



# SHRI SITARAMBHAJ NARANJJI PATEL INSTITUTE OF TECHNOLOGY,

MANAGED BY  
VIDYABHARTI TRUST, UMRAXH - BARDOLI



## **Mech Marvel** 2021

MECHANICAL ENGINEERING  
DEPARTMENT

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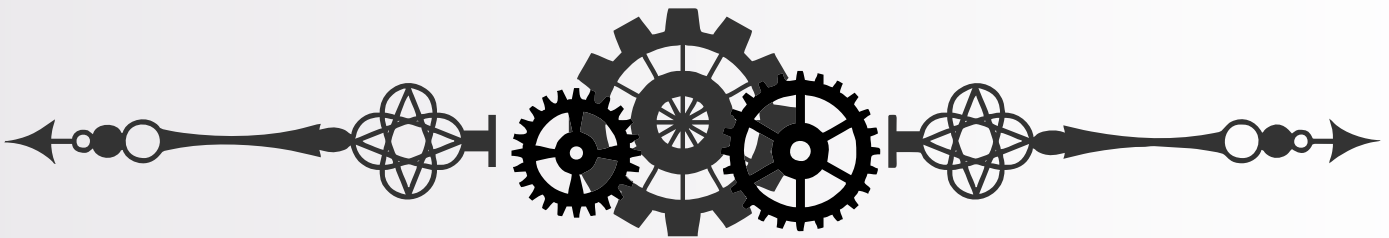
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## Vision

To be a centre of quality technical education in the field of mechanical engineering leading to competent technocrats with ethical values through state-of-the-art teaching and research methodology.



## Mission

- To impart undergraduates quality technical education along with sound technical communication skill.
- To provide the quality infrastructure, tools and teaching-learning environment.
- To inculcate qualities of leadership, teamwork and entrepreneurship with professionalism and ethical values.
- To bridge students with industries and research organizations so as to increase placement or higher studies preferences amongst the graduates.

## Program Educational Objectives

**01**

Our graduates will have qualities of an engineer with strong knowledge of fundamentals & application in the field of Mechanical Engineering.

**02**

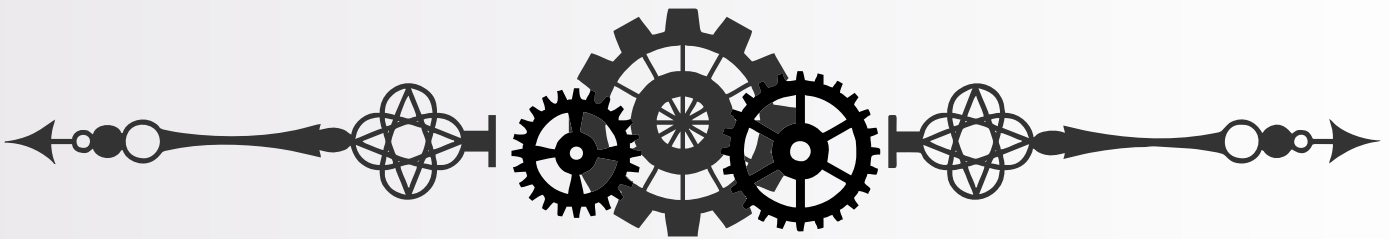
Our graduates will have knowledge of design, Modern tools and research techniques to meet societal as well as global technological challenges.

**03**

Our graduates will have the qualities of pragmatism and life-long learning in context of advancement in technology.

**04**

Our graduates will be able to serve their best for the nation.



## Program Specific Outcomes

**01**

Graduates would be able to understand and analyze mechanical systems in a discipline of thermal, fluid, energy design and production engineering.

**02**

Graduates would be able to analyze and solve complex industrial as well as research problem through an engineering concepts and various graphical, computational, experimental and mathematical tools.

## Program Outcomes

**PO 01**

**Engineering knowledge:**

Apply the knowledge of mathematics, science, engineering fundamentals, and mechanical engineering specialization to the solution of complex engineering problems.

**PO 02**

**Problem analysis:**

Identify, formulate, review research literature, and analyses complex engineering problems reaching substantiated conclusions using principles of mathematics, natural sciences, and engineering sciences.

**PO 03**

**Design/development of solutions:**

Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

**PO 04**

**Conduct investigations of complex problems:**

Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

**PO 05**

**Modern tool usage:**

Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

**PO 06**

**The engineer and society:**

Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the mechanical engineering practice.

**PO 07**

**Environment and sustainability:**

Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

**PO 08**

**Ethics:**

Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

**PO 09**

**Individual and team work:**

Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

**PO 10**

**Communication:**

Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

**PO 11**

**Project management and finance:**

Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in mechanical engineering or multidisciplinary environments.

