No.: Dean (Acad.)/IAAC/725/2020-21 Date: 11/03/2021

The minutes of the 48th Institute Academic Advisory Committee (IAAC) Meeting held on February 25, 2021

The following were present in the IAAC meeting:

Sr. No.	Name	Designation
1	Dr. S. R. Gandhi	Director, ***Chairman***
2	Dr. P. L. Patel	Deputy Director
3	Dr. Pramod Mathur	Registrar
4	Dr. R. Venkata Rao	Dean (Faculty Welfare)
5	Dr. Devesh C. Jinwala	Dean (Research and Consultancy)
6	Dr. Ravi Kant	Dean (Students' Welfare)
7	Dr. M. Mansoor Ahammed	Head, Civil Engineering Department
8	Dr. C. M. Patel	Head, Chemical Engineering Department
9	Dr. M. A. Zaveri	Head, Computer Engineering Department
10	Dr. R. Chudamani	Head, Electrical Engineering Department
11	Dr. P. N. Patel	Head, Electronics Engineering Department
12	Dr. Shailendra Kumar	Head, Mechanical Engineering Department
13	Dr. Sushil Kumar	Head, Applied Mathematics and Humanities Department
14	Dr. Suresh Kumar	Head, Department of Chemistry
15	Dr. Dimple V. Shah	Head, Department of Physics
16	Dr. H. R. Jariwala	Associate Dean (Academic)
17	Dr. R. D. Shah	Associate Dean (Academic)
18	Dr. Vipul Kheraj	Associate Dean (Faculty Welfare)
19	Dr. G. R. Vesmawala	Associate Dean (Planning and Development)
20	Dr. K. D. Yadav	Associate Dean (Research and Consultancy)
21	Dr. H. B. Mehta	Associate Dean (Research and Consultancy)
22	Dr. S. R. Patel	Associate Dean (Students' Welfare)
23	Dr. S. N. Sharma	Dean (Academic), ***Member-Secretary***
Invitees		
24	Shri Amit C. Patel	In-Charge Deputy Registrar (Academic)
25	Shri M. K. Manglam	Assistant Registrar (Academic)

The following could not attend the meeting.

Sr. No.	Name	Designation
1	Dr. P. V. Timbadiya	Dean (Alumni and Resource Generations)
2	Dr. G. J. Joshi	Dean (Planning and Development)
3	Dr. V. L. Manekar	Associate Dean (Planning and Development)

Items and resolutions:

<table>
<tr><td>Item 48(1)</td><td>To consider the recommendation of the DAAC, Applied Mathematics and Humanities Department about the category conversion, the FIR to the PEC category, of Ph.D. student Mr. Hitesh Bansu (DS14MA003) working under the Supervision of Dr. Sushil Kumar. (Resolution 2, Annexure 1)</td></tr>
<tr><td>Res. 48(1)</td><td>Recommended.</td></tr>
<tr><td>Item 48(2)</td><td>To consider the recommendation of the DAAC, Mechanical Engineering Department about addition of Supervisor Dr. Vipul M. Patel (Assistant Professor, Mechanical Engineering Department) for the supervision of Mr. Mihir Pandya (D20ME015). The Supervisor is Dr. H. B. Mehta. (Resolution 4.1, Annexure 2)
<table>
<tr><td>Existing Supervisor</td><td>Proposed Supervisors</td></tr>
<tr><td>Dr. H. B. Mehta</td><td>Dr. H. B. Mehta
Dr. Vipul Patel</td></tr>
</table></td></tr>
<tr><td>Res. 48(2)</td><td>Recommended.</td></tr>
<tr><td>Item 48(3)</td><td>(48.3.1) To consider the recommendations of the DAAC, Computer Engineering Department.

(a) To change the Department name from Computer Engineering to Computer Science and Engineering. (Resolution 1, Annexure 3).

(b) ‘Change’ of Co-supervisor for Ms. Nishtha Srivastava (D20CO005). (Resolution 1, Annexure 4)
<table>
<tr><td>Existing Supervisors</td><td>Proposed Supervisors</td></tr>
<tr><td>Dr. Bhavesh Gohil
Dr. K. N. Jariwala</td><td>Dr. Bhavesh Gohil
Dr. Suprio Ray,
Associate Professor,
Faculty of Computer Science,
University of New Brunswick, Canada.</td></tr>
</table>
(c) An ‘addition’ of a Supervisor for the PhD thesis supervision of Ms. Mishra Supriya Devendra (DS20CO002). (Resolution 2, Annexure 4)
<table>
<tr><td>Existing Supervisor</td><td>Proposed Supervisors</td></tr>
<tr><td>Dr. Bhavesh Gohil</td><td>Dr. Bhavesh Gohil
Dr. Suprio Ray,
Associate Professor,
Faculty of Computer Science,
University of New Brunswick, Canada.</td></tr>
</table></td></tr>
</table>

(d) To revise specializations for the Ph.D. admission (QIP category) of the Computer Engineering Department. (Resolution 2, Annexure 5)

Existing specializations	Proposed specializations
Information Security and Privacy, Software Requirements, Specification using Ontologies, Computer Vision/Image Processing, Machine Learning, Soft Computing, Wireless Network, Automata, Compiler.	Information Security and Privacy, Software Engineering, Computer Vision, Image Processing, Soft Computing, Computer Network, Automata, Compiler, High Performance Computing, Artificial Intelligence.

(e) To offer M.Tech.(Computer Science and Engineering) with different specialization tracks. The Department proposed to start M.Tech. program with specialization in AI, Data Science, Information Security and Privacy. (Resolution 3, Annexure 5).

(f) To grant an extension of the Ph.D. thesis submission of Mr. Himanshu B. Patel (DS14CO003). (Resolution 1, Annexure 6).

(g) To consider the request of Mr. Vipulkumar Ramnlal Patel (D19CO005, PEC) regarding 'relaxation considering the pandemic situation for comprehensive exam' or 'giving at least one more attempt to continue Ph.D. course'. (Application of Mr. Vipulkumar Ramnlal Patel dated 12/10/2020) (Annexure 7).

(48.3.2) To consider the recommendation of meeting of DAAC, Department of Chemistry, held on February 08, 2021, to approve 'extension of thesis submission' date of Ph.D. scholar, Ms. Dhara Hasmukhbhai Morawala (DS15CY001) for two months i.e. till 10/04/2021. (Resolution 2, Annexure 8)

- Synopsis submitted on: 10/08/2020
- Last date of submission of thesis (six months from date of synopsis): 09/02/2021
- Duration of Ph.D. Ending in: January 2023.

Res. 48(3)

(48.3.1)

(a) The IAAC recommended the Institute Senate a change in the name of the Department.

(b) Recommended.

(c) Recommended. In addition to the recommendations of the parts (b) and (c), it was suggested that Supervisor Dr. Bhavesh Gohil would complete necessary procedures leading to the recognition of Dr. Suprio Ray as an approved Ph. D. supervisor of the two Ph.D. students. Dr. Bhavesh Gohil would do the procedure leading to an MoU signing with the parent University of Dr. Suprio Ray, University of New Brunswick, Canada.

(d) Recommended the specialization revision for the Senate consideration.

Revised specializations for the Ph.D. admission (QIP category) of the Computer Engineering Department
Information Security and Privacy, Software Engineering, Computer Vision, Image Processing, Soft Computing, Computer Network, Automata, Compiler, High Performance Computing, Artificial Intelligence.

(e) The IAAC discussed and agreed 'in-principle' with a proposal of beginning three new M.Tech. programs, i.e.

(i) specialization in 'Artificial Intelligence',
(ii) specialization in 'Data Science',
(iii) specialization in 'Information Security and Privacy' by Computer Engineering Department.

In addition to the 'in-principle agreement', the following procedures were suggested to meet the requirements:

(i) The Department will organize three workshops for the three specialized programs by inviting academic experts and industry experts known for their contributions to the respective mentioned areas as well as Department Faculty Members, including the Faculty Members from other Departments having their teaching and research connections with three specializations.

(ii) The Department will prepare the three workshop reports separately with the recommendations of the three Workshop committee members, including the Schemes, syllabi, NBA parameters, text books and reference books for the three programs, Dissertation rubrics etc.

(iii)In addition to the above, a proposal submission is required for additional Faculty requirements, space requirements, creation of additional resources to meet the three specializations' requirements. Any other useful requirement can be added as well, if required for the programs.

Furthermore, the above would be enrouted via the DAAC, Computer Engineering Department for its onward considerations.

(f) It is resolved to grant the 'six-month duration' beyond the 'seven-year duration' to complete Ph.D. degree. The Research Scholars, who have completed minimum five-year duration and registered on or before 31st January 2016 are the only eligible Scholars to get the additional duration for the completion. Students registered with FIR category will get fellowship/stipend for maximum period of five years only.

(g) Not admissible.

(48.3.2) Approved.

Item 48(4)

To consider the recommendations of the DAAC, Chemical Engineering Department.

(a) An addition of a Supervisor for the PhD thesis supervision of Mr. Deepak Vishwakarma (DS20CH001), a Part-time External Category (PEC) student. (Resolution 6, Annexure 9)

Existing Supervisor	Proposed Supervisors
Dr. V. K. Rathore	Dr. V. K. Rathore Prof. P.A. Parikh

(b) A proposal for a flexibility in teaching and evaluation methods. For the Department Electives, the DAAC proposed replacement of the existing evaluation system, mid-term and class tests/quiz, with the proposed continuous evaluation system, i.e. the assignment and presentation-based. (Resolution 4, Annexure 9)

(c) Regarding Global electives to be offered for the B.Tech.-III Spring Semester AY 2020-2021. (Resolution 2, Annexure 10)

Res. 48(4)

(a) Recommended.

	(b) Not admissible. (c) Noted.
Item 48(5)	**(48.5.1)** To consider the recommendations of the DAAC, Electronics Engineering Department. (a) An additional proposed Supervisor, Abhishek Rhisheekesan (MD, aiRender Technologies Pvt. Ltd.), for the Dissertation of Mr. Aryan Gamit (P19VL021). The Supervisor is Dr. P.J. Engineer. (Resolution 4, Annexure 11) (b) About the appointment of an adjunct Faculty in the Department. The Department proposed Mr. Arpit Gandhi, Senior Tech Lead, Intel Corporation to serve as Adjunct Faculty for M.Tech./B.Tech. VLSI Design related courses. (Resolution 5, Annexure 11) (c) About the *Student-specific syllabi* of Ph.D. comprehensive examination scheduled to be conducted in Jan/Feb 2021 examination. (Resolution 1, Annexure 12 and Resolution 2, Annexure 13) **(48.5.2)** To consider the recommendation of 84th meeting of DAAC, Applied Chemistry Department, held on December 22, 2020 to hire the visiting Faculty services of Dr. Vimal Kumar Prajapati (Assistant Professor, Navsari Agriculture University, Surat) to teach the subject, Introduction *to Life Sciences* (CY-202). (Resolution 2, Annexure 14)
Res. 48(5)	**(48.5.1)** (a) Approved. (b) Deferred subjected to the adjunct Faculty Recruitment policy finalization. (c) The S*tudent-specific syllabus* of the Ph.D. comprehensive examination is contrary to the section-specific syllabus of the Senate Resolution. The IAAC discussed the comprehensive examination implementation at the Department level and suggested the following useful points to achieve the very objective of the comprehensive examination. (c.i) *The revised evaluation scheme*: The Research Scholar has to earn minimum forty percent in the written test and the minimum forty percent in the viva-voce. The minimum average score is sixty percent to qualify the comprehensive examination. In terms of the percentage, suppose x is the marks scored in the written test and y is the marks scored in the viva-voce. Then $40 \le x \le 100,\ 40 \le y \le 100,\quad 60 \le (x+y)/2 \le 100.$ *Examples:* Suppose a Research Scholar scores forty percent marks in the written test part, then the Scholar has to score the minimum requisite marks (eighty percent) in the viva-voce part. Suppose the Scholar scores the fifty percent marks in the written part, the Scholar has to score the minimum requisite marks (seventy percent) in the viva-voce part. (c.ii) Procedure steps: It has two parts. *First part:* The answer script of the written test with answer key would be shown to the Examinee. After conceptual discussions on the correctness of answers, the marks finalization would be done. *Second part:* The Scholar, meeting the conditions stated above at (48.5.1.c.i), would be invited for the viva-voce. The written marks would be made available to the panel of Examiners during the viva-voce as well. (c.iii) Submission part: The question paper, and results, *signed by all panel members*, would be submitted to the Academic Section for the result preparation and records. The viva-voce recording (on-line mode case) submission to the Academic Section holds applicable.

	(48.5.2) Noted.
Item 48(6)	To consider the recommendation of the DAAC, Civil Engineering Department. An additional proposed Supervisor, Dr. Prabhat Chandra, Scientist-E, CWPRS, for PhD student Mr. Banwari Lal Meena (Ph.D. Student, PEC category, D19CE005). Existing Supervisor: Dr. P. L. Patel. (Resolution 6, Annexure 15) Existing Supervisor: Professor P.L. Patel Proposed Supervisors: Professor P.L. Patel, Dr. Prabhat Chandra
Res. 48(6)	Recommended.
Item 48(7)	To consider the recommendation of the 54th DAAC held on 3rd Feb. 2021, Electrical Engineering Department. (Resolution 1,2 and 3, Annexure 16) Item 1: To suggest an equivalent subject to EE202- Networks and System (4-1-0, 05 credits) for Mr. Kenneth Vaz (U17EE013) who wishes to re-register for the same. Resolution (1): It was suggested that the student might register for EE212-Signals and Systems (3-1-0, 4 credits) offered in the B. Tech.-II year, IV semester (New Scheme) in place of the course mentioned in item 1. Item 2: To discuss and recommend the utilization of Lab. Development Fund towards the expenditure incurred due to servicing and calibration of test equipments. Resolution (2): It was unanimously decided by the members who were present in the meeting to approve the utilization of the Lab Development Fund to meet the expenditure incurred due to servicing and calibration of test equipment. Item 3: To decide the examination scheme for III and IV semester of the new PG programme M. Tech. (instrumentation and Control). Resolution (3): It was decided to finalize the examination scheme for III and IV semester of the new PG programme M. Tech. (Instrumentation and Control) as follows which is in line with the examination schemes of the other existing PG programmes in the department. According to Reso. 1 the student will be able to earn only 4 credit instead of 5, but this will not come in the way of his fulfilling the minimum credit requirements for the award of the degree.
Res. 48(7)	Recommended.
Item 48(8)	To consider the recommendation of the DAAC, Applied Mathematics and Humanities Department, for a modification in the name of the Department. (Resolution 5, Annexure 1) Existing Name: Applied Mathematics and Humanities Department (AMHD) Proposed Name: Department of Mathematics and Humanities
Res. 48(8)	Recommended

<table>
<tr><td>Item 48(9)</td><td>To discuss and adopt the resolution about 'the revision in the nomenclatures of the Academic Departments' of the Institute. The Senate agreed with the proposal of revising the nomenclatures of two Departments, Chemistry, Physics. (Res. No. 49.4 of Minutes of 49th Senate meeting, Annexure 17). Notably,
<table>
<tr><th>Existing nomenclatures</th><th>Nomenclatures after revision in two Departments</th></tr>
<tr><td>Applied Chemistry Department
Applied Physics Department
Applied Mathematics and Humanities Department
Civil Engineering Department
Chemical Engineering Department
Computer Engineering Department
Electrical Engineering Department
Electronics Engineering Department
Mechanical Engineering Department</td><td>Department of Chemistry
Department of Physics

Department of Mathematics and Humanities
Department of Civil Engineering
Department of Chemical Engineering
Department of Computer Engineering
Department of Electrical Engineering
Department of Electronics Engineering
Department of Mechanical Engineering</td></tr>
</table></td></tr>
<tr><td>Res. 48(9)</td><td>All members unanimously agreed to adopt the word 'Department', a preceding word, in the Department nomenclature. That is aimed to bring inclusivity, broaderness in the Academic Programs of the Institute.
<table>
<tr><th>Existing Department nomenclatures</th><th>Recommended Department nomenclatures</th></tr>
<tr><td>Department of Chemistry
Department of Physics Department

Applied Mathematics and Humanities Department
Civil Engineering Department
Chemical Engineering Department
Computer Engineering Department
Electrical Engineering Department
Electronics Engineering Department
Mechanical Engineering Department</td><td>Department of Chemistry
Department of Physics
Department of Mathematics and Humanities
Department of Civil Engineering
Department of Chemical Engineering
Department of Computer Science and Engineering
Department of Electrical Engineering
Department of Electronics Engineering
Department of Mechanical Engineering</td></tr>
</table></td></tr>
<tr><td>Item 48(10)</td><td>To revisit the examination mark scheme of students, who were re-examined on the lines of Senate resolution, 47th special meeting of Senate (resolution no. 47/4, point 2).</td></tr>
<tr><td>Res. 48(10)</td><td>A scaling factor application to the standard examination scheme for the examinations, i.e. August 2020 (End semester) and September 2020 (Supplementary examination) resulted in two different examination mark schemes for the February 2021 (Supplementary examination). To circumvent irrationality in the mark scheme, the IAAC resolved to adopt the uniformity as well as agreed to adopt the mark scheme, cited in the 39th Senate special meeting (resolution 3, part c), for the February 2021 supplementary examination. The mark scheme is also cited in the following: (i) Resolution 1, part 2 of Heads of the Departments meeting, November 13, 2020. (ii) Resolution 1, 9th Standing Executive Committee (SEC) meeting of the Senate, December 4, 2020.</td></tr>
<tr><td>Item 48(11)</td><td>To discuss and adopt resolutions about the mode of theory teaching, laboratory demonstration, examination and evaluation marks scheme for the academic program of AY 2020-2021.</td></tr>
<tr><td>Res. 48(11)</td><td>The modes of theory teaching, laboratory demonstrations, examination and evaluation marks scheme for the academic programs of AY 2020-2021 were discussed at length. The house unanimously agreed on the given below modes for the academic programs of AY 2020-2021.</td></tr>
</table>

Year of Study	Mode of Teaching (Theory, including laboratory)	Mode of Examinations		Pattern of Examinations		The Marks Scheme
		Mid semester	End semester	Mid semester	End semester	
B.Tech-IV and M.Sc.-V	Online	Online	Offline	(1)**MCQ/Objective OR (2)#Descriptive	Standard mode (using pen and paper)	***Regular examination scheme
B.Tech.-I, II, III and M.Sc.-I, II, III and IV	Online	Online	Online	(1)**MCQ/Objective OR (2)#Descriptive	(1)**MCQ/Objective OR (2)#Descriptive	***Regular examination scheme
M.Tech.- I *	Offline (w.e.f. 22/03/2021)	Offline	Offline	Standard mode (using pen and paper)	Standard mode (using pen and paper)	***Regular examination scheme
M.Tech.- II (Dissertation)			Dissertation		Dissertation	Standard
Ph.D. *	Offline (w.e.f. 22/03/2021)	Offline	Offline	Standard mode (using pen and paper)	Standard mode (using pen and paper)	***Regular examination scheme

*The Student (M.Tech. 1st year and Ph.D. Course Work), who fails to appear in Mid-Semester examination (offline), would appear in Make-up Test (offline mode).

**MCQ/Objective: The Question with multiple answers, short answers, answers with filling blank spaces, etc.

*** Resolution 3 (part C), the 39th Senate of the SVNIT.

Descriptive: Please read its standard meaning.

Note: M. Tech. and Ph.D. stipend/fellowship will be released to only those Candidates, who will be reporting to the Institute/Department in physical mode by March 07, 2021.

Item 48(12)	To revisit the case of Mr. Krishabh Kapoor (U19CE020) in view of a directive of Honorable Gujarat High Court dated 10/02/2021 (Ref.: R/Special Civil Application No. 2558 of 2021).
Res. 48(12)	The case of Mr. Krishabh Kapoor (U19CE020) in view of the directive of the Honorable Gujarat High Court dated 10/02/2021 (Ref.: R/Special Civil Application No. 2558 of 2021) was revisited. The 48th IAAC unanimously agreed with the following: *the decision, i.e., the APRC, held on 18th September 2020 and the 49th Senate approval (resolution (49.5)) stands.*
	Item from the Chair
Item 48(13)	To consider the request of renaming of M.Tech. (Soil Mechanics and Foundation Engineering) to M. Tech. (Geotechnical Engineering). (Resolution, Annexure 18)
Res. 48(13)	Recommended.

11/3/2021

Dean (Academic)
Member-Secretary, IAAC

11/3/21

Director
Chairman, IAAC

Annexure-1

Applied Mathematics and Humanities Department

Minutes of the 37th DAAC held on 26th July 2020 in AMHD classroom and virtual mode from 3:30 pm onwards. The following members were present: -

1.	Dr. A. K. Shukla, Professor of Mathematics	Member
2.	Dr. V. H. Pradhan, Professor of Mathematics	Member
3	Dr Neeru Adhlakha Professor of Mathematics	Member
4.	Dr Sushil Kumar, Associate Professor of Mathematics	Head and Chairman
5.	Dr. H. P. Bulsara	Member
6.	Dr. Jayesh Dodiya, Associate Professor of Mathematics	Member Secretary
7	Dr. Urvashi Kaushal, Assistant Professor of English	Member
8	Dr. R. K. Jana, Assistant Professor of Mathematics	Member
9	Dr. Twinkle Singh Assistant Professor of Mathematics	Member
10	Dr. R. K. Meher. Assistant Professor of Mathematics	Member
11	Dr. S. K. Srivastava Assistant Professor of Mathematics	Member
12.	Ms. Ishika Bhat, Student	Student member
13.	Mr. Vishal Agarwal, Student	Student member

Dr. V.D. Pathak, Dr. Indira P. Debnath and Dr. Himanshu Chapani could not remain present due to some prior commitments.

The items discussed and resolved in the meeting are as follows: -

Item 37.1: **Resolution** Item 46(1)(a)	To confirm the minutes of the 36th DAAC meeting. The minutes of the 36th DAAC meeting was confirmed with correction in the Item no. 36.2 of the minutes of previous meeting which was circulated by the Head and approved in the 47th IAAC meeting Resolution 20 (Attached as Annexure I). The item has been incorporated as:- Item no. 36.2 - Allotment of Super visor of Mr. Vishal Nikam previously working under the supervision of Dr. Dhananjay Gopal. Resol no. 36.2- The following RPC for Mr. Vishal Nikam has been formed :- Candidate: Mr. Vishal Nikam (D18MA002) Supervisor: Dr. A. K. Shukla, Professor Co-Supervisor- Dr. Dhananjay Gopal, Associate Professor Chairman: Dr. K.N. Pathak, (Professor, APD) Examiners: Dr. T. R. Singh, Assistant Professor Dr. S.K. Srivastava, Assistant Professor
Item 37.2: **Resolution**	Conversion of category from FIR to PEC of PhD student Mr. Hitesh Bansu (DS14MA003) working under the supervision of Dr. Sushil Kumar.

Item 46(1)(b)

	The committee approved the application of Mr. Hitesh Bansu working under the supervision of Dr. Sushil Kumar for conversion of his category from FIR to PEC as he has received a job offer (documents attached as Annexure II).
Item 37.3: **Resolution**	RPS committee of those Ph. D students who have cleared the comprehensive exam needs to be formed RPS committee of those Ph. D. students who have cleared the comprehensive exam (List attached as Annexure III) is formed as follows:-

Item: 48.8

Sr No.	Name of Research Scholar	Supervisor	Chairman	Examiners
1.	Shubha Agnihotri (D19MA001)	Dr. Jayesh M. Dhodiya AMHD	Dr. Dimple Shah APD	Prof. V. H. Pradhan AMHD Dr. R. K. Meher AMHD
2	Hemant Bhardwaj (D19MA002)	Prof. Neeru Adlakha AMHD	Prof. K. N. Pathak APD	Prof. A. K. Shukla AMHD Dr. Twinkle R. Singh. AMHD
3.	Haresh Jani (in FIR category)	Dr. Twinkle R. Singh AMHD	Prof. K. N. Pathak APD	Dr. R. K. Meher AMHD Prof. Neeru Adlakha AMHD
4.	Lalchand Verma	Dr. R. Meher AMHD	Dr. S. R. Arya	Dr. J. M. Dhodiya AMHD Dr. Twinkle R. Singh AMHD
5.	Vinod Kumar Jatav (D19MA006)	Dr. A. K. Shukla	Dr. Shailendra Kumar (Professor,MED)	Dr. T.R. Singh Dr. R.K. Jana

14.	Latika Sharma (D19MG003)	Dr. H. P. Bulsara	Dr. T.N. Desai, Professor, MED, SVNIT, Surat	Dr. V.H.Pradhan, Professor, AMHD, SVNIT, Surat Dr. Manisha Panwala, Professor, DBIM, VNSGU, Surat

Item 37.4:	Regarding the perspective plan of the department.
Resolution	The committee accepted the minor modifications and approved the perspective plan of the department. Modified plan is attached as Annexure IV.
Item 37.5:	Regarding the Modification in the name of the department.
Resolution	It was unanimously resolved to modify the name of the department from Applied Mathematics and Humanities Department to Department of Mathematics and Humanities. The members also recalled that this matter was earlier proposed in Joint DBPGS&R of Applied Mathematics and Humanities department, Applied Physics and Applied Chemistry Department held on 26/08/09 at 15:30 in seminar hall of AMHD as per Annexure V attached. It was suggested that in future separate Department of Mathematics and Department of Humanities, Social Sciences and Management can be created.

