



## अभियांत्रिकीचे विद्यार्थी चमकले

अवसरीच्या महाविद्यालयाचे ऑनलाईन रोबोटिक्स स्पर्धेत यश

अवसरी, दि. १५ - अवसरी येथील ए.ए. अण्णाभाऊ साठेकर अभियांत्रिकी महाविद्यालयाने आयोजित केलेल्या ऑनलाईन रोबोटिक्स स्पर्धेत यशस्वीपणे सहभाग घेतला. या स्पर्धेत विद्यार्थ्यांनी आपले कौशल्य दाखवून देण्यास यशस्वीपणे यत्न केला. या स्पर्धेत विद्यार्थ्यांनी आपले कौशल्य दाखवून देण्यास यशस्वीपणे यत्न केला.

अवसरी येथील ए.ए. अण्णाभाऊ साठेकर अभियांत्रिकी महाविद्यालयाने आयोजित केलेल्या ऑनलाईन रोबोटिक्स स्पर्धेत यशस्वीपणे सहभाग घेतला. या स्पर्धेत विद्यार्थ्यांनी आपले कौशल्य दाखवून देण्यास यशस्वीपणे यत्न केला.



Government College of Engineering  
And Research Avasari Khurd

Internal Hackathon for  
Smart India Hackathon 2020

DEVNET

Smart India Hackathon 2020

# ZENITH 2020



## FROM THE PRINCIPAL'S DESK



Dear Reader,

It gives me great pleasure to write a few words as prologue for our in-house college magazine 'Zenith 2020'. ZENITH is essentially a platform provided to all the interested writers of our institute, to exhibit their writing skills. I feel that, every student must take extra efforts to improve his/her writing skills. Writing is important because.....

- ❑ Writing is critical to becoming a good reader
- ❑ Writing is an essential job skill.
- ❑ Writing is the primary basis upon which one's work, learning, and intellect will be college, in the work place and in the community.
- ❑ Writing equips us with communication and thinking skills and FINALLY
- ❑ Writing expresses who we are as people.

Unlike talking, when we write we look for more sophisticated words and expressions to describe what we have in mind. This helps one to build a structure that will allow one to express oneself better and communicate complex ideas in a much more effective way. Writing also helps to improve one's productivity. It is well known that setting ones goals in writing significantly increases the possibilities of achieving them. Therefore, I congratulate all the contributors and the editorial board for bringing the College Magazine, despite several hurdles, faced by them in coming out with this magazine. Our institution is consistently trying to empower the students with sound knowledge, wisdom, experience, life values and methodical training both at the academic level and in the extracurricular domain. The institution aims at changing the face of rural region by acting as a prime centre of knowledge enhancement and career development. I extend my wishes to all the readers. I take this opportunity to give my best wishes to all my student friends for scaling newer heights and achieving bigger success in their professional career and also on personal front.

# Message from Magazine Faculty Coordinator

I congratulate the students of GCOEAR Awasari who have taken the initiative and have contributed to this edition of the College magazine 'Zenith-2020'. It's a great pleasure to present this issue of Zenith. Magazine of this kind provide an opportunity to the engineering students to express their latent talent, ideas and thoughts in the form of articles, poems, views about the life and experiences inside and outside the campus.



It shows that technical minds are no less when it comes to creative writing and expressing their philosophical and technical minds. The clean green eco-friendly nature of the magazine has been a remarkable concept. It has been a wonderful experience to work with the editorial team and to see the creations taking shape. I thank you all for your contributions. Thanks to our Principal Dr. A. S. Pant , all HODs, Faculty members and staff for the contributions. I sincerely hope that you enjoy reading this magazine.

- **Smt. Pratima Vitthalrao Damre**

## MESSAGE FROM MAGAZINE STUDENT CO-ORDINATOR

I'm very proud to announce that we are publishing the magazine of annual year 2019-20. As a magazine coordinator, I am very thankful to almighty for supporting me throughout the process and also thankful to my mentors who guided me on the way.

We have published the best content given by the students on overall topics and from bottom of our heart, we are encouraging the other students to give the contribution in literature and technical field. It is always said that the pen is used as a sword so we should use the powerful weapon for creating the changes in society.

As the magazine coordinator I have learnt many things which will be helpful for me in my future life. I am thankful to my teachers who have given the opportunity to me and I had tried my level best to fulfil my responsibilities.

With regards

Miss. Rutuja Chavan  
(TE Computer Engineering)



## Message from Magazine Editor

हेलेन केलर ने ठीक ही कहा है कि- " दुनिया न केवल अपने नायकों के शक्तिशाली झटके से चलती है, बल्कि प्रत्येक इमानदार कार्यकर्ता के छोटे-छोटे धक्का से भी चलती है।" ' झेनिथ 2020' को संपादित करने का यह कठिन कार्य संपादकीय बोर्ड के सदस्यों के ईमानदार समर्थन के बिना संभव नहीं होता, जिन्होंने हमारे उत्साही और जिज्ञासु युवा लेखकों से प्राप्त लेखों की बाढ़ से लेखों को छाँटा, उन्हें संपादित किया और अंत में बनाया उनमें से एक उचित मसौदा।



मैं अलिशा सतिश ढवळे (SE Computer Engineering) अपने उन सभी साथियों की आभारी हूँ जिन्होंने पत्रिका के अशांत जल में अपनी मेहनत और शिद्धत से इस नौका को भी प्रकाशन के किनारे तक पहुँचाया। क्षमता होना अच्छी बात है लेकिन दूसरों में क्षमता खोजने की क्षमता ही असली परीक्षा है। मैं सभी पाठकों को हार्दिक शुभकामनाएं देती हूँ और आशा करती हूँ कि ' झेनिथ 2020' यह स्मारिका हमारे युवा लेखकों के जोशीले लेखन पाठकों की रुचि और प्रशंसा को बनाए रखने के लिए एक सुनहरा जरिया बने।

- Miss Alisha Satish Dhavale  
( SE Computer Engineering)

## Message from Magazine Editor

It's my absolute pleasure to be the part of GCOEARA's ZENITH 2020 magazine. I would like to congratulate all the mates who contributed towards this magazine. Though it was pandemic due to COVID 19, we never stopped neither the progress of our college and students. It's really awesome to see the dedication of our faculty as well as students for various competitions.



This magazine is one of the best platform for our college students to showcase their talent and skills. The skills in our college students are really appreciable. As an editor of ZENITH 2020, I came to know more about editing and writing too. This is the best opportunity I got to be the editor of magazine and to come across very incredible things done by our college students as well as faculty member. Special thanks to Principal sir and magazine faculty Coordinator for the support and cooperation for ZENITH 2020.

I hope you all will enjoy reading this magazine. Your contribution matters to us most, so we're always there to showcase your talent.

- Master. Rutwik Deelip Bagale  
( SE Computer Engineering)

# ZENITH 2020

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Renee Peterson

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**EVERY ART IS AN EXPRESSION**

