

FROM THE PRINCIPAL'S DESK

Sardar Patel College of Engineering (SPCE) was established in 1962 under the management of Bhartiya Vidya Bhavan. SPCE was granted autonomy in 2010, and the college has achieved numerous milestones since then.

SPCE has always strived for meeting the growing demand for engineering talent, and for onward growth and betterment. This is evident from the NIRF ranking received by the institute in the past few years, which has given us an elite ranking. The Civil Engineering and Mechanical Engineering under-graduate programmes have been accredited by the National Board of Accreditation (NBA) up to June 2022. SPCE is one of the 192 institutes in India and 17 institutes in Maharashtra selected for the third phase of Technical Education Quality Improvement Programme (TEQIP – III) and has also undertaken mentoring Rewa Engineering College, Rewa, Madhya Pradesh under TEQIP.

SPCE is now entering its 11th year of autonomy, and the institute has successfully completed the academic year 2020-21 via the online teaching-learning mode in light of the Covid-19 pandemic. We have implemented various teaching tools to ensure that our students receive a seamless education in the online mode.

Our professors and the supporting teaching staff of SPCE have worked hard toward implementing courses and programs which play a major role in improving the technical skills and also, in the overall development of the students.

Our professors have attended international conferences, participated in various webinars and workshops, and have also engaged in research projects to broaden the scope of their knowledge. The supporting staff engage in several developmental courses and strive to implement better practices amongst the students and professors alike.

The institute has always prioritized the overall development of its students. Our students have participated in various national-level competitions and emerged successful. The students have also organized the technical and social events – like SPECTRA, SPACE, SPIRIT, Annual Debate competition, in the online mode in this academic year.

Students are playing a vital role in various government schemes like Unnat Bharat Abhiyan (UBA) and Unnat Maharashtra Abhiyan (UMA) acting as enablers to execute project objectives.

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Our institute was established in 1962, and we have completed 59 years till date. SPCE was granted autonomous status by the Universal Grants Commission (UGC) in June 2010. We are proud to present the 59th Annual Report of our Sardar Patel College of Engineering. The following is a summary of all the activities conducted in the academic year 2020-21.

Civil Engg. Dept. Annual report 2020-21

1. Training programmes organized:

- Software training organised on March-April 2021 on “ETAB & STAAD.PRO Software” by Dr A.A. Bage, Prof. Ankit Asher with Naresh Mistry (B.Tech/M.Tech).
- Training programme organised on April 2021 on “Design of machine foundation for industrial equipment’s” by Prof. Ankit Asher with Medha Moghe (M.Tech).

2. Guest Lectures by Experts from Industry/Institute Organized (03):

- Guest lecture organised on 19th March 2021 on “GPR and its applications” by Prof. G. Venkatachalam, Former Professor and Head of Civil Department, IIT Bombay.
- Guest lecture organised on 30th July 2021 on “Contract administration” by Dr. Kirti Dave/ Dr. Vandana Bhatt from Techno Legal Consultant.
- Two guest lectures were organised by Dr. Kirti Dave/ Dr. Vandana Bhatt from Techno legal Consultant.

3. Faculty Achievements:

- Received Indian Patent from Government of India (Patent No. 349375 date 25.10.2020) for Innovation on “Earthen material-based cathode separator assembly for scalable Bioelectrochemical system” (805/KOL/2013 dated 05/07/2013) (Dr. A. N. Ghadge)
- Received Certificate of an Eminent speaker for a delivered expert talk in eFDP on ‘Waste to Bio-energy (Dr. A. N. Ghadge)
- Research Project completed development of Bio-electrically assisted microbial Reactor to reduce air pollution and energy recovery from wastewater (Dr. A. N. Ghadge)
- Dr. A. R. Kambekar Member Board of studies (BOS) Civil Engineering: SVKMs NMIMS MPSTME Mumbai (Deemed University)
- Dr. A. R. Kambekar Member BOS Civil Engineering: SVKMs SBM Polytechnic Mumbai (Government Aided)
- Dr. A. R. Kambekar Advisory Board member: SSJCET Asangaon Dist. Thane (Mumbai University)
- Dr. A. R. Kambekar Advisory Board member Civil Engineering: TCET Mumbai (Mumbai University)

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- Dr A. R. Kambekar PhD. PET paper setters panel member: University of Mumbai
- Dr A. R. Kambekar Students Mentor: IITB Alumni Students mentorship programme Cell.

