Computer Engineering Department, SVNIT- 395007

Departmental Academic Advisory Committee (DAAC)

No. COED/DAAC/ I I /2021-22

Date : 07 April 2021

DAAC Minutes of Meeting

DAAC meeting was held on 07th April 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
10. Dr. Balu L Parne, Member
11. Dr. Keyur Parmar, Member

Item 1: Topic name correction for PhD specialization

Resolution 1: With reference (1. Minutes of DAAC No. COED/DAAC/550/2020-21 Dated 10-11-2020 2. Minutes of 48th IAAC meeting held on February 25, 2021) topic names of fields of specialization for PhD under QIP programme are forwarded through DAAC minutes on 10-11-2020, which was approved in 48th IAAC meeting held on 25-02-2021. During the discussion two topic name corrections have been suggested but in the minutes, it is not included. The following topics names are to be corrected in the final minutes of 48th IAAC meeting:

The meeting was ended with thanks to all members.

The changes are as follows:

No.	Topic name	Corrected topic name
1	Software Engineering	Software Requirements and Specifications
2	Automata	Theoretical Computer Science

(Dr. Udai Pratap Rao)

Member Secretary, DAAC, CoED

(Dr. Mukesh A Zaveri)

Chairman, DAAC & Head, CoED

Head,

Computer Engg. Deptt

To

Dean (Acad)

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

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.

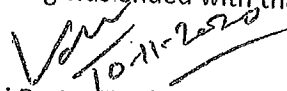**Item 2:** Modification in Specialization for COED in QIP PhD admission.

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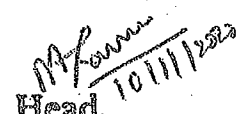
Code	Department	Fields of Specialization	Minimum Qualification
SSCS01	Computer Engineering	Information Security and Privacy, Software Engineering, Computer Vision, Image Processing, Soft Computing, Computer Network, Automata, Compiler, High Performance Computing, Artificial Intelligence	Masters degree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

Item 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.

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

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

Head,
Computer Engg. Deptt

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

Computer Engineering Department, SVNIT- 395007

No. COED/DAAC/PhD-Specialization/ ||28 /2020-21
Date: 19 March 2021

Submitted Note to The Dean Academic

Subject: Topic name correction for PhD specialization
Reference:
1. Minutes of DAAC No. COED/DAAC/550/2020-21 dated 10-11-2020
2. Minutes of 48th IAAC meeting held on February 25, 2021

Dear Sir,

With reference to above the topics names for fields of specialization for PhD under QIP programme are forwarded through DAAC minutes on 10-11-2020, which was approved in 48th IAAC meeting held on 25-02-2021. During the discussion two topic name corrections have been suggested but in the minutes, it is not included. The following topics names are to be corrected in the final minutes of 48th IAAC meeting:

The changes are as follows:

No.	Topic name	Corrected topic name
1	Software Engineering	Software Requirements and Specifications
2	Automata	Theoretical Computer Science

Please do the needful for including the suggestions.

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

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

Copy To:
1. Assistant Registrar Academic
2. Deputy Registrar Academic
3. Department DAAC file

TASK FORCE COMMITTEE

S V NATIONAL INSTITUTE OF TECHNOLOGY SURAT

Minutes of Task Force Meeting held on 31 March 2021 (Wednesday) at 5.15 pm in Online Mode followed by meeting with M Tech representatives of each discipline in presence of Hon Director, Dean (Academic), Heads of Departments and Members of Task Force Committee at CRC Complex on 01 April 2021 (Thursday) at 2.30 PM

Following are the minutes of the meeting held on 31 March 2021

The Chairman Task Force Committee welcomed all members present for the meeting. The Chairman of Task Force also informed the cases in other academic Institutions in Gujarat state. He asked Chief Medical Officer to brief the present situation. Dr Sanjay Shah informed that Athwa Lines area near SVNIT is witnessing 100 plus cases every day and Surat city is witnessing more than 500 cases per day and is a cause of concern for all of us.

Dr Sanjay Shah also informed that neighboring states, particularly Maharashtra, has several cases and in many districts the situation is getting worsen. Some students from our campus went to Maharashtra recently for MPSC, SSC examination purposes, and after coming back to the campus detected positive and spread of infection can happen very quickly if corrective action is not taken in time. He further suggested that in present situation entry of any outsider shall

be restricted for few days except for unavoidable cases like PhD Thesis submission, Ph D Viva voce examination, if they have gone COVID test beforehand etc.

The Chairman Task Force Committee advised that for visitors coming from outside state RT-PCR is mandatory with validity of 72 hours followed Rapid anti-gen test at campus and quarantine of 07 days followed by once again rapid antigen test (after completion of quarantine period) before allowing him/her to stay in their respective hostels.

Dr Sanjay Shah, CMO informed that there is shortage of bed with ICU facility in the hospitals in the Surat city at present. Dr Sanjay Shah said that it is reported by medical community that the peak is expected be in the month of May somewhere in the current year. Hon Director also expressed his concern due to number of increasing cases on campus and appealed Task Force to suggest timely measures to control the situation without affecting academics of the institute.

Dr Sanjay Shah also informed that it takes 55 plus days, after first vaccination, for development of immunity to the vaccinated person at present. Hence, even those got the vaccination doze, they have to follow norms of wearing masks and maintaining social distancing as and when they are out from home.

The Chairman of Task Force Committee expresses concern on the visits of Day scholars to Hostel Section and to hostels mess for taking food and mixing with hostel inmates.

Dr V L Manekar, Chairman of Medical Advisory Committee suggested to take decision on Mode of Teaching and Examination for M Tech I year classes at the

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earliest, and take suitable undertakings cum willingness from students for their stay at the campus or off the campus.

Dean Student Welfare (present in online mode) suggested to conduct meeting with M Tech students in presence of Director, Chief Medical Officer and with Heads of Departments with 02 representatives of each PG discipline. The Chairman Task Force Committee suggested to ensure social distancing during the physical meeting with students and suggested to keep the meeting in the New CRC Complex Hall as the venue.

Also, the committee members opined that, for safety of all residents, it is highly essential to issue circular for arranging Dhanwantari Rath at Faculty Quarters on regular basis and undergo testing in the larger interest of all residents. The committee members suggested to have conduct of Rapid Anti-Gen Test preferably once in every month for the residents of the Faculty Quarters and within Fifteen days for spouses of Faculty members visiting outside for job purpose, and suggested Registrar Office to issue circular to this effect.

The Chairman of Task Force Committee suggested that any faculty (including his/her family members) going out of station, it is mandatory to inform Institute Chief Medical Officer even they are visiting for personal visits. Such members after their arrivals, shall be permitted to work from home and shall not mix with other faculty members. Any faculty going out of state even for personal work must inform chief medical officer before visit and after arrivals.

The Dean SW informed that many students approaching institute for Transcripts and migration certificates etc, and entering into the campus and moving to

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various sections and such practices shall be stopped by asking students to write to the Academic Section via email and collect such documents form the institute Main Gate. Similar process shall be allowed to those students who want to submit Ph D thesis at least in coming days. Chairman Task Force suggested that this will be taken up with the office of Dean Academic for suitable action.