***THE ART***

**SECTION**

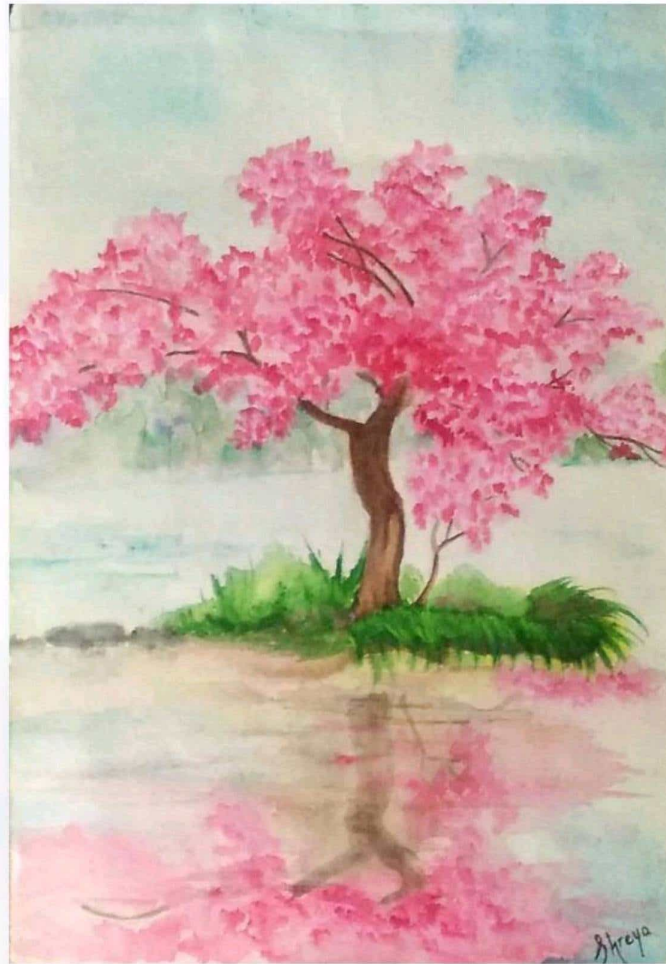
**- Artists of GCOEARA**

# Elegance



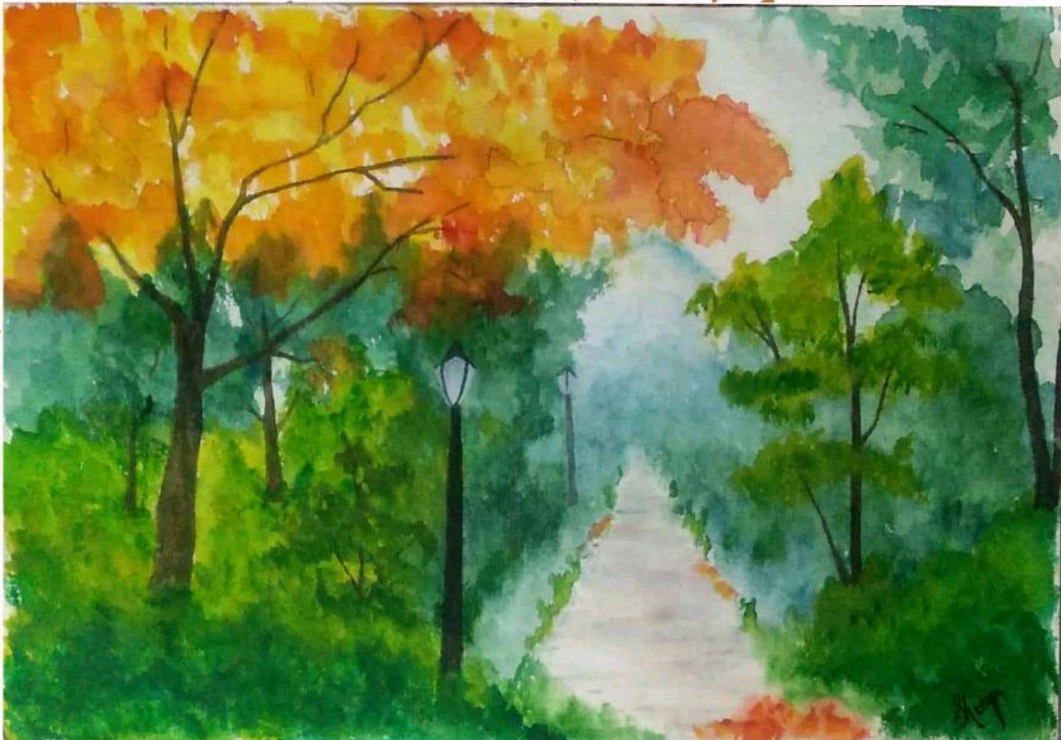
- Rutuja Chavan  
TE computer engineering

# Natural



- SHREYA PANWAL  
SE E&TC ENGINEERING

# Beauty of the way

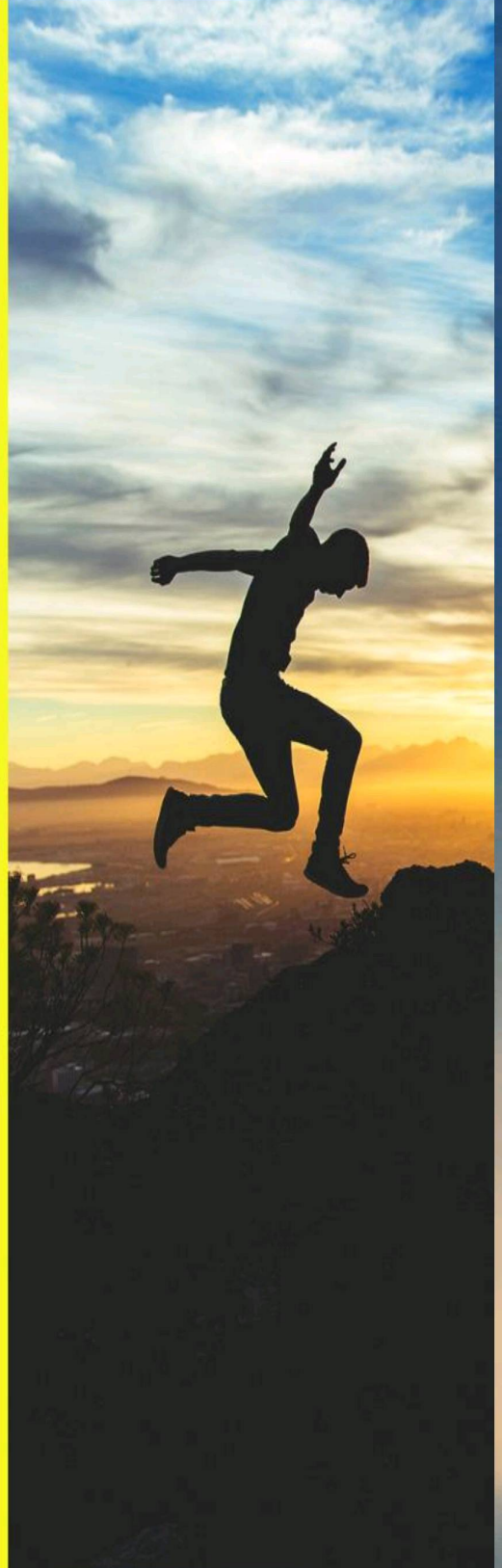


- SHREYA PANWAL  
SE E&TC ENGINEERING

## एक दिन तेरा भी आयेगा

तू सब्र कर, एक दिन तेरा भी आयेगा...  
 वह खुदा तेरी हर एक चाहत पूरी कर जायेगा!!  
 तू जंग कर तेरीही किस्मत के खिलाफ...  
 बदल जायेगी वह भी गर तेरी नियत है साफ!!  
 तू सिर्फ अपने अंदर कि आग को जलाये रख...  
 कोशिश कर रात से दिन और दिन से रात होने तक!!  
 तू सब कि शिकायते करना बंद कर...  
 उठ और कदम रखता जा तेरी मंजिल कि राह पर!!  
 तू भरोसा रख अपने सपनो पे...  
 मुह बंद हो जायेंगे कुछ पराओके तो कुछ अपनो के!!  
 तू घबरा मत किसी भी हालात में...  
 नाज कर खुद पे और तेरे इरादो पे!!  
 तू ध्यान मत दे इन कुत्तो के भोकने पर...  
 तू शेर है तू इन सब बातो कि फिक्र ना कर!!  
 तू इस निंद चैन का मोह छोड दे...  
 मेहनत और निश्चलता कि तरफ खुद को मोड दे!!  
 तू सब्र कर तेरा दिन नाही जमाना आयेगा...  
 खुदा नाही तू खुद तेरे सपने पुरे कर जायेगा!!!  
 - दीप्ती शिरोळे

(SE Instrumentation and control)



# छत्रपती

छत्रपतींचे मावळे आम्ही हार नाही मानणार.

धगधगत्या आगीत ही प्राण नाही सोडणार.  
घेऊन हाती तलवार वार आम्ही करणार.  
छत्रपतींचे मावळे आम्ही हार नाही मानणार.

स्वराज्याचा भार आता खांद्यावर पेलणार. शिवबाच्या  
रक्षणासाठी जीव पणाला लावणार.  
छत्रपतींचे मावळे आम्ही हार नाही मानणार.

करेल कोणी अन्याय हात त्यांचे छाटणार.  
स्त्री च्या रक्षणासाठी आता स्त्रीच लढणार.  
छत्रपतींचे मावळे आम्ही हार नाही मानणार.

जाती- वादाला दुर करून एकजूट होणार.  
भ्रष्टाचाराचा मूळासकट नायनाट करणार.  
छत्रपतींचे मावळे आम्ही हार नाही मानणार.

गुलामीतले जीवन आता नाही जगणार.  
माणसा सोबत माणूसकीचे नाते जपणार.  
छत्रपतींचे मावळे आम्ही हार नाही मानणार.

झंझावत्या वादाळाचा सामना आम्ही करणार.  
कितीही संकट आले तरी मागे नाही सरणार.  
छत्रपतींचे मावळे आम्ही हार नाही मानणार.

शिवबाची शिकवण मोठी आदर्श त्यांचा घेणार.  
आनंदाची नवी पहाट पुन्हा ऐकदा येणार.  
छत्रपतींचे मावळे आम्ही हार नाही मानणार.

जिजाऊंचे उपकार सांगा कसे फेडणार.  
मातेच्या दुधाचे मोल आता चुकवणार.  
छत्रपतींचे मावळे आम्ही हार नाही मानणार.

- श्वर्जा ♥ (पूजा लबडे)

# चाहत

❖ चाहत ❖

तुम्हारे लिए लोगों में यही बदनाम हूँ  
शायर तो नहीं बस शब्दों का गुलाम हूँ  
हक है तुम्हारा मुझपे, तो रुँठ जाया करो  
रुँठें हूँ चेहरे से हलकासा मुस्कुराया करो

नजरो से बातें करना छोड दो  
अब बातों बातों मे नजरे मिलाओ तुम  
अगर हो जाए कोई गलती मुझसे  
तो हँसते हँसते संभाला करो तुम

याद है कई बातें जो तुने मुझसे कहीं थीं  
सुनते सुनते मैंने भी तुमसे बेशुमार करी थीं  
तु वो समंदर है जिसमें मुझे डुबना है  
शाम को ढलते ढलते, सूरज से टकराना है

तेरे साथ कुछ पल बिताने की चाहत है  
चलते चलते रास्ते पर अक्सर थंबने की आदत हैं  
सारा जहाँ ठहरा है बस उस एक पल के लिए  
तुम्हें मेरा, सिर्फ मेरा होता देखने के लिए

हूँ मैं राही तेरे मंजिल का  
तु किसी और की मंजिल है  
चलो चलते है उस सफर में  
जहाँ दोनों अजनबी है....

...संपदा

# स्त्री...!

स्त्री म्हणजे राजमाता जिजाऊंची शक्ती,  
 स्त्री म्हणजे जनाबाईची निस्सीम भक्ती,  
 स्त्री म्हणजे सावित्रीबाईची धारदार लेखणी ,  
 स्त्री म्हणजे एका उर्जेच स्मरण क्षणो क्षणी,  
 स्त्री म्हणजे आनंदीबाईची जिद्द,  
 स्त्री म्हणजे कुटुंबात येणाऱ्या कुविचारांना रोखणारी सरहद्द  
 स्त्री म्हणजे किरण बेदी आणि मीरा बोरवणकर यांची शिस्त,  
 स्त्री म्हणजे जणू एक आग ज्वलंत,  
 स्त्री म्हणजे आईची ती निस्वार्थ माया,  
 स्त्री म्हणजे तळपत्या उन्हात जणू भक्कम वडाची शितल छाया,  
 स्त्री म्हणजे मदर तेरेसा आणि सिंधूताईनी केलेली सेवा,  
 स्त्री म्हणजे पुकारलेला बंड अन्याय होत जेव्हा जेव्हा..