The meeting ended with thanks to the chair.

3/12/20
Secretary, DAAC

03/12/2020
Chairman, DAAC.

3/12/2020

Annexure-I

Minutes of 47th IAAC

	Mathematics & Humanities Department from Part-time External candidates (PEC) to Full-time Self-Financed candidate (FSF).
Res. 19	Approved
Item: 20	To consider the recommendation of 36th meeting of DAAC Applied Mathematics & Humanities Department held on July 13, 2020 regarding Supervisors and Co-supervisors allotted for the students of Dr. D. Gopal, Ex-Asst. Professor, and Applied Mathematics & Humanities Department. 1. Pravin R. Bardol- Pre-synopsis approved; PhD coordinator will act as administrative supervisor. 2. Vishal Nikam- HOD will act as administrative supervisor till supervisor is allotted. 3. Harsadkumar Sakariya- Dr. Sushil Kumar is new Supervisor. 4. Jayesh Savaliya- Dr. S. K. Srivastava will be Supervisor and Dr. D. Gopal will act as Co- supervisor.
Res. 20	Approved. However, Head of Applied Mathematics & Humanities Department added the following: 1. For Pravin R. Bardol whose pre-synopsis is approved, Ph. D. coordinator will act as administrative supervisor and Dr. Gopal will continue as Supervisor. 2. For Mr. Vishal Nikam, Prof. A. K. Shukla will be the Supervisor and Dr. Gopal will act as Co-supervisor
Item: 21	To consider the recommendation of meeting of DAAC Electronics Engineering Department held on July 31, 2020 regarding change in category of PhD student Ms. Bhoomika Patel (Reg. No.: DS17EC001) who is pursuing PhD under Dr. U. D. Dalal, Professor, Electronics Engineering Department from Full-time Institute Research Scholars (FIR) to Part-time External candidates (PEC).
Res. 21	Approved
Items form chair	
Item: 22	To discuss admissions in M. Tech. Sponsored category.
Res. 22	In context to the request received from aspirants of M. Tech. Sponsored category regarding removal of mandatory requirement of Provident Fund statement, the house resolved that such aspirants must possess minimum three years of Industrial/ field experience and should submit Form-16 for their three years employment from their respective employers.
Item: 23	To discuss extension of Assistantship/Scholarship for PhD student Ms. Resmi S. R. (Reg. No.: D15CE005) working under Dr. P. L. Patel,

Annexure - II

Shrimad Rajchandra Mission
Dharampur

Shrimad Rajchandra Vidyapeeth

SHRIMAD RAJCHANDRA
Vidyapeeth

Appointment Letter

O/w: SRV/20-21/1360

Date: 17/08/2020

To,
Mr. Hitesh Bansu

Dear Mr. Hitesh Bansu,

With reference to your application and subsequent interview for the post of Assistant Professor – Mathematics in our college, Shrimad Rajchandra Vidyapeeth, Dharampur, we are pleased to offer you the said position in our Institute on purely ah-hoc basis. Please note the following important points regarding your appointment

1. Your appointment shall be as an Assistant Professor – Mathematics on purely ad-hoc basis in our college
2. You will be paid a remuneration of Rs. 28000/- per month for the term of your ad-hoc appointment at the college.
3. A notice of **One month** is required during your ad-hoc employment with the college by either party to terminate this employment
4. **Your services will be governed by rules and regulations of Shrimad Rajchandra Educational Trust as in force from time to time.**

If the offer for appointment on above terms and conditions is acceptable, kindly sign the duplicate copy of this letter as a token of your acceptance and return it to us either in person.

For Shrimad Rajchandra Vidyapeeth,

Dr. Smita H. Bakshi,
I/c Principal

03/12/2020

Shrimad Rajchandra Mission
Dharampur

Shrimad Rajchandra Vidyapeeth

SHRIMAD RAJCHANDRA
Vidyapeeth

O/w: SRV/20-21/1362

Date: 20/08/2020

TO WHOM SOEVER IT MAY CONCERN

This is to inform that Mr. Hitesh Bansu has been appointed as an Assistant Professor- Mathematics in our college on purely ad-hoc basis. Our college has no objection to Mr. Hitesh Bansu pursuing his Ph.D. work at your institute. We wish him best in regard to his Ph.D. completion.

For Shrimad Rajchandra Vidyapeeth,

Bakshi SHA

Dr. Smita H. Bakshi,
I/c Principal

I/c. Principal
Shrimad Rajchandra Vidyapeeth

03/12/2020

DEPARTMENTAL ACADEMIC ADVISORY COMMITTEE (DAAC)
DEPARTMENT OF MECHANICAL ENGINEERING
S. V. NATIONAL INSTITUTE OF TECHNOLOGY, SURAT

No. MED/DAAC/2627 /20-21 Date: 12/02/2021

Minutes of 56th Departmental Academic Advisory Committee (DAAC)

The 56th Departmental Academic Advisory Committee (DAAC) Meeting was held on Wednesday, 10/02/2021 at 4:00 PM onward. The following faculty members were present in the meeting:

1	Dr. Shailendra Kumar, Professor & Head	18	Dr. V. K. Patel, Asst. Professor
2	Dr. R.V. Rao, Professor	19	Dr. V. P. Rathod, Asst. Professor
3	Dr. J. Banerjee, Professor	20	Mr. A. B. Makwana, Asst. Professor
4	Dr. A. A. Shaikh, Professor	21	Mr. Anil Mahto, Asst. Professor
5	Dr. T. N. Desai, Professor	22	Dr. Pawan Sharma
6	Dr. B. M. Sutaria, Asso. Professor	23	Dr. Vipul M. Patel
7	Mr. D. B. Gohil, Asso. Professor	24	Dr. Naresh Yarramsetty
8	Dr. J. V. Menghani, Asso. Professor	25	Dr. Amit Kumar
9	Dr. Ravi Kant, Asso. Professor	26	Dr. Prabhansu
10	Dr. H. B. Mehta, Asso. Professor	27	Dr. Mulay Amrut S.
11	Dr. H. K. Dave, Asso. Professor	28	Dr. Biranchi Narayan S.
12	Dr. R. D. Shah, Asso. Professor	29	Dr. Baraiya Nikhil A.
13	Dr. A. V. Doshi, Asst. Professor	30	Dr. Rohit Tamarkar
14	Dr. Sandeep Soni, Asst. Professor	31	Dr. Pallvita Yadav
15	Dr. M. K. Rathod, Asst. Professor	32	Dr. Sumit Khare
16	Dr. Achchhe Lal, Asst. Professor	33	Dr. Rohan Rahul Pande
17	Dr. S. N. Pandya, Asst. Professor		

Following members could not attend the meeting.

1	Dr. H. K. Raval, Professor (On CL)	8	Dr. Beena Baloni, Asso. Professor (On CCL)
2	Dr. H. J. Nagarsheth, Professor	9	Dr. P. V. Bhale, Asso. Professor
3	Dr. D. P. Vakharia, Professor	10	Dr. M. H. Bade, Asst. Professor
4	Dr. K. P. Desai, Professor (On CL)	11	Dr. Dinesh Singh, Asst. Professor
5	Dr. A. D. Parekh, Asso. Professor	12	Dr. V. D. Kalyankar, Asst. Professor
6	Prof. M. B. Maisuria, Asso. Professor	13	Mr. N. G. Patel, Asst. Professor (on EL)
7	Dr. D. I. Lalwani, Asso. Professor		

Following business was transacted.

Agenda 56.1	:	To confirm minutes of 55th meeting of DAAC.
Reso. 56.1		DAAC confirmed minutes of the 55th DAAC (**Annexure –I**)
Agenda 56.2	:	To discuss and finalize the topic and schedule for Seminar / Conference / Workshop / Guest lecture series to be proposed by the department under Diamond Jubilee Celebration (as per the minutes of meeting of Core Committee of Diamond Jubilee Celebration held on 28/01/2021).
Reso. 56.2		Four International Conferences, one National Conference and three short term training programmes (STTPs) were proposed by the faculty members. A brief presentation was given by the organizing secretary /coordinator of each event. After detailed discussion, it was resolved to recommend all proposed events as attached vide **Annexure – II** to the core committee of Institute Diamond Jubilee Celebration.

15/2/2021
4:45 pm/Monday

Agenda 56.3	:	To constitute Department Research & Consultancy Committee (DRCC)
Reso. 56.3		One-year tenure of members of existing DRCC constituted in the meeting of 47th DAAC was over on 15/12/2020. The following faculty members are unanimously endorsed by the DAAC - 1. Dr. A. A. Shaikh – Professor 2. Dr. H. K. Dave – Associate Professor 3. Dr. M. K. Rathod – Assistant Professor Above faculty members are nominated as a member of DRCC for the period of 1 year w.e.f. 15th February 2021.
Agenda 56.4 Item: 48(2)	: 1. 2.	Any other item with the permission of the chair. To consider request for inclusion of Dr. Vipul M. Patel as Co-supervisor alongwith Dr. H. B. Mehta as supervisor for Mr. Mihir Pandya (D20ME015). (**Annexure – III**) To finalize the specialization/trade for technical posts to be advertised soon.
Reso. 56.4	1. 2.	After detailed discussion, the DAAC unanimously resolved to recommend the request for inclusion of Dr. Vipul M. Patel, as Co-supervisor alongwith Dr. H. B Mehta as supervisor for the PhD student Mr. Mihir Pandya (D20ME002) for consideration as per the prevailing institute norms. The Chairman-DAAC briefed the august house about the recent meeting called by the Dy. Director on 10/02/2021, 3:00 PM to finalize the specializations/trades for technical posts (Technical Assistant, Sr. Technician, and Jr. Technician) in MED to be advertised soon. DAAC resolved to authorize the Chairman and Section Heads to discuss and finalize the same.

12/2/21

Member Secretary - DAAC

12/02/2021

Chairman, DAAC&Head, MED

To,
1. Dean (Academic)
2. DAAC, MED members through e-mail

ANNEXURE - III

Date: 07/02/2021

To,
HOD
Department of Mechanical Engineering,
SVNIT Surat

Subject: Taking permission to have a co-supervisor for my Ph.D. research

Sir,

I, Mihir Pandya (Admission number D20ME015), am a full time research scholar in the department of mechanical engineering. I am working under the supervision of Dr. Hemant B. Mehta. We have planned to conduct research in the area of bio-heat transfer. Dr. Hemant B. Mehta has a good research exposure in the field of various heat transfer applications. His sound knowledge in mathematical model development as well as experimental expertise are very essential for my PhD research. While going through research profiles of various faculties in our department, I found that Dr. Vipul M. Patel is also active in the field of bioheat transfer. He has developed various numerical models including conduction and radiation transport in multi-layered tissue phantom. I feel that his guidance will be valuable in my research. I already had a discussion with my supervisor to propose Dr. Vipul M. Patel as my co-supervisor. I would request you to consider my application for having co-guide for my research work.

Thank you very much.

Your sincerely,

M. K. Pandya.
Mr. Mihir Pandya
D20ME015

I recommend Dr. Vipul M. Patel for co-guide. for this student
Dr. H. B. Mehta 07/02/2021
Supervisor
For DPPC consent

Member - secretary
Pl. put it in DPPC

10/02/2021
HoD, MED

Annexure-3

Computer Engineering Department, SVNIT, Surat-395007
Departmental Academic Advisory Committee (DAAC)

No. COED/DAAC/ 474 /2020-21
Date:16-10-2020

DAAC Minutes of Meeting

DAAC meeting was held on 16-10-2020 **virtually**. The following members were present for DAAC meeting. The following items are discussed and resolution are listed as below.

1. Prof. M A Zaveri, Head & Chairman DAAC
2. Dr. Udai Pratap Rao, Member & Secretary
3. Prof. D C Jinwala, Member
4. Shri R P Gohil, member
5. Dr. Rupa G Mehta, Member
6. Dr. Dipti P Rana, Member
7. Dr. Sankita J Patel, Member
8. Dr. Bhavesh N. Gohil, Member
9. Dr. Balu L. Parne, Member
10. Dr. Keyur Parmar, Member

Item: 48(3)

(a) **Item 1:** Change of department name of from Computer Engineering to Computer Science and Engineering.

Resolution1: The change the degree name of M.Tech and PhD from Computer Engineering to Computer Science and Engineering was resolved in DAAC meeting (vide ref. no. CoED/DAAC/390/2020-21 dated 22-09-2020). Therefore it is further resolved to change the department name of from Computer Engineering to Computer Science and Engineering.
It was further resolved to send this resolution to Dean (Academic Office) for approval in IAAC and Senate.

The meeting was ended with thanks to all members.

16/10/2020
(Dr. Udai Pratap Rao)
Member Secretary, DAAC, CoED

16/10/2020
(Dr. Mukesh A Zaveri)
Chairman, DAAC & Head, CoED

Head
Computer Engg. Department
S.V. National Institute of Technology
Surat-395007, Gujarat, India

Copy To,
1. Director
2. Registrar
3. Dean Academic
4. Department file

Annexure-4

Computer Engineering Department, SVNIT- 395007

Departmental Academic Advisory Committee (DAAC)

No. COED/DAAC/501 /2020-21
Date: 08-01-2021

DAAC Minutes of Meeting

DAAC meeting was held on 7th January 2021 in the faculty meeting room at 3:30 pm onwards. The following members were present for DAAC meeting. The following item was discussed and resolution is listed as below:

1. Prof. D. C. Jinwala, Professor (HAG), Member
2. Prof. M A Zaveri, Head & Chairman DAAC
3. Shri R P Gohil, Member
4. Dr. Rupa G. Mehta, Member
5. Dr. Krupa N Jariwala, Member
6. Dr. Dipti P Rana, Member
7. Dr. Udai Pratap Rao, Member & Secretary
8. Dr. Sankita J Patel, Member
9. Dr. Bhavesh N. Gohil, Member
10. Dr. Balu L Parne, Member
11. Dr. Keyur Parmar, Member

Item: 4(8)(b)

Item 1: Change of Co-supervisor of Ms. Nishtha Srivastava (D20CO005)

Supervisor: Dr. Bhavesh Gohil

Resolution 1: As per the email received from PhD student MS. Nishtha Srivastava (D20CO005), she has expressed her willingness and interest to work in the area of research/PhD thesis on Security issues in Cloud Computing which is not relevant with the current research domain of Dr. K. N. Jariwala (email from Dr. K N Jariwala attached). Prof. Suprio Ray, Associate Professor, University of New Brunswick (UNB), NB, Canada has shown his interest to co-supervise the same candidate. Prof. Suprio Ray is approved as co-supervisor of Ms. Nishtha Srivastava (D20CO005) in place of Dr. K. N. Jariwala. DAAC approved the same and decided to forward the request for IAAC approval.

Item: 4(8)(c)

Item 2: Addition of Co-supervisor of Ms. Mishra Supriya Devendra (new admission Jan 2021)

IDS20CO002 Dr. Bhavesh Gohil

Resolution 2: As per the mail, Prof. Suprio Ray, Associate Professor, University of New Brunswick (UNB), NB, Canada has shown his interest to co-supervise the same candidate. DAAC approved the same and decided to forward the request for IAAC approval.

The meeting was ended with thanks to all members.

08/01/2021

(Dr. Udai Pratap Rao)
Member Secretary, DAAC, CoED

8/1/21

(Dr. Mukesh A Zaveri)
Chairman, DAAC & Head, CoED
Head,
Computer Engg. Dept

Encl:

1. CV of Prof. Suprio Ray
2. Email from Prof. Suprio Ray
3. Email from MS. Nishtha Srivastava (D20CO005)
4. Email from Dr. K. N. Jariwala

To Dean (Acad)

The University of New Brunswick

CURRICULUM VITAE

SECTION 1: BIOGRAPHICAL

Surname: Ray Given Names: Suprio

Faculty/Department Address:
Faculty of Computer Science
550 Windsor Street
Information Technology Centre, Room C314
Fredericton, New Brunswick, E3B 5A3

Office Phone No. (506) 458 7280

Citizenship: Canadian

SECTION 2: EDUCATION

2.1 Post Secondary Education

2015	Ph.D. (Computer Science), University of Toronto
2004	M.Sc. (Computer Science), University of British Columbia
1999	B.Eng. (Computer Science and Engineering), NIT, Trichy

2.2 Area (s) of Research Interest:

Big Data and database systems
Spatial and spatio-temporal data processing
Query processing on modern hardware
Scalable data science and advanced analytics
Privacy, security and provenance in database systems
Blockchain data management
Data management in the Cloud and Edge

SECTION 3: ACADEMIC EMPLOYMENT AND HONOURS

3.1 Academic Employment History

Since, 2019 Associate Professor, University of New Brunswick, Canada

2015 - 2019 Assistant Professor, University of New Brunswick, Canada

3.2 Distinctions, Honours, Fellowships, Scholarships

- Harrison McCain Foundation Young Scholars award
- Doctoral Completion Award, 2014 -2015
- IBM Best Student Paper Award - IEEE MDM, 2014
- IBM PhD Student Colloquium Paper Award - IEEE MDM PhD Colloquium, 2014
- Heidelberg Laureate Forum invitee, 2014
- NSERC Postgraduate Scholarship (Doctoral), 2012 – 2014
- Ontario Graduate Scholarship, 2012 -2013 (declined)
- School of Graduate Studies Conference Grant, 2011, 2012
- Helen Sawyer Hogg Graduate Admissions Award, 2010
- ICCR Scholarship, 1995 – 1999

SECTION 4: DISSEMINATION OF KNOWLEDGE

4.1 Courses Taught

- INFO1103, Data and Information Management, Fall 2015, Winter 2016
- CS2545, Data Science for Big Data Analysis, Fall 2016, 2017, 2018, 2019
- INFO3403, Information System Administration, Winter 2017, 2018

- CS6545/CS4545 (CS4995/CS6905), Big Data Systems, Winter 2016, 2017, 2018, 2019, 2020
- CS6585 Database Foundations, Fall 2016

4.2 Development of New Courses

- CS6545/CS4545 (CS4995/CS6905), Big Data Systems
- CS2545, Data Science for Big Data Analysis

4.3 Updating of Existing Courses

- Database Foundation (CS6585) - updated the content and restructured the lab components

4.4 Effective Use or Development of Teaching Aids and Techniques

- Database Foundation (CS6585) - developed a set of hands-on exercises that the students can use to learn how a database engine operates, by working with a teaching database called SimpleDB
- Big Data Systems (CS6545/CS4545) - developed a series of lab exercises involving a number Big Data systems, such as Hadoop, Hive, HBase, Neo4J and InfluxDB
- Big Data Analytics (CS2545) - developed a number of hands-on exercises with Jupyter Notebook and Anaconda Python library ecosystem

SECTION 5: RESEARCH AND SCHOLARLY ACTIVITIES

5.1 Published or Accepted Journal Publications

1. Shlomi Linoy, Natalia Stakhanova and Suprio Ray. De-anonymizing Ethereum Blockchain Smart Contracts through Code Attribution. International Journal of Network Management, 2020.
2. Divya Negi, Suprio Ray, and Rongxing Lu. Pystin: Enabling Secure LBS in Smart Cities with Privacy-Preserving Top-k Spatial-Textual Query. IEEE Internet of Things Journal, 2019.
3. Blesson Varghese, Philipp Leitner, Suprio Ray, Kyle Chard, Adam Barker, Yehia Elkhatib, Herry Herry, Cheol-Ho Hong, Jeremy Singer, Fung Po Tso, Eiko Yoneki, Mohamed-Faten Zhani. Cloud Futurology. IEEE Computer, 2019.

4. Suprio Ray and Rolando Blanco, and Anil K. Goel. High Performance Location-Based Service Main-Memory Database. GeoInformatica, 2017.

5. D Haynes, S Ray, S Manson. Terra Populus: Challenges and Opportunities with Heterogeneous Big Spatial Data. Advances in Geocomputation, 2017.

6. Antonio Filieri, Martina Maggio, Konstantinos Angelopoulos, Nicolas D'Ippolito, Ilias Gerostatopoulos, Andreas Hempel, Pooyan Jamshidi, Evangelia Kalyvianaki, Cristian Klein, Filip Krikava, Sasa Misailovic, Alessandro Papadopoulos, Suprio Ray, Amir M Sharifloo, Stepan Shevtsov, Mateusz Ujma and Thomas Vogel. Control Strategies for Self-Adaptive Software Systems.. ACM Transactions on Autonomous and Adaptive Systems (TAAS), 2017.

5.2 Published or Accepted Conference and Workshop Publications

1. Suprio Ray, Catherine Higgins, Vaishnavi Anupindi and Saransh Gautam. Enabling NUMA-aware Main Memory Spatial Join Processing: An Experimental Study. Eleventh International Workshop on Accelerating Analytics and Data Management Systems Using Modern Processor and Storage Architectures (ADMS@VLDB), 2020

2. Puya Memarzia, Suprio Ray, Virendra C. Bhavsar. The Art of Efficient In-memory Query Processing on NUMA Systems: a Systematic Approach. IEEE International Conference on Data Engineering (ICDE), 2020.

3. Shlomi Linoy, Suprio Ray and Natalia Stakhanova. Towards Eidetic Blockchain Systems with Enhanced Provenance. The Second International Workshop on Blockchain and Data Management (BlockDM 2020), held in conjunction with IEEE International Conference on Data Engineering (ICDE), 2020.

4. Yoann Arseneau, Saransh Gautam, Bradford Nickerson and Suprio Ray. STILT: Unifying Spatial, Temporal and Textual Search using a Generalized Multi-dimensional Index. International Conference on Scientific and Statistical Database Management (SSDBM). Vienna, Austria, 2020.

5. Puya Memarzia, Maria Patrou, Md Mahbub Alam, Suprio Ray, Virendra C. Bhavsar, and Kenneth B Kent. Toward Efficient Processing of Spatio-temporal Workloads in a Distributed In-memory System. IEEE International Conference on Mobile Data Management (MDM), 2019. Acceptance rate 29%.

6. Puya Memarzia, Suprio Ray, and Virendra C. Bhavsar. A Six-dimensional Analysis of In-memory Aggregation. International Conference on Extending Database Technology (EDBT), 2019.

7. Alex Watson, Scott Bateman and Suprio Ray. PySnippet: Accelerating Exploratory Data Analysis in Jupyter Notebook through Facilitated Access to Example Code. International Workshop on Big Data Visual Exploration and Analytics (BigVis) (co-located with EDBT), 2019.

8. Shlomi Linoy, Hassan Mahdikhani, Suprio Ray, Rongxing Lu, Natalia Stakhanova and Ali Ghorbani. Scalable Privacy-Preserving Query Processing Over Ethereum Blockchain. IEEE Blockchain Symposium, 2019.

9. Jay Buckler, Suprio Ray and Eduardo Castillo-Guerra. Scalable Local Short-Term Energy Consumption Forecasting. Canadian Conference of Electrical and Computer Engineering (IEEE CCECE), 2019.

10. Blesson Varghese, Suprio Ray, Bhavesh Gohil and Sergio Vega. Research Challenges in Query Processing and Data Analytics on the Edge. International Conference on Computer Science and Software Engineering (CASCON), Toronto, 2019.

11. Maria Patrou, Md Mahbub Alam, Puya Memarzia, Suprio Ray, Virendra C. Bhavsar, Kenneth B. Kent and Gerhard W. Dueck. DISTIL: A Distributed In-Memory Data Processing System for Location-Based Services. In Proceedings of ACM International Conference on Advances in Geographic Information Systems (SIGSPATIAL GIS). 2018 (short paper).