4. Faculty members attended seminar/workshops: (Total = 07)

- No. of Faculty registered for SWAYAM courses: 03
- No. of SWAYAM courses completed by Faculty: 02
- No. of workshop/FDP/Course attended by Faculty: 02

5. Student Achievements:

- No. of Final year students passed for GATE-2020: 28
- No. of students got Placement to campus (2019-20): 13
- No. of Final year students passed GRE: 01
- No. of Final year students passed CAT: 01
- Expert Talk organised through CEA: 01

6. Result Analysis:

No.	Class	Pass percentage
1	M. Tech (Structural)	89.47
2	M. Tech(Construction Management)	100
3	B. Tech (Civil)	97.44
4	T. Y. B. Tech (Civil)	94.44
5	S. Y. B. Tech (Civil)	98.65
6	F. Y. B. Tech (Civil)	60

Electrical Engg. Dept. Annual report 2020-21

1. **Guest Lectures:** These lectures were delivered by experts from industry and reputed academic institutes to update students with the advances in technology. Topics covered in these lectures were: 16 and 32-bit Microprocessors, Machine Learning, Artificial Intelligence, PLC and HMI, Sustainable Development, PMU and WAMS and many more. Few laboratory sessions in BEE I and Power System II were conducted by research scholars pursuing Ph. D. from IIT Bombay which helped students learn new simulation techniques.
2. **Workshops for students:** Topics covered were Neural Network, AI and Machine Learning using Python and Beginner's Guide to Python.
3. **Student Achievements:** 39 students appeared for the GATE examination and 8 students have qualified for the exam.
4. **Placements:** More than sixty per cent of students are placed at various companies like L&T, Siemens, Jacob Engineering, Lodha Group, TATA Power, Reliance Industries.

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5 Summary of AICTE/TEQIP Mandate Information during 2020-2021:

- Number of research conferences attended online = 06
- Number of STTP/Workshops attended online by faculty = 23
- Number of workshops conducted for students = 02
- Number of guest lectures arranged = 13
- Number of technical publications in international conferences = 06
- Number of new courses offered in 2020-2021 = Regular: 02 Professional Electives: 01
- Number of ICC constituted for courses taught by faculty = 04 UG
- Number of students who appeared for the GATE examination = 39

6. Result Analysis:

No.	Class	Pass percentage
1	M. Tech (Power Electronics)	100
2	B. Tech (Electrical)	100
4	T. Y. B. Tech (Electrical)	89.71
5	S. Y. B. Tech (Electrical)	90.52
6	F. Y. B. Tech (Electrical)	86.76

Mechanical Engg. Dept. Annual report 2020-21

- Awards received by faculty members and researchers:** National Productivity Award 2021 (Platinum category), received by Dr. Subhash K. Mahajan (faculty), Dr. Santosh B. Rane (faculty) and, Mr. Bhaveshkumar N. Pasi (researcher), and National Productivity Award 2021 (Gold category), received by Dr. Subhash K. Mahajan (faculty), Dr. Santosh B. Rane (faculty) and, Dr. Prathamesh R. Potdar (researcher). Best Thesis Presentation Award, received by Mrs. Shivangi Thakker (researcher, under the guidance of Dr. Santosh Rane) and Best Paper Presentation Award, received by Mr. Yogesh Kishor Mogal (researcher), along with Co-authors: Dr S.K Mahajan, Dr Santosh Rane.
- PhD receivers:** Dr. Shivangi Viral Thakker, Dr. Prathamesh R. Potdar and Dr. Yahya AM Narvel (under the guidance of Dr. Santosh Rane)
- Patents received:** Santosh B. Rane, Bhaveshkumar N. Pasi and Subhash K. Mahajan (2021), "A Method for Performing Forging Operation: A Perspective of Industry 4.0", DOI:10.2174/2212797614666210120110548, Recent Patents on Mechanical Engineering, 2021, 14, 00-00 Bethemscience Publications.