**PO 12**

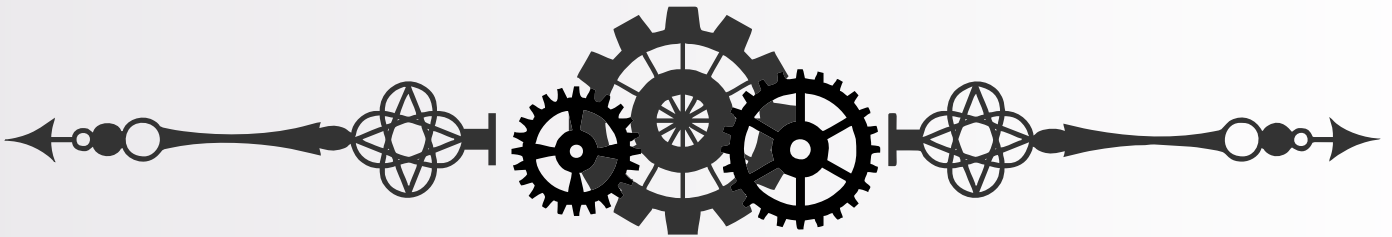
**Life-long learning:**

Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.



**Shri. Manharbhai L. Patel**  
Hon. Managing Trustee

"Our goal is to build a long term career with leading organizations to address the critical needs of the society and foster economic development in which all stake holders can succeed and are involved in the continuous assessment and improvement process."



**Shri. Kiritbhai N. Patel**  
Secretary

**Shri. Ashwinbhai H. Patel**  
Co-Secretary

**Trust Members**

**Shri. Mahendra bhai S. Patel**

**Shri. Hasmukh bhai T. Patel**

**Shri. Harshad bhai S. Patel**

**Shri. Hitesh bhai K. Patel**

**Shri. Kalpesh bhai N. Patel**

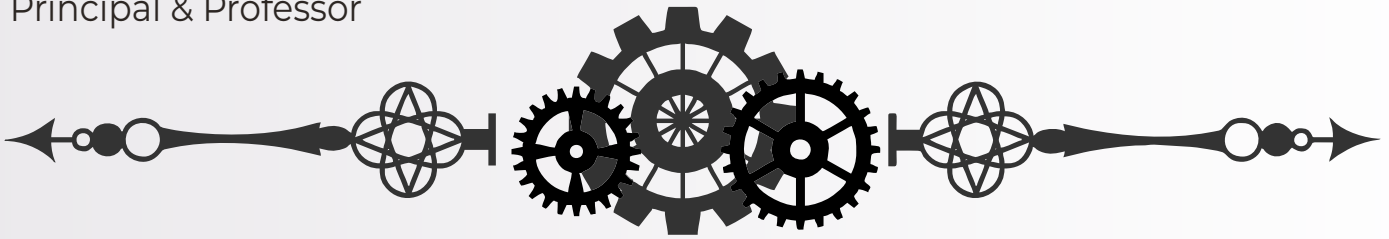
**Shri. Kashyap bhai J. Patel**

## Welcome to S N Patel Institute of Technology and Research Center , Umrah



**Dr. Piyush S. Jain**  
Principal & Professor

S. N. Patel Institute of Technology & Research Centre is a self financed technical institute offering UG and PG level courses. It was established in 2008 and managed by Vidyabharti Trust. The institute is affiliated with Gujarat Technological University (GTU) and recognized by AICTE. The institute, in all its aspects is an ideal place where students interact with faculties in the creation of new knowledge & enhance the quality of life.



## Welcome to The Mechanical Engineering Department of SNPIT&RC!



**Prof. Vishal Z. Dhimmar**  
Head & Assistant Professor  
Mechanical Engineering

The field of engineering known as mechanical engineering is adaptable and robust. Mechanical engineers can work in a variety of specialized fields, such as software development, automobile system engineering, aerospace engineering, design engineering, dynamic system and control, power plant engineering, etc.

The department has highly capable, committed faculty members and laboratories. Through solid theoretical understanding, practical laboratory and computational skills, and exposure to cutting-edge technology through industry visits, we provide top-notch engineering education.

We regularly host seminars featuring outside experts as lecturers on contemporary issues in mechanical engineering. Students receive training in a variety of industry-related software programs, including AUTO-CAD, PRO-E, etc., to provide them a competitive edge and greater employment prospects.

In response to the COVID-19 pandemic, the department has adapted to the digital medium to conduct most of its activities. The editorial team has collaborated online to document the magazine in an appreciable manner.