Hon Director suggested to take students into confidence before we decide the mode of classes and examination of M Tech First year students. Accordingly, it was decided to schedule a meeting with PG students on 01 April at New CRC Complex at 2.30 pm in the presence of Director, Associate Dean (SW) and Heads of Academic Departments and PIC Security of the Institute.

The meeting ended with vote of thanks from chair.

Minutes of the Meeting held on 01 April 2021 with students are as under :

Minutes of the meeting held with PG students in presence of Director, Dean (Academic), Heads of Departments and members of Task Force Committee

Two students from each PG disciplines attended the meeting scheduled at 2.30 pm on April 01, 2021. The Hon Director appraised the students about various measures being taken in the campus for overall safety and also appraised students the purpose for calling this meeting. The Chairman Task Force Committee briefed the students on present situation and informed that institute Director wanted to have views of students hence this meeting is called for. He further requested Chief Medical Officer to appraise students on present COVID situation in the city.

The Chief Medical Officer appraised the students accordingly and appealed them to follow Covid 19 norms of social distancing in Mess, Hostel, Classes and Laboratories. Dr Sanjay Shah informed that in many cases those who are tested positive are asymptomatic, but they act as carrier and spread infection and appealed students to avoid going outside campus unnecessarily. He informed that the situation is changing in a very dynamic way and community transmission is just like chain reaction and appealed not to mix up with friends. He suggested that irrespective of mode of classes (on line or off line) but those students who want to stay in the campus, the institute will extend all the cooperation, provided the students follow all social norms during stay. He also informed about the recent Office Memorandum issued by the Ministry of Education and circulated by the Registrar regarding special provision of Campus Vaccination Drive to vaccinate faculty, staff and students of Centrally Funded Technical Institutions for timely completion of their program and informed that he has discussed this matter with the CIVIC body for the needful action.

Followed by this, Chairman of Task Force Committee asked students to share their views.

The students representatives, almost from all disciplines, shared their views on whether the classes of theory, practical and examination be in online mode or offline mode. The students from different PG disciplines expressed diverge views, wherein few representatives were in the favour of offline classes and few were in online modes. Also, very few students were in the favour of online theory classes and Practical classes in offline modes. The students also suggested that the

recorded lectures and slides be shared by the respective teachers to the students who have missed their online/offline classes.

During discussion few students talked about possible improvements/sanitations measures in toilets/ bathrooms of their Hostels. The Associate Dean (SW) and Co-Chairman Council of Wardens assured the required improvements/ sanitation measures in the hostels soon. He also appealed the students to extend their cooperation when they are meeting in their respective messes in terms of wearing the mask and making social distancing. He also assured students that Hostel Section will ensure availability of Mess facility to every students to the extent possible.

Followed by discussion with students, the students were asked to leave the hall and then Hon Director asked the views of Heads of Departments and Task Force Committee members. *To this effect, Heads of Departments, Task Force Committee members expressed their views and suggested to have online classes for theory and practical including conduct of examination in online mode for this semester. The appropriate circular shall be issued to this effect while suppressing earlier circular in this respect.*

It was also resolved to take willingness from students in the form of undertaking about their choice to stay on campus or going back their homes. The circular issued shall be in the context of period up to End Semester examination. For online classes, the students attending from hostel, the Hostel section shall ensure that students are not attending the classes from one room in the hostel and shall attend from their individual rooms.

The meeting ended with vote of thanks from the Chairman Task Force

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Dy Director & Chairman (TFC)

Approved/ ~~Not Approved~~

Director २|५|२१

TASK FORCE COMMITTEE

S V NATIONAL INSTITUTE OF TECHNOLOGY SURAT

Minutes of Task Force Meeting held on 06 April 2021 (Tuesday) at 11.45 am in Online Mode

Following are the minutes of the meeting

The Chairman Task Force Committee welcomed all members present for the meeting. He asked Chief Medical Officer to brief the present situation. Dr Sanjay Shah informed that the cases in the country are reaching to about 1 Lakh per day and even the State of Gujarat is witnessing 3000 cases everyday with Surat City having more than 600 cases and Ahwa Lines area near SVNIT is witnessing around 100 plus cases every day and is a cause of concern.

Dr Sanjay Shah also briefed the members that Antigen Test is being conducted for the residents of Quarters at SVNIT campus and the screening/testing will continue in days to come and so far more than 2500 antigen have been conducted.

He informed that there are 07 positive cases reported on campus amongst faculty and staff and 05 more detected amongst service providers in recent screening of antigen test.

Dr Sanjay Shah also expressed the concern by sharing the experience that positive students on campus requiring hospitalization had to wait for long hours for ambulance and there are difficulties in getting beds in hospitals. Dr Sanjay Shah also informed that to take care of our hostel students and positive cases on campus, honorary services of COVID Critical Care Expert and Intensivist working at ICU of one of the Hospitals is being sought and such services will be of great help for timely measures to safeguard the campus residents having COVID 19 positive cases. On this, Hon Director has given his consent to have honorary services of COVID - Critical

Care Expert & Intensivist working at ICU of one of the Hospitals with immediate effect, and suggested Dean (SW) to undertake needful procedure for honorary services induction.

The Co-Chairman Task Force Committee expressed concern over frequent visits of faculty quarter residents to outside and need for its restriction to avoid spread of infection on campus. It was also discussed to have provision of small grocery shop cum vegetables and fruit seller inside the campus so that frequent visits of camps residents to market can be minimized. This will also be useful for hostel students. It was also discussed to explore the possibility of such provision only for critical period through Mess Contractor already operating mess on Hostels. The Dean (SW) informed that he will check with mess manager for arranging this facility and do every needful. This facility can be made available for the duration till the situation gets to normal.

Hon Director also expressed the concern over safety of outside institute staff including faculty members, non teaching staff, teaching assistants, JRF/SRF and other project staff and daily wagers, manpower through service providers etc coming to institute from the City. He also expressed concern over likely mixing of outside staff with students on hostels and faculty- staff on campus and its possible consequences. The matter was discussed at length and it was resolved to recommend for work from home for all faculty, Teaching Assistants in view of all classes in ONLINE Mode and also the Project-Consultancy Staff residing outside to work from home for a period up to 30 April 2021 or till further order whichever is later. However, for essential work, they may be permitted to enter campus with the approval of Head of concern Department. The committee recommended that the essential services for daily wagers, outsourced manpower working in various sections shall be arranged in staggered manner (in multiple shifts) so as to avoid the congregation while ensuring essential services are not affected. The faculty members visiting the campus from city and holding position of Heads, Deans, Associate Deans and other important positions of essential services, can conduct the online classes from home and can come to offices as and when required on alternate days. The committee recommended the institute for issue of necessary notification to this effect if appropriate.

The day scholars (M Tech and PhD students) should work from home. All the Hostel inmates (M Tech and PhD) should work from their respective rooms in the hostel except those involved in experimental work. After getting the normal situation, a new guideline will be issued in this respect.

The matter pertaining to likely joining of newly selected faculty members and staff was also discussed at length and the Chairman Task Force Committee suggested issuing appropriate SOP via email to all those newly selected members who are likely to visit the campus for joining from different states of the country.

Further, it was suggested that a letter from the Institute be written to the SMC for administering the COVID vaccines to the faculty, staff and students of the Institute as per the Ministry of Education OM F. NO.32-6/2020-TS-I, dated March 25, 2021.