12. Md Mahbub Alam, Suprio Ray and Virendra C. Bhavsar. A Performance Study of Big Spatial Data Systems. In Proceedings of ACM SIGSPATIAL International Workshop on analytics for Big Geospatial Data (BigSpatial 2018). Seattle, Washington, 2018.

13. Suprio Ray and Bradford G. Nickerson. Improving Parallel Performance of Temporally Relevant Top-K Spatial Keyword Search. In Proceedings of ACM SIGSPATIAL Workshop on Recommendations for Location-based Services and Social Networks (LocalRec 2018). Seattle, Washington, 2018.

14. Puya Memarzia, Suprio Ray and Virendra C Bhavsar. On Improving Data Skew Resilience In Main-memory Hash Joins. International Database Engineering & Applications Symposium (IDEAS 2018), Villa San Giovanni, Italy, 2018.

15. Pegah Yazdkhasti, Suprio Ray and Chris. P. Diduch. Using a Cluster-Based Method for Controlling the Aggregated Power Consumption of Air Conditioners in a Demand-Side Management Program. Smart Energy Systems and Technology (SEST), 2018.

16. Alex Watson, Deepigha Vittal Babu and Suprio Ray. Sanzu: A Data Science Benchmark. IEEE International Conference on Big Data (IEEE BigData 2017), Boston, 2017. Acceptance rate 18%.

17. Rene Richard and Suprio Ray. A Tale of Two Cities: Analyzing Road Accidents with Big Spatial Data. IEEE International Workshop on Big Spatial Data (BSD) held in conjunction with IEEE International Conference on Big Data (IEEE BigData 2017), Boston, 2017.

18. Suprio Ray and Bradford G. Nickerson Dynamically Ranked Top-K Spatial Keyword Search. International ACM SIGMOD Workshop on Managing and Mining Enriched Geo-Spatial Data (GeoRich, collocated with SIGMOD), 2016.

19. Suprio Ray, Angela Demke Brown, Nick Koudas, Rolando Blanco, and Anil Goel. Parallel In- Trajectory-based Spatiotemporal Topological Join. In Proceedings of IEEE International Confere Big Data, 2015.

20. Bogdan Simion, Daniel Ilha, Suprio Ray, Leslie Barron, Angela Demke Brown, and Ryan Johnson. Slingshot: A Modular Framework for Designing Data Processing Systems. In Proceedings of IEEE International Conference on Big Data. 2015.

21. David Haynes, Suprio Ray, Steve Manson, and Ankit Soni. High Performance Dynamic Analysis of Big Spatial Data. In Proceedings of IEEE Big Data in the Geosciences Workshop, (collocated with IEEE BigData). 2015.

22. David Haynes, Suprio Ray, Steven Manson, David Van Riper, Ankit Soni, Angela Demke Brown. Towards A High Performance System for Heterogeneous Big Spatial Data. In Proceedings of CyberGIS AHM, 2015

23. Antonio Filier et al. Software Engineering Meets Control Theory. In Proceedings of Symposium Software Engineering for Adaptive and Self-Managing Systems. 2015

24. Suprio Ray, Rolando Blanco, and Anil K. Goel. Supporting Location-Based Services in a Main-Memory Database. In Proceedings of the IEEE International Conference on Mobile Data Management (MDM). 2014. Best paper award

25. Suprio Ray (Advisor: Angela Demke Brown). Towards High Performance Spatio-temporal Data Management Systems. In Proceedings of the Ph.D. Colloquium, held in conjunction with IEEE International Conference on Mobile Data Management (MDM). 2014. Best paper award

26. Suprio Ray, Bogdan Simion, Angela Demke Brown and Ryan Johnson. Skew-Resistant Parallel In-memory Spatial Join. In Proceedings of the International Conference on Scientific and Statistical Database Management (SSDBM). 2014

27. Suprio Ray, Bogdan Simion, Angela Demke Brown and Ryan Johnson. A Parallel Spatial Data Analysis Infrastructure for the Cloud. In Proceedings of ACM SIGSPATIAL GIS. 2013

28. Suprio Ray, Rolando Blanco, and Anil K. Goel. Enhanced Database Support for Location-Based Services. International Workshop on GeoStreaming (IWGS). 2013

29. Bogdan Simion, Suprio Ray and Angela Demke Brown. Surveying the Landscape: An In-Depth Analysis of Spatial Database Workloads. In Proceedings of ACM SIGSPATIAL. 2012

30. Bogdan Simion, Suprio Ray and Angela Demke Brown. Speeding up spatial database query execution using GPUs. In Proceedings of WEPA, 2012

31. Suprio Ray, Bogdan Simion and Angela Demke Brown. Jackpine: A Benchmark to Evaluate Spatial Database Performance. In Proceedings of the IEEE International Conference on Data Engineering (ICDE), 2011.

32. Alexandra Fedorova, Viren Kumar, Vahid Kazempour, Suprio Ray, and Pouya Alagheband. Cypress: A Scheduling Infrastructure for a Many-Core Hypervisor. In Proceedings of the Workshop on Managed Multi-Core Systems (MMCS'08) held in conjunction with HPDC, 2008.

33. Michael J. Feeley, Norman C. Hutchinson and Suprio Ray. Realistic Mobility for Mobile Ad Hoc Network Simulation. In Proceedings of the International Conference on Ad-hoc, Mobile, and Wireless Networks (ADHOC-NOW), 2004.

34. Suprio Ray and Kris De Volder, Explicit Programming Approach for Modeling Agent Coordination, In Proceedings of the OOPSLA Workshop on Agent-Oriented Methodologies, 2002

5.3 Selected Research Posters
(name of the presenter is highlighted with *italic* font)

1) *Puya Memarzia*, Virendra Bhavsar, and Suprio Ray. A Six-dimensional Analysis of In-memory Aggregation. UNB Computer Science Research Expo, 2019. Best poster award

2) *Shlomi Linoy*, *Hassan Mahdikhani*, Suprio Ray, Rongxing Lu, Natalia Stakhanova, Ali Ghorbani. Scalable Privacy-Preserving Query Processing Over Ethereum Blockchain. UNB Computer Science Research Expo, 2019.

3) Multiprocessing in Python to Exploit Multicore Hardware. Rahul Roychowdhury, Eric Aubanel, *Suprio Ray*, Charlie Gracie. CASTLE 2019

4) Maria Patrou, Md Mahbub Alam, Puya Memarzia, *Suprio Ray*, Virendra C. Bhavsar, Kenneth B. Kent and Gerhard W. Dueck. DISTIL: A Distributed In-Memory Data Processing System for Location-Based Services. In Proceedings of ACM International Conference on Advances in Geographic Information Systems (SIGSPATIAL GIS). 2018.

5) Suprio Ray, *Bogdan Simion* and Angela Demke Brown. Jackpine: A Benchmark to Evaluate Spatial Database Performance. In Proceedings of the IEEE International Conference on Data Engineering (ICDE), Hannover, Germany, 2011.

5.4 Papers Presented at Professional and Technical Conferences

- Esri GIS in Education and Research Conference, Toronto, 2020.
- International Conference on Computer Science and Software Engineering (CASCON), 2019
- IEEE International Conference on Mobile Data Management (MDM), Hong Kong, 2019
- ACM International Conference on Advances in Geographic Information Systems (SIGSPATIAL GIS). Seattle, Washington, 2018

- ACM SIGSPATIAL International Workshop on analytics for Big Geospatial Data (BigSpatial 2018), Seattle, Washington, 2018
- ACM SIGSPATIAL Workshop on Recommendations for Location-based Services and Social Networks (LocalRec 2018), Seattle, Washington, 2018
- ACM SIGMOD Workshop on Managing and Mining Enriched Geo-Spatial Data (GeoRich 2016), San Francisco, California, 2016
- International Conference on Big Data (IEEE BigData 2015), Santa Clara, California, 2015
- International Conference on Mobile Data Management (MDM). Brisbane, Australia, 2014
- PhD Colloquium, held in conjunction with International Conference on Mobile Data Management (MDM). Brisbane, Australia, 2014
- International Conference on Scientific and Statistical Database Management (SSDBM). Aalborg Denmark, 2014
- International Conference on Advances in Geographic Information Systems (SIGSPATIAL GIS Orlando, Florida, 2013
- International Workshop on GeoStreaming (IWGS), Orlando, Florida, 2013
- International Conference on Data Engineering (ICDE), Hannover, Germany, 2011

5.5 Presentation of Seminars, Clinics, Workshops

- The Age of Big Spatial Data. Invited talk at the Alumni Symposium. Bonn-Rhein-Sieg University Applied Sciences, Sankt Augustin, Germany, 2018
- Scalable Big Data management with Blockchain, CIC NCIT Joint Workshop, 2018
- Big Data Security, CIC Webinar, 2017, 2018, 2019
- Member of the Expert Panel. Panel Discussion: Advanced Computing Applications in Career Pat ACENET Open House, 2016
- Big Data – Research Opportunities and Challenges. ACENET Open House, 2016
- Big Data – Research Opportunities and Challenges. UNB Research Discussion Forum: Leverag Advanced Computing for Research & Innovation in New Brunswick, 2015

- Big Spatial and Spatio-temporal Query Processing in Main Memory. High Performance Geoprocessing Symposium, Ottawa, 2014
- Main-memory Multidimensional Query Processing in the Cloud – Opportunities for Control Theoretica Approaches. Dagstuhl Seminar 14382, Dagstuhl, 2014
- Extending Database Support for Location-Based Services. SAP Research Seminar. 2013
- A Parallel Spatial Data Analysis Infrastructure for the Cloud. University of Waterloo, Database Research Group Seminar, 2013

5.6 Other Evidence of Research Accomplishments (patents, new product development)

- Suprio Ray, Rolando Blanco, and Anil K. Goel. Parallel Spatio Temporal Indexing For High-Update Workloads and Query Processing. (US Patent 9,817,874, granted 2017)

5.7 Professional Services

- Journal reviews

- Distributed and Parallel Databases (DAPD), 2020
- Transactions on Dependable and Secure Computing, 2020
- Frontiers in Big Data, 2020
- Computers & Geosciences, 2020
- Future Generation Computer Systems, 2018, 2019
- IEEE Internet of Things (IoT) Journal, 2018
- IEEE Transactions on Knowledge and Data Engineering, 2018
- Journal of Spatial Science, 2017
- Journal of Applied Sciences, 2017
- International Journal of Geographical Information Science, 2017
- Reviewer for VLDB Journal, 2016
- Reviewer for Transactions on Parallel Computing, 2015

- Reviewer for Journal of Earth Science Informatics, 2014
- Reviewer for Journal of Zhejiang University-SCIENCE C, 2014
- External reviewer for conference SOSP, 2015
- External reviewer for conference ASPLOS, 2012, 2014

- Program Committee

- International Conference on Computer Science and Software Engineering (CASCON), 2018, 2019, 2020
- IEEE International Conference on Blockchain (Blockchain), 2020
- IEEE/ACM International Conference on Big Data Computing, Applications and Technologies (BDCAT), 2019, 2020
- IEEE International Conference on Privacy, Security and Trust (PST), 2019
- International Workshop on Next Generation Cloud (NextGenClouds), 2018
- IEEE Big Data Workshop on Challenges of Engineering and Mining Big Data in Cyber-Physical Systems, 2016
- ACM SIGSPATIAL PhD Symposium, 2016

- Conference organization

- Publication Chair, IEEE International Conference on Privacy, Security and Trust (PST), 2019 (link)

- Conference session chair

- IEEE International Conference on Privacy, Security and Trust (PST), 2019.
  - Session: Invited Talk, (link)
  - Session: Blockchain, IoT and Machine Learning, (link)
- International Conference on Computer Science and Software Engineering (CASCON), 2019

SVNIT SURAT

Dr. Bhavesh N Gohil SVNIT <bng@coed.svnit.ac.in>

Regarding PhD supervision

3 messages

Dr.Bhavesh Gohil(CoED) <bng@coed.svnit.ac.in> Thu, Jan 7, 2021 at 3:20 PM
To: Suprio Ray <sray@unb.ca>

Dear Prof. Ray,

This time I have selected one full time PhD student Ms. Supriya Mishra who is having 2 years of industry experience. She has shown her interest to carry out research in the domain of AI/ML/Big data/Cloud computing domain which are also matched with your area of expertise. Your research directions will help us to have very good research in the said domains.

In this regard, I am looking forward to your consent to jointly supervise her PhD. Resume of Ms.Supriya Mishra is attached herewith for your reference.

Thanks and regards
Bhavesh

Thanks & Regards,
Dr.Bhavesh Gohil
Assistant Professor
Department of Computer Engineering
SVNIT Surat

Resume_Supriya_Mishra.pdf
117K

Suprio Ray <sray@unb.ca> Fri, Jan 8, 2021 at 9:42 AM
To: "Dr.Bhavesh Gohil(CoED)" <bng@coed.svnit.ac.in>

Dear Dr. Gohil,
I am willing to jointly supervise the PhD student, as per your email, if your department/institute approves it.

Regards,
Suprio Ray

Associate Professor
Faculty of Computer Science
University of New Brunswick
Fredericton, Canada

From: Dr.Bhavesh Gohil(CoED) <bng@coed.svnit.ac.in>
Sent: Thursday, January 7, 2021 5:50 AM
To: Suprio Ray <sray@unb.ca>
Subject: Regarding PhD supervision

External message: Use caution.

[Quoted text hidden]

Dr.Bhavesh Gohil(CoED) <bng@coed.svnit.ac.in> Fri, Jan 8, 2021 at 9:53 AM
To: Suprio Ray <sray@unb.ca>

SVNIT SURAT

(3) & (4)

Dr. Bhavesh N Gohil SVNIT <bng@coed.svnit.ac.in>

Nishtha Srivastava : Supervisor details

2 messages

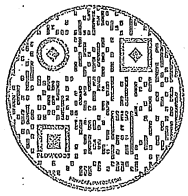
Nishtha Srivastava SVNIT <d20co005@coed.svnit.ac.in> Wed, Dec 30, 2020 at 11:09 AM
To: "Dr.Bhavesh Gohil(CoED)" <bng@coed.svnit.ac.in>, Krupa Jariwala <knj@coed.svnit.ac.in>

To ,
Sir / Madam ,

1. Name of the Research Scholar : Nishtha Srivastava
2. Admission No : D20CO005
3. Department : Computer science engineering
4. Date of Registration : 21/9/2020
5. Area of Research/ Topic of Thesis : Security issues in cloud computing
6. Name of Present Supervisor(S)

1.Dr. Bhavesh Gohil 2. Dr. Krupa N Jariwala

Nishtha Srivastava
B.Tech., M.Tech., Ph.D(Pursuing)
Department of Computer Engineering
Sardar Vallabhbhai National Institute of Technology (SVNIT)



SVNIT SURAT

College Website

K N Jariwala <knj@coed.svnit.ac.in> Thu, Dec 31, 2020 at 10:46 AM
To: "Dr.Bhavesh Gohil(CoED)" <bng@coed.svnit.ac.in>

Dear Dr. Bhavesh,
As per the email received by the PhD student Ms. Nishtha Srivastava (D20CO005), she has expressed her interest and area of research in Security issues in cloud computing.
This domain is not relevant with my current research. Therefore, it will not be possible for me to continue as a co guide for).

With Regards,
Krupa

[Quoted text hidden]

SVNIT SURAT

Dr. Bhavesh N Gohil SVNIT <bng@coed.svnit.ac.in>

Regarding PhD supervision

5 messages

Dr.Bhavesh Gohil(CoED) <bng@coed.svnit.ac.in> Mon, Aug 17, 2020 at 4:32 PM
To: Suprio Ray <sray@unb.ca>

Dear Prof. Ray,

This time I have selected one full time PhD student Ms. Nishtha Srivastava who is having 2 years of teaching/research and 1 year of industry experience. She has shown her interest to carry out research in the domain of cloud/edge/ML domain which are also matched with your area of expertise. Your research directions will help us to have very good research in the said domains.

In this regard, I am looking forward for your consent to jointly supervise her PhD. To approve your name as PhD supervisor, I need your detailed CV to be placed in DAAC meeting for further discussion and approval.

Thanks and regards
Bhavesh

Suprio Ray <sray@unb.ca> Fri, Aug 21, 2020 at 7:43 PM
To: "Dr.Bhavesh Gohil(CoED)" <bng@coed.svnit.ac.in>

Dear Dr. Gohil,
I am willing to jointly supervise the PhD student, as per your email, if your department/institute approves it. I have attached my latest CV herewith.

Regards,
Suprio Ray

From: Dr.Bhavesh Gohil(CoED) <bng@coed.svnit.ac.in>
Sent: Monday, August 17, 2020 8:02 AM
To: Suprio Ray <sray@unb.ca>
Subject: Regarding PhD supervision

External message: Use caution.

[Quoted text hidden]

CV_SRay_2020.pdf
339K

Dr.Bhavesh Gohil(CoED) <bng@coed.svnit.ac.in> Sat, Aug 22, 2020 at 4:09 PM
To: Head of Computer Engg Dept SVNIT <hod@coed.svnit.ac.in>, Mukesh A Zaveri SVNIT <mazaveri@coed.svnit.ac.in>

Dear sir,

Prof. Suprio Ray(Associate Professor, UNB, Canada) has shown his willingness to co-supervise(along with Dr.K.N.Jariwala madam if she wants to continue as co-supervisor) selected PhD candidate Ms.Nishtha Srivastava.
For the same please find his reply in trailing mail along with his detailed CV for further approval.

Thanking you,
Bhavesh
[Quoted text hidden]

V_SRay_2020.pdf
339K

Mukesh A Zaveri SVNIT <mazaveri@coed.svnit.ac.in> Sat, Aug 22, 2020 at 10:41 PM
To: "Dr.Bhavesh Gohil(CoED)" <bng@coed.svnit.ac.in>

Dear Dr. Bhavesh,

You can prepare a request letter to the dean academic and we will discuss and approve in the DAAC on monday or tuesday and then we can forward the resolution to Dean for IAAC approval.

With regards,
mukesh
[Quoted text hidden]

Dr.Bhavesh Gohil(CoED) <bng@coed.svnit.ac.in> Sun, Aug 23, 2020 at 12:18 PM
To: Mukesh A Zaveri SVNIT <mazaveri@coed.svnit.ac.in>

Ok sir, thank you.

I will call you regarding the content to be written for the same.

Thank you,
Bhavesh
[Quoted text hidden]

--
Thanks & Regards,
Dr.Bhavesh Gohil
Assistant Professor
Department of Computer Engineering
SVNIT Surat

Departmental Academic Advisory Committee (DAAC)

Annexure-5

No. COED/DAAC/ 550 /2020-21
Date:10-11-2020

DAAC Minutes of Meeting

DAAC meeting was held on 09-11-2020 **in Meeting Room**. The following members were present for DAAC meeting. The following items are discussed and resolution are listed as below.

1. Prof. M A Zaveri, Head & Chairman DAAC
2. Dr. Udai Pratap Rao, Member & Secretary
3. Prof. D C Jinwala, Member
4. Shri R P Gohil, member
5. Dr. Rupa G Mehta, Member
6. Dr. Dipti P Rana, Member
7. Dr. Sankita J Patel, Member
8. Dr. Bhavesh N. Gohil, Member
9. Dr. Balu L. Parne, Member
10. Dr. Naveen Kumar Gupta
11. Mr. Anurag Jain
12. Ms. Komal Sindhi

Item 1: Discussion regarding GitHub campus Programme.
Resolution 1: Deportment applied for GitHub campus programme and application was accepted so the GitHub facility like Enterprise Server and Cloud will be available for faculty and students for research and development purpose.

Item:4(3)(d)

Item 2: Modification in Specialization for COED in QIP PhD admission.
Resolution 2: The matter was discussed and the list of specialization for QIP PhD for Computer Engineering Department was modified. The modified list of specialization is as follows:

Code	Department	Fields of Specialization	Minimum Qualification
SSCS01	Computer Engineering	Information Security and Privacy, Software Engineering, Computer Vision, Image Processing, Soft Computing, Computer Network, Automata, Compiler, High Performance Computing, Artificial Intelligence	Masters degree in Computer Engineering or allied fields. Admission as per the norms available on the institute's website: www.svnit.ac.in

Item:4(3)(e)

Item 3: Offering of M.Tech (CSE)with different specialization tracks..
Resolution 3: Currently the department is offering M.Tech in Computer Engineering and the Senate has approved the M.Tech degree to be offered in Computer Science and Engineering (CSE) from 2021-22 academic year. Looking at the current technology development the department is planning to offer (M.Tech CSE with Specialization in AI, Data science, Information Security and Privacy) along with regular CSE degree with different tracks. The faculty members discussed various points to frame the curriculum structure with different specializations and tracks for further processing.

The meeting was ended with thanks to all members.

10-11-2020

(Dr. Udai Pratap Rao)
Member Secretary, DAAC, CoED

10/11/2020

Head,
Computer Engg. Deptt

(Dr. Mukesh A Zaveri)
Chairman, DAAC & Head, CoED

Copy to:

1. The Dean (Academic)- for information
2. The Director- for information
3. CoED DAAC file

Annexure-6

Computer Engineering Department, SVNIT- 395007

Departmental Academic Advisory Committee (DAAC)

No. COED/DAAC/857/2020-21

Date : 05-02-2021

DAAC Minutes of Meeting

DAAC meeting was held on 04th Feb 2021 in the faculty meeting room at 12:30 pm onwards. The following members were present for DAAC meeting. The following item was discussed and resolution is listed as below:

1. Prof. D. C. Jinwala, Professor (HAG), Member
2. Prof. M A Zaveri, Head & Chairman DAAC
3. Shri R P Gohil, Member
4. Dr. Rupa G Mehta, Member
5. Dr. Krupa N Jariwala, Member
6. Dr. Dipti P Rana, Member
7. Dr. Udai Pratap Rao, Member & Secretary
8. Dr. Sankita J Patel, Member
9. Dr. Bhavesh N. Gohil, Member

Item 1: Regarding grant of extension in submission of PhD thesis of Mr. Himanshu B Patel (DS14CO003).
Item 46(3)(f)
Resolution 1: The DAAC has approved the application submitted by Mr. Himanshu B Patel (DS14CO003) and forwarded to IAAC for further consideration.

To. AR consider this as IAAC agenda.
8/2/2021

Item 2: Various activities for the celebration of Diamond Jubilee year of the institute.
Resolution 2: The various activities submitted to the authority was discussed at length. It was further decided to explore an international conference jointly with industry and also to plan the proposed workshop, STTP by end of December 2021.

Item 3: Regarding setup of student's committee for design and editing of department newsletter.
Resolution 3: It was decided to form the students level committee for better designing and editing of department newsletter.

Item 4: For applying of NBA accreditation of UG and PG courses of Computer Science & Engineering.
Resolution 4: It was decided to explore for UG and PG accreditation as per the revised norms of NBA due to COVID-19.

Item 5: Need of 210 No. of PC at various labs of Computer Engineering Department.
Resolution 5: Department has shortage of number of desktop PC. There are currently 260 No. of PC, out of that 140 PCs are obsolete that does not support the new technologies/ applications. Therefore, it was resolved to purchase 210 No. of PC as per urgent need. The DAAC decided to forward this requirement to Dean (P&D) and Director for further necessary action.

The meeting was ended with thanks to all members.

05/02/21

(Dr. Udai Pratap Rao)
Member Secretary, DAAC, CoED

5/2/21

(Dr. Mukesh A Zaveri)
Chairman, DAAC & Head, CoED

Computer Engg. Dept

Enclosures: 1. Application received from Mr. Himanshu B Patel (DS14CO003) for extension in submission of PhD thesis.

To Dean (Acad)
05/02/2021
5:00 pm

Himanshu B. Patel
PhD research Scholar (DS14CO003)
Department of Computer Engineering,
SVNIT, Surat.

To,
The Dean (Academics)
S.V.National Institute of Technology – Surat

Subject : Application for the grant of extension in submission of Ph.D. thesis

Respected Sir ,

I, the undersigned, Himanshu Bhikhubhai Patel (Admission number : DS14CO003), am writing this letter to request an extension in the deadline for submitting my PhD thesis. As per institute rules, I have to submit my Ph.D. thesis on before December 2021. As per the feedback in the last research progress seminar – copy attached herewith - that I defended on 15th Jan 2021, the extent and quality of my research work is satisfactory. However, due to the unavoidable circumstances arising out of the following events, I am compelled to request for the extension:

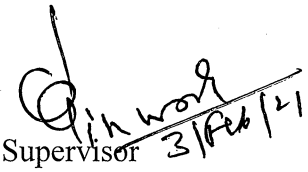
1. Due to the COVID-19, from March 2020, it was not possible for me to come to the lab in the department/institute and carry out the required final experiments; nor was able to meet and discuss with my Supervisor, to get his consent on submission of the papers, already written then. It is to be humbly noted that I lost almost 10 months of very critical and productive time.
2. Earlier, in 2019, I personally had met with an accident, impaired with major multi-ligaments injury in my left leg, and was on medical leave for almost two months. The complete rehabilitation took almost 8 months, then and impacted my work.