ऋतुजा चव्हाण



## जीने का तरीका

अंधेरे में उजाला ढूँढो  
उजाले में नई रोशनी

रोशनी में उम्मीद को ढूँढो  
उम्मीद में मंजिल

मंजिल में ताकत को ढूँढो  
ताकत में प्यार

प्यार में एहसास को ढूँढो  
एहसास में रिश्ते

रिश्तों में अपनों को ढूँढो  
अपनों में फरिश्ते

फरिश्तों में सच्चाई को ढूँढो  
सच्चाई में अच्छाई

अच्छाई में जीवन को ढूँढो  
जीवन में जीने का सुकून

- श्वर्जा ♥ (पूजा लबडे)

## माझे मम्मी-पप्पा

आपल्या आयुष्यात सर्वात जास्त काय महत्वाचं असतं  
ज्याला आपण कधी महत्त्व दिलेले च नसतं,  
आपल्या साठी त्यांनी काय-काय केलेलं नसतं  
तरी पण आपल्याला त्याच काही वाटतच नसतं

जो बाप कधी-कधी रागात शिव्या देत असतो  
तोच आपल्या शिक्षणाच्या पैशासाठी जिवाचे रान करत असतो,  
जी आई मरेपर्यंत आपल्या साठीच मस्मर मरत असते  
तिलाच आपल्याला कधी-कधी आई म्हणायची ही लाज वाटू लागते

इकडे हजार मागवलेले असतात  
तिकडून आई-बाप दोन हजार पाठवतात,  
जर समजल लेकरू आजारी य त्याला जेवण जात नाही  
तर त्यांना दिवसभर काबाडकष्ट करून ही अन्नाचा घास ही गिळत नाही

त्यांनी लेकराला जन्म देताना  
काही करार केलेला असतो काय माहीत नाही,  
जो पर्यंत आपण आपल्या पायावर उभे राहून सुखी होत नाही,  
तो पर्यंत यांच्या डोळ्यात कधी आनंदाश्रू येत नाही.

- श्रीकांत लक्ष्मण जावळे  
द्वितीय वर्ष (यंत्र अभियांत्रिकी)

## माझी माय

याद आती हैं जब तेरी  
आँखे भर लेती हूँ मैं।

तेरी खुशी देखकर  
जीना सीख लेती हूँ मैं।

बचपन की तेरी यादों को  
संभाल कर रखती हूँ मैं।

तेरी हर परेशानी से  
पहले गुजरती हूँ मैं।

तु रोता है तो दर्द मुझे होता है।  
मेरा साया हर वक्त तेरे साथ होता है।

अफसोस नहीं इसका  
तु साथ नहीं है मेरे।

दुनिया से लड़ने की ताकत  
आज भी है मुझ में।

कहने के लिए तेरी माँ हूँ।  
पर तेरे लिए तो बस्स एक बौझ हूँ।

कभी जरूरत पड़े तो  
याद करना इस बुढ़ी को।

खाली हाथ लौटकर  
नहीं जाने देगी तुझ को।

गुजारिश है खुदा से  
मेरी उम्र तुझे लग जाए।

माँ की ममता क्या होती है  
इसका एहसास तुझे हो जाए।

दुःख नहीं मुझे इस बात का  
मैंने अपना बेटा खोया।

खुशी है इस बात की  
तूने मुझे माँ बनाया।

Writer

श्वर्जा

# मन माझे



मन का माझे असे स्वैर होऊन संचारते ?  
अनेक विचारांच्या अंतरंगी का डोकावते?  
अवखळ वेडे मन का माझे स्व  
र होऊन संचारते?



न बोले कधी कुणाला स्वतःशीच बोलते ..  
अनेक प्रश्नांची निर्मिती स्वतःच करून  
स्वतःच उत्तर शोधते

न मिळता उत्तर मात्र विचलित का होते ?  
अवखळ वेडे मन का माझे  
स्वैर होऊन संचारते?



न वाटे भीती याला न कुणाचा धाक असे..  
या अमर्याद विचारांच्या दुनियेत  
एकटे हरवून जात असे..

कधी कधी वाटे या मनाला  
विचारांच्या मयदिल डोरखंडात बांधावे ..  
न कसला विचार मग निश्चित शांत रहावे..  
अवखळ वेडे मन हे माझे  
स्वैर होऊन संचारते?



- श्वेता काटे  
प्रथम वर्ष यांत्रिक अभियांत्रिकी



# Annual Reports

2019-20

The report of performance in  
annual year 2019-20 by all  
departments of college

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ZENITH 2020

# Department of Applied Sciences

## Annual Report 2019-2020

Applied Sciences Department bridges a gap between basic sciences and engineering technology. This department takes care of First year as well as second year engineering subjects like Engineering Mathematics I, II and III, Engineering Physics, Engineering chemistry and Soft Skills/Employability Skills Development.

The department has total 06 full time teaching faculties:

- 1) Dr. U.S.Kakade, Associate Professor in Physics as well as Head of Department and First Year Coordinator. He also works as a Member of College Development Committee as per Maharashtra University Act, 2016, In-charge of ARC and In Charge Change of Branch Committee after First Year.
- 2) Smt. H.H.Rakshe, Assistant Professor in Mathematics. She also heads Women Grievances Redressal Committee. First year co-ordinator.
- 3) Smt. P.V.Damre, Assistant Professor in Chemistry. She also works as a Member of College Magazine Committee. NBA Co-ordinator for Engineering Chemistry.  
 Training-a) INDUCTION PROGRAMME PHASE-1 NITTTR, REGIONAL CENTRE, PUNE, TWO WEEK 12 DAYS, 6-17 MAY, 2019 and  
 b) CHEMISTRY AND ENGINEERING ASPECTS OF WATER REMEDIATION ONE WEEK STTP, ORGANISED BY- DEPT. OF CIVIL ENGINEERING, COEP, PUNE, 1-5 JULY 2019
- 4) Smt. Y. N. Chaudhari, Assistant Professor in Physics. Member of Women Grievances Redressal Committee, student welfare cell, TATA Samarth Scholarship, CSR and student aid activities. Also taken the exam of Spoken tutorial for FE students. Worked as member in women's harassment and redressal committee. Presented poster at RMC, Savitribai Phule Pune University, Pune.
- 5) Shri. M.D.Panchal, Assistant Professor in English. He also works as Programme Officer of NSS, Coordinator of Unnat Bharat Abhiyan, Assistant Rector of Boys Hostel and Member of Student Counseling Committee. Member of Boys Hostel Mess Food Inspection Committee, and Member of MahaDBT Scholarship Forms Scrutiny Committee.  
 Training -Pedagogical FDP on Imparting Outcome Based Education in Professional Education two weeks at Dr. D.Y. Patil College of Engineering, Akurdi, Pune.

- 6) Shri.V.P.Jadhav, Assistant Professor in Chemistry. He also works as a Member of Water Supply and First Year Coordination Committee. First year Time table incharge, Class Teacher First Year CIVIL, Departmental Library Coordinator, First year remedial classes Coordinator, NBA Co-ordinator for Environmental Studies - I and Environmental Studies - II subject, Mentor for First year Instrumentation Batch students (I3 Batch). Also handled implementation of First year Physical Education Scheme. Worked as Counselor for First year Students.

In current academic year 2019-2020 the department organized following programs for First Year students.

- 1) Welcome program for newly admitted first year students.
- 2) Induction program for newly admitted first year students
- 3) Health Check up of all FE, DSE and Hostellers.
- 4) Physical Education Scheme of Savitribai Phule Pune University.
- 5) Spoken Tutorial courses like LINUX & LATEX for all desired first year students.
- 6) Parents Meet.

Apart from regular teaching learning activities, Applied Sciences Department faculty and staff is associated with activities like 1) ARC for Engineering, Pharmacy, MBA/MCA etc. 2) First year and Direct Second year admissions 3) Annual Social gathering - RESONANCE 4) Annual Sports activity - COMBAT 5) Internal as well as University Examinations etc.

Faculty of this department always encourages First year students to participate in various co-curricular & extra-curricular activities like ROBOCON, GO KARTING, ABINITIO, BAHA, IAPT, NSS, Unnat Bharat Abhiyan and all sports & cultural events.

# DEPARTMENT OF AUTOMOBILE ENGINEERING

## ***ANNUAL REPORT (2019-20)***

The department of Automobile Engineering was started in the academic year 2009-10. Since from Nine year we are striving for continuous development of our department and with that effort now department is having full equipped Laboratories with almost all Teaching resources, also higher qualified Teaching and non-Teaching staff. The department is committed for overall development of students which will help them to achieve top position of their career.

### **Department Vision**

“To develop proficient automobile engineers for sustainable development.”

### **Department Mission**

- M 1 To impart application oriented education with creative thinking and human values.
- M 2 To develop Automotive Technological skills of the students for enhancing the employability and entrepreneurship.
- M 3 To prepare the students for higher studies, research and innovation.
- M 4 Develop the graduate engineers for continual learning to serve the society.