The meeting ended with vote of thanks from the Chairman Task Force.

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Dy Director & Chairman (TFC)
07. 04- 2021

Approved/ Not-Approved

Director जे.पी.एस.

SVNIT SURAT

Assistant Registrar <ar_acad@svnit.ac.in>

Circular for Conduct of M Tech First year (Second Semester) classes and Examination in online mode

2 messages

Registrar, SVNIT Surat <registrar@svnit.ac.in>   Fri, Apr 2, 2021 at 6:45 PM
To: allstaff@svnit.ac.in, all_students@svnit.ac.in
Cc: Director SVNIT·SVNIT <director@svnit.ac.in>, dy_director SVNIT <dy_director@svnit.ac.in>, "Registrar, SVNIT
Surat" <registrar@svnit.ac.in>, Dean Acad for Institute SVNIT <dean_acad@svnit.ac.in>, Dean FW SVNIT
<dean_fw@svnit.ac.in>, deansw@svnit.ac.in, registraroffice@svnit.ac.in

All Employees, SVNIT Surat

All Students, SVNIT, Surat

With reference to the Task Force meeting held on March 31, 2021 and subsequent meeting held between Task Force Committee and Institute Director, Dean (Academic), Associate Dean (SW), Heads of Academic Departments and representatives of the M Tech I year students on April 01, 2021, it is decided that the classes and examinations of M Tech First year (Second Semester) will be in online mode only. The above decision is taken due to rise in large number of COVID cases within the Surat city, and few cases reported in the Institute campus.

This circular suppresses the validity of earlier circulars issued on the cited subject.

For online classes, the students attending from hostel, the Hostel section shall ensure that students are not attending the classes from one room in the hostel and shall attend from their individual rooms. There is no compulsion for vacating the hostel and student may decide in consultaion with their parents whether to stay in hostel or travel back to home. Hostel section will assure providing all essential facilities to the students staying back.

This circular is issued with prior approval of Competent Authority of the nstitute.

Dr. Pramod Mathur
Registrar
Sardar Vallabhbhai National Institute of Technology
Ichchhanath, Surat - 395007 Gujarat, INDIA

📄 **Circular for classes and examination for M Tech Students.pdf**
190K

Sardar Vallabhbhai National Institute of Technology, Surat

Date: 2nd April, 2021
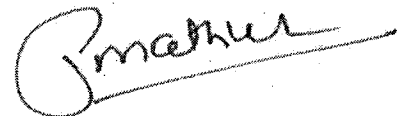
Date: 2nd April, 2021

Circular

Subject: Conduct of M Tech First year (Second Semester) classes and Examination in online mode

With reference to the Task Force meeting held on March 31, 2021 and subsequent meeting held between Task Force Committee and Institute Director, Dean (Academic), Associate Dean (SW), Heads of Academic Departments and representatives of the M Tech I year students on April 01, 2021, it is decided that the classes and examinations of M Tech First year (Second Semester) will be in online mode only. The above decision is taken due to rise in large number of COVID cases within the Surat city, and few cases reported in the Institute campus.

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This circular is issued with prior approval of Competent Authority of the nstitute.

Registrar

CC:
All Employees, SVNIT Surat
All Students, SVNIT, Surat

DEPARTMENT OF PHYSICS

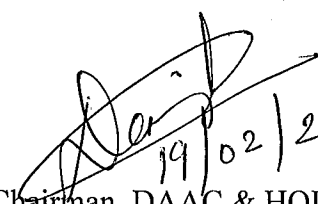## SARDAR VALLABHBHAI NATIONAL INSTITUTE OF TECHNOLOGY, SURAT-7

Ref: DOP/Meeting/31st DAAC/2021 (DOP/DAAC/~~₹₹₹₹~~
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Minutes of the 31st Meeting of DAAC of Physics Department of S.V.N. I.T. Surat was held on 15th February 2021 at 3:00 pm at Head office, DOP.

The following members were present:

Dr. D. V. Shah	Associate Professor	Head and Chairman
Prof. K. N. Pathak	Professor	Member
Dr. A. K. Rai	Associate Professor	Member
Dr. L. K. Saini	Assistant Professor	Member
Dr. D. R. Roy	Associate Professor	Member
Dr. Y. A. Sonvane	Assistant Professor	Member
Dr. Shail Pandey	Assistant Professor	Member Secretary

Member Secretary, DAAC
Department of Physics
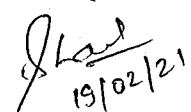
Chairman, DAAC & HOD
Department of Physics

Item 1	To Confirm the minutes of 30th Meeting of DAAC, DOP.
Resolution 1	It is resolved to confirm the minutes of 30th meeting of DAAC, DOP.
Item 2	To discuss the criteria for selection of non-teaching staff.
Resolution 2	It is resolved that the identified specialization for the non-teaching positions are as under (Annexure-I): *For any discrepancy, original docu. Recruitment Rules (2019) (Non-teaching) post may be referred and adhered to.*

Position	Specialization
Technician	• Secondary (10) with at least 60 % marks and ITI certificate of 2 years duration in Electrician, Electronics Mechanics or Instrument Mechanics as identified from the list provided or Equivalent trade. • Diploma (3 years program) in Electronics and Communication, Electrical or Instrumentation from a Government recognized Polytechnic / Institute.
Sr. Technician	**Essential** • Senior secondary (10+2) with science from a recognized board with at least 60 % marks. • Senior secondary (10+2) from a recognized board with at least 50 % marks and ITI course of 1 year or higher duration in Electrician, Electronics Mechanics or Instrument Mechanics as identified from the list provided or Equivalent trade. • Secondary (10) with at least 60 % marks and ITI certificate of 2 year duration in Electrician, Electronics Mechanics or Instrument Mechanics as identified from the list provided or Equivalent trade. • Diploma (3 years program) in Electronics and Communication, Electrical or Instrumentation. **Desirable** • Bachelor's degree in Electronics and Communication, Electrical or Instrumentation.
Technical Assistant	• First Class B.Sc. in Physics / Electronics / Instrumentation/ Applied Physics from a recognized University or Institute • M. Sc / M.Sc. (Tech). in Physics / Electronics / Instrumentation/ Applied Physics from a recognized University or Institute with minimum 50% marks or equivalent grade.

Item 3	To consider the request of Prof. K. N. Pathak for induction of Prof. Rajmal Jain as a PhD Co-supervisor of Bhavin Moida (D20PH005).
Resolution 3	It is resolved that the proposal for induction of Prof. Rajmal Jain, Professor of Physical Research Laboratory (Department of Space, Govt. of India), as PhD co-supervisor of Bhavin Moida (D20PH005) may be processed for the needful. The detailed bio-data of Prof. Jain is placed at **Annexure - II**.
Item 4	Items from Chair
Item 4.1	To finalize the proposal for Institute Diamond Jubilee Celebration.
Resolution 4.1	It is resolved to propose the following events and lecture series by the department to celebrate the institute diamond Jubilee: One international conference, One national conference, One lecture series and an Invitation of Eminent Faculty/Scientist from India/Abroad Detailed proposal is placed at **Annexure-III**.

The meeting ended with thanks to the members.