**Sculptor of Magazine**

**Patron**



**Dr. Piyush S. Jain**  
Principal & Professor



**Prof. Vishal Z. Dhimmar**  
Head & Assistant Professor

**Chief Editor**



**Prof. Vivek B. Bhagat**  
Assistant Professor



**Prof. Rikesh B. Prajapati**  
Assistant Professor

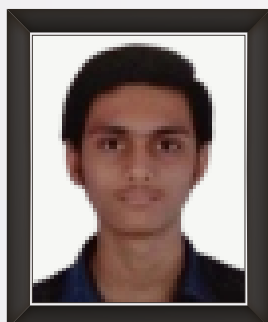
**Editorial Board**



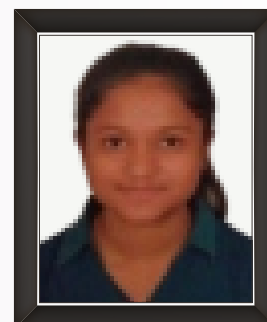
**Mr. Ajay Baheliya**



**Mr. Fenil Thummer**



**Mr. Sujit Rupapara**



**Miss. Twinkle Chaudhari**



## Staff Achievements



**Prof. Vivek B. Bhagat**

Assistant Professor

- Successfully completed 12 Week online STTP on “Introduction to Research” Organized by IIT Madras.
- Successfully completed online STTP on “Nanotechnology materials characterization synthesis and application”.



**Dr. Nirav M. Patel**

Assistant Professor

- Successfully completed 12 Week online STTP on “Introduction to Research” Organized by IIT Madras.
- Successfully completed online STTP on “Nanotechnology materials characterization synthesis and application”.



**Prof. Mayank B. Parmar**

Assistant Professor

- Successfully completed 12 Week online STTP on “Introduction to Research” Organized by IIT Madras.
- Successfully completed online STTP on “Implementation Of Emerging Waste to Energy Technologies”.
- Successfully completed online STTP on “Nanotechnology materials characterization synthesis and application”.



**Dr. Arif M. Varsi**

Assistant Professor

- Successfully completed STTP on “Computer integrated manufacturing”.
- Successfully completed STTP on “Design engineering level -1”.
- Successfully completed STTP on “Inculcating universal human values in technical education”.
- Successfully completed STTP on “3D printing and design for innovative medical devices”.
- Successfully completed STTP on “Recent advancement in manufacturing processing”.



**Dr. Shakil A. Kagzi**

Associate Professor

- Successfully completed STTP on “Machining science”.
- Successfully completed STTP on “Design engineering level -1”.
- Successfully completed STTP on “Inculcating universal human values in technical education”.
- Successfully completed STTP on “Nanotechnology materials characterization synthesis and application”.
- Successfully completed STTP on “Recent advancement in manufacturing processing”.



**Prof. Priyank P. Dave**

Assistant Professor

- Successfully completed online STTP on “Implementation Of Emerging Waste to Energy Technologies”.
- Successfully completed online STTP on “Nanotechnology materials characterization synthesis and application”.
- Successfully completed STTP on “Design engineering level -1”.



**Prof. Hitesh A. Tailor**

Assistant Professor

- Successfully completed STTP on “Inculcating universal human values in technical education”.
- Successfully completed STTP on “Basic of tribology and its industrial engineering application”.
- Successfully completed online STTP on “Nanotechnology materials characterization synthesis and application”.



**Prof. Hiren B. Tamboli**

Assistant Professor

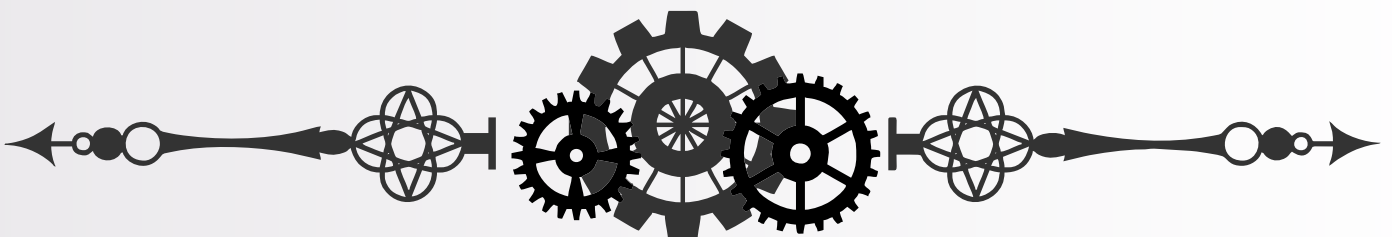
- Successfully completed online STTP on “Nanotechnology materials characterization synthesis and application”.



**Prof. Nilesh V. Rana**

Assistant Professor

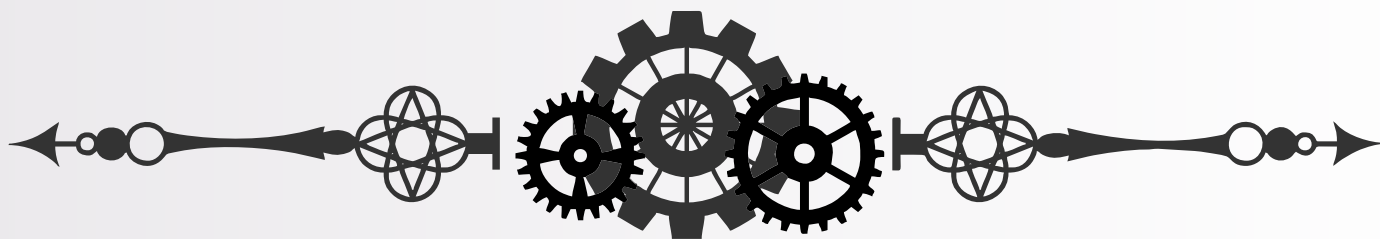
- Successfully completed online STTP on “Computer integrated manufacturing”.
- Successfully completed online STTP on “Computer assisted designing and machining”.
- Successfully completed online STTP on “Nanotechnology materials characterization synthesis and application”.