### **Program Educational Objectives (PEOs)**

- PEO 1 Be successful in career with a sound knowledge of basic fundamentals of mathematics, engineering sciences and engineering.
- PEO 2 Develop the ability to solve real time engineering problems using core knowledge of automobile engineering.
- PEO 3 Developing the inter-disciplinary skills and professional ethics to analyze and solve the engineering issues towards sustainable development.



- PEO 4 Build up interpersonal skills, leadership, and team spirit and entrepreneurship qualities for successful profession along with life-long learning.

### Infrastructure Status

- Total Laboratories = 08 + 01(CAD Lab),
- Total Classrooms = 03 + 01(Drawing Hall),
- Total Staff-rooms = 04+01 (HOD Cabin)
- Seminar Hall = 01,
- Girls Common Room = 01
- Boys Common Room = 01

### Staff Position

- FE Intake= 60,
- Total Intake = 240,
- Total Teaching Faculties=10  
(1 Prof. + 1 Asso. Prof. + 08 Asst. Prof.)
- Total Tech. Lab Assistants = 04
- Total Auto Technician = 03
- Total Supporting Staff (Class IV) = 02

### Higher Education and Placement

Many students from previous batches were preferred to go for higher studies. Magar Sameer Ashok from the class of 2016, Chakka Venkat Siva Kanna and Bhiram Suresh Kumar from the class of 2016 has secured admission for **M.S. (Mechanical Engineering) at Rochester Institute of Technology, New York**, also Kunal Laxmangiri Gosavi from the class of 2018 has secured admission for **Mechanical Engg. Tech- Industrial** at Centennial College, Toronto, Canada. As like Lalit Deepak Shendage and Sumit Rajaram Yelpale from the same class has secured admission for M. Tech. at MIT Pune & NIT Raipur. Students were also placed in reputed companies, details of Student placement for 2019-20 are tabulated as follows.

Sr. No	Name Of The Student Placed	Enrollment No.	Name Of The Employer
1	Bodkhe Dinesh Babasaheb	17211009	Cognizant Technology Solutions India Private Limited
2	Bugade Prasad Umakant	16111019	Cognizant Technology Solutions India Private Limited
3	Shewale Akash Pradip	1611024	Cognizant Technology Solutions India Private Limited
4	Sushant Ramchandra Kadam	17211018	Cognizant Technology Solutions India Private Limited
5	Bhoi Pratik Ashok	1611031	Cognizant Technology Solutions India Private Limited
6	Gaherwar karansinh kailassinh	17211001	Cognizant Technology Solutions India Private Limited
7	Kedar Swati Ramesh	17211007	Tata Motor, Pune
8	Shekh Kaifiqbal Mohamma	16112063	Volkswagen India Private Limited
9	Bhansali Vinita Nitin	17211008	Volkswagen India Private Limited
10	Chabukswar Vinod Sheshrao	17211005	Raam Group, Hyderabad
11	Onkar Ramakant Narayanpure	17211010	BYJU'S Bengaluru
12	Vishal Chandrakant Holkar	16111030	BYJU'S Bengaluru

#### Industry sponsored project... (Academic Year, 2019-20)

For final year project, students have got sponsorship from various Industries. Tabulated details are as follows

Sr. No.	Name of Company	No. of students	Title of Project
I	Atlas Copco(India) Ltd	04	Manipulator for Cylinder Assembly
II	CIRT	04	Structural Analysis of Bus body frame Using FEA
III	Terminal Technology Pvt. Ltd.	04	Design and Fabrication of Cap Closing Machine used for Electrical Fuse Connector
IV	Infinity Automations Systems Pvt. Ltd.	04	Study on Assembly Line and process Sheet Drafting
V	Western Hills Foods Ltd. Pune	04	Energy Management And Audit
VI	Carraro India Pvt. Ltd. Pune	04	Process Sheet Updation

VII	Kulswamini Motors	04	Hybrid Power Window
VIII	Shree Enhimeers Pvt. Ltd. Pune	03	Design and fabrication of Punching Machine for Speedometer Casing of Two-Wheeler

### Departmental Organized Programme

This Department is always trying to organized socially beneficial and technically advantageous programs to bring social awareness among students and to make them technically competent. With that perception in mind for 2019-20 this Department has organized one day workshop on “**Digital Literacy Programme**” sponsored by Maharashtra State Commission for Women, Mumbai on 10<sup>th</sup> January 2020. The objective of this Webinar was to create awareness among the students about digital literacy through various digital apps.

This department has organized “**Road Safety Week- 2020**” in conjunction with SAE Collegiate Club & ISTE Student Chapter. The main objectives of this event is to create awareness among the students about road safety as well as to guide them for competitive examinations.

For the same year department has also organized 3 day “**Entrepreneurship Awareness Camp**” in conjunction with GCOEARA, Indian Entrepreneurship Development Institute Ahmedabad, ISTE Student chapter and EDSU Cell under DST- NIMAT Project 2019-20. The main objective behind organizing this camp was to inspire the students to become successful Entrepreneurs. Under this camp, an Industrial trip of the students was organized at Suyog Milk & Agro Product, Nirgudsar, in which the student were given guidance on Automation in the field of Agriculture and Industry.

### Industrial Visit, Expert Lectures and Workshops.

To enhance practical knowledge of students we are regularly organizing Industrial Visit, Expert Lectures and Workshops. For Academic Year 2019-20 Industrial Visits were organized at various Industries e.g. Relince Calibration, Sidhivinayak Auomobile, Manachar & Vighnahr Tiers, Narayangaon. Expert lecture were also organized on topic “CFD analysis of automotive components” & “Project workflow and management” delivered by Mr. Amal Gore, Sr. CFD Engineer TATA consultancy Services Pune.

**Extra- curricular activities**

Students of department are not only having the Academic Excellence but also participated in National level Technical events like BAJA, GO KART, Electric Two Wheeler Design Competition and ROBOCON. Details of students participation in various events for Academic Year 2019-20 are tabulated as follows.

Sr. No.	Title of Activity	Date of conduct	No. of Students participated	Organized by	Rank
1	Go-KART (Team PHALANX)	6 th – 9 th Feb 2020	09	Auto India Racing Championship-4 (AIRC-4)	AIR-23
2		6 th – 9 th March 2020	07	Indian Karting Championshi p (IKC), Kolhapur	AIR-16th
3	BAJA SAE INDIA 2020 (Main Event) (Team Radiance Racing	22nd - 26th Jan. 2020	14	SAE India, held at Pithampur, MP.	—
4	Electric Two Wheeler Design Competition	27th - 29th Sept.201 9	10	SAE India Southern Section	3 <sup>rd</sup> Rank in Maneuver ability Test
5	Go-KART (Team PHALANX)	10th - 13th Sept. 2019	20	Bharat Formula Karting by CADD Technology (BFKCT 2019), Coimbatore	All India Rank (AIR)- 6
6	Virtual BAJA SAE INDIA 2019 (Team Radiance Racing	12th - 13th July 2019	14	SAE India, held at Chitkara University, Panjab	—

7	"DD Robocon – 2019' IIT New Delhi	16th June 2019	03	ABU ROBOT Contest at IIT Delhi.	AIR-4, Jury Choice Award, 1 <sup>st</sup> from Maharashtra
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Students of this Department has also actively participated in various Conferences, Seminars, Workshop and Training Programs. Details of their active participations are tabulated as follows.

Sr. No.	Title of interinstitute event	Type of event Conference/ seminar/Workshop/ Training Programs/ Competitions	Date of event	Student Name	Organizing Institute
1	Cluster Level i2-e Competition	Competition	18th December 2019	Onkar Mohole, Sushant Harale, Ajay Jawalkar, Dhananjay Shinde, Sunil Khokale	CIIE, SPPU Pune
2	Marketing & Branding for Small Business	Training Program	20th - 24th Jan. 2020	Abhijeet Gawali, Aniket Bansode,	EDII, Ahmadabad
3	Marketing & Branding for Small Business	Training Program	3 rd - 7 th Feb. 2020	Roakde Sachin, Naik Akshdanand, Adasule Abhayraj, Suraj Gawali	EDII, Ahmadabad
4	Elevation's Ansys Basic to Professional Training Program	Training Program (online)	28th Jan. to 23rd March 2020	Chetna Patil	Elevation, Pune

5	One Week Webinar Series for Motorsport Vehicle Teams	Training Program (online)	8 th - 14th April 2020	Londhe Nikhil	RIT, Rajaramnagar & SAE NIS Efficycle 2020
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Students are also motivated to publish paper in National and International Journals. Details of their publication for 2019- 20 are enlisted in given table.

Sr. No	Title of Paper	Name of Author/s	Name of Journal	Year of Publication	Academic Year
1	A Review of parametric optimization of MIG Welding by Taghuchi's Method	Chetan B. Vyavahare, Vaibhav N. Jadhav, Rushabh V. Bhagate, Niranjana R. Gadade, Arvind J. Bhosale	International Research Journal of Engineering and Technology (IRJET) ISSE: 2395- 0072	Volume6, Issue 10, October 2019	2019-20
2	Design and Control of Quadraped Robot along with machine vision based path planning	Tejas Chaoudhari, Rohit Bangal, Sagar Wadhai, Ganesh Chincholkar, Prathmesh Nalawade, Kunal Patil, Hemant Ghuge	2019 IEEE Pune Section Conference (Pune Con) MIT WPU, Pune	18th -20th December 2019	2019-20

Photo Gallery



**BAJA held at NATRIP Pithampur Madhyapradesh, during 23 to 26 January 2020**



**Electric Two Wheeler Design Competition 2019**



**Entrepreneurship Awareness Camp 2020**



**Digital Literacy Programme 2020**





**Road Safety Week 2020**



**Industrial Visit at Siddhivinayak Auto, Manchar**

**Expert Lecture delivered by Mr. Amal Gore, Sr.**



**Expert Lecture delivered by Mr. Amal Gore, Sr.CFD Engineer TATA consultancy Services Pune**

# DEPARTMENT OF CIVIL ENGINEERING

## ANNUAL REPORT 2019-20

### **About the Department:**

Department of Civil Engineering is established in AY 2009-10 and presently it has intake capacity of 72. At present around 300 students are taking educations in department. From FE to BE. Department has 08 laboratories to cater the need of practical's. Department arranges site visit, expert talk, training, soft skill development program, etc, to meet requirement of student to develop them to complete engineering education. Department conducts extra-curricular activities like, NPTL, Spoken tutorial, ABINITIO a technical event and ask students to participate in activities arrangement by different colleges in SPPU.

