifications

Following are the recommendations regarding PhD program and admission in PhD program at SVNIT:

1. For all Engineering Departments, GATE will not be compulsory for admission and getting Institute fellowship for FIR student. Candidate with Master's degree in science must have qualified in GATE?NET for fellowship.
The compulsory requirement of GATE qualification should be removed for students having M.Tech./M.E., with required CGPA (as per the existing norms), for FIR category with stipend. Preference will be given to GATE/NET qualified candidates.

2. The number of applications that we receive is exceptionally less compared to the actual vacancies available with each department. Hence, the written test is ideally taken only when excessive number of applications is received by the department. So, the written test should be conducted at the discretion of the department.

3. The selection of candidates based on 35 percentile criteria should be waived off for promoting research based environment and increase participation in admission. The number of students to be rejected should be at the discretion of the department.

4. Nowadays, interdisciplinary research is promoted by the Ministry as well as the Institute. Hence, it is proposed to consider/allow the candidates from other disciplines (Sciences) to directly enrol in the department of interest where he/she wants to conduct the research. PhD degree certificate can be suitably modified, in which the PhD title should be mentioned with name of the Institute, but not the specific discipline/department.

5. As per the present rules, there is a requirement to complete 16 credits course work, which includes a compulsory subject "Research Methodology". It is suggested to reduce the credit requirement to 12 credits and "Research Methodology" shold not be made compulsory, as research methodology changes with respect to branch, and it should be left to the Supervisor whether to allow the Ph.D. student to register for "Research Methodology" or not.

6. As per the present rules, there is a need of at least 2 (two) research papers published from the candidate to apply for pre-synopsis. In this, the process/product patents granted to the candidate should also be considered along with research papers (eg. candidate with one research paper and one process/product patent or candidate with 2 process patents should also be allowed to apply for pre-synopsis). The patents must be the part of the thesis work. Certificate of design is not allowed.

7. The NOC format, for Part-Time Ph.D. candidates, should be reframed in order to make it possible for the candidates to get it from their parent organizations). Instead of sponsorship requirement, the requirement of merely "No Objection for relieving from duties to complete the coursework" should be included in the No Objection Certificate. Relaxation can also be given in relieving for compulsorily stay in campus for one semester. Accordingly, the format of the same is redrafted and attached as Annexure 1.

8. The comprehensive assessment should be waived off.

9. The paper advertisement for admission to Ph.D. program should also be published at national level newspapers for wide publicity. Also, the advertisement may be sent to some select Institutes/Universities by E-mail.

06/01/2023
(Z.V.P.MURTHY)

06.01.23
(Debesh R. Roy)

06/01/2023
(DR. K. SURESH KUMAR)

06/01/2023
(Dr. Suban K Sahoo)

To,
PY acad
for IAAC agenda
16/1/23

(S. R. Arg...)

(Manish K Rathod)

NATIONAL INSTITUTE OF TECHNOLOGY PATNA
(An Institute under Ministry of Education, Govt. of India)

NOTICE FOR Ph.D. ADMISSION

Applications are invited from Indian nationals for **ADMISSION** to Ph.D. Programme -Odd Semester (Jul 2021) of session 2021-22 under Full Time / Part-Time / Sponsored Scheme and Selection for JRF / SRF positions for the sponsored research projects at NIT Patna. Last date for online application is 22th Jul 2021, up to 11:00 AM.

For detailed information, **please visit Institute website** www.nitp.ac.in

Advt No NITP/2021-22/04 Registrar

Applications are invited ONLINE for admission to the M.Tech, M.Tech. + Ph.D. (Dual Degree), M.Phil, M.Sc.-Ph.D. (Dual Degree) in Energy Programmes, Master in Public Policy (MPP), M.S. by Research in the Department of Computer Science and Engineering, Dual Degree MA+Ph.D. Programme in Philosophy and Ph.D. for the Academic Year 2021-22 starting from July 2021.

Please visit the Institute website http://www.iitb.ac.in/newacadhome/toadmission.jsp for Online application forms, Information Brochure, schedule and other details.

Enquiries may be addressed to: (for PG) - **pgadm@iitb.ac.in** / (for Ph.D) **phd_unit5@iitb.ac.in**

Note - From AY 2022-23, the admission notice will be displayed / published on Institute's (IIT Bombay) website only.