**Student Achievements**



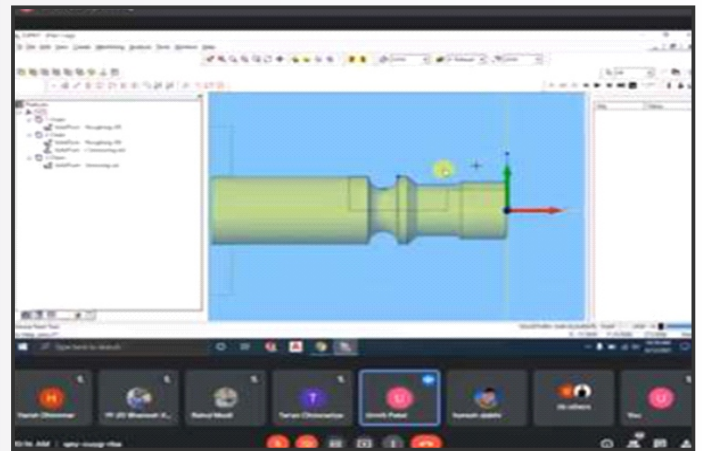
Congratulations to **Jayminkumar Jayeshbhai Bilimoriya**  
Student of Mechanical Engineering Department  
has secured admission in Master program of Westcliff University, USA on July 2021.



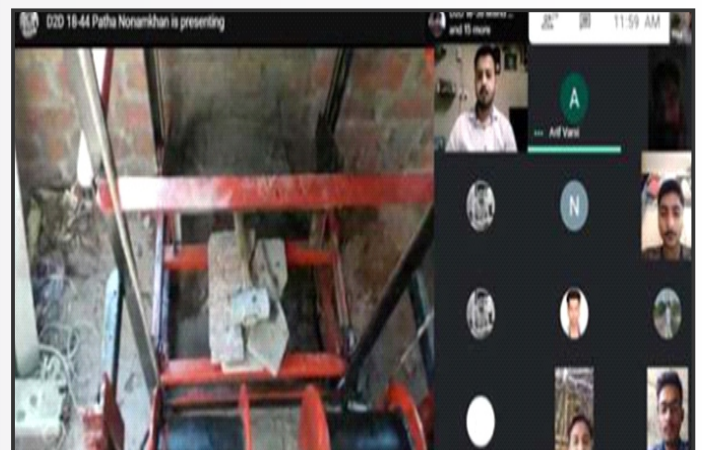
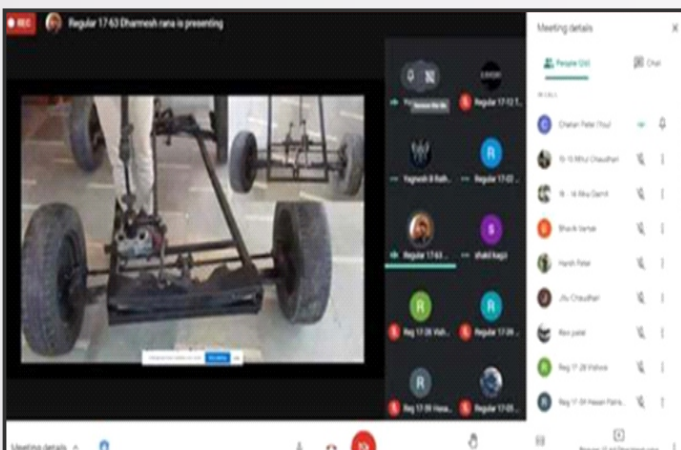
Congratulations to **Chirag Shyamlal Sahu**  
Student of Mechanical Engineering Department  
has secured admission in NIT Surathkal on field of Computational and Data Science Program.