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Member Secretary, DAAC
Department of Physics

19|02|21

Chairman, DAAC and HOD
Department of Physics

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/2825/2021   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
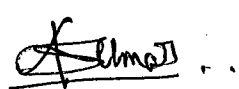
Item 40.3   To consider and approve the application received from Abhijeet P. Keskar (D18CE005) to change his Ph.D. category from FIR to PEC.

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

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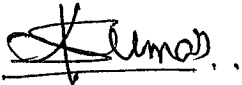
    b). Dr. S. R. Suryawanshi, Associate Professor, CED

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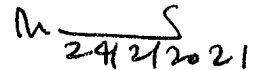
Reso. 40.7   Approved qualifications for the 8 posts of technical staff to be recruited.

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

Prof. & Head, CED

SARDAR VALLABHBHAI NATIONAL INSTITUTE OF TECHNOLOGY SURAT- 395007

Ref: Date: 09/02/2021

To,
The Dean (Academic)
Sardar Vallbhbhai National Institute of Technology,
Surat - 395007

Subject: Conversion of category of Ph.D. from Full-time Institute Research (FIR) scholar to Part-time External Candidate (PEC)

Respected Sir,

  I Abhijeet Purushottam Keskar, working as a Full-time Institute Research (FIR) scholar in Civil Engineering Department (Water Resources Engineering Department) under the guidance of Dr. Ganesh D. Kale. Due to my personal family problem, I wanted to join Terna Engineering College, Navi Mumbai. I request you for conversion of my Ph.D. category from Full-time Institute Research (FIR) scholar to Part-time External Candidate (PEC).

  So, please kindly permit me to join the institute and to update my category of Ph.D. from FIR to PEC w.e.f. 11/02/2021.

Thanks in anticipation.

<div align="right">

Yours sincerely
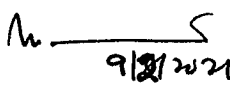
Abhijeet Purushottam Keskar
(Admission No: D18CE005)

</div>

Research Supervisor,

Dr. Ganesh D. Kale
Assistant Professor,
Civil Engineering Department

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S K

9|2|2021

</div>

  Forwarded through,

  9|2|2021
  Head,
Civil Engineering Department

DEPARTMENT OF CIVIL ENGINEERING

24/02/2021

To

The Head

Department of Civil Engineering

SVNIT, Surat.

Sub.: Inclusion of External Supervisor in one of my Ph.D. Student Mr. Rajesh Chauhan (D20CE004)

Dear Sir,

Please keep the following agenda in tomorrow's (Wednesday, 24/02/2021) DAAC meeting.

Inclusion of Dr. Costantinos Antoniou, Professor at Technology University of Munich Germany as an external supervisor in one of my Ph.D. candidate Mr. RAJESH CHAUHAN (D20CE004) registered in July 2020.

Consent from external supervisor has been received through e mail and attached herewith.

Thanks & Regards,

Dr. Ashish Dhamaniya
Associate Professor &
Research Supervisor

Copy to:

Dr. Shailendra Kumar, Assistant professor, CED

& Member Secretary-DAAC

M Gmail

Request to keep in DAAC meeting
1 message

                                                                          Tue, Feb 23, 2021 at 10:27 PM
Ashish Dhamaniya <adhamaniya@gmail.com>
To: skumar@amd.svnit.ac.in, "Dr. J.N. Patel (Head-CED)" <hod@ced.svnit.ac.in>
Bcc: Ashish Dhamaniya <adhamaniya@gmail.com>, Rajesh Chauhan <rajeshchauhan.321992@gmail.com>

Dear Dr. Shailendra,

Please keep the following agenda in tomorrow's DAAC meeting.

1.0 Inclusion of Dr. Costantinos Antoniou, Professor at Technology University of Munich Germany as an external supervisor in one of my Ph.D. candidate Mr. RAJESH CHAUHAN registered in July 2020.

Consent from external supervisor has been received through e mail. Please check the appended e mail.

Kindly acknowledge

Thanks & Regards
Dr. Ashish Dhamaniya

--------- Forwarded message ---------
From: **Constantinos Antoniou** <c.antoniou@tum.de>
Date: Sun, 17 Jan 2021, 10:16 pm
Subject: Re: Just an update
To: Ashish Dhamaniya <adhamaniya@gmail.com>

Dear Ashish,

Thank you for your kind words and the kind invitation to contribute to your doctoral students supervision. I would be happy to do that.

Best regards,
Costas

--
Univ.-Prof. Dr. Constantinos (Costas) Antoniou
Full Professor, Chairholder/ Lehrstuhlinhaber

Technical University of Munich
Department of Civil, Geo and Environmental Engineering
Chair of Transportation Systems Engineering
https://www.tse.bgu.tum.de - c.antoniou@tum.de - +49 89 289 10460
http://web.mit.edu/costas/www/publications.html
----
https://www.transportation.bgu.tum.de
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https://tum-asia.edu.sg/admissions/graduate/msc-rail-transport-logistics/

IEEE MT-ITS 2021: https://www.mt-its2021.org

On 17 Jan 2021, at 5:42 PM, Ashish Dhamaniya <adhamaniya@gmail.com> wrote:

Hello Professor

Sorry yo hear about sad demise of your father....may the soul rest in peace. You, please take your time.

Further, I would like to take one suggestion from you.

One of my doctoral student recently admitted has focused to work in our DST-DAAD project. Currently he is doing course work (it is mandatory in our system to earn 16 hrs. of credit before he actually work on problem) and also reviewing papers on Machine Learning algorithms and application in Toll Plaza Operations. So, i request, if we can jointly guide him and you may act as his external supervisor. He is also one of the student in this project and will visit to TUM in the second round.

Please suggest...if possible.

Regards
Ashish

On Sun, 17 Jan 2021, 9:53 pm Constantinos Antoniou, <c.antoniou@tum.de> wrote:
Dear Ashish,

Sorry again for disappearing. After the previous issues that I had, my father passed away in mid December and I had to go to Greece for the funeral and other things. I am now catching up and will respond to SIMPAT paper (hopefully no third tragedy will strike) and this etc. ASAP.

Best regards,
Costas

--
Univ.-Prof. Dr. Constantinos (Costas) Antoniou
Full Professor, Chairholder/ Lehrstuhlinhaber

Applied Mathematics and Humanities Department

Minutes of the 38th DAAC held on 25/02/2021 in AMHD classroom and virtual mode from 12:30 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 NeeruAdhlakha Professor of Mathematics	Member
4.	Dr Sushil Kumar, Associate Professor of Mathematics	Head and Chairman
5.	Dr. H. P. Bulsara, Associate Professor of Management	Member
6.	Dr.JayeshDodiya, Associate Professor of Mathematics	Member
7	Dr. Urvashi Kaushal, Assistant Professor of English	Member Secretary
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. Indira P. Debnath, Assistant Professor of Mathematics	Member
12	Dr. S. K. Srivastava, Assistant Professor of Mathematics	Member

Dr. V.D. Pathak, Dr.HimanshuChapani, Ms. Ishika Bhat, and Mr. Vishal Agarwal could not remain present due to travel restrictions.

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

Item 38.1: To confirm the minutes of the 37th DAAC meeting.
Resolution: The minutes of the 37th DAAC meeting was confirmed.