Department is waiting to go for NBA accreditation but because of the insufficient faculty strength, department is helpless. Faculty attend the examination conducted by GCOEARA and SPPU and attend the CAP for both. Department represented / conducted the cleanliness drive for campus and department as per instructions.

### **About the Manpower:**

There are seven faculties working in the department,,out of which six are having doctorate degree. Following are the faculties:

1. Dr. A. S. Pant : Principal
2. Dr. W. N. Deulkar : Associate Professor and Head Of Department
3. D. G. Regulwar : Professor
4. Dr. M. G. Shaikh : Associate Professor : Joined the department on 11.6.2019
5. Dr. S. D. Kulkarni : Associate Professor : Joined the department on 12.7.2019
6. Prof. R. P. Thanedar : Associate Professor
7. Dr. S. B. Kharmale : Assistant Professor

There are five Instructors (Technical Lab Assistant) working in the department to cater the need of various laboratories.

Following are the instructors:

1. Mr. S. S. Gurav
2. Mr. S. S. Bisen
3. Mr. N. S. Lale
4. Mrs. A. D. Bhat
5. Mrs. K. P. Ubale, (Joined on 18.6.2019)

There are two Lab Attendants working in the department. They are,

1. Mr. P. R. Sonavane
2. Mr. P. K. Tak (Joined 19.7.2019)

➤ **Details of Major Equipments in Department :**

- Computerized Universal Testing Machine-100 tone
- compression testing machine -200 Tone
- Accelerated curing tank
- Rebound hammer NDT Testing
- UV – visible spectrophotometer, complete with essential accessories.
- Direct shear test
- Unconfined compression
- Filtration assembly with vacuumed pump
- Flame photo meter
- Total station
- Auto levels
- Digital planimeter
- GPS system
- Nautical sextant
- Turbulent flow apparatus
- Hydraulic Tilting Flume with accessories
- Ductility of tar test apparatus
- Film stripping

➤ **Faculty Achievements :**

Department runs the Testing and Consultancy cell to meet the need of Civil Industry. Under this, engineering materials are tested and infrastructure is consulted. T & C cell generates the revenue more than 10Lac per year. 50% of this revenue is paid to the Government of Maharashtra. PWD, MJP, ZP are some of the major beneficiary.

➤ **Workshop/FDP/STTP/Seminar organized by department:**

- One day workshop on “Best concrete practices and new building materials in construction” was arranged in association with Ultratech cement and company Ltd, Pune on 21.01.20.
- One day workshop cum motivational speeches for students on “Opportunities in higher studies, Research, government sectors for civil engineering” by Alumni of this dept (Salim Khan, Bhushan Jejurkar and Shrawan Pawar) on 26.06.19.

➤ **Publication by Faculties :**

Name	Details
Dr.W.N. Deulkar	<ul style="list-style-type: none"> <li>• Jagadale U. T., AsmitaMankar., Thakare S B., Nayak C. B., <b>Deulkar W. N.</b> , (2020), “<b>An experimental-based python programming for structural health monitoring of non-engineered RC frame</b>”, <b>Springer Journal-Innovative Infrastructure Solutions</b>, 5(1), pp 1-10, April 2020.</li> <li>• Jagadale U. T., Kharade R., Nayak C. B., <b>Deulkar W. N.</b> , (19),“<b>Experimental Investigation For Damage Evaluation of Bridges Using Piezo-Transducers</b>”, IIT Gandhinagar, <b>Springer Journal-International Association for Computer Methods and Advances in Geomechanics (IACMAG)</b>, March 5-7, 19 at IIT Gandhinagar, India.</li> <li>• <b>Deulkar W. N.</b> and S B Kharamale, (2020), “<b>Plastic Formwork</b>”, <i>National Conference on Advances in Construction Management (ACM 2020) organized by Department of Civil Engineering, College of Engineering, Pune on 6-7 March 2020.</i></li> </ul>

Dr. S. B. Kharmale	<ul style="list-style-type: none"> <li>Patil C S, Patil V B and Kharmale S B (2019) “Performance of steel moment resisting frame with friction damper in different Bracing” international Journal of Applied Engineering Research ISSN 0973-4562 vol 14 issue 11 Page 2453-2552.</li> </ul>
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➤ **Course attended by Faculty:**

Name	Details of course
Dr. W N Deulkar	“Design of Reinforced cement concrete” course of NPTL is attended and passed the examination with merit.
Dr. S B Kharmale	“Design of Reinforced cement concrete” course of NPTL is attended and passed the examination with merit.

➤ **Workshop/STTP attended by Faculty :**

Name	Details of Workshop/STTP
Dr. W. N. Deulkar	<ul style="list-style-type: none"> <li>Attended an AICTE-ISTE approved induction program on “Best practices for outcome based education” organized by SKNCOE, Vadgaon Pune between 19-24 Dec 19.</li> <li>Attended a <i>National Conference on Advances in Construction Management(ACM 2020) organized by Department of Civil Engineering, College of Engineering, Pune on 6-7 March 2020 and presented a paper on “Plastic Formwork”.</i></li> </ul>
Dr. S B Kharamale	<ul style="list-style-type: none"> <li>Attended a one week FDP on “Mechanics of Composite Materials and structures” From 30 Dec 2019 to 3Jan. 2020 at Govt. College of Engg. Karad.</li> <li>Attended a <i>National Conference on Advances in Construction Management(ACM 2020) organized by Department of Civil Engineering, College of Engineering, Pune on 6-7 March 2020 and presented a paper on “Plastic Formwork”.</i></li> </ul>

Dr. M G Shaikh	<ul style="list-style-type: none"> <li>• Participated in online FDP on ‘Teaching , Learning process for Beginners during Covid-19 pandemic.’</li> <li>• Completed ‘Scilab Training and Test’ organised by spoken tutorial project IIT Bombay initialized by S B Jain institute of Technology, Management and Research on 9<sup>th</sup> May2020.</li> <li>• Attended Online FDP on ‘Outcome based Education: A step towards Excellence’ organized by Govt. College of Engg. Karad from 11-15 May 2020.</li> </ul>
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➤ **Workshop attended by Instructor(TLA):**

Name	Details of Workshop/STTP
<b>Mr.S S Gurav</b>	Attended one week workshop on Computer network and hardware maintenance at Chandigarh, on 10-14, Feb 2020.

➤ **Student Achievements :**

- Organized the guest lecture for TE students on “Employability skill development” by Dr S R Kerkar, Principal (i/c), GP Awasari on 05.10.19
- Organized the guest lecture all civil Engg students on “Bamboo house” by Prashant Lingam, Social Entrepreneur on 15.02.2020.
- Remedial Lectures conducted for failure students.
- Garudkar from WALMI from Aurangabad visited the department on 07.05.19.
- Arranged expert lecture for BE students on “Opportunities in Higher Studies, Research, Government/Public sector Jobs in civil engineering Domain” by Alumni Students (Saalim Khan, Bhushan Jejurkar, and Shrawan Pawar).
- CESA & Wall Magazine is started on 9.9.2019 of which the administration is run by the students for the students for conducting the co-curricular and extra-curricular activities.
- Students are participating in the site visits at Trimurti RMC plant, Rajgurunagar to study the details of Concrete on 12.03.2020 at sewage treatment Plant, PCMC Pune to study the environmental aspect of sewage

- More than 25 students from SE to BE are participated and attended the NPTEL, Spoken tutorial, FOSS, etc Programs by IITs.
- Many more parents of students of FE to BE visited the department during parental meet and otherwise during the semester.

**Head,  
Civil Engg**

# DEPARTMENT OF COMPUTER ENGINEERING

## ANNUAL REPORT 2019-20

Computer Department has always been striving for the betterment of our students. We help our students to gain the latest technical knowledge & skills by providing them with the best teaching faculty, state-of-the-art lab facilities and excellent research and development environment. The motivation is not just to nurture their technical skills but also to provide professional grooming and guidance so that our students come-up as thorough professionals and inspiring individuals. To meet the objectives, the department pays special emphasis on teaching and hands on practical work.

Department has vibrant student group named **Hackathon**, where they hone their skills to participate in national and international level coding competitions. In SIH2020 total of 12 teams participated, out of which two teams were selected in SIH finale. Our students achieved great success in Eureka2020 organized by E cell IIT Bombay. Our students own first prize in Flipr Hackathon 6.0 organized by Flipr innovation Lab. In I2I (Ignited Innovators of India) competition students won the first runner-up prize, which was organized by Bhau Institute of Innovation, Entrepreneurship and Leadership, College of Engineering Pune. Department is proud to say that total 42 students have been placed in various IT industries for academic year 2019-20. Annual package range is from 3.5LPA to 7.00LPA.