**Department Activity**

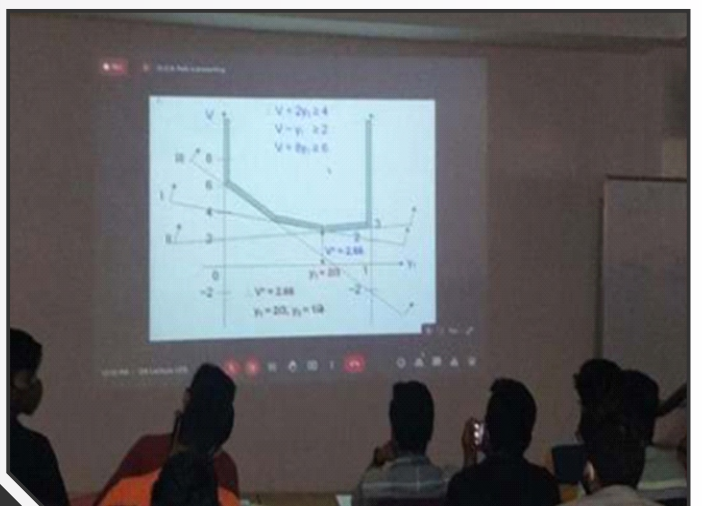
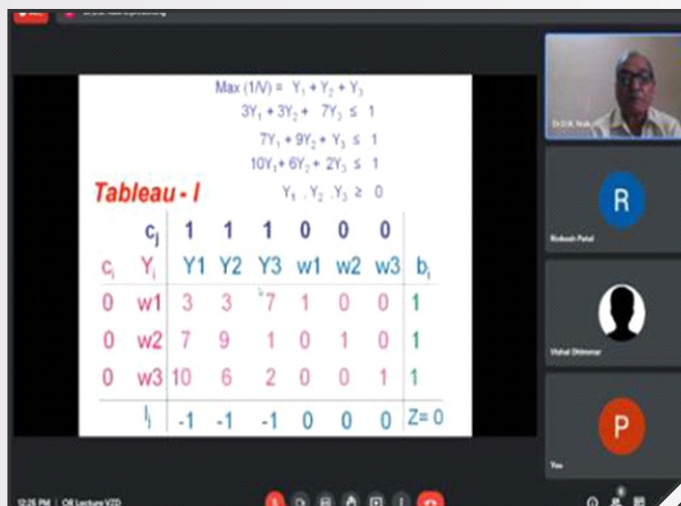
Department of Mechanical Engineering, SNPIT&RC-Umrakh Successfully Organized Online Internship Computer Assisted Design and Machining (CADM-2021) ( 31<sup>st</sup> May, 2021 to 12<sup>th</sup> June, 2021).



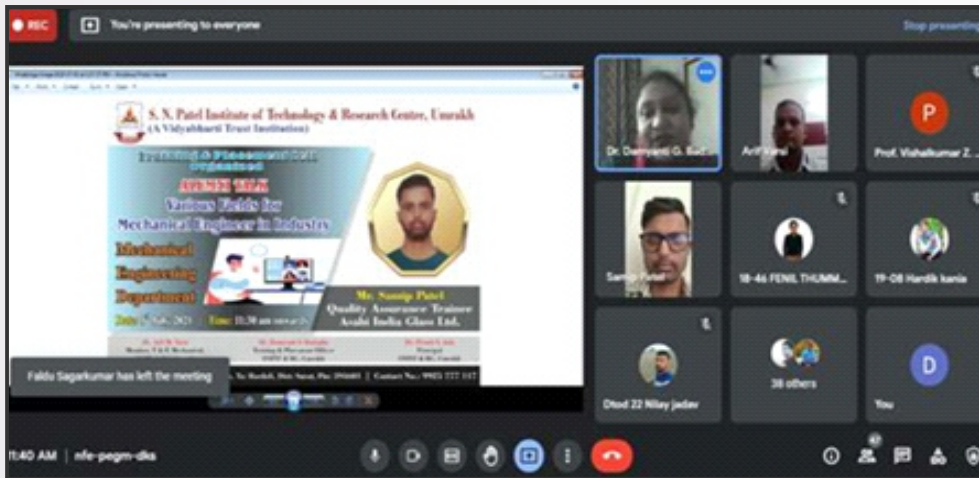
S. N. Patel Institute of Technology & Research Centre, Umrakh - Bardoli, Gujarat successfully organized an “Online Project Fair” on 2<sup>nd</sup> May, 2021.



Department of Mechanical Engineering, SNPIT&RC-Umrakh successfully organized an expert lecture (online) on “Operation Research” for the final year students on 6<sup>th</sup> October, 2021. The speaker for the lecture was Dr. D. B. Naik, Ex. Professor & Head, Training & Placement Section, SVNIT Surat.



Training & Placement cell along with the Mechanical Engineering Department of S. N. Patel Institute of Technology & Research Centre, Umrakh has organized a Webinar on “Various Fields for Mechanical Engineer in Industry” on 3<sup>rd</sup> July 2021. The speaker was Mr. Samip Patel, Quality Control Trainee, Asahi India Glass Ltd.



Training & placement cell of SNPIT & RC and Assistant Director (Employment) Office Surat (Director of Employment & Training), Gandhinagar, Government of Gujarat have jointly organized Training & Recruitment Awareness Webinar Series 2021 from 23<sup>rd</sup> March, 2021 to 27<sup>th</sup> March, 2021.