Item 38.2: Discussion and finalization of the ITI and Diploma courses for the recruitment of non-teaching post in the department.
Resolution: After discussion with all the members it was decided to consider following ITI and Diploma courses for the recruitment of non- teaching post in the department.

      a) Diploma in Computer Engineering/Computer Science/ IT Engineering
      b) ITI Course in Computer Operator Cum Programme Assistant /Computer Operator

Item 38.3: Conversion of category of Mr. RohitVerma from FRS to FIR. (Reg no - D18 MA001)
Resolution: Committee approved Mr Rohit Verna's application for category conversion from FRS to FIR.

Item 38.4: To decide the RPC committee for the PhD students.
Resolution: The Research Progress committee for students was decided as follows: -

Sr No.	Name of the Research Scholar	Supervisor	Chairman and Examiners
1	GoswamiGopalgiriKishangiri (DS19MG001)	Dr. H. P. Bulsara	Dr.Krupesh A. Chauhan, Professor, CED, SVNIT, Surat – Chairman Dr. V. H. Pradhan, Professor, AMHD, SVNIT, Surat - Examiner Dr. Manisha Panwala, Professor , DBIM, VNSGU, Surat - Examiner
2	Mridul Trivedi (DS19MG002)	Dr. H. P. Bulsara	Dr. T.N. Desai, Professor, MED, SVNIT, Surat – Chairman Dr. V.H.Pradhan, Professor, AMHD, SVNIT, Surat - Examiner Dr. Manisha Panwala, Professor , DBIM, VNSGU, Surat – Examiner
3	VasavaMithunbhaiGambhirbhai (DS19EN001)	Dr. Urvashi Kaushal	Dr.SmiitaJauhari. Professor, Department of Chemistry-Chairperson Dr. H. P. Bulsara, Associate Professor, AMHD, Examiner Dr.RadhaGautam, Associate Professor of English, S. B. Garda College (Arts) & P.K. Patel College of Commerce, Navsari, Examiner

Item 38.5: Regarding the activities under Diamond Jubilee Celebration of the institute.
Resolution: It was informed to all the members that one International Conference on Mathematical Sciences in virtual mode will be held from May 14th to 16th 2021 and one National conference i.e. 36thAnnual Conference of Ramanujan Mathematical Society RMS 2021 will be held in offline mode from December 18th to 20th 2021 with partial funding from the institute as part of the diamond jubilee celebration. And all other activities planned under cc will be considered as part of diamond jubilee celebration of the institute.

The meeting ended with thanks to the chair.

Secretary, DAAC
25/02/21

Chairman, DAAC
SVNIT, Surat

To,

Head of the department,
Applied Mathematics & Humanities Department,
S. V. National Institute of Technology, Surat, Gujarat

Subject: Request to convert the Ph.D. Category from **FRS** to **FIR**

I am **Rohit Verma (DS18MA001)**, a Ph.D. Scholar in Applied Mathematics & Humanities Department under the supervision of Dr. Sushil Kumar. I joined Ph. D. on December 28, 2018.

I joined a SERB, DST Sponsored research project (project no. ECR/2017/003174) as a junior research Fellow (JRF) on August 06, 2018 and upgraded to Senior Research fellow (SRF) on o6 August 2020.

The project will be completed on June 04, 2021 and the funding will be stopped from the funding agency.

My Ph. D. work is still going on and will be completed by May 2022.

So, you are requested to convert my Ph.D. category from **FRS to FIR** from 1 Jun 2021 onward.

I will be grateful to you for the same

Thanking you

Rohit Verma (DS18MA001)

Ph.D. Scholar, AMHD

SVNIT, Surat

Dr. Sushil Kumar

(Ph.D. Supervisor)

To,

Head of the department,
Applied Mathematics & Humanities Department,
S. V. National Institute of Technology, Surat, Gujarat

Subject: Request to convert the Ph.D. Category from **FRS** to **FIR**

I am **Rohit Verma (DS18MA001)**, a Ph.D. Scholar in Applied Mathematics & Humanities Department under the supervision of Dr. Sushil Kumar. I joined Ph. D. on December 28, 2018.

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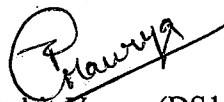
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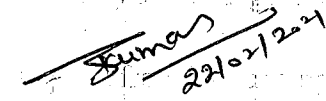
Thanking you

Rohit Verma (DS18MA001)

Ph.D. Scholar, AMHD

SVNIT, Surat

Dr. Sushil Kumar
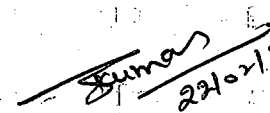
(Ph.D. Supervisor)
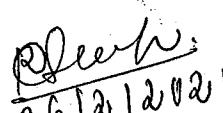
To,

Dean (R&C),
— Please provide details of fellowship released.
— Please provide the date of project commencement & tentative date of completion of project.

IAAC
Idem.

AR (Acad)

Associate Dean (Academic)
S. V. National Institute of Technology
Surat-395 007

ELECTRONICS ENGINEERING DEPARTMENT
इलेक्ट्रॉनिक्स इंजीनियरिंग डिपार्टमेंट
SARDAR VALLABHBHAI NATIONAL INSTITUTE OF TECHNOLOGY, SURAT
सरदार वल्लभभाई नेशनल इंस्टिट्यूट ऑफ़ टेक्नोलॉजी, सूरत

Annexure-8

क्रमांक: ECED/DAAC/)667 / 2020-21   **Date::09/03/2021**

Department Academic Advisory Committee

59th Meeting – Held on 5th March, 2021 at 03:15 pm in the Faculty Conference Room, ECED

1.	Dr. Piyush N. Patel	ECED	: Chairman & Head
2.	Dr. U. D. Dalal	ECED	: Member
3.	Prof. A. H. Lalluwadia	ECED	: Member
4.	Dr. P. K. Shah	ECED	: Member
5.	Prof. N. B. Kanirkar	ECED	: Member
6.	Dr. J. N. Sarvaiya	ECED	: Member
7.	Dr. A. D. Darji	ECED	: Member
8.	Dr. Z. M. Patel	ECED	: Member
9.	Dr. (Mrs.) R. N. Dhavse	ECED	: Member
10.	Dr. (Mrs.) J. N. Patel	ECED	: Member
11.	Dr. (Mrs.) S. Gupta	ECED	: Member
12.	Dr. P. J. Engineer	ECED	: Member
13.	Prof. Golak Santra	ECED	: Member
14.	Dr. A. S. Mandloi	ECED	: Member
15.	Dr. K. P. Upla	ECED	: Member
16.	Prof. M. C. Patel	ECED	: Member ABSENT
17.	Dr. Kirti Inamdar	ECED	: Member
18.	Dr. Deepak Joshi	ECED	: Member
19.	Dr. Kamal Captain	ECED	: Member
20.	Dr. Suman Deb	ECED	: Member
21.	Dr. Abhishek Acharya	ECED	: Member
22.	Dr. (Mrs.) S. N. Shah	ECED	: Secretary