Apart from educational qualities, students also possess extra-ordinary talent in extra-curricular activities. Computer department always works towards enhancing these qualities in its students. Special days & Resonance are some of the events where students displayed their talent. Abinitio helped students display their technical qualities & their leadership skills. Our students won various laurels in the COMBAT. Our students have reached at great heights in Kho-Kho, Volleyball, and Football. Students participated in COEP Zest 2020 Competition and won first prize in Kho-Kho. Participated in various "Shivjayanti Competitions" and got second prize in marketing competition. Our students participated in (SPPU) University Chess Competition held during 2 Oct to 4 Oct 2019 and secured 3rd rank in Women category.

Our students participated in 3-day Entrepreneurship Program conducted by TPO cell.

Lastly I wish best of luck to all students of final year. Believe in yourself! Have faith in your abilities! Only the sky is the limit. Follow your dreams and success will be yours.



## Department of Electronics and Telecommunication Engineering

### Annual Report 2019-20

The department of Electronics and Telecommunication was established in 2009-10. Since its commencement, the primary level of the department has been to value based quality education, training and research at the undergraduate in various areas of Electronics and Telecommunication Engineering with broad emphasis on design aspects of electronic systems.

The Department has always been on a high growth path and has experienced and dedicated faculty with a strong commitment to engineering education. To keep pace with the current technological trends, all the undergraduate curricula have been upgraded by Savitribai Phule Pune University.

Laboratory facilities are utilized by students for the extensive project work. The department focuses on preparing its students to meet new industry challenges and making them aware of the recent advances in the technological field by emphasizing on

- A strong technical training in modern electronics technology
- Skills in analysing and design of microelectronic circuits and system
- Latest trends in simulation
- Advanced computer networking
- Practical skills in, Image processing, VLSI Design, Fiber Optic Communication and Advance Communication

#### **Strengths:**

- Four faculty member with Ph.D. qualification.
- One faculty member is doing Ph,D through QIP.
- Experienced and Qualified Faculty Members.
- Meritorious Staff.
- Well Equipped Laboratories with Latest and Modern Equipment.
- Excellent academic records.
- Enriched Tradition of Co-curricular and Extra-curricular activities.

#### **1. E-Yantra Lab achievement**

GCOEARA inaugurated e-yantra lab through video conferencing with IIT-Bombay on 28th February 2018. Principal Dr. A. S. Pant in his inaugural speech expresses his view for the current demand of robotics. Students should use this lab on a large scale to have new job opportunities in the future.

The e-yantra Lab is supported by IIT Bombay and Sponsored by MHRD under the National Mission on Education through ICT program, Government of India. |

## Achievement 2019-20

**Theme:- patrol fish**

Team id:- pf#1296

**Team members :-**

- 1) Sagar sopan narkhede (BE e&tc)
- 2) Ashlesha maruti borade(BE e&tc)
- 3) Omkar gorkhanath sutar(BE e&tc)
- 4) Pooja kisan katakar(BE e&tc)

**Position :- AIR-3**

**Theme :- Construct O Bot**

Team I'd : CB#3149

**Team members :-**

- 1)Patil Samiksha (SE e&tc)
- 2)Kanhaiya Gawade (SE e&tc)
- 3)Shivani Meher (SE e&tc)
- 4)Ashish Shevale (SE e&tc)

**Position:- AIR 1st**

**Theme:- Construct o Bot**

Team ID:- CB#2490

**Team Members:-**

- 1)Sayed Marefat Abbas
- 2)Ashutosh Bhagwat
- 3)Pooja Mulik
- 4)Priyanka Deshmukh

**Position:- AIR 3**

**Theme:- Biped Patrol**

Team id:- BP#205

**Team members :-**

- 1)Chaitanya Ajabe (BE e&tc)
- 2)Aadesh Borate (BE e&tc)
- 3)Nitin Bargaje (BE e&tc)
- 4)Mujahid Atar (BE e&tc)

**Position :- Nation finalist**

**Theme:- Rapid rescuer**

Team id:- RR-1535

**Team members :-**

- 1)Dheeraj Manohar Jadhav (TE e&tc)
- 2)Shamal Narayan Doke(TE e&tc)
- 3)Kavita Dattatray Supekar(TE e&tc)
- 4) Aishwarya Balasaheb Patil( TE e&tc)

**Position :- Participant**

**Theme:- Automated Guided Vehicle****Team members:**

- 1)Hemant ghuge
- 2)Unnati Kulkarni
- 3)Adesh Borate
- 4)Revati Kulkarni

**Position: Regional Finalist**

Dr. Niteen P. Futane  
 Ph.D (JU, Kolkata)  
 Associate Professor  
 Electronics & Telecommunication Department.  
 Government College of Engineering and research  
 Awarasi, Dist Pune

**2. Faculty Development Programme (FDP)/Conference–**

All faculty members have done maximum Faculty Development Programme (FDP) on various fields under TEQIP-III and AICTE, ISTE chapter'

Principal Dr. A. S. Pant said, "Teachers must get advanced technical knowledge in Artificial Intelligence and Robotics to help the student, as students are important component of society" .

Dr. K. V. Thakur has published IEEE conference paper on "Fire Rescue System".

**3. Student Achievements:**

Hemant ghuge ,Unnati Kulkarni,Adesh Borate, Revati Kulkarni and Dr. K. V. Thakur has published IEEE conference paper on "Fire Rescue System "and got best session Paper award.

**ABHIKALP 2020 (Innovative Project Competition)**

Conducted By:- SPPU Research Park Foundation & Design Innovation Centre, SPPU, Pune

Held on:- 13th & 14th March 2020

Mentor Name:- Dr. Kirti V. Thakur Ma'am

**Team Members:-**

1. Unnati R. Kulkarni
2. Revati A. Kulkarni
3. Aadesh R. Borate
4. Hemant G. Ghuge

**4. Staff Achievements:**

Developed 40 KW Solar systems for college Admin building and ladies hostel by Dr A S Mane.

Prof. A. S. Mane awarded Ph.D. degree from Sant Gadge Baba Amravati University, Amravati. academic year 2019-20.

Prof. T.T. Waghmare is doing Ph.D. under QIP at VNIT, Nagpur.

**5. Interaction with outside world-**

Most of the faculty members in E&TC department are invited as resource person in different educational institute such as-

1.HOD of E&TC department Dr. M.S. Nagmode was invited for expert talk in Kolhapur Institute of Technology on topic “ Innovations and opportunities in Electronics and Telecommunications Engineering “

2. HOD of E&TC department Dr. M.S. Nagmode was invited for Academic Audit Committee of Government Engineering College, Jalgaon and Karad..

**6. Expert Lectures/Workshop –**

1. Mr. Girish Khilari (Chair Industry Relation IEEE Pune section) was invited for the expert talk on Automation .

2. Soft skill lecture arranged by TCS for employability enhancement in E&TC Department.

3. Industrial Training and hands on session for the students of TE/BE E&TC students is organized on 7<sup>th</sup> Feb 2018, by Mr. S. Natesan. Mr. S. Natesan is from OPPILA Microsystems, Pvt. Ltd. Bangalore. The training is based on Field Programmable Analog arrays for different analog applications.

**Social Activities:**

All Faculties, TLA's and Lab attendant have taken efforts in Covid-19 pandemic situation for the society.

## *Department of Instrumentation & Control*

### *Departmental Annual Report 2019-20*

Instrumentation and Control Engineering department has been established in the year 2010. It has grown to a large extent in these years. Department is committed to impart best technical education in the field of instrumentation. Our department has well-equipped laboratories like Sensor and Transducer lab, Process Control lab, Analog and Digital Electronics lab, Embedded system lab & Computer lab, Analytical and Biomedical Lab. Department has Eight regular, highly motivated and devoted faculty members along with four technical non-teaching staff and one supporting staff.

#### **Academic Result (in %):**

<b>Academic Year</b>	<b>SE</b>	<b>TE</b>	<b>BE</b>
2019-20	95.94	97.29	100
2018-19	96.11	97.14	100
2017-18	81.15	93.18	92.9

#### **BE May 2020 Rankers:**

<b>Rank</b>	<b>Name of Students</b>	<b>CGPA</b>
1	Pradnya Sawant	9.41
2	Soniya Mane	8.99
3	Reshma Shaikh	8.89
4	Rohit Bangal	8.83
5	Mayank Jha	8.71

Following students have been placed in the industries through On-Campus interviews:

<b>Sr. No.</b>	<b>Name of Student</b>	<b>Name of the Organization</b>
1	Miss. Namarta Kulkarni	Infosys,Pune
2	Mr.Sanket Deshpade	Parag Milk,Manchar
3	Mr.Tejas Kakad	Parag Milk,Manchar
4	Mr.Raunak Pawar	Parag Milk,Manchar

5	Mr.Yogesh Patil	Bijus,Pune
6	Mr. Tejas Choudhari	Infosys,Pune

### Final year Sponsored Projects for AY 2019-20

Name of students	Title	Sponsorship Organization
SAWANT PRADNYA SANJAY THORAT ARTI ANIL DUDHALMAL DEVYANI DILIP MOKAL SNEHA PRABHAKAR	Milk pasteurizer system using PLC	Abhishek Enterprises, Bhosari
Khandagle Bhagyashree UPASANI VAISHNAVEE Y. HINGAMIRE ANUP PRAKASH SORATE SAAKSHI BIBHISHAN	Ultrasonic welding SPM	Metrolab
AWALE RAHUL RAMESH BHAVE SAURABH SUNIL YADAV PRATIK SUNIL DESHPANDE SANKET MILIND	Smart water distribution system using PLC & HMI	Vision Automation
AMALE ANURADHA SANJAY SUMANT ADITI UMESH KARAMBE HEMANGI BHARAT MESTRI SAYALI SURESH	PLC based insulation resistance & missing terminal testing fixture.	Terminal tech pvt ltd
Tamboli Rajeshri Vargude Rahul S. PAWAR RAUNAK R. SONWANE ANIKET S.	Furnace safeguard supervisory system	Thermal Power Plant, Nashik
Jadhav Dojakumari K. THORAT POOJA D. THORAT ATHARVA A.	Automatic filter cleaning system	Green Energy Asia
Gadage Prashant B. AIREKAR SHREYAS ANIL MAHAJAN ROHIT B.	Process Instrumentation using Lab view cRio & embedded controller	NCL
BADGUJAR ROHAN RAJU PINGALE OMKAR DILEEP CHIKHALE SHUBHAM S. RASAL ADITYA R.	Industry 4.0 approach for process instrumentation using ARM & Lab view	NCL

Kanade Shivani R.	Smart monitoring & controlling of home by using PLC & SCADA	President Automation
SHAIKH RESHMA SHAMSHUDDIN		
DIVEKAR MALHAR S.		
MHATRE SHUBHAM Y.		