**S.N. PATEL INSTITUTE OF TECHNOLOGY & RESEARCH CENTRE**  
Vidyabharti Campus, At & Po Umrakh, Tal. Bardoli, Dist. Gujarat, India, Umrakh- Bardoli, Gujarat-394343

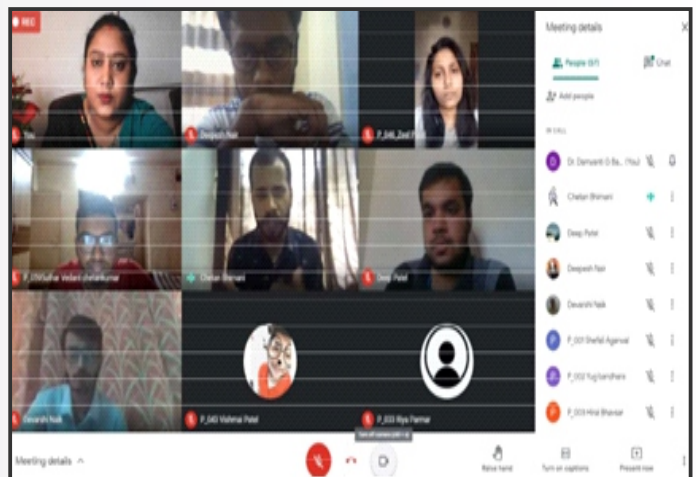
**Organising a Webinar**  
on  
**Govt. Jobs / Competitive Exam Guidance**

**BANK SBI RBI RRB SSC LIC Railway**  
**GPSC અભ્યાસક્રમ PSI Constable ગણતંત્ર અભ્યાસક્રમ TET/TAT**

FOR **Chemical Engineering 3<sup>rd</sup> and 4<sup>th</sup> year students** BY **Mr. Abhay Shah Senior Faculty (Banking Academy)**

DAY & DATE: **23-03-2021 (Tuesday)**  
TIME: **10.00 to 11.00 AM**  
ON **GOOGLE MEET**

Organizers: **Dr. Piyush Jain (Principal)**, **Dr. Damyanti G. Badagha (Training & Placement Officer)**, **Prof. Hitesh Shah T & P Member**



Prof. Hitesh A Tailor from the Mechanical Engineering Department has been felicitated for successfully organizing the “Man Nu Sanitization” webinar during COVID-19 situation.

14<sup>th</sup> FOUNDATION DAY  
GTU salutes ACADEMIC WARRIOR (Institute group)  
Maximum video lectures, course video, uploaded by the institute

Shri Sitarambhai Naranji Patel Institute Of Technology Umrakh - Bardoli.

Participants (37):  
Dr. Piyush S. Jain  
Gopatel Technological Univers...  
Gopatel Technological Univers...  
18\_02 anand  
18-13 shubh deep  
AG Aamna Guljale  
AR Anshu koyal  
AD Abhishik shara  
AM Abhishek Modi  
AJ ABHISHEK R. JANGID  
AM Achal Mistry

**S. N. Patel Institute of Technology & Research Centre, Umrakh**  
(A Vidyabharti Trust Institution)

**Congratulations!**  
SNPIT & RC Umrakh has been selected as  
“Corona Warrior Gujarat Technological University”  
Certificate of Appreciation will be given Virtually during the Online Celebration of 14<sup>th</sup> Foundation Day of GTU on 17/05/2021 from 12:30 p.m. onwards.

**Dr. Damyanti G. Badagha**  
GTU Corona Warrior Appreciation for Successfully Uploading 538 Video Lectures with Highest 1021 View & for Top 3 Position for Uploading Video Count During Covid-19 Situation

**Prof. Hitesh A. Tailor**  
GTU Corona Warrior Appreciation for Organization of Webinar “મન નુ સનિટાઇઝેશન” During Covid-19 Situation

**Prof. Achal B. Mistry**  
GTU Corona Warrior Appreciation for Video Lecture Having 240 View Count During Covid-19 Situation

Vidyabharti Campus, At & Po Baben, Ta: Bardoli, Dist: Surat-394601 For Admission: 9925 777 117

**Woman's Day Calibration**  
at S N Patel Institute of Technology & Research Centre, UmraKh on  
8<sup>th</sup> March 2021.



**Training & Placement Cell of SNPIT& RC, UmraKh Successfully organized  
Logical Reasoning Quiz for competitive exam  
Preparation for all Final & pre-final UG-PG Students on 15<sup>th</sup> May, 2021**