It is also humbly emphasized that currently the status of my research is facing only lack of the required publications – that I think I should be able to comply with, given an extension, compensating the lost time.

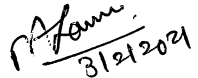
Therefore, it is earnestly requested to grant me an extension of one year in submission of my thesis. Let me also convey that, despite this request, I would try my best to complete the required formalities well before the current deadline itself. However, with the extension granted, I would be able to ensure that there is no compromise in the research and the associated formalities, required.

Yours Faithfully,

H.B.Patel
(DS14CO003)



Supervisor
Prof D. C. Jinwala



Head of the Department

To,
The Dean Academics, SVNIT.

Dr. RITESH PATEL
M.S.(Ortho) FIAS (Reg. No. G-12859)
Consultant Orthopaedic Surgeon & Arthroscopist

Dr. DRASHTI PATEL
M.S.(O&G) Reg. No. G-14201
Consultant Obstetrician & Gynaecologist

TANMAY HOSPITAL

4th Floor, Modern Shopee, Opp. Rupali Cinema,
Palanpur Patia,Rander Road, Surat-395009.
Phone : 0261 - 2760030, 2760039

Dt. 01/07/19

This is to Certify that Shri / Smt Himanshu B. Patel

is under my treatment from 6/06/19

He / She is / was suffering from (Diagnosis) Left knee ACL tear c MCL tear + PLC gr-3 injury

He / She was admitted on –

He / She was operated on –

Operation / Treatment Complete rest with long knee brace given c oral drug Advice Surgery which will planned on 9th July '19

He / She was discharged on –

He / She is advised rest for 3 mths days / weeks / months.

He / She is fit for his / her Duty from

N.B.

Remark

Reg. No. G-12859
TANMAY Hospital
4th Floor, Modern Shopee, Opp. Rupali Cinema
Palanpur Patia, Rander Road, SURAT-395009
Ph. 0261-2760030 / 2760039

Outward No. COED/790/2020-2021
Date: 21/01/2021
Computer Engg. Deptt.

SARDAR VALLABHBHAI NATIONAL INSTITUTE OF TECHNOLOGY, SURAT

Department of Computer Engineering

RESEARCH PROGRESS SEMINAR (Ph. D.) REPORT

1. Name of Student Scholar: **Himanshu Bhikhubhai Patel**
2. Roll No: **DS14CO003** Date of joining: **13/01/2015**
3. Ph. D. Topic: **Investigating approaches for mitigating the Blackhole attack on the Routing Protocol for LLNs in the Internet of Things.**
4. Review Period: August – December 2020
5. Dates of previous Research Progress Seminars Presented:

1. 15/06/2016	2. 15/12/2016
3. 18/07/2017	4. 23/12/2017
5. 18/06/2018	6. 27/12/2018
7. 16/01/2020	8. 20/07/2020

6. Current Seminar Date: **15/01/2021** Time: **12:00 pm** Place: **Online mode**
7. Publication/Papers Presented/Submitted (Write on back side):
8. Quality of work done: Excellent/Good/Satisfactory/Unsatisfactory
9. Quantity of work done: Enough/Just sufficient/Insufficient
10. Expected Period for completion of Programme: One year/two years/three years/four year
11. RPC Members Report / Recommendations:

a) For continuation of Assistantship: Yes/No/NA
b) Enhancement / Renewal: Yes/No/NA
C) Extension of registration (after 3 years.): Yes/No/NA

12. Suggestion, if any for future work (on over leaf)

Signature & Name

Manik Lal Das 15-01-2021	15-01-21	15th Jan 2021	
Prof. Manik Lal Das	Dr. S. J. Patel	Prof. D. C. Jinwala	Dr. P. V. Bhale
Examiner-(RPC)	Examiner-(RPC)	Supervisor (s)	Chairman

13. Whether approval of Standing Executive Committee of the Senate and the Director is obtained for delay in Presentation of Research Progress seminar: Yes/No

Through The HOD / Chairman of DAAC:

Head,
Computer Engg. Deptt

To: Dean (Acad)

(Please see on the reverse)

*Suggestions, if any for future work:

1. The candidate must first discuss the ATR on the suggestions given in the previous RPC meetings.
2. The literature review must be done theme/topic/concept-wise and not just present a laundry list of the papers in the area.
3. Consider to incorporate the reputation based approach into your latest research attempt that is blockchain inspired approach.
4. Design a broad logical diagram of your entire research, to put into perspective with respect to the current state of the art.
5. Complete the theoretical analysis of the proposed approach as well as the dynamic validation of the proposed approach.
6. Define the security model that you intend to use before discussing the approach.
7. The candidate must submit the report for review at least three days before the scheduled date of the RPS; in order for the examiners to review it and raise queries useful to the scholar, during the seminar.
8. Instead of text, use formal notations to discuss the proposed approach.
9. Publish papers in good journals.

Publications/Papers Presented/Submitted:

1. Himanshu patel, Devesh C. Jinwala, and Dhiren R. Patel, "Baseline architecture for intrusion detection system in 6LoWPAN Based IoT", 13th Annual International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services(mobiquitous 2016), ACM, December 2016.
2. H. B. Patel and D. C. Jinwala, "Blackhole Detection in 6LoWPAN Based Internet of Things: An Anomaly Based Approach," TENCON 2019 - 2019 IEEE Region 10 Conference (TENCON), Kochi, India, 2019, pp. 947-954. 10.1109/TENCON.2019.8929491
3. H. B. Patel and D. C. Jinwala, "T-SIEWE: Trust and Strainer based Intrusion Detection of Blackhole in 6LoWPAN for the Internet of Things : A Hybrid Approach. International Journal of Information and Computer Security. [To be revised and submitted again]
4. H. B. Patel and D. C. Jinwala, "6MID:Mircochain based Intrusion Detection for 6LoWPAN based IoT networks" The 12th International Conference on Ambient Systems, Networks and Technologies (ANT) March 23 - 26, 2021, Warsaw, Poland.[Accepted]

15th Jan 2021

S.V.N.I.T. SURAT-395007
Inward No.1751 Dt.19/10/2020
Sign.....JS.Deputy/Sec. Dean (Acad.)

Annexure-7

APPLICATION

To,
The Dean Academic,
SVNIT, Surat

Date: 12/10/2020

Item:48(3)(9)

Subject: **Regarding relaxation considering pandemic situation**

Respected Sir,

I (VipulkumarRamanlal Patel), am working as a Scientist-'D' in "National Technical Research Organisation" (NTRO), Government of India. I did my M.Tech. in computer engineering (first batch of M.Tech.) from the **SVNIT**, Surat in 2008.

Sir, I professionally belong to a non-academic profile for the last 12 years, and even after my sincere attempt, unfortunately, I couldn't clear the comprehensive examination in the second attempt held in August 2020. I have been declared passed in the comprehensive viva but obtained 49 in the theory exam.

Sir due to COVID-19 pandemic situation ***swayam*** platform ***had not conducted a Proctored examination for the subject,*** which Ph.D. candidates had opted as part of course work during semester Jan-June 2020. The institute has **accepted their scorecard** which is based on their online assignment only, the same has weightage of only 25% of the actual scorecard. These online assignments are aligned to the lab assignment which doesn't have any restriction for taking any reference and the time constraint is also of one week to submit for each assignment. In addition, assignments are also same for every candidate appearing for the same subject.

In this way, **the Institute has provided waiver in the proctored exam for their (such PhD candidates) subject opted under *swayam* platform against the minimum CC grade (6.0 CGPA) for the subject as per 44th Senate rules. Sir, but the institute has not provided any relaxationfor comprehensive examination taken under pandemic situation.**

For coursework, I had obtained 8.0 CPGA. Now due to short of 11 marks in comprehensive written examination, I have been declared unfit for Ph.D. **Sir, do you really think that these 11 marks only can make me competent to be able to publish the next requirement of 2 research papers in unpaid SCI/SCOPUS? and all rest achieved benchmarks has no meaning towards the same.**

44th Senate rule does not also clarify the case for candidate who is not able to clear comprehensive examination in two attempts. **There is no instruction given that admission will be cancelled. Even there is no clarification regarding exemption for coursework in case such candidate got readmission.** Clearing the same subjects again does not provide any value addition to candidate's capability and competence. In addition to same considering the case of re-admission, it is difficult for PEC candidate to convince respective organisation to provide

Dean (Acad) 19/10/20

To Asso Dean (Acad)
Please discuss
23.10.2020

23/10/20

study leave along with NOC, to repeat the course work which he/she had already cleared with required benchmark (in this case above 6.0 CGPA).

Sir, getting permission from NTRO, (government organisation) and the opportunity in NIT to pursue higher studies is very precious and equally challenging.

I like to urge competent authority through you to kindly provide a waiver/relaxation for the comprehensive exam (as the same has been granted to PhD candidate who has opted for **"swayam"** platform) or provide me at least one more attempt and permit me to continue a hard-earned Ph.D. course.

With the hope of positive consideration and processing, kindly convey your decision/comments through my email id mentioned below.

Kindly consider this application as physical representation because I am unable to travel from Hyderabad to Surat due to COVID-19 restrictions.

V Patel

(VipulkumarRamanlal Patel)
Admission No: D19CO005 (PEC)
Email Id: vipulkumar.patel@nic.in
Contact Number: 09717967362 (M)
040-27781328 (O)

Enclosure: Scorecard's showing difference for proctored exam

Copy to -

1. The Director, SVNIT
2. The Deputy Director, SVNIT
3. The Dean(S/W), SVNIT
4. HoD, Computer Engineering Department, SVNIT

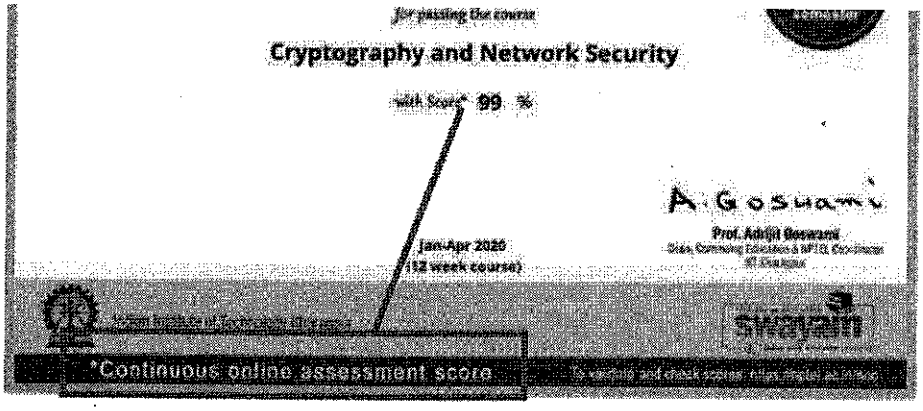


Figure 1 Score Card for Jan_June 2020 (Swayam)

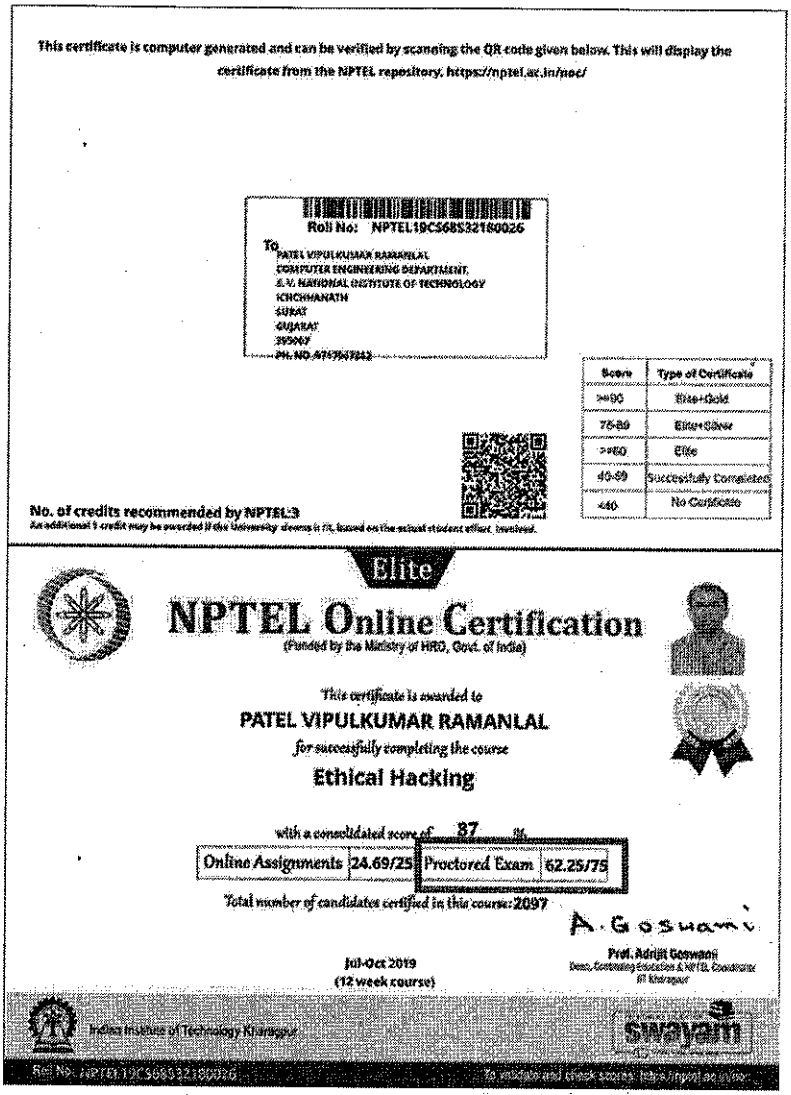


Figure 2 Score card with Proctored Exam

Annexure-8

SARDAR VALLABHBHAI NATIONAL INSTITUE OF TECHNOLOGY, SURAT

DEPARTMENT OF CHEMISTRY

No.:DoC/DAAC/ 994 Date: 11/02/2021

Minutes of 85th meeting of the Department Academic Advisory Committee (DAAC) of the Department of Chemistry Department held on February 08, 2021, Following members were present in the meeting:

Sr. No.	Name	Designation	
1.	Prof. Smita Jauhari	Professor	Member
2.	Dr. Bharat Dholakiya	Associate Professor, Chairman DAAC & Head, ACD	Chairman, DAAC
3.	Dr. Suresh Kumar	Associate Professor	Member
4.	Dr. Suban Sahoo	Associate Professor	Member
5.	Dr. Naved Malek	Associate Professor	Member
6.	Dr. Kalpana Maheria	Associate Professor	Member
7.	Dr. Premlata Kumari	Associate Professor	Member
8.	Dr. Ketan Kuperkar	Assistant Professor	Member Secretary, DAAC
9.	Dr. Ritambhara Jangir	Assistant Professor	Member
10.	Dr. Togati Naveen	Assistant Professor	Member

Item: 1	To confirm the Minutes of 84rd DAAC.
Reso. 1	Minutes of 84rd DAAC meeting is confirmed.
Item: 2	To discuss about the extension of thesis submission date of Ph.D. scholar, Ms. Dhara Hasmukhbhai Morawala (Reg. No. DS15CY001) for two months i.e. till 10/04/2021.
Reso. 2	It is resolved and recommended to IAAC that date of thesis submission of Ms. Dhara Hasmukhbhai Morawala (Reg. No. DS15CY001) student of Dr. Kalpana Maheria may be extended till 10/04/2021. Last date of her thesis submission is 10/02/2021 (Application attached for reference, **Enclosure-I**).
Item: 3	To finalize the schedule activities under Diamond Jubilee Celebrations.
Reso. 3	After the discussion at length, department has proposed the below two International Conferences: ➢ "2nd International Conference on Molecules to Materials" in December 2021. ➢ "2nd International Conference on Chemicals Sciences in Sustainable Technology and Development (IC2S2TD-2021) on 11-12 Oct 2021. As department has not proposed any National Conferences, we request you to sponsor the above two International Conferences.

Dr. Ketan Kuperkar
Member Secretary, DAAC

Dr. B.Z. Dholakiya
Chairman, DAAC

Head
Department of Chemistry
S. V. National Institute of Technology
SURAT-395007.

Enclosure – I

Date: 02-02-2021

To,
The Chairman DAAC
Applied Chemistry Department,
Sardar Vallabhbhai National Institute of Technology, Surat.

Subject: Request permission for the extension of Ph.D. thesis submission

Dear Sir,

I am doing Ph.D. as full time research scholar (FRS) with Roll. No. D15CY001 at Chemistry Department, Sardar Vallabhbhai National Institute of Technology, Surat under the guidance of Dr. Kalpana C. Maheria, Associate Professor, Chemistry Department, Sardar Vallabhbhai National Institute of Technology, Surat. I have submitted my synopsis on 10th August 2020. After submission of my synopsis, unfortunately, my thesis got delayed due to the COVID-19 outbreak and I need more time to write my thesis. In this context, I hereby request you to grant me an extension of two months (i.e. till 10th April 2021) for submission of my Ph.D. thesis. It is noteworthy to mention that, at present, the last date of submission of my Ph.D. thesis is 10th February 2021.

Pl. do the needful in the matter and obliged.

Sincerely,

02/02/2021

Morawala Dhara Hasmukhbhai
Reg. No. D15CY001
Ph.D. Scholar (ACD)

02.02.2021

Dr. Kalpana C. Maheria
Supervisor

02/02/2021

Head (ACD)
Head
Department of Chemistry
S. V. National Institute of Technology
SURAT-395007.

10 — Aug

Sep

Oct

Nov.

Dec

Dean Academic

Annexure-9

DEPARTMENT OF CHEMICAL ENGINEERING
SARDAR VALLABHBHAI NATIONAL INSTITUTE
OF TECHNOLOGY, SURAT - 395 007 (GUJARAT) INDIA
Tel.:+91 0261-2259582 To 2259584, 2259571 Ext. No.1642
Fax No. +91 0261 2227334, 2228394

Ref. No. ChED/946/2020-21 Date: 05/02/2021

Minutes of 79th DAAC Meeting of Chemical Engineering Department

The 79th Departmental Academic Advisory Committee (DAAC) Meeting of ChED was held at 12:30hrs on 25/01/2021 on Google meet.

The following members were present:

Sr.No.	Name of faculty Member	Designation
1	Dr. Z. V. P. Murthy	Professor(HAG)
2	Dr. Parimal A. Parikh	Professor(HAG)
3	Dr. Mousumi Chakraborty	Professor
4	Dr. Mausumi Mukhopadhyay	Professor
5	Dr. Jigisha K. Parikh	Professor
6	Dr. Chetan M. Patel	Associate Professor & Head
7	Dr. Meghal A. Desai	Associate Professor
8	Dr. Arun K. Jana	Associate Professor
9	Dr. Jignasa V. Gohel	Associate Professor
10	Dr. Alka A. Mungray	Associate Professor
11	Dr. Arvind K. Mungray	Associate Professor
12	Dr. Sanjay R. Patel	Associate Professor
13	Dr. V. N. Lad	Associate Professor
14	Dr. Smita Gupta	Assistant Professor
15	Dr. Giriraj C. Jadeja	Assistant Professor
16	Dr. S. K. Sundar	Assistant Professor
17	Dr. Jogender Singh	Assistant Professor
18	Dr. Sarita Kalla	Assistant Professor
19	Dr. Vineet kumar Rathore	Assistant Professor

The items and resolutions are as under:

Item#1: Starting off of minor programs of cross-disciplinary nature.

Resolution#1: In this regard, the proposal of minor of cross disciplinary nature was discussed with the faculty members of Chemical Engineering Department. All faculty members of Chemical Engineering Department unanimously agreed that more clarity and the detailed structure are required in this regard before their involvement. Also, the concern was raised by Faculty members regarding very less involvement of Chemical Engineering in the proposed interdisciplinary minor courses. The faculty members agreed to prepare several proposals to be considered for minor programs of cross-disciplinary nature, which will be fine-tuned with more clarity on the course structure and scope.

1

Smita Gupta 05/02/2021

05/02/2021 4:45 pm

5-2-2021

Item#2: Department Research Focus and Faculty Profile Information Brochure.

Resolution#2: In this regard, all faculty members unanimously agreed to formulate a new committee, which will design and prepare Departmental News Letter publishing Faculty profiles and highlighting Research and Academic contribution from faculty members and Chemical Engineering Department.

Item#3: List of probable experts within the "radar" of the department.

Resolution#3: In this regard, the list of probable experts will be given by the faculty members of Chemical Engineering Department. However, all faculty members of Chemical Engineering Department unanimously agreed that more clarity and the detailed information is needed from the administration regarding honorarium, TA/DA etc.

Item:4(a)(b)

Item#4: Regarding the proposal to teach the syllabus in the course Advances in Chemical Engineering proposed by Prof. P. A. Parikh.

Resolution#4: In this regard, the proposal proposed by Prof. P.A. Parikh to teach the syllabus of his departmental elective subject and the method of its evaluation (which is based on continuous evaluation by taking assignments and presentations instead of conventional Mid-semester and End semester examinations) was discussed among all the faculty members of Chemical Engineering Department. All faculty members of Chemical Engineering Department unanimously agreed by his proposal. However, it was also resolved unanimously that this liberty of the method of evaluation must be given to the individual course coordinator in case of Departmental electives.

To, AR for IAAC agenda. 8/2/2021

Item#5: Regarding the selection of members of DRC committee of the Chemical Engineering Department.

Resolution#5: In this regard, all faculty members of Chemical Engineering Department unanimously agreed to choose the following members of DRC committee of the department:

1. Dr. C. M. Patel
Associate Professor & Head

2. Prof. Jigisha K. Parikh
Professor

3. Dr. A. K. Jana
Associate Professor

Sunita Gupta 05/02/2021

5-2-2021

To, AR consider as IAAC agenda.
5/2/2021

Item: 48(4)(a)

Item#6: Regarding addition of Co-Supervisor for a Ph.D. student under PEC Category, Mr. Deepak Vishwakarma (Adm. No. DS20CH001) (Supervisor: Dr. V. K. Rathore).

Resolution#6: It was unanimously agreed to allow the addition of Co-Supervisor for Ph.D. student, Mr. Deepak Vishwakarma (Adm. No. DS20CH001), who is in first semester. The proposed Co- Supervisor details are as follows:

Name of the Co-Supervisor: Prof. Parimal A. Parikh

Designation: Professor (HAG)

Institute: S.V.N.I.T., Surat.

Smita Gupta 05/02/2021

(Dr.Smita Gupta)
Member-secretary, DAAC, ChED

5-2-2021

(Dr.Chetan M. Patel)
Chairman, DAAC, ChED

DEPARTMENT OF CHEMICAL ENGINEERING
SARDAR VALLABHBHAI NATIONAL INSTITUTE
OF TECHNOLOGY, SURAT - 395 007 (GUJARAT) INDIA
Tel.:+91 0261-2259582 To 2259584, 2259571 Ext. No.1642
Fax No. +91 0261 2227334, 2228394

Ref. No. ChED/674/2020-21 **Date: 18/12/2020**

Minutes of 76th DAAC Meeting of Chemical Engineering Department

The 76th Departmental Academic Advisory Committee (DAAC) Meeting of ChED was held at 4:30 PM on 04/12/2020 online on Google meet. The following members were present:

Sr.No.	Name of faculty Member	Designation
1	Dr. Z. V. P. Murthy	Professor (HAG)
2	Dr. Parimal A. Parikh	Professor (HAG)
3	Dr. Mousumi Chakraborty	Professor
4	Dr. Mausumi Mukhopadhyay	Professor (On Leave)
5	Dr. Jigisha K. Parikh	Professor
6	Dr. Chetan M. Patel	Associate Professor & Head
7	Dr. Meghal A. Desai	Associate Professor
8	Dr. Arun K. Jana	Associate Professor
9	Dr. Jignasa V. Gohel	Associate Professor
10	Dr. Alka A. Mungray	Associate Professor
11	Dr. Arvind K. Mungray	Associate Professor
12	Dr. Sanjay R. Patel	Associate Professor
13	Dr. V. N. Lad	Associate Professor
14	Dr. Smita Gupta	Assistant Professor
15	Dr. Giriraj C. Jadeja	Assistant Professor
16	Dr. S. K. Sundaram	Assistant Professor
17	Dr. Jogender Singh	Assistant Professor
18	Dr. Sarita Kalla	Assistant Professor
19	Dr. Vineet kumar Rathore	Assistant Professor

The items and resolutions are as under:

Item #1: Regarding Subject distribution for the next semester..