### Industrial Visits :

Department had organized industrial visit to National Chemical Laboratory at Pune for TE Instrumentation students on 21th August 2019.



### Expert Lectures Arranged:

- 1) Expert Lecture on “Embedded Systems for IOT”, by Kirti Raje Senior Software Engineer, Leap & scale Growth Partners Pvt. Ltd.
- 2) Expert Lecture on “Resource Management and Security in IOT”, by Mr. Tanmay Kamthekar , Senior Development Manager, Lumedex Healthcare Technologies Pvt. Ltd.

The students of our department have shown their sportsmen talent by participating and winning various events.

## Students Participation in DEPEX – 2020



Pesticide Detection

Students of TE Instrumentation have participated in a National Level Project Competition DIPEX-2020 at Solapur and Won “Best Project Award” (First prize).

### Students Achievements:

- 1) One of the Final year Group have presented the paper in IEEE International Conference
- 2) 73 BE students completed NPTEL Online Certification Course successfully.
- 3) DD-ROBOCON 2020 Online Festival held at Indian Institute of Technology Delhi, New Delhi on October 27, 2020
  - Rohit Bangal
  - Satyajeet Nalawade
  - Shubham Kothawale
- 4) Debate Competition at PCCOE Pimpri Chinchwad
  - Satyajeet Nalawade
- 5) ZEST 2k20 at COEP
  - a. Kho-Kho (Winner)
    - i. Pranjal Baravkar
    - ii. Aditi Lalge
    - iii. Pallavi Ratnaparkhi
    - iv. Mayuri Swami Masi
    - v. Mokal Prajakata Patil
  - b. Volley-Ball
    - i. Patil Priya
    - ii. Bhujbal Priya



## 6) Kho-Kho (Second Rank) at Army Institute of Technology

- i. Jadhav Ganesh
- ii. Berde Saurabh

## 7) Students of SE, TE and BE have completed Spoken Tutorial online certification courses. The class wise rankers in spoken tutorials are as follows

SE and TE : Three Months course on eSim

Name	Class Rank	Course Percentage
Ishwar Chaturkar	1	85.7%
Sudarshan Bhise	1	85.7%
Shubhangi Belkunde	1	85.7%
Hemangi Patil	2	82.1%
Shrikant Angre	2	82.1%
Abhishek Giri	3	78.6%
Diksha Pawar	3	78.6%
Saurabh Jamdar	4	78.6%

Name	Class Rank	Course Percentage
Parasram Falke	1	82.1%
Reshma Doke	1	82.1%
Mayuri Swami	2	75.0%
Pratiksha Supekar	2	75.0%
Shital Nakul	2	75.0%
Dipali Sahoo	2	75.0%
Aditya Deshmukh	2	75.0%
Aditi Lalge	3	71.4%
Anushka Gunjal	3	71.4%
Tejas Auti	3	71.4%
Arati Chaudhari	3	71.4%
Supriya Sawant	3	71.4%

BE : Three months course on Single Board Heater System (SBHS)

Name	Class Rank	Course Percentage
Anuradha Amale	1	82.5%
Aditya Rasal	2	77.5%
Prashant Gadge	2	77.5%

Vikas Pawar	2	77.5%
Shubham mhatre	3	75.0%
Reshma Shaikh	3	75.0%
Pallavi Chavan	3	75.0%

In the technical sphere, students have shown their talent by an active participation in the ROBOCON and Hackathon. On the social front, departmental students have contributed to society through various activities under NSS. The department students association IACESA conducts various activities in the department. Industrial visits were arranged for students to National Chemical Laboratory, Pune.

Departmental faculty have participated in various short time training programs (STTP) and NPTEL courses in this academic year. Prof. S. R. Patil and Smt. N. P. Wagh are perusing their research work in Govt. College of Engineering, Pune. Prof. K. H. Kowdiki has submitted his Ph.D. thesis for review and completion.

The entire faculty, staff and the students are working together for the betterment of the department.

**Dr. Navnath. S. Nehe**

*Head of the Department*

## **DEPARTMENT OF MECHANICAL ENGINEERING**

### ***ANNUAL REPORT 2019-20***

Mechanical Department has always been striving for the betterment of our students. The department has been preparing for NBA accreditation since several months and will formally apply for the same very soon. Most of the academic activities of last academic year were conducted in online mode due to COVID-19 circumstances.

All teachers of the department developed as well as compiled good quality learning material for the students and made it available to them in addition to engaging online classes. The teachers also attended several online Short Term Training Programs for keeping themselves abreast with recent developments in the technology.

Two Faculty Development Programs entitled "CFD for Beginners" and "IoT Ready Fluid Power" were conducted by the department under the auspices of AICTE Training and Learning (ATAL) Academy, during 28th Sept. to 2nd Oct. 2020 and 5th Oct. to 9th Oct. 2020 respectively. Both programs received very good response from faculty members throughout the country.

A number of Expert Lectures and Webinars were also arranged in online mode for the benefit of students. A departmental Program Advisory Committee (PAC) has been constituted recently for reviewing and improving the teaching learning process as well as imparting guidance for overall development of the department.

First meeting of the PAC was held on 4th Feb. 2021. Further, it gives me great pleasure to mention that all teachers of the department have scored very well in the mid semester as well as end semester feedbacks collected from the students. Students have also expressed their satisfaction in the course outcomes feedbacks.

Since the last two-three years, about 30% to 40% of the students projects are industry sponsored. The department is continuously striving hard to perform better day by day.

Dr. C.M. Sevatar, Associate Professor (CAS) and Shri. B.M. Bolkavthekar, Instructor (TLA) joined the department by transfer. Dr. R.M. Warkhedkar, Associate Professor (CAS) and Shri. S.S. Damse, Instructor (TLA) was relieved from the department due to transfer.



GOVERNMENT COLLEGE OF ENGINEERING AND RESEARCH,  
AVASARI KHURD, PUNE'S

# COLLEGE CLUBS



Where students develop the new ideas of innovation



## GCOEARA'S Success In E-yantra by IIT Bombay

Students of Government Engineering and Research College at Avsari Khurd (Ta. Ambegaon) have bagged the first position in the national level machine robotics competition. The Mechanical Robotics Competition was organized in New Delhi with the financial support of IIT Mumbai and the Ministry of Manpower Development, Delhi. 32,000 students from 1000 colleges across the country had participated in the competition.

The competition involves designing, fabricating and programming entire robots based on different themes. This year, a group of Avsari colleges got the first All India rank on the theme '**Construct o Bot**'. Students Samiksha Patil, Kanya Gawde, Shivani Meher, Ashish Shewale had entered the competition by conducting a robot design funkrate program.

This dedicated robots will play an important role in disaster management in the country in situations like earthquakes, storms, floods, natural disasters

**Names of other winners:** 3rd All India Rank Robot Design-Fabricate: Marifat Abbas, Ashutosh Bhagwat, Pooja Mulik, Priyanka Deshmukh.

**Petrol Fish Theme:** Sagar Narkhede, Aslesha Borate, Omkar Carpenter, Pooja Katkar (Final Year Automobile)

### National Final List-

**Byped Patrol Theme:** Chaitanya Ajbe, Aadesh Borate, Mujahid Aata, Nitin Bargaje (Final Year Automobile)

### **Rapid Rescue Square Theme:**

Dheeraj Jadhav, Shamal Doke, Kavita Supekar and Aishwarya Patil, e-yantra coordinator Dr. N. P. Phutane, Head, Forest Power Department Guided by Manoj Nagmode. Principal Dr. A.S. Pant congratulated all the successful Yantra team.

# अभियांत्रिकीचे विद्यार्थी चमकले

## अवसरीच्या महाविद्यालयाचे ऑनलाइन रोबोटिक्स स्पर्धेत यश

मंचर, ता १६ : अवसरी खुर्द (ता.आंबेगाव) येथील शासकीय अभियांत्रिकी व संशोधन महाविद्यालयातील विद्यार्थ्यांनी देश पातळीवरील यंत्र रोबोटिक्स स्पर्धेमध्ये प्रथम क्रमांक पटकविला आहे. आद्य आयटी मुंबई व मनुष्यबळ विकास मंत्रालय दिल्ली यांच्या आर्थिक सहाय्याने यंत्र उपक्रमांतर्गत यंत्र रोबोटिक्स स्पर्धेचे आयोजन नवी दिल्ली येथे केले होते. देशपातळीवर १००० महाविद्यालयातील ३२ हजार विद्यार्थ्यांनी स्पर्धेत सहभाग घेतला होता.