Annexure14.1

Sardar Vallabhbhai National Institute of Technology (SVNIT) – Surat Academic Calendar

Academic Year 2023-24					
		Autumn Semester		Winter Semester	
No.	Activity	Week number	Month and Date	Week number	Month and Date
	Preliminary Activities				
1	Registration and Payment of fee	1 (June)	1-21 June 2023	2 (Dec)	4-24 Dec 2023
2	PhD Research Progress Seminar	-	Till 20 May 2023	-	Till 21 Dec 2023
3	Late Registration and Payment of Fee with fine	4 (June)	22-30 June 2023	4 (Dec)	25-31 Dec 2023
4	Supplementary Examinations (ODD and EVEN)	2 (July)	10-21 July 2023	2 (Feb)	12 – 24 Feb 2024
5	PhD, MTech(R) Admission	4 (June)	24-25 June 2023	2 (Dec)	11-12 Dec 2023
	Curriculum Activities				
6	Commencement of Teaching	4 (July)	24 July 2023	1 (Jan)	1 Jan 2024
7	Mid Semester Examination 9:00 am to 10:30 am (PG-I, MSc-V, IV UG) 11:00 am to 12:30 am (I UG) 2:00 pm to 3:30 pm (II UG) 4:00 pm to 5:30 pm (III UG)	4 (Sep)	25-29 Sep 2023	4 (Feb)	26 Feb–1 Mar 2024
7*	Mid - Minor and Regular Common Subjects	-	3 - 7 Oct 2023	-	4 – 8 Mar 2024
8	Make up tests and Practical Examination	3 (Nov)	20-24 Nov 2023	3 (Apr)	22-26 Apr 2024
9	XX Grade Submission	3 (Nov)	18 Nov 2023	3 (Apr)	19 Apr 2024
10	Last Day of Teaching	3 (Nov)	24 Nov 2023	3 (Apr)	26 Apr 2024
11	End Semester Examination 9:30 am to 12:30 pm (PG-I, MSc-V, II & IV UG) 2:00 pm to 5:00 pm (I & III UG)	4 (Nov)	27 Nov – 1 Dec 2023	4 (Apr)	29 Apr – 3 May 2024
11*	End – Minor and Regular Common Subjects	-	4 – 8 Dec 2023	-	6 - 10 May 2024
12	Project / Dissertation Preliminaries (UG/PG)	1 (Dec)	4 – 8 Dec 2023	-	-
13	Project (UG)	-	-	2 (May)	6–10 May 2024
14	Dissertation (MTech/MSc) Thesis Submission	-	-	4 (Jun)	Till 30th June
15	Dissertation (MTech/MSc) Viva Voce Examination	-	-	1 (July)	1-26 July 2024
16	Grade Sheet Submission	2 (Dec)	15 Dec 2023	4 (May)	20 May 2024
17	Displaying Marks / Verification Answer books	2 (Dec)	Till 8 Dec 2023	2 (May)	18 May 2024
18	Declaration of Results	3 (Dec)	11-15 Dec 2023	3 (May)	20-25 May 2024
	Extra Curriculum Activities and Vacation				
19	Autumn / Winter Technical Activities	2 (Oct)	13-15 Oct 2023	2 (Feb)	9-11 Feb 2024
20	Autumn / Winter Cultural Activities	3 (Oct)	20-22 Oct 2023	3 (Feb)	16-18 Feb 2024
21	Diwali Break for Faculty and Students	3 (Nov)	13 -17 Nov 2023	-	-
22	Semester Break (Vacation) for UG Students Education Tour	3 (Dec)	11–29 Dec 2023	3 (Ma)	9 May-12 Jul 2024
23	Semester Break (Vacation) for Faculty	4 (Dec)	25-29 Dec 2023	4 (May)	27 May-12 Jul 2024
	Calendar days of Semester (Excluded Sat, Sun)	-	100	-	95
1	Registration and Payment of fee	1 (June)	1-21 June 2024		
2	PhD Research Progress Seminar	-	Till 21 May 2024		
3	Late Registration and Payment of Fee with fine	4 (June)	22-30 June 2024		
4	Supplementary Examinations (ODD and EVEN)	2 (July)	8-19 July 2024		
5	PhD, MTech(R) Admission	4 (June)	24-25 June 2024	2 (Dec)	11-12 Dec 2024
Academic Year 2024-25					
6	Commencement of Teaching	4 (July)	29 July 2024		

*First-year academic calendar may be announced separately in case of a delay in the admission process.

7/2/23
DEAN (ACADEMIC)

8/2/23.
DIRECTOR