Resolution #1: In this regard, the subjects to be taught in the next semester (even semester) of the academic year 2020-21, were distributed among all faculty members of Chemical Engineering Department unanimously.

Item:4.8(4)(c)

Item #2: Regarding Global Electives to be offered for the next Semester.

Resolution #2: In this regard, all faculty members of Chemical Engineering Department unanimously agreed to propose the following Global Electives (in B. Tech. IV & M. Tech. I). The proposed electives courses are mentioned with their course coordinators in the Table 1 for the next semester (even semester) of the academic year 2020-21:

Smita Gupta 18/12/2020

18-12-2020

Table 1. Proposed Global and Department Electives.

S. No.	Global Electives (in B. Tech. III)/ Course Coordinator	Departmental Electives / Course Coordinator	
		B. Tech. III	M. Tech. I
1	CH 314: Cleaner Technology in Chemical Process Industries **Dr Jogender Singh**	CH 414: Advances in Chemical Engineering/ **Prof. Parimal A. Parikh**	CH 790: Design of Experiments / **Dr. Sarita Kalla**
2	CH318: Petrochemical Technology / **Dr. Vineet Kumar Rathod**	CH422: Introduction to Nanotechnology in Chemical Engineering / **Dr. Arvind Kumar Mungray**	CH750: Interfacial Science and Engineering / **Dr. S. K. Sundar**
3	CH322: Petroleum Refinery Engineering / **Dr. Arun Kumar Jana**	CH424: New Separation Techniques / **Prof. Z.V.P. Murthy**	

IAAC

Smita Gupta 18/12/2020

(Dr. Smita Gupta)
Member-secretary, DAAC, ChED

18-12-2020

(Dr. Chetan M. Patel)
Chairman, DAAC, ChED

ELECTRONICS ENGINEERING DEPARTMENT
इलेक्ट्रानिक्स अभियांत्रिक विभाग
SARDAR VALLABHBHAI NATIONAL INSTITUTE OF TECHNOLOGY, SURAT
सरदार वल्लभभाई नेशनल इन्स्टीयुट ओफ टेक्नोलोजी, सुरत

Annexure-11

दिनांक : 28/12/2020

Department Academic Advisory Committee

57th Meeting – Held on 21st December, 2020 (Online: Google Meet)

RESOLUTION

Item 1:	To discuss and recommend renewal of the central library subscription of online and print resources for the year 2021
Reso.1:	The DAAC members has proposed all the resources including Multidisciplinary resources from the **Annexure-1 except the Sr.1 Nature Photonics, Sr.9 International Journal of Engg. Education and Sr. 10 Scientific American**. Moreover, DAAC members given emphasize to subscribe Grammarly and Springer Journals pertaining to Electronics and Electrical Engineering Domains. **Further , DAAC has proposed Se. 1 to 4 of Annexure -II to subscribe for the year-2020.**
Item 2:	**To submit proposal for Diamond Jubilee celebration.**
Reso.2:	The item is discussed and the final proposal of activities under the Diamond Jubilee Celebration is attached as **Appendix III**
Item 3:	**To decide the strategy to charge payment against usage of Laboratory equipment/software by the external user.**
Reso. 3:	The charges have been approved as per the **Appendix IV**
Item 4:	**Regarding adding the name of Abhishek Rhisheekesan as a Co-supervisor for a dissertation of Aryan Gamit (P19VL021) working under Dr. P. J. Engineer.**
Reso. 4:	Mr. Abhishek Rhisheekesan has been added as co-supervisor of Aryan Gamit (P19VL021) working under Dr. P. J. Engineer without changing domain of the M.Tech thesis work. The resume of Abhishek Rhisheekesan has been attached as **Appendix V**.
Item 5:	**To consider the request received from Mr. Arpit Gandhi, Senior Tech Lead, Intel Corporation to serve as Adjunct Faculty for M.Tech/B.Tech VLSI Design related course..**
Reso 5:	It is resolved and recommended to IAAC to consider the request of Mr. Arpit Gandhi, Senior Tech Lead, Intel Corporation to serve as Adjunct Faculty. His resume has been attached as **Appendix VI**

Item: 4 (5) (a)

Item: 4 (5) (b)

for Head

Dr. A. S. Mandloi
Secretary, DAAC

Head

Dr. A. D. Darji
Head & Chairman , DAAC

SVNIT SURAT

Appendix - V

Head of Electronics Engg Dept SVNIT <hod@eced.svnit.ac.in>

Regarding adding the name of Abhishek Rhisheekesan as a Co-supervisor for a dissertation of Aryan Gamit (P19VL021)

1 message

Pinalkumar Engineer <pje@eced.svnit.ac.in> Mon, Dec 21, 2020 at 10:33 AM
To: "HOD,ECED" <hod@eced.svnit.ac.in>
Cc: Anand Darji <add@eced.svnit.ac.in>

Respected Sir,

For last few months, discussion was going on with "aiRender Technologies Pvt Ltd" to work on collaborative research and development problem. As a first phase of Interaction, it was decided to collaborate through Industry defined problem (IDP), which may lead to research and consultancy in future.

The defined problem is related to usage of deep learning algorithm for advanced video-conferencing solution, which is suitable for PG students. Hence, it was decided that my PG student Aryan Gamit (bearing roll number: P19VL021) will work towards IDP as his M. Tech. dissertation problem.

As initial phase of Dissertation preliminary, Aryan Gamit has studied Deep learning algorithm for crowd detection algorithm and implemented on softwrae.
Therefore, he has already gone through understanding of Deep learning algorithm for one application and implementation for the same. Here, there is a change in targeted application from "Crowd Detection" to "Video Conferencing".

Additionally, Mr. Abhishek Rhisheekesan (*Managing director, Founder, aiRender Technologies Pvt Ltd*) agreed to act as Co-supervisor for Aryan Gamit (Email attached). Hence,
I request you to add the name of **Abhishek Rhisheekesan** as a Co-supervisor for a dissertation of Aryan Gamit (P19VL021).

Please find detailed CV of **Abhishek Rhisheekesan** for your perusal.

Hoping for favourable response.

--

Pinalkumar Engineer
Supervisor (Aryan Gamit-P19VL021)
Assistant Professor,
ECED, SVNIT Surat

2 attachments

Abhishek Resume 2020.pdf
176K

Gmail_Abhishek_aiRender.pdf
106K

Abhishek Rhisheekesan
298, 15th B Main, 3rd Sector, HSR Layout,
Bangalore, Karnataka, India 560102
Ph: 8884780926
E-mail: abhishekr1982@gmail.com, airender@airender.in

Education

2010 to 2013 Master of Science, Computer Science. GPA – 3.83
CS Outstanding MS Student, 2013
Arizona State University, Tempe, Arizona

1999 to 2003 Bachelor of Engineering, Electronics Engineering – 71% - First Class with Distinction
National Institute of Technology, Surat, Gujarat, India

Experience

aiRender Technologies Pvt Ltd, January 2020 to present
Bangalore, Karnataka, India

Managing director, Founder January 2020 to present
Launched and leading an AI based deep tech startup working on reconstruction of 3D graphics models from 2D videos and images, and video conferencing applications. The startup is selected for Venture Devils, the startup catalyst program from Arizona State University.

Intel Corporation, March 2013 to July 2019
Bangalore, Karnataka, India

Engineering Manager, Graphics Architecture Lab April 2016 to July 2019
1. Led performance debug, analysis and studies team, owning performance and power (PnP) analysis of Intel CPUs with internal 3d graphics and GPGPU features. Instrument 3d graphics cycle accurate performance simulator "GSim" for performance debug, analysis and studies.
2. Working Group chair for Intel Graphics Performance Bottleneck analysis tool. Used as a plugin (Metrics Pane) for exposing Intel GPU Hardware Performance Metrics in Intel GPA (Graphics Performance Analyzer) tool. Exposed and evangelized to Intel's internal and external customers.
3. Led Graphics Post-Si Performance Validation team owning 3D Graphics and GPGPU performance debug of Intel GPUs. The team is the gatekeeper for performance of Intel GPUs during post-Si phase from initial chip power on to market release.

Graphics Architecture Lab Manager July 2014 to April 2016
Manage performance debug, analysis and studies, and measurement of statistics for performance and power projection tools for Intel CPUs with internal 3d graphics features. Develop and instrument 3d graphics cycle accurate performance simulator "GSim" for performance debug, analysis and studies.

Graphics Hardware Engineer March 2013 to July 2014
Responsible for performance debug on the current and upcoming Intel CPUs with internal 3d graphics features. Proposes RTL design bug fixes, graphics driver and compiler fixes and features, and new architectural features or modifications to existing architectural features based on the performance debug and analysis.

Intel Corporation, July 2011 to December 2011
Bangalore, Karnataka, India

Intern, Mobile Microprocessor Group Architecture July 2011 to December 2011
Worked on analysis of LLC cache and memory footprint of 3D games and benchmarks towards 2015 Intel client microprocessors.

Intel Corporation, March 2004 to July 2010
Bangalore, Karnataka, India

Senior BIOS Engineer March 2004 to July 2010
Worked on Intel IA32 assembly based and C-based BIOS code development for multiple Intel platforms, CPUs and IO chips. Lead BIOS development with a team of 3 BIOS engineers on switchable graphics feature introduced on Intel CPUs.

Wipro Technologies, July 2003 to February 2004
Bangalore, Karnataka, India

Software Engineer July 2003 to February 2004
Worked on code development of network management system tools for performance and alarm management of Ericsson mobile switches using simulated GSM/GPRS network nodes.

Publications and Professional Memberships

"UnSync: A Soft Error Resilient Redundant Multicore Architecture" at International Conference on Parallel Processing (ICPP), 2011.

"UnSync-CMP: Multicore CMP Architecture for Energy-Efficient Soft-Error Reliability" in IEEE Transactions on Parallel and Distributed Systems (TPDS), Volume 25, 2014.

"Quantitative Analysis of Control Flow Checking Mechanisms for Soft Errors" at Design Automation Conference (DAC) 2014.

"Control Flow Checking or Not? (for Soft Errors)" In ACM Transactions on Embedded Computing Systems (TECS), 2019.

Patents (Pending)

Mechanism to perform single precision floating point extended math operations - US 16/375,307

Programmable re-order buffer for decompression - US 16/683,024

Use of a single instruction set architecture (isa) instruction for vector normalization - US 16/685,561.

Accomplishments

Intel

1. Intel Department Recognition Award for bringing up a novel performance debug platform and architecture from Intel Platforms Group. This is 2nd highest award in Intel for technical contributions
2. Department Recognition Award (DRA) for contribution towards performance debug of an Intel 3D graphics feature from VPG (Visual and Parallel Computing Group) Architecture Group.
3. Divisional Recognition Award (DRA) for contribution towards bringing up an efficient and novel performance debug platform from VPG (Visual and Parallel Computing Group) Architecture Group.
4. Divisional Recognition Award (DRA) for contribution towards Switchable Graphics project from PCCG (PC Clients Group).
5. Divisional Recognition Award (DRA) for owning First Boot of Intel Centrino Mobile CPU from MPG (Mobile Platforms Group).
6. Divisional Recognition Award (DRA) for owning Napa BIOS Code Development (Napa- Codename for 3rd generation Intel Centrino Mobile Technology platform) from MPG (Mobile Platforms Group).

Arizona State University

1. Computer Science Outstanding MS Student, 2013

All India Competitive Examinations

1. Graduate Record Examination 2009 – Quantitative Reasoning – 800/800
2. Common Admission Test (CAT) 2003 for Indian Institutes of Management (IIMs) – Quantitative Aptitude – 99.32 percentile
3. Graduate Aptitude Test in Engineering (GATE) 2003 – Electronics and Communications Engineering Discipline - 97.43 percentile
4. State Common Entrance Examination (CEE) 1999 for admission into NITs – Rank 119 amongst 0.1 million students

SVNIT SURAT

Appendix - VI

Head of Electronics Engg Dept SVNIT <hod@eced.svnit.ac.in>

Arpit's connect with SVNIT EC dept and M.Tech/B.Tech VLSI courses

2 messages

Gandhi, Arpit A <arpit.a.gandhi@intel.com> Mon, Feb 17, 2020 at 11:32 AM
To: "hod@eced.svnit.ac.in" <hod@eced.svnit.ac.in>
Cc: "Gandhi, Arpit A" <arpit.a.gandhi@intel.com>

Hello Anand Darji Sir,

It was very nice meeting you last week Tuesday.

we discussed during meeting about possible contribution from my side to course work for M.Tech/B.Tech VLSI related course. I am very happy to contribute in my best capacity.

You also discussed possibility of adjunct professor. I have long term wish( ) to either move to academia or support academia as much as possible. & There is no better way then starting with SVNIT as alumni of college. I was very vocal to HR for going to SVNIT for intern hiring few years back when Intel visited first time, so happy to contribute in any ways.

I discussed possibility of "adjunct professor " with my immediate management, they seemed to be fine with me spending some time on such activity. However to proceed further , I need to discuss with higher management and HR Department.

Below is my details on industrial/academic experience in short. I have also attached my resume with this email.

You can evaluate if I fit into such role , and if it will be worth while for SVNIT to offer me such position. – Once you provide green light , we can discuss further.

- Arpit holds M.Tech from IISc Bangalore in Electronics Design and Technology. {Gold Medalist} , B.Tech from SVNIT Surat in Electrical Engineering {Silver Medal}
- Arpit has been working for Intel India Technology Pvt Ltd for last 9+ years . {Completing 10 years in June-2020}
- Arpit is senior technical Lead for Intel's Client and Core development Group.
- Arpit current own's power optimization/projection/testing/ for intel's Big Cores going into laptop/desktop/server segments.
- Arpit has owned Core timing convergence {STA} in his past role {processors hitting 5GHz+ frequencies}

Course/topics that I can help on

- Digital VLSI design
- High performance processor design {Modern Microprocessor design}
- Low power Digital Design
- High Frequency design, Advanced/basics of STA, latch based design.

If you need to connect with me -below are my phone numbers.

+91-9483504506.

+91-9265310620. {has better network connection}

Thanks

Arpit

Arpit's Resume.pdf
53K

Gandhi, Arpit A <arpit.a.gandhi@intel.com> Mon, Feb 17, 2020 at 11:36 AM
To: "hod@eced.svnit.ac.in" <hod@eced.svnit.ac.in>
Cc: "Gandhi, Arpit A" <arpit.a.gandhi@intel.com>

In addition to below,

I can also help in formalizing internship format such a way that it helps both Academic and industrial interest + if you need some inputs on improving syllabus of existing courses.

Thanks

Arpit

[Quoted text hidden]

Arpit Gandhi

Low Power Design, Senior Tech Lead

Intel Architecture Core Design Team , Intel Corporation

arpit514@gmail.com | +91-9483504506 / +91-080-49581544 | Bengaluru, India

WORK EXPERIENCE

Intel Architecture Core Power Convergence Owner

Intel Corporation

07/2015 – Present

Achievements/Tasks

- Led Path finding efforts to reduce Dynamic/leakage power consumed by IA Core by 12 % by finding optimizations through custom circuit design, Synthesis PnR flow based design, clock tree distribution, Logic/micro architecture implementation, standard cell design.
- Owned IA Core power convergence effort for project involving multiple sites. Led effort to create power budgets for different blocks, Setting up power simulations for different workloads, Understanding important workloads for optimizations, Working with SOC owners to agree on important IA Core power reduction targets.
- Supported Post -Si debug team on power measurement co-relation activities
- Created Artificial but valid Core workloads which maximize IA Core power consumption to find out Maximum current drawn by IA Core for newer IA Core Architecture
- Developed Methodologies to estimate IA Core dynamic power change due to process (UPF) definition change resulting into Metal/device capacitance changes
- Developed Methodologies to create distribution of IA Core power into standard lib cells, different cap components. Distribution data was used to drive power optimizations

Section Timing/Floorplan Convergence Owner

Intel Corporation

06/2010 – 06/2015

Achievements/Tasks

- Led timing convergence of Execution ,Memory, Power management clusters of IA Core with Max frequency reaching above 5 GHz
- Developed strong understanding of STA, Latch based design, designs with extreme routing congestion , floor planning for better timing ,Area optimization.
- Contributed to micro-architectural definition of New ISA on AVX-3, Machine learning-Training workload accelerator instruction sets by providing Timing/Area/Routing feasibility and optimizations
- Drove proof of concept studies to merge timing complex custom circuit design blocks to synthesis flow based bigger blocks to reduce convergence efforts

SKILLS

Low Power Design techniques | Static timing analysis | Floorplan | Digital circuit design | IA Core architecture

EDUCATION

M.Tech Electronics Design and Technology

Indian Institute of Science, Bangalore

06/2008 – 05/2010 *GPA- 7.7 (out of 8.*

B.Tech Electrical Engineering

National Institute of Technology, Surat

06/2004 – 05/2008 *GPA- 9.22 (out of 1*

ACHIEVEMENTS

Gold Medalist at Indian Institute of science, Bangalore

For securing 1st rank in M.Tech in Electronics Design and Technology

Silver Medalist at National Institute of Technology, Surat

For securing 2nd Rank in Electrical Engineering Department

Secured All India Rank 16 & 91 in GATE Electrical Engineering discipline for year 2008 and 2007 respectively

PUBLICATIONS

SpaceEfficient Diagonal LinearSpace Sequence Alignmen

10th IEEE conference on Bioinformatics and Bio engineering-2010

- Paper talks about new algorithm for doing pair wise sequence alignment which reduces memory need and enable faster parallel implementation on FPGA

Timing based advisory for power optimization

Intel's Internal Technical Conference -2013

- Paper talks about methods to find out timing bottlenecks which has largest impact on up sizing of cells resulting into power increase

Advanced Sequential clustering for Low power synthesis

Intel's Internal Technical conference -2019

- Paper talks about optimizing sequential placements to reduce dynamic power spent inside clock network

ELECTRONICS ENGINEERING DEPARTMENT
इलेक्ट्रानिक्स अभियांत्रिक विभाग
SARDAR VALLABHBHAI NATIONAL INSTITUTE OF TECHNOLOGY, SURAT
सरदार वल्लभभाई नेशनल इन्स्टीयुट ओफ टेक्नोलोजी, सुरत

Annexure-12

दिनांक : 27/10/2020

Department Academic Advisory Committee

56th Meeting – Held on 27th October, 2020 (Online: Google Meet)

RESOLUTION

Item 1:	To discuss and approve the syllabus for the PhD comprehensive exam to be conducted during Jan/Feb -2021.
Reso.1:	The syllabus submitted by Dr. Zuber Patel and Dr. P. N. Patel for Ms. Prajakta Shah (DS19EC001) and Mr. Golak Santra (D20EC011) respectively has been discussed and approved. **(Appendix I and II)**
Item 2:	To approve the books recommended as per the revised syllabus for the Library.
Reso.2:	The item is resolved and the books recommended by faculty members have been listed as per **Appendix: III** and the same will be sent to the Librarian for the procurement.

Dr. A. S. Mandloi
Secretary, DAAC

Dr. A. D. Darji
Head & Chairman , DAAC

To Asst Registrar (Acad)

To be put to 'DAAC' file and identify "IAAC" item if any

02/11/20

02/11/20

DEAN (ACADEMIC)
SVNIT, SURAT.

Electronics Engineering Department, SVNIT-Surat
PhD Comprehensive Exam Syllabus
(Proposed)

PhD Student: DS19EC001 (Prajakta Amol More)

Appendix - I

Section: I (30 Marks) Fundamentals

A. PEC 901: Fundamentals of Electronics & Communication Engineering

Unit	Content
1	Fundamentals of Electronics & Communication Engineering

Section: II (120 Marks) Section Specific

G. PEC 907: Communication Engineering and Coding

Unit	Content
1	Information Theory & Coding
2	Wireless Communication
3	RF and Microwaves
4	Adhoc Networks

SYLLABUS:

PEC 901: Fundamentals of Electronics & Communication Engineering

ENGINEERING MATHEMATICS:
LINEAR ALGEBRA
Vector space, basis, linear dependence and independence, matrix algebra, eigen values and eigen vectors, rank, solution of linear equations – existence and uniqueness.
CALCULUS
Mean value theorems, theorems of integral calculus, evaluation of definite and improper integrals, partial derivatives, maxima and minima, multiple integrals, line, surface and volume integrals, Taylor series
DIFFERENTIAL EQUATIONS
First order equations (linear and nonlinear), higher order linear differential equations, Cauchy's and Euler's equations, methods of solution using variation of parameters, complementary function and particular integral, partial differential equations, variable separable method, initial and boundary value problems
VECTOR ANALYSIS
Vectors in plane and space, vector operations, gradient, divergence and curl, Gauss's, Green's and Stoke's theorems
COMPLEX ANALYSIS
Analytic functions, Cauchy's integral theorem, Cauchy's integral formula; Taylor's and Laurent's series, residue theorem.
NUMERICAL METHODS
Solution of nonlinear equations, single and multi-step methods for differential equations, convergence criteria.
PROBABILITY AND STATISTICS:

Mean, median, mode and standard deviation; combinatorial probability, probability distribution functions - binomial, Poisson, exponential and normal; Joint and conditional probability; Correlation and regression analysis.

NETWORKS, SIGNALS AND SYSTEMS:

Network solution methods: nodal and mesh analysis; Network theorems: superposition, Thevenin and Norton's, maximum power transfer; Wye-Delta transformation; Steady state sinusoidal analysis using phasors; Time domain analysis of simple linear circuits; Solution of network equations using Laplace transform; Frequency domain analysis of RLC circuits; Linear 2-port network parameters: driving point and transfer functions; State equations for networks.

Continuous-time signals: Fourier series and Fourier transform representations, sampling theorem and applications; Discrete-time signals: discrete-time Fourier transform (DTFT), DFT, FFT, Z-transform, interpolation of discrete-time signals; LTI systems: definition and properties, causality, stability, impulse response, convolution, poles and zeros, parallel and cascade structure, frequency response, group delay, phase delay, digital filter design techniques.

ELECTRONIC DEVICES:

Energy bands in intrinsic and extrinsic silicon; Carrier transport: diffusion current, drift current, mobility and resistivity; Generation and recombination of carriers; Poisson and continuity equations; P-N junction, Zener diode, BJT, MOS capacitor, MOSFET, LED, photo diode and solar cell; Integrated circuit fabrication process: oxidation, diffusion, ion implantation, photolithography and twin-tub CMOS process.

ANALOG CIRCUITS:

Small signal equivalent circuits of diodes, BJTs and MOSFETs; Simple diode circuits: clipping, clamping and rectifiers; Single-stage BJT and MOSFET amplifiers: biasing, bias stability, mid-frequency small signal analysis and frequency response; BJT and MOSFET amplifiers: multi-stage, differential, feedback, power and operational; Simple op-amp circuits; Active filters; Sinusoidal oscillators: criterion for oscillation, single-transistor and op-amp configurations; Function generators, wave-shaping circuits and 555 timers; Voltage reference circuits; Power supplies: ripple removal and regulation.

DIGITAL CIRCUITS:

Number systems; Combinatorial circuits: Boolean algebra, minimization of functions using Boolean identities and Karnaugh map, logic gates and their static CMOS implementations, arithmetic circuits, code converters, multiplexers, decoders and PLAs; Sequential circuits: latches and flip-flops, counters, shift-registers and finite state machines; Data converters: sample and hold circuits, ADCs and DACs; Semiconductor memories: ROM, SRAM, DRAM; 8-bit microprocessor (8085): architecture, programming, memory and I/O interfacing.

COMMUNICATIONS:

Random processes: autocorrelation and power spectral density, properties of white noise, filtering of random signals through LTI systems; Analog communications: amplitude modulation and demodulation, angle modulation and demodulation, spectra of AM and FM, superheterodyne receivers, circuits for analog communications; Information theory: entropy, mutual information and channel capacity theorem; Digital communications: PCM, DPCM, digital modulation schemes, amplitude, phase and frequency shift keying (ASK, PSK, FSK), QAM, MAP and ML decoding, matched filter receiver, calculation of bandwidth, SNR and BER for digital modulation; Fundamentals of error correction, Hamming codes; Timing and frequency synchronization, inter-symbol interference and its mitigation; Basics of TDMA, FDMA and CDMA.