स्पर्धेमध्ये वेगवेगळ्या थीमवर आधारित संपूर्ण रोबोट डिझाईन, फॅब्रिकेट व प्रोग्राम करून तयार कराव्याचे असते. या वर्षी 'कन्स्ट्रक्ट ओ, बॉट' या थीमवर अवसरी महाविद्यालयाच्या एका ग्रुपने प्रथम ऑनल इंडिया रँक मिळवला. समीक्षा पटलाले, कन्हैया गावडे, शिवानी मेहेर, आशिष शेवाळे या विद्यार्थ्यांनी रोबोट डिझाईन फॅब्रिकेट व प्रोग्राम करून स्पर्धेमध्ये उत्तरीकता होता. रोबोट

देशात भुक्तं, वादळ, पूर, नैसर्गिक आपत्तींनंतर आपत्ती व्यवस्थापन कार्यामध्ये महत्त्वाची भूमिका बजावणार आहेत.

अन्य विजेत्यांची नावे : तृतीय ऑनल इंडिया रँक : रोबोट डिझाईन-फॅब्रिकेट : मारीफत अब्बास, आशुतोष भागवत, पूजा मुळांक, प्रियांका देशमुख.

पेट्रोल फिश थ्रीम : सागर नाखंडे, असलेशा बोरडे, ओमकार

अवसरी खुर्द (ता.आंबेगाव) : रोबोटिक्स स्पर्धेमध्ये प्रथम क्रमांक मिळविलेले शिवानी मेहेर, कन्हैया गावडे, समीक्षा पाटील, आशिष शेवाळे.

सुतार, पूजा काटकर (अंतिम वर्ष अनुविद्युत).

नॅशनल फायनल लिस्ट बायपेड पेट्रोल थ्रीम : चैतन्य अजवे, आदेश बोरडे, मुजाहिद आतार, नितीन बारगजे (अंतिम वर्ष अनुविद्युत). रॅपिड रेसक्युर थ्रीम :

धीरज जाधव, शामल डोके, कविता सुपेकर व ऐश्वर्या पाटील. ई-यंत्र समन्वयक डॉ. एन. पी. फुटाणे, वन विद्युत विभाग प्रमुख डॉ. मनोज नागमोडे यांचे मार्गदर्शन लाभले. प्राचार्य डॉ. ए.एस. पंत यांनी सर्व यशास्वी यंत्र संघाचे अधिनंदन केले.

## News article about achievement of students

We all congratulate those brilliant students for this massive success in E-yंत्रa competition as their passion and smart work had lead to this much success along with Coordinator Dr. N. P. Phutane sir.

## GCOEARA's AAYUDH 2.0 shines in SAEINDIA's TIFAN 2020 competition, secured AIR 2 spot

The team of 24 talented and hardworking students "AAYUDH 2.0" of Government College of Engineering and Research, Avasari khurd, Pune had secured AIR 2 position in final virtual round of SAEINDIA's TIFAN competition.

SAEINDIA is the India's leading resource for mobility and technology. The TIFAN is the competition organised by SAEINDIA where students from all over the colleges in India participate. \*TIFAN\* stands for "Technology Innovation Forum for Agricultural Nurturing". This competition is targeted to solve the farming challenges using mechanized solutions which helps farmers as well as it brings more engineering talents from India.

The team AAYUDH 2.0 worked on the theme of "self propelled onion harvester". This team was led by team captain Mr. Vaibhav Chavan, a student of BE mech in GCOEARA. Vaibhav did a fantastic work as team captain and handled the team in great way. The great team work, dedication and hunger to innovate something new has proven its worth. The team AAYUDH 2.0 selected for final dynamic round among 67 teams all over the nation. The team successfully completed the project of onion harvester with innovations.

Due to Covid-19 pandemic, the final round of this competition was conducted virtually. It was much difficult for students to perform in final rounds as the team was unable to work together at a place due to pandemic restrictions though team shown a great spirit and worked hard and did a great job in final round and **secured the 2<sup>nd</sup> rank among the nation.**



The students in **team AAYUDH 2.0** were – Mr. Vaibhav Mahadeo Chavan (team captain), Mr. Mahadeo Shankar Khamgal, Mr. Pavan Eknath Sutar, Mr. Pranav Anil Jadhav, Mr. Akash Chandrashekhar Shete, Mr. Adesh Dadabhau Lamkhade, Mr. Prakash Balasaheb Kokate, Mr. Vishal Ganesh Hajgude, Mr. Prathamesh Vaibhav Khisti, Ms. Pradnya Balu Kamod, Ms. Sapna Mitthu Sonawane, Ms. Pranali Ganesh Bhangale, Ms. Mayuri Nitin Tikhe, Mr. Ajay Satish Gayake, Mr. Aditya Ramesh Shinde, Mr. Ajit Prabhakar Bichukale, Mr. Suraj Bajirao Devkar, Mr. Shivam Sunil Potghan, Mr. Vishvajeet Mahesh Rajmalle, Mr. Rajat Hemant Pusdekar, Mr. Mangesh Dilip Adhangale, Mr. Abhishek Sudhakar Rao Bobad, Mr. Sham Balaji Kachare, Mr. Adesh Shantaram Thora.

These 24 gems had done a marvellous job with their skills and dedication. The girls in this team are a true motivation for other girls to take part in such competitions.

The college principal, Hon. Mr. A.S. Pant expressed his feelings after having such a great achievement for the institute and students as well. He congratulated all the students and wished them all the best for upcoming events too.



# ***Technical Nuggets***

# TOP 4 UPCOMING TECHNOLOGIES

Glance Of Innovative World...

## 5G TECHNOLOGY

5G Technology is the next generation of cellular networks and services. It is expected to provide at least 20GBPS downlink and 10GBPS uplink, which will make the 5G network to be at least 40 times faster than current 4G LTE.



## EVERYTHING-AS-A-SERVICE(XAAS)

It is a cloud computing term for the extensive variety of services and applications emerging for users to access on-demand over the Internet as opposed to being utilized via on-premises means.



## TACTILE VIRTUAL REALITY

Innovative technologies offer more immersive experiences like AR and VR. It combines the use of several types of technologies including sensors, advanced optics, etc. bundled into a single device that provides the capability to overlay augmented digital content into your real-time space.



## INTERNET OF BEHAVIOURS (IOB)

The collection and use of data to drive behaviors is called the Internet of Behaviors (IOB). An example of it is industrial sites having employed computer vision to determine if employees were complying with mask protocol and then collecting this behavioral data to be analyzed by the organizations to influence people to follow government protocols at work.



"THE ONLY WAY TO DISCOVER THE LIMITS OF THE POSSIBLE IS TO GO BEYOND THEM INTO THE IMPOSSIBLE."

BY -ARTHUR C. CLARKE

## 3D Printing: A world changing technology

3D Printing is emerging as the Coolest hobby with the Hottest trend in this Techno-Savvy World.

Through this technology everything can be brought into real world without dimensional errors.

Nowadays, from a working gun to Multi-Storey Apartment, everything can be printed in 3Dimensions with ease.

This is also one of the most promising technology for replication which might have great impact on world within a decade.

*Here are 10 Insights which may eventually transpose the World:*

1) **Household Replacements:** - The Parts of precious items can be easily replaced if broken or damaged. They can be designed as well as they are readily available in. **stl** format.

Have a glance through these websites:

<https://grabcad.com/>

<https://www.thingiverse.com/>

<http://www.printmeasheep.com/en/>

<https://www.cgstudio.com/>

<https://www.myminifactory.com/>

and many more you will find.

2) **House Constructions:** - Constructing cheap homes with very efficient carbon footprints and quick. The recent 3D printed house took less than 24 hours and less than \$12,000 to construct.

This technology would make construction more eco-friendly and also reduce various costs.

3) **Cheaper Organ Transplants:** - High Precision printers are being used to manufacture cheaper prosthetics. It will be helpful in the times of war, accidents and urgent transplants. These are usually cheaper than the prosthetics used till date.

4) **Parts Any Time Any Where:** - We can taste the technology not only on land but also space and underwater. Of course, there are challenges at present but these will save a lot of time and money in upcoming decade. Printing parts in space will also eliminate the resupply missions and henceforth it'll give pace to Space Missions.

5) **3D Printed Pizza:** - Todays Printing technology also enables us to print various food items including Pizza, chocolates etc. Edible oil and Food Powder are used as the filaments through the supply cartridges and we can get printed food. Printing world may end the hunger issues in the poor countries.

6) **Recyclable Products:** - The Plastic waste can be reduced by reusing the moulded plastic for printing hobby products. Some of the Printers are specially designed for the same purpose.

The other waste plastic also can be used for printing new parts. The study states that the recycling the waste plastic into the Parts consumes much less energy than other recycling methods use.

7) **Hobby printing:** - The favourite designs, sculptures, structures can be printed. They can also be reused, recycled and restructured as per their purpose. The hobby printing is completely done by recycling the plastic. This will eventually be helpful in preserving the great structures and also prototyping them.

8) **Rare Spares:** - 3D printing technology will be used maximum in industrial maintenance sectors where there is huge demand for small and minute parts. Printing them will be easier rather than searching for the part conventionally.

9) **Gaming:** - The gaming accessories such as consoles, controllers, mountings, adjustable are not affordable for everyone. So Printing them with proper material will be very cheap and time saving. The technology will also boost the gaming industry into next level. Augmented Reality consoles can be made available easily through printing. Their models are available in the websites given above.

10) **Weapon Manufacturing:** - Last but not the least, the weapons are also printed now a days using 3D printing technology. As usual this has advantages as well as disadvantages but this can also manufacture the bulletproof shield so it depends on person who uses the technology.

*Article by: Shubham Kothawade*

*Ref: . 3D Printing by John Jordan*

*Source: . World Wide Web*

# Zenith 2020



We hope that you enjoyed this edition of magazine. There are many things which was not been able to take place there in academic year 2019-20 due to pandemic. So we expect this pandemic may over soon and we all can enjoy college life. Till then stay home, stay safe.

Happy learning!!

- Zenith 2020 committee