**S.N.Patel Institute of Technology & Research Centre, UmraKh**  
(A Vidyabharti Trust Institution)

**TRAINING & PLACEMENT CELL ORGANIZED**

**DATE & TIME**  
15<sup>TH</sup> MAY 2021  
@10.30AM

**Logical Reasoning Quiz for  
Competitive Exam Preparation  
For all Final & Prefinal UG-PG  
Students**

**VENUE**  
ONLINE PLATFORM ON  
GOOGLE MEET

**Dr. Piyush S Jain,**  
Principal

**Prof. Vishal Shah**  
T & P Member  
Chemical Engineering Department

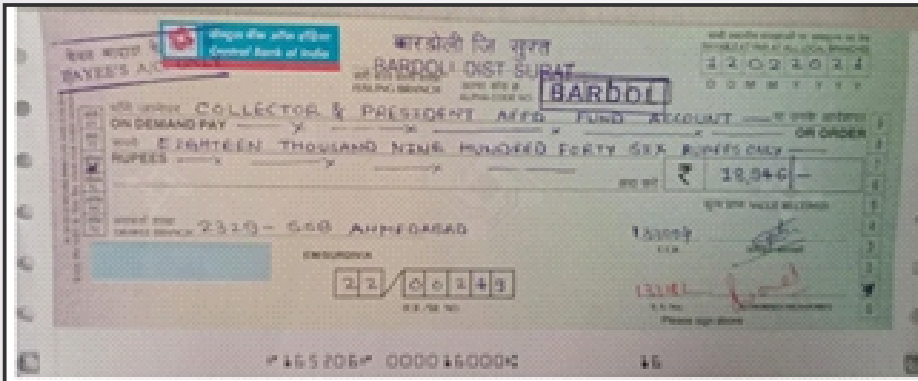
**Dr. Damyanti G Badagha,**  
T & P Officer

Vidyabharti Campus, Sr & Po Bahon, The Bardoli, B&K State, Pin: 394001, For Admissions: 9923777117

**Vidyabharti Trust campus, UmraKh organized an event on "Energy Swaraj"**  
on 25<sup>th</sup> January, 2021, Monday at S. N. Patel Institute of Technology & Research Centre, UmraKh.  
The Chief Guest of the event was Dr. Chetan S. Solanki, IIT Bombay.



**“SAINIK WELFARE FUND” collected on 10<sup>th</sup> February 2021 at VIDYABHARTI TRUST, UMRAKH.**  
**“Regard your soldiers as your children, and they will follow you into the deepest valleys;  
 look on them as your own beloved sons, and they will stand by you even unto death”**  
**- Sun Tzu**



**“We sleep safely at night because  
 rough men stand ready to visit  
 violence on  
 those who would harm us”.**

**-Winston Churchill**

**Training & Placement cell along with the Mechanical Engineering Department of  
 S. N. Patel Institute of Technology & Research Centre, Umrakh has organized a Webinar on  
 “Career Opportunities in Mechanical Engineering” on 20<sup>th</sup> February, 2021.**



**“INTERNATIONAL YOGA DAY”  
 Celebration on 21<sup>st</sup> June, 2021 by  
 S. N. Patel Institute of Technology & Research Centre, Umrakh.**



**'Yoga is the journey of the self, through the self, to the self' -Verse-4, Chapter 15, Bhagavad Gita.**

Department of Mechanical Engineering  
S. N. Patel Institute of Technology & Research Centre, Umrah  
has organized a Seminar on "Career Guidance for Government Jobs"



S. N. Patel Institute of Technology & Research Centre, Umrah

**SEMINAR**  
On  
Career Guidance for  
**Government Jobs**

Date: 22/10/2021  
Time: 11:00 am onwards  
Venue: Auditorium Hall, W - Wing

Mr. Harendra Singh Tomar  
Director Of Examshala

Prof. Tejas Mishra  
Member, T & P, Elect. Engrs.

Prof. Nituji Ashiyani  
Member, T & P, Civil Engrs.

Prof. Arif M. Varsi  
Training & Placement Officer  
SNPIT & RC, Umrah

Dr. Piyush S. Jain  
Principal  
SNPIT & RC, Umrah

Prof. Toral Desai  
Member, T & P, Comp. Sci & Engrs.

Prof. Vishal Shah  
Member, T & P, Chem. Engrs.

Vidyabharti Campus, At & Po Baben, Ta: Bardoli, Dist: Surat, Pin 391601 | Contact No.: 9925 777 117



Department of Mechanical Engineering  
S. N. Patel Institute of Technology & Research Centre, Umrah  
has organized a Seminar on "Traffic Rules & Road Safety" on 28<sup>th</sup> October, 2021.



VIDYABHARTI TRUST, UMRACH

**SEMINAR**  
On  
**TRAFFIC RULES & ROAD SAFETY**

Date: 28<sup>th</sup> October 2021  
Time: 11:00 am onwards

CHIEF GUEST

Mrs. DEPIKA DABHI  
(Life Coach)  
Director and Founder of  
Lakshya Academy  
and Kiren Foundation

Mr. BRIJESH VERMA  
President District Traffic  
Education And welfare Society

सु श्री उपलवैन सोलंकी  
Dy SP, BARDOLI

And

C. G. DALNADI  
Inspector Of Motor Vehicle

P. S. RATHWA  
Assistant Motor Vehicle Inspector



Department of Mechanical Engineering  
S. N. Patel Institute of Technology & Research Centre, Umrah  
has organized a Workshop on "Entrepreneurship and Innovation as Career Opportunity"  
on 3<sup>rd</sup> December, 2021.