Date:09/03/2021

RESOLUTIONS

Item:1	To review and finalize the section/specialization wise PhD comprehensive scheme and syllabus.
Reso.:1	Head of the Department explained the need of improving the PhD comprehensive scheme and the syllabus as per 41st IAAC suggestions. The item is discussed among the faculty members at length and the finalized PhD comprehensive scheme and syllabus is attached as **Appendix-I**.
Item:2	**It is proposed to split B.Tech. II & III (EC) students in 03 Divisions.**
Reso.:2	Currently classes of B.Tech. II III & IV (EC) are having 02 divisions. At present B.Tech.I (EC) has 178 students as per the Annexure II and 162 students in B.Tech.II (EC) as per Acad/B.Tech.II/Roll Nos./4th Sem./370 dated 01/01/ 2021. For effective teaching, concentration and guidance to the students it is highly recommended to split students in 03 divisions. This will help to give more focused teaching learning process in the class room. Hence, it is proposed and recommended that Electronics Engineering Department should split B.Tech. II & III (EC) students in 03 Divisions from the academic year 2021-2022 onwards.
Item:3	**To utilize the Department Development Fund (DDF) for the purchase of Air Conditioners in VLSI lab and Communication Research Lab (CRL).**
Reso.:3	It is noticed that due to atmospheric temperature in the laboratory rooms (due to lack of Air Conditions), high-end instruments/devices in VLSI lab and CRL lab of ECED are getting affected and servers are heated. Some of them required recent repair/calibrations/replacement as well. Both the laboratories are utilized by UG, PG and PhD students of the department for their project, dissertation and research work. To maintain the functioning/efficiency of such high-end instruments/devices, these two labs are in need of Air Conditioners. The matter is discussed in the house and all faculties agreed that ACs can be purchased.

Dr. (Mrs.) S. N. Shah
Secretary, DAAC

Dr. Piyush N. Patel
Head & Chairman, DAAC

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Electronics Engineering Department, SVNIT, Surat

PhD Comprehensive Examination Syllabus

- **Section I (30 Marks), (Common for all students)**

A. **PEC 901: Fundamentals of Electronics Engineering**

- **Section II (120 Marks), (Section Specific)**

(Student will choose **ANY ONE** from the groups B, C, D and E.)

(Each Topic in the group carries 30 Marks weightage.)

B. **PEC 902: Communication Systems**

Topic	Contents
B1	Digital Communication
B2	Wireless Communication
B3	RF and Microwaves
B4	Optical Communication

C. **PEC 903: VLSI Design**

Topic	Contents
C1	Solid State Physics
C2	Digital Integrated Circuits
C3	Digital VLSI Design
C4	Analog VLSI Design

D. **PEC 904: Electronics System Design**

Topic	Contents
D1	Linear Integrated Circuits
D2	Embedded Systems
D3	Digital System Design
D4	Digital Signal Processing

E. **PEC 905: Signal Processing**

Topic	Contents
E1	Probability and Random Processes
E2	Digital Signal Processing
E3	Image Processing
E4	Neural Networks

A. PEC 901: Fundamentals of Electronics Engineering (30 Marks)

A1: LINEAR ALGEBRA (06 Marks)
Vector space, basis, linear dependence and independence, matrix algebra, Eigen values and Eigen vectors, rank, solution of linear equations – existence and uniqueness.
A2: STATISTICAL SIGNAL ANALYSIS (06 Marks)
Mean, median, mode and standard deviation, combinatorial probability, probability distribution functions - binomial, Poisson, exponential and normal, joint and conditional probability, correlation and regression analysis.
A3: CALCULUS (06 Marks)
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.
A4: BASIC ELECTRONICS (06 Marks)
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, Simple op-amp circuits, active filters, Sinusoidal oscillators: criterion for oscillation, voltage reference circuits, combinational circuits, sequential circuits, data converters, basics of microprocessors.
A5: SIGNALS AND SYSTEMS (06 Marks)
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.

B. PEC 902: Communication Systems (120 Marks)

B1: Digital Communication (30 Marks)
Sampling and analog to digital conversion, quantization techniques, A-law and mu-law, pulse code modulation, digital multiplexing, line coding, pulse shaping for optimum transmission, ISI and ISI-free signals, band-limiting of rectangular pulses, raised cosine filtering, equalizers, measure of information, source encoding, error-free communication over noisy channel, channel capacity of discrete as well as continuous memoryless channel, Shannon's equation, channel capacity, introduction to entropy and source coding, introduction to channel coding techniques and error correcting codes, 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.
B2. Wireless Communication (30 Marks)
AWGN channels multipath fading channels and channel effects, channel models, 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 and channel estimation, PAPR, FFT points selection constraints, CDMA vs OFDM, spread spectrum modulation concepts, ML and Walsh-Hadamard sequences, PN code properties, DSSS transmitter, rake receiver block diagram, PN signal characteristics, spectral density, bandwidth and processing gain, interference rejection, anti-jam properties, energy and bandwidth efficiency, near far problem and power control, frequency hopping spread spectrum, time hopping, hybrid spread spectrum system.

B3: RF and Microwaves (30 Marks)
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, Smith chart from reflection coefficients to load impedance, impedance transformation, admittance transformation, parallel and series connection, interconnecting networks, network properties and applications, scattering parameters- definition and meaning of S- parameters, basic resonator and filter configurations, special filter realizations, filter implementation, impedance matching using discrete components, microstrip line matching networks, amplifier classes of operation & biasing networks, low noise amplifier design, design and implementation of various mixers, 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.

B4: Optical Communication (30 Marks)
Light transmission in fiber, V parameters, attenuation, dispersion, principle and operation of optical source, detectors, amplifiers, power budget, rise-time budget, link design, WDM systems, WDM system model, system requirement, system design considerations, multi-channel system design, system performance measurement parameters, power penalty in system, optical networks.

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. Ludwig Reinhold and Bretchko Powel, "RF Circuit Design", Pearson Education, Reprint 2004.   4. Liao Samuel, "Microwave Devices And Circuits". Pearson Education, Second Reprint, 2006.   5. Upena Dalal, "Wireless Communication", Oxford University Press, 1st Ed., 2008.   6. Molisch Andreas F., "Wideband Wireless Digital Communication", Pearson Education, 3rd Indian Reprint, 2003.   7. Gerd Kaiser, "Optical Fiber Communication", McGraw Hill, 4th Ed., 2008.   8. Ramaswami Rajiv and Sivarajan K. N., "Optical Networks A Practical Perspective", Elsevier, Morgan Kaufmann Publishers, 3rd Ed., 2009.

C. PEC 903: VLSI Design (120 marks)

C1: Solid State Physics (30 Marks)
Particle in a well problem, electrons in solids, energy splitting and band formation, Fermi energy, density of states function, quantum confinement, tunneling, potential inside a semiconductor, semiconductor in Equilibrium, 2DEG model, energy band diagrams, carrier transport phenomena and models, direct/indirect semiconductors, mobility models, excess carriers in semiconductor, PN junction current, generation and recombination models, junction break down, Zener diode, metal semiconductor and hetero junctions.

C2: Digital Integrated Circuits (30 Marks)
Introduction to RTL, DTL TTL, Schottky TTL, I2L and ECL logic family, concept of Noise margin, fan out and propagation delay, basic BiCMOS circuits: static behavior, switching delay in BiCMOS logic circuits. MOS structure and operation, MOSFET structure and operation, MOSFET current- voltage characteristics, channel length modulation, substrate bias effect, MOSFET capacitances, MOSFET model, resistive-load inverter, saturated-load inverter, linear loaded inverter, depletion load inverter, graphical determination of VTC, calculation of VTC critical points, power dissipation and rise time - fall time, NMOS logic gates, fabrication process flow, CMOS N-Well process, layout design rules, full-custom mask layout design, stick diagrams.