ELECTROMAGNETICS:

Electrostatics; Maxwell's equations: differential and integral forms and their interpretation, boundary conditions, wave equation, Poynting vector; Plane waves and properties: reflection and refraction, polarization, phase and group velocity, propagation through various media, skin depth; Transmission lines: equations, characteristic impedance, impedance matching, impedance transformation, S-parameters, Smith chart; Waveguides: modes, boundary conditions, cut-off frequencies, dispersion relations; Antennas: antenna types, radiation pattern, gain and directivity, return loss, antenna arrays; Basics of radar;

Light propagation in optical fibers.

PEC 907: Communication Engineering and Coding

Unit: 1 Information Theory& Coding

INFORMATION THEORY
Review of Probability Theory, Introduction, Measure of Information, Average Information Content of Symbols In Long Independent Sequences, Average Information Content Of Symbols In Long Dependent Sequences, Properties Of Entropy, Extension of Zero Memory Source.
SOURCE CODING
Properties of Codes, Uniquely Decodable Codes, Kraft's Inequality, Average Length of a Code, Shannon's First Theorem, Shannon's Encoding Algorithm, Shanon-Fano Codes, Huffman's Codes, Arithmetic Codes, Code Efficiency and Redundancy.
COMMUNICATION CHANNELS
Introduction, Discrete Communication Channels, Continuous Channels, Entropy Functions and Equivocation, Mutual Information, Channel Capacity, Channel Efficiency and Redundancy, Special Channels, Shannon-Hartley Law and Its Implications
BLOCK CODES AND LINEAR CODES
Single Parity Check Codes, Product Codes, Hamming Codes, Hamming Codes, Minimum Distance of Block Codes, Linear Block Codes, Generator Matrices, Parity Check Matrices, Encoder, Syndrome and Error Detection, Minimum Distance, Error Correction and Error Detection Capabilities, Performance of Small Signal Constellations, Hard-Decision and Soft Decision Decoding
CYCLIC, BCH & CONVOLUTION CODES
Definition of Cyclic Codes, Polynomials, Generator Polynomial, Encoding and Decoding Of Cyclic Codes, Generator And Parity-Check Matrices Of Cyclic Codes, Linear Algebra and Galois Field, Introduction To BCH Codes, Introduction To Convolution Codes, Introduction To Turbo Coding.
BOOKS RECOMMENDED
1. Abrahamson N.,"Information Theory and coding", McGraw-Hill Book Co.,1963
2. Ranjan Bose,"Information theory, coding and cryptography",Tata McGraw-Hill,2nd Edition,2008
3. Salvatore Gravano,"Introduction to Error Control Codes",Oxford University Press,1st Edition,2007
4. Proakis J.J.,"Digital Communications", McGraw Hill,2nd Edition,1989
5. Todd K.Moon,"Error Correcting Coding", Wiley India Edition,2006

Unit 2: Wireless Communication

GENERAL CONSIDERATIONS
General Considerations About Radio Waves Over Wireless Channel, Radio Propagation And The Atmosphere, Basic Propagation Mechanisms In General, Radio Propagation Categories For Long Distance Case, Short Distance NLOS Mobile Communication Case, AWGN Model Showing Reflection, Scattering And Diffraction Of Radio Waves For Mobile Systems/Multipath Effect, Large Scale Fading, Small Scale Fading, Delay Spread Effect, ISI, Doppler Shift/Spread, Doppler Power Spectrum, Flat And Frequency Selective Fading
CHANNEL MODELS
Channel Models, Equalization Techniques And Diversity Techniques
SPREAD SPECTRUM MODULATION
Basic Principle Of Orthogonality, Subcarrier Setting In The Spectrum, FDM Vs Orthogonal FDM, OFDM Block Diagram And Explanation, Pulse Shaping And Windowing In OFDM, Synchronization In OFDM, Pilot Insertion In OFDM Transmission And Channel Estimation, Amplitude Limitations, FFT Points Selection Constraints, CDMA Vs OFDM, Hybrid OFDM, MIMO
OFDM
Spread Spectrum Modulation Concepts, ML, Walsh-Hadamard, Gold Sequences, Code Properties, Auto And Cross Correlation, Partial Correlation, DSSS Transmitter, Rake Receiver Block Diagram, PN Signal Characteristics, Spectral Density, Bandwidth And Processing Gain, Interference Rejection, Antijam Characteristics, Energy And Bandwidth Efficiency, Near Far Problem And Power Control, Frequency Hopping Spread Spectrum,Time Hopping, Comparison Of Spread Spectrum Modulation Methods, Hybrid Spread Spectrum System, Chirp Spread Spectrum
BOOKS RECOMMENDED:
1. UpenaDalal, "Wireless Communication",Oxford University Press, 1st Edition,2008
2. Molisch Andreas F.,"Wideband Wireless Digital Communication", Pearson Education, 3rd Indian Reprint,2003
3. Sharma Sanjay, "Wireless Communications",Katsons Books,2006
4. Rappaport,T. "Wireless Communications", Pearson Education,5th Indian Reprint,2003
5. Schulze Henrik and LudersChristian,"Theory And Applications Of OFDM And CDMA - Wideband Wireless Communications",Wiley, 2005
6. Goldsmith Andrea, "Wireless Communications",Cambridge University Press,2002
7. FeherKemilo,"Wireless Digital Communication",PHI, 1995

Unit: 3 RF and Microwaves

INTRODUCTION
RF Behavior of Passive Components, Chip Components
TRANSMISSION LINE ANALYSIS
Transmission Lines, Equivalent Circuit Representation, Theoretical Foundation, Circuit Parameters for A Parallel Plate Transmission Line, General Transmission Line Equation, Microstrip Transmission Lines, Terminated Lossless Transmission Line, Special Termination Conditions, Sourced and Loaded Transmission Line, Problems
SMITH CHART
From Reflection Coefficients to Load Impedance, Impedance Transformation, Admittance Transformation, Parallel and Series Connection, Problems
SINGLE- AND MULTIPORT NETWORKS
Basic Definitions, Interconnecting Networks, Network Properties and Application, Scattering Parameters- Definition and Meaning Of S- Parameters, Problems
RF FILTERS DESIGN
Basic Resonator and Filter Configurations, Special Filter Realizations, Filter Implementation
MATCHING AND BIASING NETWORKS
Impedance Matching using Discrete Components, Microstrip Line Matching Networks, Amplifier Classes of Operation & Biasing Networks, Problems solutions
POWER DIVIDERS AND DIRECTIONAL COUPLERS
The T - Junction Power Divider, The Wilkinson Power Divider, The Quadrature (90°) Hybrid, Coupled Line Directional Couplers, Problems
BASIC BLOCKS IN RF SYSTEMS
Receiver And transmitter Architectures, Low Noise Amplifier Design, Design and Implementation of Various Mixers
RF OSCILLATORS & SYNTHESIZERS
Basic Topologies, VCO And Definition of Phase Noise, Noise Power Trade-Off, Resonator Less VCO Design, Quadrature and Single-Sideband Generators, PLLS, Various RF Synthesizer Architectures and Frequency Dividers
DESIGN ISSUES
Linearization Techniques, Power Amplifier Design, Integrated RF Filters Materials
MMIC
MMIC Growth, Thin Film Formation, Hybrid IC Formation
BOOKS RECOMMENDED:
1. Ludwig Reinhold and Bretchko Powel, "RF Circuit Design", Pearson Education, Reprint 2004
2. Pozar M. David, "Microwave Engineering", John Wiley & Sons, Inc., 1999
3. Liao Samuel, "Microwave Devices and Circuits". Pearson Education, Second Reprint, 2006
4. Agrawal G.P., "Fiber Optic Communication Systems", John Wiley & Sons, 4th Ed., 2010.
4. Bhat Bharathi and KoulShibon, "Stripline-Like Transmission Lines For MIC", New Age International, Reprint 2003
5. Razavi B., "RF Microelectronics", Prentice-Hall PTR,1998

Unit 4: Adhoc Networks

INTRODUCTION
Introduction To Generations In Wireless Systems, Introduction To Mobile Ad-Hoc Networks (MANETS), Classification Of Mobile Data Networks
BLUETOOTH
Bluetooth Network Structure: Piconet & Scatternet, Bluetooth Specifications, Bluetooth Protocol Stack, Bluetooth Media Access Control Consideration, Asynchronous Connectionless And Synchronous Connection Oriented Communication Link, Modified Bluetooth
WiFi – IEEE 802.11 STANDARDS
Various 802.11 Protocols (a to s), WiFi Architecture, Security Enhancement, QoS Enhancement, Physical & MAC Layer Aspects Of 802.11 a/b/g/n; WiFi MAC: Point Coordinate Function, Distributed Coordinate Function, Hybrid Coordinate Function
OFDM
Spectrum Modulation Methods, Hybrid Spread Spectrum System, Chirp Spread Spectrum
WiMAX - IEEE802.16 STANDARDS
Various 802.16 (a to e) Protocols, WiMAX Air Interface / Physical Layer, WiMAX Architecture, WiMAX Protocol Architecture, WiMAX And WiFi Interworking, WiMAX Mode: TDD And FDD, QoS In WiMAX
WIRELESS SENSOR NETWORK
Zigbee IEEE 802.15.4, Mobile Computing Aspects
UWB
UWB Air interface
Long Term Evolution (LTE), IEEE 802.20 and Beyond
BOOKS RECOMMENDED:
1. Toh C. K.,"Ad-hoc Mobile Wireless Networks",LPE, Pearson Education,2nd Edition,2009
2. William C.Y. Lee,"Wireless & Cellular Telecommunication", McGraw-Hill,3rd Edition,2005
3. Upena Dalal,"Wireless Communication",Oxford University,1st Edition,2009
4. Vijay K. Garg,"Wireless Network Evolution 2G to 3G",Pearson Education,2nd Edition,2004
5. T. G. Palanievelu, R. Nakkeeran,"Wireless & Mobile Communication",PHI,1st Edition,2009
6. Schiller Jochen, "Mobile Communications", Addison Wesley, LPE, Pearson Education,4th indian Reprint,2000

Electronics Engineering Department, SVNIT-Surat
PhD Comprehensive Exam Syllabus
(Proposed)

Appendix-II

Section: I (30 Marks) Fundamentals

A. PEC 901: Fundamentals of Electronics & Communication Engineering

Unit	Content
1	Fundamentals of Electronics & Communication Engineering

Section: II (120 Marks) Section Specific

F. PEC 908: RF and Microwave Communications

Unit	Content
1	Antenna Theory
2	Microwave Theory and Techniques
3	Microwave Integrated Circuits
4	Millimeter Wave Technology

PEC 901: Fundamentals of Electronics & Communication Engineering

ENGINEERING MATHEMATICS:
LINEAR ALGEBRA
Vector space, basis, linear dependence and independence, matrix algebra, eigen values and eigen vectors, rank, solution of linear equations – existence and uniqueness.
CALCULUS
Mean value theorems, theorems of integral calculus, evaluation of definite and improper integrals, partial derivatives, maxima and minima, multiple integrals, line, surface and volume integrals, Taylor series
DIFFERENTIAL EQUATIONS
First order equations (linear and nonlinear), higher order linear differential equations, Cauchy's and Euler's equations, methods of solution using variation of parameters, complementary function and particular integral, partial differential equations, variable separable method, initial and boundary value problems
VECTOR ANALYSIS
Vectors in plane and space, vector operations, gradient, divergence and curl, Gauss's, Green's and Stoke's theorems
COMPLEX ANALYSIS
Analytic functions, Cauchy's integral theorem, Cauchy's integral formula; Taylor's and Laurent's series, residue theorem.
NUMERICAL METHODS
Solution of nonlinear equations, single and multi-step methods for differential equations, convergence

criteria.

PROBABILITY AND STATISTICS:

Mean, median, mode and standard deviation; combinatorial probability, probability distribution functions - binomial, Poisson, exponential and normal; Joint and conditional probability; Correlation and regression analysis.

NETWORKS, SIGNALS AND SYSTEMS:

Network solution methods: nodal and mesh analysis; Network theorems: superposition, Thevenin and Norton's, maximum power transfer; Wye-Delta transformation; Steady state sinusoidal analysis using phasors; Time domain analysis of simple linear circuits; Solution of network equations using Laplace transform; Frequency domain analysis of RLC circuits; Linear 2-port network parameters: driving point and transfer functions; State equations for networks.

Continuous-time signals: Fourier series and Fourier transform representations, sampling theorem and applications; Discrete-time signals: discrete-time Fourier transform (DTFT), DFT, FFT, Z-transform, interpolation of discrete-time signals; LTI systems: definition and properties, causality, stability, impulse response, convolution, poles and zeros, parallel and cascade structure, frequency response, group delay, phase delay, digital filter design techniques.

ELECTRONIC DEVICES:

Energy bands in intrinsic and extrinsic silicon; Carrier transport: diffusion current, drift current, mobility and resistivity; Generation and recombination of carriers; Poisson and continuity equations; P-N junction, Zener diode, BJT, MOS capacitor, MOSFET, LED, photo diode and solar cell; Integrated circuit fabrication process: oxidation, diffusion, ion implantation, photolithography and twin-tub CMOS process.

ANALOG CIRCUITS:

Small signal equivalent circuits of diodes, BJTs and MOSFETs; Simple diode circuits: clipping, clamping and rectifiers; Single-stage BJT and MOSFET amplifiers: biasing, bias stability, mid-frequency small signal analysis and frequency response; BJT and MOSFET amplifiers: multi-stage, differential, feedback, power and operational; Simple op-amp circuits; Active filters; Sinusoidal oscillators: criterion for oscillation, single-transistor and op-amp configurations; Function generators, wave-shaping circuits and 555 timers; Voltage reference circuits; Power supplies: ripple removal and regulation.

DIGITAL CIRCUITS:

Number systems; Combinatorial circuits: Boolean algebra, minimization of functions using Boolean identities and Karnaugh map, logic gates and their static CMOS implementations, arithmetic circuits, code converters, multiplexers, decoders and PLAs; Sequential circuits: latches and flip-flops, counters, shift-registers and finite state machines; Data converters: sample and hold circuits, ADCs and DACs; Semiconductor memories: ROM, SRAM, DRAM; 8-bit microprocessor (8085): architecture, programming, memory and I/O interfacing.

COMMUNICATIONS:

Random processes: autocorrelation and power spectral density, properties of white noise, filtering of random signals through LTI systems; Analog communications: amplitude modulation and demodulation, angle modulation and demodulation, spectra of AM and FM, superheterodyne receivers, circuits for analog communications; Information theory: entropy, mutual information and channel capacity theorem; Digital communications: PCM, DPCM, digital modulation schemes, amplitude, phase and frequency shift keying (ASK, PSK, FSK), QAM, MAP and ML decoding, matched filter receiver, calculation of bandwidth, SNR and BER for digital modulation; Fundamentals of error correction, Hamming codes; Timing and frequency synchronization, inter-symbol interference and its mitigation; Basics of TDMA, FDMA and CDMA.

ELECTROMAGNETICS:

Electrostatics; Maxwell's equations: differential and integral forms and their interpretation, boundary conditions, wave equation, Poynting vector; Plane waves and properties: reflection and refraction, polarization, phase and group velocity, propagation through various media, skin depth; Transmission lines: equations, characteristic impedance, impedance matching, impedance transformation, S-parameters, Smith chart; Waveguides: modes, boundary conditions, cut-off frequencies, dispersion relations; Antennas: antenna types, radiation pattern, gain and directivity, return loss, antenna arrays; Basics of radar; Light propagation in

optical fibers.

PEC 908: RF and Microwave Communications

Unit: 1 Antenna Theory

Fundamental Concepts
Physical concept of radiation, Radiation pattern, near- and far-field regions, reciprocity, directivity and gain, effective aperture, polarization, input impedance, efficiency, Friis transmission equation, radiation integrals and auxiliary potential functions.
Radiation from Wires and Loops
Infinitesimal dipole, finite-length dipole, linear elements near conductors, dipoles for mobile communication, small circular loop Folded dipole.
Aperture Antennas
Huygens' principle, radiation from rectangular and circular apertures, design considerations, Babinet's principle, Radiation from sectoral and pyramidal horns, design concepts.
Reflector antennas
Parabolic reflector, paraboloidal reflector, aperture Pattern of large circular apertures with uniform illumination, off axis operation of paraboloidal reflectors, Cassegrain feed system.
Broadband Antennas
Broadband concept, Log-periodic antennas, frequency independent antennas.
Microstrip Antennas
Basic characteristics of microstrip antennas, feeding methods, methods of analysis, design of rectangular and circular patch antennas.
Antenna Arrays
Analysis of uniformly spaced arrays with uniform and non-uniform excitation amplitudes, extension to planar arrays.
Basic Concepts of Smart Antennas
Concept and benefits of smart antennas, Fixed weight beamforming basics, Adaptive Beamforming.
Books Recommended:
1. C. A. Balanis, Antenna Theory and Design, 4th Ed., John Wiley & Sons., 2016.
2. J.D. Krauss, Antennas for all applications, 3rd Edition (TMH)
3. W. L. Stutzman, and G. A. Thiele, Antenna Theory and Design, 2nd Ed., John Wiley &Sons., 1998
4. R. S. Elliot, Antenna Theory and Design, Revised edition, Wiley-IEEE Press., 2003.
5. R. E. Collin, Antennas and Radio Wave Propagation, McGraw-Hill., 1985.

Unit: 2 Microwave Theory and Techniques

Introduction to Microwaves
History and Applications, Effect of Microwaves on human body, RF Behavior of Passive Components, Chip Components
Microwave Transmission Modes, Waveguides, Transmission Lines
Transmission line equations. Voltage and current waves. Solutions for different terminations. Transmission-line loading. Impedance transformation and matching. Smith Chart, Quarter-wave and half-wave transformers. The Multiple Reflection Viewpoint, Binomial and Tchebeyshev transformers. Single and

double stub matching, Impedance matching with lump component, ABCD parameter, S parameter. Rectangular Waveguides, Rectangular Cavity Resonators, Circular Waveguides,
Power Dividers And Directional Couplers
The T Junction Power Divider, The Wilkinson Power Divider, The Quadrature (90°) Hybrid, Coupled Line Directional Couplers, Branch line coupler, Rat Race coupler, Problems.
RF Filters Design
Basic Resonator and Filter Configurations, low pass Butterworth-Type Filters, Low pass Chebyshev filter, Microstrip realization, Transformation low pass to other filter, Band pass filter, Couple line and tunable band pass filter.
Microwave Diodes and Attenuators, RF Switches, Phase Shifters
GaAs FET, HEMT, Varactor diodes, PIN diodes, Microwave Tunnel Diodes, Gunn Diodes, Microwave attenuator, Microwave RF switches, Microwave phase shifter, Series and shunt SPDT switches.
Microwave Transistors, Amplifiers and LNA
Microwave Transistor, Microwave amplifier, Low Noise amplifier. Klystrons And Magnetrons.
Microwave Oscillators and Mixers
Microwave Oscillators and Microwave Mixers
RF MEMS and Microwave Imaging, Microwave Systems, Microwave Measurements
RF MEMS and Microwave Imaging, Microwave Systems, Microwave Measurements
Books Recommended:
1. Ludwig Reinhold and Bretchko Pavel, RF Circuits Design: Theory And Applications, Pearson Education, Low Price Ed.,1st Ed., 2000.
2. Liao Samuel Y., Microwave Devices and Circuits, PHI, 3rd Ed., 2nd Reprint, 2006.
3. Pozar M. David, Microwave Engineering, John Wiley & Sons, Inc., 1999.
4. G.D.Vendelin, Design of Amplifiers and Oscillators by the S Parameter Method,Wiley,1982

Unit: 3 MICROWAVE INTEGRATED CIRCUITS

Introduction to Microwave Integrated Circuits
Introduction to Monolithic Microwave Integrated Circuits (MMICs), their advantages over discrete circuits, MMIC fabrication techniques, Thick and Thin film technologies and materials, encapsulation and mounting of active devices, microstrips on semiconductor substrates.
Microstrip Lines
Planar transmission lines for MICs, Method of Conformal transformation for microstrip analysis, Concept of effective dielectric constant, Effective dielectric constant for microstrip, Losses in Microstrip.
Slot Lines
Slot Line approximate analysis and field distribution, Transverse resonance method and evaluation of slot line impedance, comparison with microstrip line.
Finlines and Coplanar Lines
Introduction of Finlines & Coplanar Lines, analysis of Finlines by Transverse Resonance Method, Conductor loss in Finlines, Introduction to coplanar wave guide and coplanar strips.
Lumped Elements for MICs
Use of Lumped Elements, Capacitive elements, Inductive elements and Resistive elements
Matching and Biasing Networks
Impedance Matching using Discrete Components, Microstrip Line Matching Networks
Fundamentals of CMOS Transistors for RFIC Design
MOSFET Basics, MOSFET Models, Fundamentals of Stability, Determination of Stable and Unstable

Regions, Stability Consideration for N-Port Circuits, Noise Figure Circles, Constant VSWR Circles. Broadband, High Power and Multistage Amplifiers, Low Noise Amplifier Design.
Microwave IC Design and Measurement Techniques
MIC Measurement, its testing and applications, measurement techniques – S parameter measurement, noise measurement, MIC applications.
Substrate Integrated Circuits
Substrate Integrated Waveguide, Substrate Integrated Image Guide, Substrate Integrated No radiative Dielectric Guide, Substrate Integrated Feeding Network, Substrate Integrated Divider, Substrate Integrated Phase Shifter, Substrate Integrated Coupler, Substrate Integrated Circuit–Related Transition.
Metamaterial-Based Compact Microwave and Millimetre Wave Circuit Design
Designs of True-Time-Delay Lines and Phase Shifters Based on CRLH TL Unit Cells, Perfect Metamaterial Absorbers in Microwave and Terahertz Bands, Metamaterial-Based Compact Filter Design, Magnetically Tunable Unidirectional Electromagnetic Devices Based on Magnetic Surface Plasmon, Compact Coplanar Waveguide Metamaterial-Inspired Lines and its use in Highly Selective and Tunable Band pass Filters.
Books Recommended:
1. K. C. Gupta, Microwave Integrated circuit, Wiley Eastern Pvt. Ltd , 1975
2. KC. Gupta, R. Garg and I.J. Bahl, Microstrip lines and Slot lines, Artech House
3. Bharathi Bhat, Shiban Koul, Stripline-like Transmission Lines for Microwave Integrated Circuits, New Age International(P) Ltd. Publishers, 2007.
4. Yu Jian Cheng, Substrate Integrated Antennas and Arrays, CRC Press, 2016.
5. Xun-Ya Jiang, Metamaterial, InTech, 2012.

Unit: 4 Millimeter Wave Technology

Introduction
Introduction to Millimetre Wave Technology, Millimeter-wave system.
Guiding Structures at Millimeter Wave Frequencies
Dielectric loss. Conductor loss, Surface wave and leaky wave loss, Surface wave modes, Surface wave unded dielectric slab, Different form of planner transmission line. Microstrip coupled lines, Conductor Backed CPW, Substrate integrated waveguide.
Millimeter Wave Antennas
Printed millimetre wave antenna, Printed Arrays at Millimeter-Wave Frequencies, On-chip and off-chip antennas, Packaging Issues, Printed dipole and slot antenna, Leaky wave antenna, periodic LWA, Planar Waveguide Type Slot Arrays.
Millimeter Wave Passive Components
Dielectric resonator, Dielectric resonator antenna, Millimeter Wave filter, Design of a band pass filter, Determination of coupling co-efficient, Millimeter wave interconnect, Image guide, Image guide coupler, Hybrid coupler. Matched termination, Transmission Line Discontinuities, Transition between lines, Excitation of SIW , Excitation of NRD
Millimeter Wave Active Devices
Solid state device and their application, Power handling capacity, Transfer electron device, RWH theory,
Millimeter Wave Propagation
Channel Performance at 60 GHz, Noise and link-budget equation, thermal noise, External source of noise, Antenna and source noise. Receiver noise, Noise bandwidth. Noise factor.