S. N. Patel Institute of Technology & Research Centre, Umrah

Ministry of Education  
Government of India

MoE's INNOVATION CELL  
GOVERNMENT OF INDIA

INSTITUTION'S INNOVATION COUNCIL  
Ministry of Education

INSTITUTE INNOVATION COUNCIL (IIC-SNPITRC)  
ORGANISES

**WORKSHOP** on  
"ENTREPRENEURSHIP AND INNOVATION  
AS CAREER OPPORTUNITY"

Date: 03/12/2021  
Time: 11 am onwards

SPEAKER:  
Prof. Hitesh A. Tailor





Training & Placement cell along with the Mechanical Engineering Department of S. N. Patel Institute of Technology & Research Centre, Umrahk has organized a Webinar on “Career Opportunities after Degree Engineering” on 9<sup>th</sup> July, 2021.

**S. N. Patel Institute of Technology & Research Centre, Umrahk**  
(A Vidyabharti Trust Institution)  
&  
Assistant Director (Employment) Office – Surat (Government of Gujarat)  
Jointly Organized

**EXPERT**

**Sh. Mukesh Vasava**  
Dy. Director (Employment),  
Surat Region

**Training & Placement Cell Organised**  
**Expert Talk on**  
**Career Opportunities**  
**after**  
**Degree Engineering**

**Date: 9<sup>th</sup> July, 2021**  
**Time: 03:00 pm onwards**

**T & P Co-ordinator**  
Dr. Arif M. Varsid Prof. Devarshi B. Naik  
Prof. Tejas G. Mistry Prof. Nikunj M. Ashiyani  
Prof. Mayank A. Patel Prof. Vishal Shah

**Dr. Damyanti G. Badaghe**  
Training & Placement Officer  
SNPIT & RC, Umrahk

**Dr. Piyush S. Jain**  
Principal  
SNPIT & RC, Umrahk

Vidyabharti Campus, At & Po Bahen, Tal: Bardoli, Dist: Surat, Pin: 391601 | Contact No.: 9925 777 117

Dr. Arif M. Varsid Assistant Professor is presenting

**S. N. Patel Institute of Technology & Research Centre, Umrahk**  
(A Vidyabharti Trust Institution)  
&  
Assistant Director (Employment) Office – Surat (Government of Gujarat)  
Jointly Organized

**EXPERT**

**Sh. Mukesh Vasava**  
Dy. Director (Employment),  
Surat Region

**Training & Placement Cell Organised**  
**Expert Talk on**  
**Career Opportunities**  
**after**  
**Degree Engineering**

**Date: 9<sup>th</sup> July, 2021**  
**Time: 03:00 pm onwards**

**T & P Co-ordinator**  
Dr. Arif M. Varsid Prof. Devarshi B. Naik  
Prof. Tejas G. Mistry Prof. Nikunj M. Ashiyani  
Prof. Mayank A. Patel Prof. Vishal Shah

**Dr. Damyanti G. Badaghe**  
Training & Placement Officer  
SNPIT & RC, Umrahk

**Dr. Piyush S. Jain**  
Principal  
SNPIT & RC, Umrahk

Vidyabharti Campus, At & Po Bahen, Tal: Bardoli, Dist: Surat, Pin: 391601 | Contact No.: 9925 777 117

Department of Mechanical Engineering  
S. N. Patel Institute of Technology & Research Centre, Umrahk has organized STTP on “Nanotechnology: Materials, Characterization, Synthesis, and Applications” 6<sup>th</sup> - 10<sup>th</sup> September, 2021.

Dr. A. A. Shaikh SNIT is presenting

**Merits of FRP**

- Tailor made design
- Low weight
- Low thermal expansion
- Electrical Insulator
- Low maintenance
- Less vibration

High strength  
Corrosion resistance  
Thermal Insulator  
Low manufacturing cost  
Reduced noise

Constituent (Nano) → NANO Composite

Agrasa V. Gohil is presenting

**What is nanotechnology?**

While many definitions for nanotechnology exist, the NNI\* calls it “nanotechnology” only if it involves all of the following:

1. Research and technology development at the atomic, molecular or macromolecular levels, in the length scale of approximately 1 - 100 nanometer range.
2. Creating and using structures, devices and systems that have novel properties and functions because of their small and/or intermediate size.
3. Ability to control or manipulate on the atomic scale.

\*National Nanotechnology Initiative  
Dr. Jayant Sahas, NET, Surat

Celebration of “Azadi ka Amrit Mohatshav”  
at S. N. Patel Institute of Technology and Research Centre, Umrahk.



**Department of Mechanical Engineering**  
**S. N. Patel Institute of Technology & Research Centre, Umrah**  
**has Celebrated “Energy Conservation Day”, on 14<sup>th</sup> December, 2021.**



**Department of Mechanical Engineering**  
**S. N. Patel Institute of Technology & Research Centre, Umrah**  
**has Organized “Tree Plantation Drive -2021” on 8<sup>th</sup> July, 2021.**