C3: Digital VLSI Design (30 Marks)

Static and dynamic characteristics of CMOS inverters, definitions and calculations of delay times, inverter design with delay constraints, estimation of interconnect parasites, calculation of interconnect delay, switching power dissipation of CMOS inverters, delay estimation, logical efforts and transistor sizing, power dissipation, interconnect, combinational CMOS logic circuits, complex logic circuits, behavior of MOS logic elements, SR latch circuit, clocked latch and flip-flop circuits, CMOS D-latch and edge-triggered flip-flop, pass transistor circuits.

C4: Analog VLSI Design (30 Marks)

Small signal model for MOS, MOS resistors, current sink/source, current mirrors, differential, cascode and current amplifiers, output amplifiers, high gain amplifier architectures, design of CMOS operational amplifiers, design of two stage op-amps, cascode op-amps.

BOOKS RECOMMENDED

1. Streetman Ben G., "Solid State Electronics Device", PHI, 6th Ed. 2009
2. Sze S. M., "Semiconductor Devices, Physics And Technology", John Wiley and Son, 2nd Ed., 2002
3. Taub H. and Schilling D., "Digital Integrated Electronics", McGraw-Hill, International Ed., 2008.
4. Kang and Leblebici, "CMOS Digital Integrated Circuits: Analysis and Design", Tata McGraw-Hill, 3rd Ed., 2003.
5. Baker Jacob R., Harry W. Li and Boyce David E.,"CMOS: Circuit Design, Layout and Simulation", Wiley Interscience, 2003.
6. Weste and Harris, "CMOS VLSI Design: A Circuits and Systems Perspective", Pearson Education, 3rd Ed., 2002.
7. Razavi Behzad, "Design of Analog CMOS Integrated Circuit", Tata McGraw-Hill, 2002.
8. Allen Philip and Holberg Douglas, "CMOS Analog Circuit Design", Oxford University Press, 2002.

D. PEC 904: Electronics System Design (120 marks)

D1: Linear Integrated Circuits (30 Marks)

Operational amplifier, basic op-Amp configuration, an op-amp with negative feedback, voltage series and voltage shunt configurations, difference amplifiers, instrumentation amplifier, specifications of an op-amp, DC error model, summing, scaling and averaging amplifiers, concept of negative resistance, voltage to current converter with floating and grounded load, current to voltage converter, integrator and differentiator, gyrator, frequency dependent negative resistance circuit, first order active filters, second-order active filters, multiple feedback filters (band pass and band reject filters), all pass filter, cascade design of filters, magnitude and frequency scaling concept, oscillators, phase shift and Wien bridge oscillators, square, triangular and saw tooth wave generators, Schmitt trigger, voltage comparator, voltage limiters and window detector, concept of clippers and clampers circuit using passive component, clippers and clampers using op-amp, peak detector, precision rectifiers, analog switches.

D2: Embedded Systems (30 Marks)

Brief review of 8-bit microcontroller (8051), programming, CPU block diagram, memory organization, ports and interfacing, high speed output, interrupts, ADC, PWM, timers, watch dog timer, serial port, I/O port, ARM processor architectures, registers, current program status register, pipeline, exception, interrupt and vector table, memory map, ARM and thumb mode memory management unit, ARM architecture, ARM architecture revision, cortex processor architecture, overview of C compiler, basic C compiler, C looping structure, register allocation, function calls, pointer aliasing, structure arrangement, bit fields, unaligned data and endianness, division, floating point, inline function and inline assembly.

D3: Digital System Design (30 Marks)

Arithmetic logic and shift micro-operation, conditional control statements, fixed-point and floating-point data, arithmetic shifts, instruction code and design of simple computer, processor organization,

design of Arithmetic Logic Unit (ALU), design of accumulator, barrel shifter, logarithmic shifter, Multipliers: Booth, array and Baugh Wooley, Finite State Machine (FSM), control organization, hard-wired control, micro program control, control of processor unit, PLA control, cache management, pipeline optimization, share memory, deadlock.

D4: Digital Signal Processing (30 Marks)

DFT, fast Fourier transform, Goertzel algorithm, approaches to design radix-m algorithm, implementation of DFT using convolution algorithm, the discrete time cosine transform, causality and its implications, linear phase FIR filters, frequency response of linear phase FIR filters, design of FIR filter using different windowing techniques, digital differentiator, Hilbert transform, frequency sampling method for designing FIR filters, realization of FIR filters, transversal structure, linear phase realization, lattice structure of FIR filter, polyphase realization of FIR filter, realization of digital filter, direct form-I realization, direct form-II realization, signal flow graph, cascade form, parallel form structure, lattice structure of IIR system, comb filter design, all-pass filter, minimum phase, maximum phase & non-minimum phase systems, tunable IIR digital filter, down sampling, spectrum of down sampled signal, up sampling spectrum of up-sampled signal.

BOOKS RECOMMENDED

1. Sergio Franco, "Design with Operational Amplifiers and Analog Integrated Circuits", 4th Ed., McGraw- Hill, Published: May 11, 2016.
2. Kenneth Ayala J., "8051 Microcontroller: Architecture, Programming & Applications", Thomson, 1st Ed., 2006
3.Andrew Sloss, "ARM System Developer's Guide: Designing and Optimal System Software", Elsevier, 2004
4. Mano Morris, "Digital Logic and Computer Design", 4th Ed., Pearson Education, 2006.
5. John Hennessy and David Patterson, "Computer Architecture - A Quantitative Approach", Morgan Kaufman, 3rd Ed., 2003.
6. Proakis J. G. and Manolakis D. G., "Digital Signal Processing: Principles, Algorithms and Applications", 4th Ed., Pearson Education, 2014.
7. Babu Ramesh P., "Digital Signal Processing", 4th Ed., SciTech Publication, 2008.

E. PEC 905: Signal Processing (120 Marks)

E1: Probability and Random Processes (30 Marks)

Probability space, conditional probability and Bayes theorem, combinatorial probability and sampling models, discrete random variables, probability mass function, probability distribution function, random variables and distributions continuous random variables, probability density function, probability distribution function, joint distributions, functions of one and two random variables, moments of random variables conditional distribution, densities and moments, characteristic functions, Markov, Chebyshev and Chernoff bounds, detection and estimation, random sequences, almost sure (A.S.) convergence and strong law of large numbers convergence in mean square sense with examples from parameter estimation convergence in probability with examples convergence in distribution central limit theorem, random processes, stationary processes, mean and covariance functions, ergodicity, linear filtering of random processes, power spectral density, examples of random processes: white noise process and white noise sequence, Gaussian process, Poisson process.

E2: Digital Signal Processing (30 Marks)

DFT, fast Fourier transform, Goertzel algorithm, approaches to design radix-m algorithm, implementation of DFT using convolution algorithm, the discrete time cosine transform, causality and its implications, linear phase FIR filters, frequency response of linear phase FIR filters, design of FIR filter using different windowing techniques, digital differentiator, Hilbert transform, frequency sampling method for designing FIR filters, realization of FIR filters, transversal structure, linear phase realization, lattice structure of FIR filter, polyphase realization of FIR filter, realization of digital filter, direct form-I realization, direct form-II realization, signal flow graph, cascade form, parallel form

structure, lattice structure of IIR system, comb filter design, all-pass filter, minimum phase, maximum phase & non-minimum phase systems, tunable IIR digital filter, down sampling, spectrum of down sampled signal, up sampling spectrum of up-sampled signal.