Millimeter-wave system
Passive Millimeter Wave Imaging, Transceiver architecture, Passive millimetre wave camera, Six port reflectometer, Modulation Schemes in MM- Wave Comm.
Books Recommended:
1. Advanced Millimeter-wave Technologies: Antennas, Packaging and Circuits - Duixian Liu, Ulrich Pfeiffer, Janusz Grzyb and Brian Gaucher, Wiley.
2. Handbook of RF, Microwave, and Millimeter-Wave Components - Sergey M. Smolskiy Author, Leonid A. Belov and Victor N. Kochemasov, Artech House Microwave Library.
3. Millimeter Wave Communication Systems - Kao-Cheng Huang, Zhaocheng Wang, Wiley.
4. Microwave and RF Design of Wireless Systems – David M. Pozar, Wiley.
5. Millimeter Wave and Optical Dielectric Integrated Guides and Circuits – Shiban K. Koul, Wiley.

ELECTRONICS ENGINEERING DEPARTMENT
इलेक्ट्रानिक्स अभियांत्रिक विभाग
SARDAR VALLABHBHAI NATIONAL INSTITUTE OF TECHNOLOGY, SURAT
सरदार वल्लभभाई नेशनल इन्स्टीयुट ओफ टेक्नोलोजी, सुरत

Annexure-13

दिनांक : 02/09/2020

Department Academic Advisory Committee

55th Meeting – Held on 2nd September, 2020 (Online: Google Meet)

RESOLUTION

Item 1:	To discuss the perspective plan of ECED.
Reso.1:	The perspective plan of ECED has been discussed and resolved as per **Appendix-1**. The same has been submitted to Dr. Mathur, Registrar and Dr. P. L. Patel, Dy. Director.
Item 2:	To Discuss the PhD comprehensive to be conducted Jan/Feb 2021 exam syllabus.
Reso.2:	The syllabus of PhD comprehensive exam has been invited form the respective supervisors. Dr. Piyush Patel has presented the syllabus of his Ph.D. student Mr. Rajat Paliwal (Roll No. DS19EC002). The syllabus is discussed and approved. (Appendix-2)

Dr. A. S. Mandloi
Secretary, DAAC

Dr. A. D. Darji
Head & Chairman , DAAC

To Asst. Registrar (Acad)
To be put to 'DAAC' file and identify 'IAAC' item if any

02/11/20

02/11/20

DEAN (ACADEMIC)
SVNIT, SURAT.

Appendix - 2

Section: I (30 Marks) Fundamentals

A. PEC 901: Fundamentals of Electronics & Communication Engineering

Unit	Content
1	Fundamentals of Electronics & Communication Engineering

Section: II (120 Marks) Section Specific

F. PEC 906: Wireless and Optical Communication

Unit	Content
1	Digital Communication
2	Wireless Communication
3	Optical Communication
4	Optical Networks

PEC 901: Fundamentals of Electronics & Communication Engineering

ENGINEERING MATHEMATICS:
LINEAR ALGEBRA
Vector space, basis, linear dependence and independence, matrix algebra, eigen values and eigen vectors, rank, solution of linear equations – existence and uniqueness.
CALCULUS
Mean value theorems, theorems of integral calculus, evaluation of definite and improper integrals, partial derivatives, maxima and minima, multiple integrals, line, surface and volume integrals, Taylor series
DIFFERENTIAL EQUATIONS
First order equations (linear and nonlinear), higher order linear differential equations, Cauchy's and Euler's equations, methods of solution using variation of parameters, complementary function and particular integral, partial differential equations, variable separable method, initial and boundary value problems
VECTOR ANALYSIS
Vectors in plane and space, vector operations, gradient, divergence and curl, Gauss's, Green's and Stoke's theorems
COMPLEX ANALYSIS
Analytic functions, Cauchy's integral theorem, Cauchy's integral formula; Taylor's and Laurent's series, residue theorem.
NUMERICAL METHODS
Solution of nonlinear equations, single and multi-step methods for differential equations, convergence criteria.
PROBABILITY AND STATISTICS:
Mean, median, mode and standard deviation; combinatorial probability, probability distribution functions - binomial, Poisson, exponential and normal; Joint and conditional probability; Correlation and regression analysis.
NETWORKS, SIGNALS AND SYSTEMS:

Network solution methods: nodal and mesh analysis; Network theorems: superposition, Thevenin and Norton's, maximum power transfer; Wye-Delta transformation; Steady state sinusoidal analysis using phasors; Time domain analysis of simple linear circuits; Solution of network equations using Laplace transform; Frequency domain analysis of RLC circuits; Linear 2-port network parameters: driving point and transfer functions; State equations for networks.

Continuous-time signals: Fourier series and Fourier transform representations, sampling theorem and applications; Discrete-time signals: discrete-time Fourier transform (DTFT), DFT, FFT, Z-transform, interpolation of discrete-time signals; LTI systems: definition and properties, causality, stability, impulse response, convolution, poles and zeros, parallel and cascade structure, frequency response, group delay, phase delay, digital filter design techniques.

ELECTRONIC DEVICES:

Energy bands in intrinsic and extrinsic silicon; Carrier transport: diffusion current, drift current, mobility and resistivity; Generation and recombination of carriers; Poisson and continuity equations; P-N junction, Zener diode, BJT, MOS capacitor, MOSFET, LED, photo diode and solar cell; Integrated circuit fabrication process: oxidation, diffusion, ion implantation, photolithography and twin-tub CMOS process.

ANALOG CIRCUITS:

Small signal equivalent circuits of diodes, BJTs and MOSFETs; Simple diode circuits: clipping, clamping and rectifiers; Single-stage BJT and MOSFET amplifiers: biasing, bias stability, mid-frequency small signal analysis and frequency response; BJT and MOSFET amplifiers: multi-stage, differential, feedback, power and operational; Simple op-amp circuits; Active filters; Sinusoidal oscillators: criterion for oscillation, single-transistor and op-amp configurations; Function generators, wave-shaping circuits and 555 timers; Voltage reference circuits; Power supplies: ripple removal and regulation.

DIGITAL CIRCUITS:

Number systems; Combinatorial circuits: Boolean algebra, minimization of functions using Boolean identities and Karnaugh map, logic gates and their static CMOS implementations, arithmetic circuits, code converters, multiplexers, decoders and PLAs; Sequential circuits: latches and flip-flops, counters, shift-registers and finite state machines; Data converters: sample and hold circuits, ADCs and DACs; Semiconductor memories: ROM, SRAM, DRAM; 8-bit microprocessor (8085): architecture, programming, memory and I/O interfacing.

COMMUNICATIONS:

Random processes: autocorrelation and power spectral density, properties of white noise, filtering of random signals through LTI systems; Analog communications: amplitude modulation and demodulation, angle modulation and demodulation, spectra of AM and FM, superheterodyne receivers, circuits for analog communications; Information theory: entropy, mutual information and channel capacity theorem; Digital communications: PCM, DPCM, digital modulation schemes, amplitude, phase and frequency shift keying (ASK, PSK, FSK), QAM, MAP and ML decoding, matched filter receiver, calculation of bandwidth, SNR and BER for digital modulation; Fundamentals of error correction, Hamming codes; Timing and frequency synchronization, inter-symbol interference and its mitigation; Basics of TDMA, FDMA and CDMA.

ELECTROMAGNETICS:

Electrostatics; Maxwell's equations: differential and integral forms and their interpretation, boundary conditions, wave equation, Poynting vector; Plane waves and properties: reflection and refraction, polarization, phase and group velocity, propagation through various media, skin depth; Transmission lines: equations, characteristic impedance, impedance matching, impedance transformation, S-parameters, Smith chart; Waveguides: modes, boundary conditions, cut-off frequencies, dispersion relations; Antennas: antenna types, radiation pattern, gain and directivity, return loss, antenna arrays; Basics of radar; Light propagation in optical fibers.

PEC 906: Wireless and Optical Communication

Unit: 1 Digital Communication

BASEBAND TRANSMISSION TECHNIQUES
Formatting Text,Sampling And Analog To Digital Conversion, Quantization Techniques-Uniform and Non-Uniform, A-law and mu-Law, Pulse Code Modulation (PCM), Digital Telephony Example: PCM In T1/E1 Carrier System, Digital Multiplexing, DPCM And ADPCM, Delta Modulation.
PRINCIPLES OF DIGITAL DATA TRANSMISSION
Digital Communication System, Line Coding, Pulse Shaping For Optimum Transmission, ISI And ISI-Free Signals, Band-limiting Of Rectangular Pulses, Raised Cosine Filtering, Duo binary Signaling, Scrambling, Regenerative Repeaters, Matched Filter And Equalizers, Timing Extraction, Eye Diagrams: An Important Tool, PAM: M-Ary Baseband Signaling For Higher Data Rate.
INTRODUCTION TO INFORMATION THEORY
Measure Of Information, Source Encoding, Error-Free Communication Over Noisy Channel, Channel Capacity Of Discrete As Well As Continuous Memoryless Channel, Shannon's Equation, Frequency Selective Channel Capacity.
CODING
Introduction to Entropy and Source Coding Techniques For Digital Signal, Introduction to Channel Coding Techniques And Error Correcting Codes.
BANDPASS SIGNAL TRANSMISSION-DIGITAL CARRIER SYSTEM
Representation Of Digital Modulated Signal, ASK, PSK, FSK, QAM with Mathematics and Constellation Diagram, Spectral Characteristics Of Digitally Modulated Signals. M-Ary Digital Carrier Modulation.
BANDPASS SIGNAL RECEPTION
Synchronization, Decision Theory, Bandpass Receiving Filter, Error Performance Of Bandpass Systems, Performance Evaluation Of Communication Systems, BER.
BOOKS RECOMMENDED
1. Bhattacharya Amitabh, "Digital Communication", Tata McGraw-Hill, 1st Ed., 2006.
2. Lathi B.P. and Ding Zhu, "Modern Digital And Analog Communication Systems", Oxford University Press, 4th Ed., 2010
3. Sklar Bernard, "Digital Communications-Fundamentals and Applications", Pearson Education-LPE, 2nd Ed., 2009
4. Proakis J. and Satoh M., "Fundamentals Of Communication Systems", PHI/Pearson Education-LPE, 2nd Ed., 2006
5. Leon W. Couch, II, "Digital And Analog Communication Systems", Pearson Education-LPE, 6th Ed., 2004
6. Glover Lan and Grant Peter, "Digital Communications", Pearson Education-LPE, 1st Ed., 2008

Unit: 2 Wireless Communication

GENERAL CONSIDERATIONS
General Considerations About Radio Waves Over Wireless Channel, Radio Propagation And The Atmosphere, Basic Propagation Mechanisms In General, Radio Propagation Categories For Long Distance Case, Short Distance NLOS Mobile Communication Case, AWGN Model Showing Reflection, Scattering And Diffraction Of Radio Waves For Mobile Systems/Multipath Effect, Large Scale Fading, Small Scale Fading, Delay Spread Effect, ISI, Doppler Shift/Spread, Doppler Power Spectrum, Flat And Frequency Selective Fading
CHANNEL MODELS
Channel Models, Equalization Techniques And Diversity Techniques
SPREAD SPECTRUM MODULATION

Basic Principle Of Orthogonality, Subcarrier Setting In The Spectrum, FDM Vs Orthogonal FDM, OFDM Block Diagram And Explanation, Pulse Shaping And Windowing In OFDM, Synchronization In OFDM, Pilot Insertion In OFDM Transmission And Channel Estimation, Amplitude Limitations, FFT Points Selection Constraints, CDMA Vs OFDM, Hybrid OFDM, MIMO
OFDM
Spread Spectrum Modulation Concepts, ML, Walsh-Hadamard, Gold Sequences, Code Properties, Auto And Cross Correlation, Partial Correlation, DSSS Transmitter, Rake Receiver Block Diagram, PN Signal Characteristics, Spectral Density, Bandwidth And Processing Gain, Interference Rejection, Antijam Characteristics, Energy And Bandwidth Efficiency, Near Far Problem And Power Control, Frequency Hopping Spread Spectrum,Time Hopping, Comparison Of Spread Spectrum Modulation Methods, Hybrid Spread Spectrum System, Chirp Spread Spectrum
BOOKS RECOMMENDED:
1. UpenaDalal, "Wireless Communication",Oxford University Press, 1st Edition,2008
2. Molisch Andreas F.,"Wideband Wireless Digital Communication", Pearson Education, 3rd Indian Reprint,2003
3. Sharma Sanjay, "Wireless Communications",Katsons Books,2006
4. Rappaport,T. "Wireless Communications", Pearson Education,5th Indian Reprint,2003
5. Schulze Henrik and LudersChristian,"Theory And Applications Of OFDM And CDMA - Wideband Wireless Communications",Wiley, 2005
6. Goldsmith Andrea, "Wireless Communications",Cambridge University Press,2002
7. FeherKemilo,"Wireless Digital Communication",PHI, 1995

Unit: 3 Optical Communication

REVIEW OF FIBER OPTIC COMMUNICATION
Elements Of Fiber Optic Communication, Light Transmission Basics, Optical Spectrum, Propagation Of Light In Fiber, Types of Fiber, Attenuation, Dispersion
PASSIVE AND ACTIVE OPTICAL COMPONENTS
Principle And Operation Of Optical Source, Detectors, Couplers, Isolators, Circulators,Modulators, Multiplexers, Filters, Switches, Amplifiers
DWDM SYSTEM DESIGN
WDM SystemClassification, Applications and Advantages, WDM System Model, System Requirements, Optical System Design Considerations, Power Budget, Bandwidth Budget, OSNR Based DWDM System Design, System Performance Measurement Parameters, Power Penalty In System
DISPERSION MANAGEMENT
Need of Dispersion Management, Pre-Compensation, Post Compensation, Dispersion Compensation Techniques
OPTICAL SYSTEMS
Direct Intensity Modulation (D-IM), Subcarrier Intensity Modulation, Coherent and Phase-modulated Systems
NONLINEARITIES
Distortion In Signal Due To Nonlinearities In Fibers, Self-Phase Modulation, Cross Phase Modulation, Stimulated Raman Scattering, Stimulated Brillouin Scattering, Four Wave Mixing, Optical Solitons
BOOKS RECOMMENDED:
1. Ramaswami Rajiv and Sivarajan K. N., "Optical Networks A Practical Perspective", Elsevier, Morgan Kaufmann Publishers, 3rd Ed:, 2009.
2. Gerd Kaiser, "Optical Fiber Communication", McGraw Hill, 4th Ed., 2008.
3. Senior J. M., "Optical Fiber Communication - Principle And Practice", PHI, 3rd Ed., 2010.
4. Agrawal G.P., "Fiber Optic Communication Systems", John Wiley & Sons, 4th Ed., 2010.
5. T. L. Singhal, "Optical Fiber Communications: Principles and Applications", Cambrige,

Unit: 4 Optical Networks

INTRODUCTION TO OPTICAL NETWORKS
Principles and challenges, WDM Networking Evolution, Point-to-point WDM systems, Fiber and Wavelength cross connects, WDM Network Constructions, Broadcast-and-Select (Local) WDM Networks, Wavelength - Routed (Wide-Area) Optical Network.
FIRST AND SECOND GENERATION OPTICAL NETWORK SONET / SDH
Multiplexing, Elements of a SONET / SDH Infrastructure, SONET / SDH Physical Layer, Fiber Channel, **Metropolitan- Area Networks:** FDDI, ATM, IP.
WAVELENGTH ROUTED NETWORKS
Elements of Virtual Topology Design: System Architecture, Algorithms, Multiple, Point - to - Point Links, Arbitrary Virtual Topology. Routing and Wavelength, Assignment: Problem formulation and solution approach. Static Lightpath Establishment (SLE), Dynamic Lightpath Establishment (DLE).
RECONFIGURATION IN WDM NETWORKS
Passive star based LAN and WAN Algorithms. Control and Management: Network Management Functions, Equipment Management, Connection Management, Performance Management, Fault Management: Protection Concepts, Ring Networks, Mesh Networks, Handling Node Failures, Inter-working Between layers.
WAVELENGTH ROUTING APPROACHES
Circuit - Switched Approaches: LDC - Based Approach, Lightpath - Based Approach, Least-Congested-Path(LCP) Routing, Wavelength-Conversion-Based Routing. Packet - Switched Approaches: Logical Topologies for Electronic Packet-Switched Networks, Deflection Routing Networks. Optical Packet switch design. Wavelength Converters and Switches. Optical access network Architectures.
FUTURE OPTICAL NETWORK: OPTICAL TDM NETWORKS
Basics of TDM, Optical TDM, Optical Sources, Modulation and Multiplexing, Transmission of Ultra-fast OTDM signal using Soliton, Optical TDM Network Architectures and Proposals. Optical CDMA Networks: Basics of CDMA , Optical CDMA.
BOOKS RECOMMENDED:
1. R. Ramaswami, Kumar N. Sivarajan,"Optical Networks: A Practical Perspective",Morgan Kaufmann, 3rd Ed.,2009. 2. Biswanath Mukerjee,"Optical WDM Networks",Springer Science Business Media,Inc 2006 3. T. E. Stern, K. Bala and Georgios Elinos,"Multiwavelength Optical Networks: Architecture, Design and Control",Cambridge University Press, 2nd Ed.,2009 4. D. W. Faulkner, "WDM and Photonic Networks", IOS Press, 1st Ed. 2000. 5. Peng-Jun Wan, " Multichannel Optical Networks",Kluwer Academic,1st Ed. 2000.

Annexure-14

SARDAR VALLABHBHAI NATIONAL INSTITUE OF TECHNOLOGY, SURAT

DEPARTMENT OF CHEMISTRY

No.: ACD/DAAC/ 792 Date: 28/12/2020

Minutes of 84th meeting of the Department Academic Advisory Committee (DAAC) of the Applied Chemistry Department held on December 22, 2020, (through online virtual mode),Following members were present in the meeting:

Sr. No.	Name	Designation	
1.	Prof. Smita Jauhari	Professor	Member
2.	Dr. Bharat Dholakiya	Associate Professor, Chairman DAAC & Head, ACD	Chairman, DAAC
3.	Dr. Suresh Kumar	Associate Professor	Member
4.	Dr. Suban Sahoo	Associate Professor	Member
5.	Dr. Naved Malek	Associate Professor	Member
6.	Dr. Kalpana Maheria	Associate Professor	Member
7.	Dr. Premlata Kumari	Associate Professor	Member
8.	Dr. Ketan Kuperkar	Assistant Professor	Member Secretary, DAAC
9.	Dr. Ritambhara Jangir	Assistant Professor	Member
10.	Dr. Togati Naveen	Assistant Professor	Member

Item: 1	To confirm the Minutes of 83rd DAAC.
Reso. 1	Minutes of 83rd DAAC meeting is confirmed.
Item: 2	To hire the visiting faculty services of Dr. Vimal Kumar Prajapati (Assistant Professor at Navsari Agricultural University, Surat) for teaching the subject of Introduction to Life Sciences (CY- 202).
Reso. 2	After the discussion at length, Department of Chemistry has gone through the CV of Dr. Vimal Kumar Prajapti & has agreed to hire the visiting faculty services (honorarium at hourly basis) for teaching the subject of Introduction to Life Sciences (CY- 202). Department has also agreed to collect the CV of Mrs. Ambika Arkatkar who has helped the Department of Chemistry in designing the Curriculum of this subject and later can be considered of giving visiting lectures for the same subject.
Item: 3	Renewal of Journals subscription recommended by the Department of Chemistry.
Reso. 3	Department of Chemistry has consented to continue with the already subscribed journals as recommended.

Item: 4&(5)
(C)

Kuperkar 28/12/2020

Dr. Ketan Kuperkar
Member Secretary, DAAC

28/12/2020

Dr. B.Z. Dholakiya
Chairman, DAAC

Annexure-15

CIVIL ENGINEERING DEPARTMENT

S.V. NATIONAL INSTITUTE OF TECHNOLOGY, SURAT

Minutes of the 39th meeting of the Department Academic Advisory Committee (DAAC)

No. CED/DAAC/ 1800 /2020 Date: 21/12/2020

The 39th meeting of the Department Academic Advisory Committee (DAAC) was convened on 21/12/2020 at 12.20 PM by video conferencing with Google Meet under the Chairmanship of Head, CED.

Members were present in the meeting by video conferencing.

The following item was discussed

Item 39.1 To consider and approve the cooling tower for MTS actuator from DDF
Structural Engineering Section has given P.O. for an Actuator from MTS and it is already dispatched from the USA. For the same equipment, it is necessary to procure Cooling tower, pipes, gantry girder, hydraulic oil and other necessary pre-installment requirements. The cost of it is around Rs. 3,00,000/-.

Reso 39.1 It is considered and approved Rs. 3,00,000/- for Cooling tower, pipes, gantry girder, hydraulic oil and other necessary pre-installment requirements for upcoming actuator in Earthquake engineering lab from DDF.

Item 39.2 To consider and approve Rs. 1,50,000/- from DDF for hiring consultant for the preparation of documents and other works for NABL certification for Environmental Engineering Laboratory

Reso 39.2 It is considered and approved Rs. 1,50,000/- from DDF for hiring consultant for the preparation of documents and other works for NABL certification for Environmental Engineering Laboratory

Item 39.3 To consider and recommend list of resources required to be subscribed by central library for civil department.

Reso 39.3 It is considered and recommended the list of resources required to be subscribed by central library for civil department.

Item 39.4 To consider and approve to recommend to the central library for purchase the latest and revised- ISO 45001:2018 (en) Occupational health and safety management systems — Requirements with guidance for use for UG and PG programs.

Reso 39.4 It is considered and approved to recommend to the central library for purchase the latest and revised- ISO 45001:2018 (en) Occupational health and safety management systems

Item 39.5 To consider and approve to recommend to the central library for purchase of 04 books of about Rs. 42,000/-. List is attached.

Reso 39.5 It is considered and approved to recommend to the central library for purchase of 04 books of about Rs. 42,000/-.

Item 39.6 To consider the application received from Dr. P. L. Patel for inclusion of Dr. Prabhat Chandra, Scientist-E, CWPRS, Pune as co-supervisor for Mr. Banwari lal Meena (PhD Student, PEC category, Enrollment NO. –D19CE005)

Item: 48(6)

Reso 39.6 The item was discussed in DAAC at length.
The Student has not completed the three semesters. Hence as per rule 10.6 of Appendix:5.1 of 44th meeting of Senate of SVNIT Surat dated 19th July 2019-Academic Regulations for Doctoral Programmes, Dr. Prabhat Chandra, Scientist-E, CWPRS, Pune was approved as co-supervisor for Mr. Banwari lal Meena (PhD Student, PEC category, Enrollment NO. –D19CE005) and forwarded to IAAC.

Item 39.7 To consider and approve purchase of one Laboratory scale Impact Crusher costing approximately Rs. 1,90,000/- for Geotechnical Laboratory from department development fund (Code: 5/136).

Reso 39.7 Resolved to defer the item.

Item 39.8 To consider and approve purchase of Geosynthetics testing instruments of about Rs. 10,00000 /- from DDF for new Geosynthetics Testing Lab (UTM with attachment for Wide Width tensile strength test, Grab tensile strength test, Trapezoidal tear resistance test, Puncture test)

Reso 39.8 Resolved to defer the item.

Meeting ended with vote of thanks to the Chair.

29/12/2020

Dr. Shailendra kumar
Member Secretary, CED

Prof. & Head, CED

Consent Letter from Ph.D Co-Supervisor

To

The Dean Academics

SVNIT, Surat

Sub: Consent Letter to be a Co-supervisor for Mr. Banwari LAl Meena, Ph.D part time candidate, SVNIT,Surat.

Sir

With reference to the above mentioned subject, I wish to inform you that I am willing to accept Banwari Lal Meena, Scientist-B, CWPRS as my Ph.D part time candidate,SVNIT,Surat ,and for guiding his research work leading to PhD degree of SVNIT, Surat,. I will guide him for the entire duration of his research work and will supervise his work throughout the research process.

Following is the proposed title of his research project:

"Assessment of runoff and sediment yield from Wainganga river basin by using SWAT model"

Thanking you

Yours Sincerely

21/12/2020

(Dr. Prabhat Chandra)

Scientist-E

Name of Institute: CWPRS

Date: 21.12.2020

Place: Pune

Through Professor P.L. Patel (Ph.D guide of Shri B.L.Meena)

Forwarded and recommended with a request to Kindly include in DAAC meeting of CED

प्रेमवालपटेल 21.12.2020 Prof. P.L. Patel

HOD (Civil Engineering) / Chairman DAAC

Consent Letter from Ph.D Co-Supervisor

To

The Dean Academics
SVNIT, Surat

Sub: Consent Letter to be a Co-supervisor for Mr. Banwari LAl Meena, Ph.D part time candidate, SVNIT,Surat.

Sir,

With reference to the above mentioned subject, I wish to inform you that I am willing to accept Banwari Lal Meena, Scientist-B, CWPRS as my Ph.D part time candidate,SVNIT,Surat ,and for guiding his research work leading to Ph.D degree of SVNIT, Surat,. I will guide him for the entire duration of his research work and will supervise his work throughout the research process.

Following is the proposed title of his research project:

"Assessment of runoff and sediment yield from Wainganga river basin by using SWAT model"

This is issued with the approval of Director, CWPRS

Thanking you

Yours Sincerely

21/12/2020

(Dr. Prabhat Chandra)
Scientist-E
Name of Institute: CWPRS

Approved
21/12/2020

Date: 21.12.2020

Place: Pune

~~Through Shri A.K.Agrawal, Director CWPRS:-~~

21.12.2020

Prof. P.L Patel

100 years and beyond ...

Government of India
Ministry of Jal Shakti
Department of Water Resources, River Development and Ganga Rejuvenation
CENTRAL WATER & POWER RESEARCH STATION
Khadakwasla, Pune - 411 024
☎ : 020- 24103200, 24103421, 241033450
Fax: 020 - 24381004 ✉ :pchandra_2003@yahoo.co.in www.cwprs.gov.in

Consent Letter from Ph.D Co-Supervisor

Date:-21.12.2020

No.

To

The Dean Academics
SVNIT, Surat

Sub: Consent Letter to be a Co-supervisor for Mr. Banwari LAl Meena, Ph.D part time candidate, SVNIT,Surat.

Sir,

With reference to the above mentioned subject, I wish to inform you that I am willing to accept Banwari Lal Meena, Scientist-B, CWPRS as my Ph.D part time candidate,SVNIT,Surat ,and for guiding his research work leading to Ph.D degree of SVNIT, Surat,. I will guide him for the entire duration of his research work and will supervise his work throughout the research process.

Following is the proposed title of his research project:

"Assessment of runoff and sediment yield from Wainganga river basin by using SWAT model"

This is issued with the approval of Director, CWPRS

Thanking you

Yours Sincerely

(Dr. Prabhat Chandra) 21/12/2020

Scientist-E
Name of Institute: CWPRS,Pune

Date: 21.12.2020

Place: Pune

Brief Biodata of Dr. Prabhat Chandra

Dr. Prabhat Chandra is currently working as Scientist E in Central Water & Power Research Station (CW&PRS), Pune. He obtained B.E.(Civil) in the year 1986 from IIT Roorkee (erstwhile University of Roorkee) and M.E.(Geotechnical Engg.) in 1990. Subsequently, he obtained PhD. in Civil engineering from SVNIT, Surat in water resources engineering in the year 2016 under Prof. P L Patel. The Phd Topic was **"Assessment of Sediment Yield in the Upper Tapi Basin and design of soil conservation systems"** by using SWAT Model. He has published following papers on the use of SWAT Model and assessment of Sediment Yield:

1. **Estimation of Sediment Yield using SWAT model for Upper Tapi Basin** by Prabhat Chandra, Dr. P L Patel, Dr. P D Porey and Dr. I D Gupta.ISH **Journal of Hydraulic Engineering** 2014 , Issue 3, Vol. 20, pp 291-300; published by Taylor and Francis, UK.

2. **Sediment management modeling in Upper Tapi basin** by Prabhat Chandra, P L Patel and P D Porey. Proc. HYDRO-2015 International, IIT, Roorkee, Dec 17-19, 2015

3. **Prediction of Sediment Erosion Pattern in Upper Tapi Basin, India** by Prabhat Chandra, P L Patel and P D Porey. **Journal of Current Science**, Vol. 110, No. 6, 2016, pp.1038-1049.

His research interests include studies for hydraulic aspects for;

- **Ports and Harbours Development**
- **Fisheries Harbour Development**
- **Training of Coastal Inlets**
- **Design of Coastal Structures**
- **Coastal and Estuarine Processes**
- **Mixing of Jets and Plumes in Inland and Coastal Waters**
- **Design of Outfalls for Effluent Disposal Schemes**
- **Dredging and Disposal of dredged material**
- **Sediment yield in the River basins and soil conservation measures**

Dr Prabhat Chandra successfully completed UNDP fellowship training programme in the field of Water Quality Modelling for six months at Cornell University, USA in 1995.

Dr Prabhat Chandra has worked extensively for more than 150 projects in the field of coastal engineering using physical and numerical modeling techniques on the wave tranquility, sedimentation, design of coastal structures and for assessment of morphological aspects for development of major/ minor ports, fisheries harbour and coastal protection works.

He has more than **85 research publications** to his credit in various International/National conferences/seminars and Journals.

TO, Dean, Acad

Annexure-16

ELECTRICAL ENGINEERING DEPARTMENT
SARDAR VALLABHBHAI NATIONAL
INSTITUTE OF TECHNOLOGY, SURAT

No. EED/DAAC/054/1240 /2020-2021 *Date: 8/2/2021*

Minutes of the 54th meeting of the DAAC of the Electrical Engineering Department, held on 03-02-2020 at 12.30 pm onwards through online using Google Meet.

The following members joined the meeting online.

1.	R. Chudamani, Head of the Department.	Chairman
2.	S. N. Sharma	Member
3.	Anandita Chowdhury	Member
4.	A. K. Panchal	Member
5.	M.N.Bhusavalwala	Member
6.	H.R.Jariwala	Member
7.	Manisha D. Gohil	Member
8.	Prasanta Kundu	Member
9.	Sabha Raj Arya	Member
10.	Rakesh Maurya	Member
11.	Hiren G. Patel	Member
12.	Khyati D. Mistry	Member
13.	Vasundhara Mahajan	Member
14.	Chandani P. Gor	Member- Secretary
15.	Aeidapu Mahesh	Member
16.	Sanjay Tolani	Member
17.	Rahul Radhakrishnan	Member
18.	K. V. Praveen Kumar	Member
19.	Sushnigdha Gangireddy	Member
20.	J. Venkataramanaiah	Member
The following members could not join the meeting.		
1.	Varsha A. Shah	Member
2.	J. J. Patel	Member
3.	M. A. Mulla	Member
4.	P. B. Darji	Member
5.	Rajasekharareddy Chilipi	Member

The items and resolutions are as under.

Item 1: To suggest an equivalent subject to EE202-Networks and Systems (4-1-0, 5 credits) for Mr. Kenneth Vaz (U17EE013) who wishes to re-register for the same.

Reso.1: It was suggested that the student might register for EE212-Signals and Systems (3-1-0, 4 credits) offered in the B. Tech II-year IV semester (New Scheme) in place of the course mentioned in *item 1*.

Item 2: To discuss and recommend the utilization of Lab Development Fund towards the expenditure incurred due to servicing and calibration of test equipment.

Reso. 2: It was unanimously decided by the members who were present in the meeting to approve the utilization of the Lab Development Fund to meet the expenditure incurred due to servicing and calibration of test equipment.

NR/Lothkar/ 9/02/2021 4:25 pm Tuesday

R. Chudamani 9/2/2021

Item 3: To decide the examination scheme for III and IV semesters of the new PG programme M. Tech. (Instrumentation and Control).

Reso. 3: It was decided to finalize the examination scheme for III and IV semesters of the new PG programme M. Tech. (Instrumentation and Control) as follows which is in line with the examination schemes of other existing PG programmes in the department.

IDAAC

SEMESTER - III

Sr. No.	Course Code	Course	L	T	P	Credits	Examination Scheme				
			Hrs	Hrs	Hrs		Theory Marks	Tutorial Marks	Term work Marks	Practical Marks	Total Marks
1	ELIC3C01	Seminar	0	0	4	02	-	-	20	30	50
2	ELIC3C02	Dissertation Preliminary	0	0	16	08	-	-	100	150	250
		TOTAL	**0**	**0**	**20**	**10**	**-**	**-**	**120**	**180**	**300**
		TOTAL	**20**								

SEMESTER - IV

Sr. No.	Course Code	Course	L	T	P	Credits	Examination Scheme				
			Hrs	Hrs	Hrs		Theory Marks	Tutorial Marks	Term work Marks	Practical Marks	Total Marks
1	ELIC4C01	Dissertation	0	0	24	12	-	-	160	240	400
		TOTAL	**0**	**0**	**24**	**12**	**-**	**-**	**160**	**240**	**400**
		TOTAL	**24**								

Important Note: According to Reso 2, the student will be able to earn only 4 credits instead of 5, but this will not come in the way of his fulfilling the minimum credit requirements for the award of the degree.

The meeting ended with thanks to the chair.

Page 2 of (2).

Chandani P. Gor
Member – Secretary
(DAAC, EED)

R. Chudamani 9/2/2021
R. Chudamani
Chairman
(DAAC, EED)

Cc to: (i) Dy. Registrar (Acad)
(ii) Dean (R & C)

Annexure-17

SARDAR VALLABHBHAI NATIONAL INSTITUTE OF TECHNOLOGY, SURAT

Minutes of the ***49th meeting*** of the ***Senate*** of the Sardar Vallabhbhai National Institute of Technology, Surat which was held on ***Thursday, the 22nd October 2020, 03:00 p.m.*** onward in the ***Room no. 604 of the New Class Room Complex Building.***

The following members were present in the meeting:

1)	Dr. S. R. Gandhi, Director, SVNIT, Surat	: Chairman
2)	Dr. P. L. Patel, Deputy Director, SVNIT, Surat	: Member
3)	Dr. Jyotirmay Banerjee, Dean (Academic) SVNIT, Surat	: Member
4)	Dr. R. Venkata Rao, Dean (Faculty Welfare), SVNIT, Surat	: Member
5)	Dr. V. H. Pradhan, Dean (Student Welfare), SVNIT, Surat	: Member
6)	Dr. H. R. Jariwala, Asso. Dean (Academic) SVNIT, Surat	: Special Invitee
7)	Dr. Vipul Kheraj, Asso. Dean (Faculty Welfare) SVNIT, Surat	: Special Invitee
8)	Dr. H. G. Patel, Asso. Dean (Student Welfare) PG, SVNIT, Surat	: Special Invitee
9)	Dr. Shailendra Kumar, Prof. & Head, MED, SVNIT, Surat	: Member
10)	Dr. M. A. Zaveri, Prof. & Head, COED, SVNIT, Surat	: Member
11)	Dr. M. Mansoor Ahmmed, Prof. & Head, CED, SVNIT, Surat	: Member
12)	Dr. C. M. Patel, Asso. Prof & Head, CHED, SVNIT, Surat	: Special Invitee
13)	Dr. B. Z. Dholakiya, Asso. Prof. & Head, ACD, SVNIT, Surat	: Special Invitee
14)	Dr. A. K. Rai, Asso. Prof. & Head, APD, SVNIT, Surat	: Special Invitee
15)	Dr. Sushil Kumar, Asso. Prof. & Head, AMHD, SVNIT, Surat	: Special Invitee
16)	Dr. P. A. Parikh, Professor, CHED, SVNIT, Surat	: Member
17)	Dr. A. K. Desai, Professor, CED, SVNIT, Surat	: Member
18)	Dr. J. E. M. Macwan, Professor, CED, SVNIT, Surat	: Member
19)	Dr. S. N. Sharma, Professor, EED, SVNIT, Surat	: Member
20)	Dr. V. L. Manekar, Professor, CED, SVNIT, Surat	: Member
21)	Dr. Rakesh Kumar, Professor, CED, SVNIT, Surat	: Member
22)	Dr. A. K. Shukla, Professor, AMHD, SVNIT, Surat	: Member
23)	Shri A. C. Patel, I/c. Dy. Registrar (Academic), SVNIT, Surat	: Special Invitee
24)	Shri M. K. Manglam, Asst. Registrar (Academic), SVNIT, Surat	: Special Invitee
25)	Dr. Pramod Mathur, Registrar, SVNIT, Surat	: Secretary

The following members remained present through online (Google link) in the meeting:

1)	Dr. Pranab Kumar Mohapatra, Professor, CED , IITGN	: External Member
2)	Dr. Chebrolu Pulla Rao, Professor, CD, IIT Tirupati	: External Member
3)	Dr. Gajendra K. Adil, Professor, , IIT Bombay	: External Member
4)	Dr. G. Bhuvaneshwari, Professor, EED , IIT Delhi	: External Member
5)	Dr. Z. V. P. Murthy, Professor, CHED, SVNIT, Surat	: Member
6)	Dr. D. C. Jinwala, Professor, COED, SVNIT, Surat	: Member
7)	Dr. J. N. Patel, Professor, CED, SVNIT, Surat	: Member
8)	Dr. C. D. Modhera, Professor, CED, SVNIT, Surat	: Member
9)	Dr. H. K. Raval, Professor, MED, SVNIT, Surat	: Member
10)	Dr. H. J. Nagarsheth, Professor, MED, SVNIT, Surat	: Member
11)	Dr. K. P. Desai, Professor, MED, SVNIT, Surat	: Member

30/X/2020

12)	Dr. C. H. Solanki, Professor, CED, SVNIT, Surat	: Member
13)	Dr. S. A. Vasanwala, Professor, CED, SVNIT, Surat	: Member
14)	Dr. A. A. Shaikh, Professor, MED, SVNIT, Surat	: Member
15)	Dr. T. N. Desai, Professor, MED, SVNIT, Surat	: Member
16)	Dr. K. N. Pathak, Professor, APD, SVNIT, Surat	: Member
17)	Dr. P. G. Agnihotri, Professor, CED, SVNIT, Surat	: Member
18)	Dr. Anandita Chowdhury, Professor, EED, SVNIT, Surat	: Member
19)	Dr. J. K. Parikh, Asso. Dean (R&C) SVNIT, Surat	: Member
20)	Dr. R. Chudamani, Prof. & Head, EED, SVNIT, Surat	: Member
21)	Dr. M. Chakraborty, Professor, CHED, SVNIT, Surat	: Member
22)	Dr. M. Mukhopadhyay, Professor, CHED, SVNIT, Surat	: Member
23)	Dr. Smita Jauhari, Professor, ACD, SVNIT, Surat	: Member
24)	Dr. U. D. Dalal, Professor, ECED, SVNIT, Surat	: Member
25)	Dr. V. A. Shah, Professor, EED, SVNIT, Surat	: Member
26)	Dr. Neeru Adlakha, Professor, AMHD, SVNIT, Surat	: Member
27)	Dr. A. K. Khambete, Professor, CED, SVNIT, Surat	: Member
28)	Dr. A. D. Darji, Asso. Prof. & Head, ECED, SVNIT, Surat	: Special Invitee
29)	Dr. P. V. Bhale, Associate Professor, MED, SVNIT, Surat	: Special Invitee
30)	Dr. Ravi Kant, Asso. Dean (Student Welfare) UG, SVNIT, Surat	: Special Invitee
31)	Dr. P. V. Timbadia, Dean (A&RG), SVNIT, Surat	: Special Invitee

Further, Dr. H. B. Naik, Professor, (MED), Dr. G. J. Joshi, Professor, (CED), Dr. G. R. Vesmawala, Asso. Professor, (CED), Dr. S. M. Yadav, Professor, (CED), Dr. R. A. Christian, Professor, (CED), Dr. K. A. Chauhan, Professor, (CED), and Dr. A. K. Panchal, Professor, (EED) could not attend the meeting.

At the Outset, the Director and Chairman of the Senate welcomed all members. He specially welcomed the following new external members of the Senate.

1. Prof. G. Bhuvaneshwari, Department of Electrical Engineering, IIT Delhi
2. Prof. Gajendra K. Adil, Shailesh Mehta School of Management, IIT Bombay
3. Prof. C. Pulla Rao, HoD, Department of Chemistry, IIT Tirupati

He briefed the members that in the last nine months, the Institute has successfully carried out all academic activities, almost on schedule in spite of the various regulations related to COVID-19 pandemic. This was possible due to the excellent support and cooperation from our students, non-teaching staff and faculty members for which he expressed his sincere thanks to all. However, he mentioned a delay in our Convocation this year, by about two months, which is now planned during December 2020 in virtual mode. He shared with members the following major achievements since the last Senate Meeting:

- Dr. Ashish Dhamaniya has been awarded an international project titled "Warrants for automation of toll plazas" under DST-DAAD call at Technical University, Munich, Germany

- Following four of our NCC cadets have got high rank in 'C' Certificate recently.

  Girls:
  SW Category:
  Rank 1- JUO Twinkle K Patel (I16CY014)
  Rank 3- JUO Subhi Agarwal (U17CO109)
  Boys:
  SD Category:
  Rank 1- CPL Siriprolu Sai Pranav (U16EC090)
  Rank 3- L/CPL Lalit Goyal (U16EE069)

Members congratulated the above for their achievements. The Chairman then requested Dean (Academic) to proceed with the agenda items. The following business was transacted:

Item: 49.1	**To confirm the minutes of 48th meeting of the Senate held on 26/06/2020.**
Res. **49.1**	Resolved that minutes of the 48th meeting of the Senate held on 26/06/2020 be confirmed.
Item: 49.2	**To note and approve the action taken on the resolution adopted at the 48th meeting of Senate held on 26/06/2020 in the Room no. 604 of the New Class Room Complex Building.**
Res. **49.2**	The action taken report was presented by the Dean (Academic). The house noted and approved, the actions taken on 48th Minutes of Senate.
Item: 49.3	**To note and approve recommendations made by Standing Executive Committee of Senate (SEC) at its 8th meeting held on September 16, 2020.**
Res. 49.3	Resolved to approve the recommendations made by the Standing Executive Committee of Senate (SEC) at its 8th Meeting held on September 16, 2020.
Item: 49.4	**To note and approve recommendations made by the Institute Academic Advisory Committee (IAAC) in its 47th meeting held on October 08, 2020.**
Res. 49.4	It is resolved that the action taken in 47th meeting of Institute Academic Advisory Committee (IAAC), held on October 08, 2020 be noted and approved. Further, regarding Res. (2), Res. (3), Res. (4) Res. (5) Res. (6) and Res. (7) of 47th IAAC meeting held on October 08, 2020, were discussed and following resolutions were adopted. **A.** Regarding Resolution 2 pertaining to the Academic calendar of AY-2020-21 for M. Tech 1st year students, it was resolved to keep one week break between two semesters. However, in order to avoid any further delay in the next academic calendar, it was also resolved that a six day teaching

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	schedule be followed for the last five weeks of the spring (or even) semester. The revised academic Calendar as approved by the Senate is attached in **APPENDIX 49.4.A** B. Regarding Resolution 3 pertaining to the Academic calendar of AY-2020-21 for B. Tech 1st year and M. Sc. 1st year students, it was resolved to keep one week break between two semesters. However, in order to avoid any further delay in the next academic calendar, it was also resolved that a six day teaching schedule be followed for the last five weeks of both the semesters. The revised academic Calendar as approved by the Senate is attached in **APPENDIX 49.4.B** C. Regarding Resolution (4), Senate recommended the change in name of the department from "Applied Chemistry Department" to "Department of Chemistry" looking to the benefits for the students. The matter be put up for approval in the ensuing BOG. D. Regarding Resolution (5), Senate recommended the change in name of the department from "Applied Physics Department" to "Department of Physics" looking to the benefits for the students. The matter be put up for approval in the ensuing BOG. E. Regarding Resolution (6), Senate approved change in name of specialization from M. Tech. in Computer Engineering to M. Tech. in Computer Science and Engineering (CSE). F. Regarding Resolution (7), it was resolved that the present syllabus of "Research Methodology" be followed for all doctoral students for a total period of three years since its implementation. Revision of syllabus, if any, will be implemented from AY 2022-23 onward.
Item: 49.5	**To note and approve recommendations made by the Academic Performance Review Committee (APRC) meeting held on September 18, 2020.**
Res. 49.5	Resolved to approve the recommendations made by the Academic Performance Review Committee (APRC) at its Meeting held on September 18, 2020.
Item: 49.6	**To consider and approve the proposal of awarding the Degrees to the passed out students of Bachelor of Technology, Master of Technology (Regular),**

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	Master of Technology (Research), Master of Science (Five years Integrated Programme) and Doctor of Philosophy in the 18th Convocation of the Institute scheduled on December 19, 2020. Also, approve the Degree Certificates and grant authority for signature as mentioned in the form.
Res. 49.6	It is resolved to approve the proposal of awarding the Degrees to the passed out students of Bachelor of Technology, Master of Technology (Regular), Master of Technology (Research), Five Years Integrated Master of Science and Doctor of Philosophy in the 18th Convocation of the Institute scheduled during December 2020, The proposed Degree certificates to be awarded during 18th Convocation **(APPENDIX 49.6.1)** and signatories is approved by the august house". The house also approved various awards to the toppers in different programmes as per APPENDIX 49.6.1.
Items from Chair	
Item:49.7	**To discuss regarding MHRD stipend for M. Tech. and Ph D (FIR) Students who have taken admission to the institute in the academic year 2020-21**
Res.49.7	It is resolved that the MHRD stipend for M. Tech. and Ph D (FIR) students who have taken admission to the institute in the academic year 2020-21 will be released from the date of commencement of semester i.e. 21st September 2020 (or from the date on which he/she has obtained his/her B. Tech. provisional degree if the students did not complete his/her B. Tech. degree as on 21st September 2020), provided the student has registered online prior to 21st September 2020 and have been attending regular classes. However, disbursement of fellowship is possible only after physical verification of their documents at the institute. Regarding calling the students to the campus, it was resolved that the matter will depend on the guidelines provided by Ministry of Higher Education, GOI.

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REGISTRAR
SECRETARY – SENATE

30/10/2020

DIRECTOR
CHAIRMAN - SENATE

Annexure-18

Civil Engineering Department

S.V. National Institute of Technology, Surat

Minutes of the 40th meeting of the Department Academic Advisory Committee (DAAC)

No. CED/DAAC/२४२५/2021 Date: 24/02/2021

The 40th meeting of the Department Academic Advisory Committee (DAAC) was convened on 24/02/2021 at 12.30 PM by video conferencing with Google Meet under the Chairmanship of Head, CED.

Members were present in the meeting by video conferencing.

The following items were discussed

Item 40.1 To consider and approve the revised syllabus for Comprehensive Examination of Structural Engineering Section.

Reso 40.1 The item was discussed in DAAC at length and the revised syllabus for Comprehensive Examination of Structural Engineering was approved.

Item 40.2 To consider and approve the revised name of M. Tech. in Soil Mechanics and Foundation Engineering to M. Tech in Geotechnical Engineering.

Reso 40.2 The item was discussed in DAAC and it is approved to revise the name of M. Tech. in Soil Mechanics and Foundation Engineering to M. Tech in Geotechnical Engineering and forwarded to IAAC for approval

Item 40.3 To consider and approve the application received from Abhijeet P. Keskar (D18CE005) to change his Ph.D. category from FIR to PEC.

Reso 40.3 The item was discussed in DAAC at length. He has completed three semesters at SVNIT and also got "No Objection Certificate" from his employer " Terna Engineering College, Navi Mumbai". It was resolved to allow him for PhD category change from FIR to PEC and forwarded to IAAC for approval.

Item 40.4 To consider and approve the application received from Dr. Ashish Dhamaniya for inclusion of Dr. Costantinos Antoniou, Professor at Technology University of Munich, Germany as co-supervisor for his PhD Student Mr. Rajesh Chauhan (D20CE004).

Reso 40.4 The item was discussed in DAAC at length.
The Student has not completed the three semesters. Hence as per rule 10.6 of Appendix:5.1 of 44th meeting of Senate of SVNIT Surat dated 19th July 2019-Academic Regulations for Doctoral Programmes, Dr. Costantinos Antoniou, Professor at Technology University of Munich, Germany was approved as co-supervisor for Mr. Rajesh Chauhan (D20CE004) subjected to production of his consent through proper channel of his University

Item 40.5 To consider and allow Ph.D. students to enroll for extra credit/audit courses with

comprehensive exam and issue transcript for the same.

Reso 40.5 The item was discussed in DAAC at length and forwarded to IAAC for consideration.

Item 40.6 To constitute the new DRCC for Civil Engineering Department

Reso 40.6 DAAC recommended the following DRCC

a). Head CED

b). Dr. S. R. Suryawanshi, Associate Professor, CED

C). Dr. Chetankumar R. Patel, Assistant Professor, CED

Item 40.7 To approve the qualification for non-teaching staff to be recruited in the dept.

Reso. 40.7 Approved qualifications for the 8 posts of technical staff to be recruited.

The meeting came to a conclusion at 1.15 PM. Meeting ended with vote of thanks to the Chair.

Dr. Shailendra Kumar

Member Secretary, CED

24/2/2021

Prof. & Head, CED