E3: Image Processing (30 Marks)

Fundamentals of image, image enhancement in spatial domain & frequency domain, image degradation and restoration processes, noise 'models - spatial properties, noise probability density functions, periodic noise, estimation of noise parameters, restoration in the presence of noise and mean filters, order-statistics filters, adaptive filters, linear position-invariant degradations and estimation, geometric transformations - spatial transformation, gray-level interpolation, fundamentals of compression, image compression model, and error free compression, lossy predictive coding, and transform coding, preliminaries-set theory and logic operations in binary images, basic morphological operations - opening, closing operators, dilation and erosion, morphological algorithms - boundary extraction, region filling, extraction of connected components, convex hull, thinning, thickening, skeletons; extension of morphological operations to gray-scale images, detection of discontinuities - point, line and edges, edge linking and boundary detection-local processing, image segmentation techniques.

E4: Neural Networks (30 Marks)

Introduction to neural networks: biological and artificial neurons, learning in ANNs, perceptrons–classification and linear separability, XOR problem, network architectures, multilayer feedforward networks and recurrent networks, generalized delta rule, back propagation (BP) network, BP training algorithm, radial basis function (RBF) networks, applications of BP and RBF networks, recurrent networks and unsupervised learning, Hopfield network – energy, stability, capacity, application to optimization problems, counter back propagation network, Boltzmann machine, Kohonen's self-organizing feature maps, adaptive resonance theory, matrix associative memory, auto associative memories, hetero associative memories, bi-directional associative memory, applications of associative memories, history, convolution and pooling, LeNet, AlexNet, ZF-Net, VGGNet, GoogleNet, ResNet.

BOOKS RECOMMENDED

1. A Papoulis and S. Unnikrishna Pillai, Probability, Random Variables and Stochastic Processes, McGraw Hill.
2. H. Stark and J. W. Woods, Probability and Random Processes with applications to Signal Processing, Pearson Education.
3. Proakis J. G. and Manolakis D. G., "Digital Signal Processing: Principles, Algorithms and Applications", 4th Ed., Pearson Education, 2014.
4. Babu Ramesh P., "Digital Signal Processing", 4th Ed., SciTech Publication, 2008.
5. Gonzalez R. C. and Woods R. E, "Digital Image Processing", 3rd Ed., Pearson Prentice Hall, 2008.
6. Simon Haykin, "Network N. A comprehensive foundation. Neural Networks", 2nd Ed., PHI, 1998.
7. Simon Haykin, "Neural Networks & Learning Machines", 3rd Ed., Pearson Education India, 2016.

Wagh Santoshkumar Vasantrao
Ph. D. Part-time external candidate
Reg. No. DS14ME013
Mechanical Engineering Department
SVNIT, Surat
Date: 14th March 2021

To
The Dean Academic,
SV National Institute of Technology, Surat.

Subject: Permission to submit my Ph.D. thesis after my Covid-19 recovery.

Respected Sir,
My name is Wagh Santoshkumar Vasantrao, Ph.D. Part-time external candidate (Reg. No. DS14ME013) working under the guidance of Dr. D. V. Bhatt (Retired) and Dr. J. V. Menghani, Mechanical Engineering Department, SVNIT, Surat.
I am in the stage of thesis submission, as per norms 22nd March 2021 is the last date for thesis submission, my thesis is ready for submission but unfortunately, I have been detected covid positive on 12th March 2021.
So, it is my humble request to you to please allow me to submit the thesis after my recovery.
I am attaching herewith my Covid-19 test report for your kind information.

I'm eagerly waiting for your positive reply.
Thank you.

Yours faithfully

Wagh Santoshkumar V.
Reg. No. DS14ME013

Dr. J. V. Menghani,
Associate Professor, MED,
SVNIT, Surat.
Co-Supervisor

Dr. D. V. Bhatt,
Professor (Retired), MED,
SVNIT, Surat,
Supervisor

Keeping in view of 'A', extension may be given to the student for thesis submission

HOD,
MED, SVNIT
Surat

**Head of Mech. Engg. Dept.
S. V. N. I. T., SURAT.**

C. C. to:

Director, SVNIT, Surat.

Registrar, SVNIT, Surat

*To, AR (Academics)
Consider it for next agenda item for IAAC.*
16/3/21

M Gmail   S V Wagh <waghsv@gmail.com>

Permission to submit my Ph.D. thesis after my corona recovery.

S.V.Wagh <waghsv@gmail.com>   Sun, Mar 14, 2021 at 11:18 AM
To: dean_acad@svnit.ac.in
Cc: director@svnit.ac.in, registrar@svnit.ac.in, hod@med.svnit.ac.in, Dhananjay Bhatt <drdvbhatt@gmail.com>, "Jyoti V.
Menghani" <jvm@med.svnit.ac.in>

To
The Dean Academic,
SV National Institute of Technology, Surat.

Respected Sir,

My name is Mr. Santoshkumar V. Wagh (Reg. No. DS14ME013) part-time external, Ph.D. scholar from
the Department of Mechanical Engineering working under the guidance of Dr. D. V. Bhatt and Dr. J. V.
Menghani.
I am in the stage of thesis submission, as per norms 22nd March 2021 is the last date for thesis
submission, my thesis is ready for submission but unfortunately, I detected corona positive on 12th March
2021.
So, it is my humble request to you please allow me to submit the thesis after my recovery from the
corona.
I am attaching herewith my Covid-19 test report for your information.

Thanking you

Yours Faithfully

Mr. Santoshkumar V. Wagh
Reg. No. DS14ME013
PEC, Ph.D. scholar,
Department of Mechanical Engineering,
SVNIT, Surat

📄 **Covid-19 test report Santoshkumar V Wagh.pdf**
    514K

M Gmail   S V Wagh <waghsv@gmail.com>

Permission to submit my Ph.D. thesis after my corona recovery.

Dhananjay Bhatt <drdvbhatt@gmail.com>   Sun, Mar 14, 2021 at 1:25 PM
To: "S.V.Wagh" <waghsv@gmail.com>
Cc: dean_acad@svnit.ac.in, "Director, SVNIT,Surat" <director@svnit.ac.in>, "Registrar, SVNIT" <registrar@svnit.ac.in>,
"Dr. Keyur P. Desai" <hod@med.svnit.ac.in>, "Jyoti V. Menghani" <jvm@med.svnit.ac.in>

To,
Dean Academic,
Good after noon to all of you,
Looking to the request of Mr Santosh wagh for approval ' permission to allow thesis
submission on [his] recovery from corona suffering inclusive of corontine period
norms' as time limit ends on 22nd March 2021 as per his mail for submission.
However he has been advised to submit soft copy of the thesis and other relevant
papers before the time limit date.
As supervisor ,i recommend and request to all concern members to take appropriate
positive decision within permissible flexibility in the system and under the pandemic
situation.
Thanking you all
Dr D V Bhatt
Supervisor
Professor MED[Retd]
[Quoted text hidden]