4. Faculty achievements:

- Dr. Sudhakar Umale has been working as Advisory Committee Member in Student Convention SAEINDIA Western section from 21 Dec. 2020. He has worked as Judge in “Final Round of Technology Innovation Forum for Agricultural Nurturing (TIFAN) – an SAEINDIA National level student competition for Design Jan-Feb. 2021, and as a Judge for evaluation of divisional level Rise Competition of Mahindra and Mahindra conducted on March 15, 2021 at Kandivali Plant, Mumbai.
- Dr. Kiran Bhole has obtained a grant of Rs. 93000/- for conducting AICTE’s ATAL sponsored faculty development program on “Micro-electromechanical Systems”.
- Prof. Sachin Vankar’s abstract has been accepted by MECHCOMP7–7th International Conference on Mechanics of Composites in Porto (Portugal) organized by Instituto da Construção, Porto (Portugal). An online presentation is scheduled on 1-3 Sept, 2021.
- Prof. Kunal Y. Bhavsar was elected as Youth Chair in ISHRAE Mumbai Chapter for Society Year 2020-21, and as Young Engineer in ASHRAE for ASHRAE Mumbai Chapter for Society Year 2020-21.
- Prof. Megha Janbandhu has successfully submitted her Ph.D. pre-synopsis.
- Prof. Parag Muley has successfully Delivered presentation on Professional Etiquettes as invited panel discussion speaker in Webinar Professional Etiquettes Development by National Institute of Technical Teachers’ Training & Research (NITTTR), Bhopal, 16 /07/2020 [On-line].

5. Faculty achievements summary:

- No. of webinars and workshops conducted for the students: 25
- No. of training/faculty development programs attended: 11
- No. of webinars/interactive sessions participated in: 15
- No. of short-term courses attended: 20
- No. of expert lectures delivered: 29
- No. of courses completed by faculty members on Swayam/NPTEL portal: 2
- No. of courses coordinated: 1
- No. papers published in national and international journals, peer-reviewed publications: 74
- No. of workshops attended by faculty members: 13

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6. Result Analysis:

No.	Class	Pass percentage
1	M. Tech (Machine Design)	100
2	M. Tech (Thermal Engineering)	100
3	B. Tech (Mechanical)	97.26
4	T. Y. B. Tech (Mechanical)	100
5	S. Y. B. Tech (Mechanical)	93.24
6	F. Y. B. Tech (Mechanical)	91.89

Student Achievements 2020-21

1. Ms. Saloni Chandrashekhar Raut from F. Y. B. Tech Mechanical has participated in the inter-collegiate poster-making competition held on April 9th 2021 at Anjuman-I-Islam's M.H. Saboo Siddik College of Engineering. Her poster on “Save Water Save Life” has secured 2nd place.
2. Ms. Shweta Godbole of F. Y. B. Tech Civil has participated in the flagship event “Jazbaa” conducted by Performing Arts Club, Institute of Chemical Technology (ICT). She has secured the 1st place and a cash prize of ₹8000 in the Scen-cere Writing event.
3. Mr. Yash Khiste and Ms. Aparna Pathak from S. Y. B. Tech Electrical have participated in the National Mathematics Application Project Competition. Their project report has secured the 1st place in the competition.
4. Mr. Rickson Irudayakani Arasan has made the official world record in his attempt to make a “Facial Recognition App” using Python.

TEQIP-III

1. Our institute has conducted the following activities under the third phase of the Technical Education Quality Improvement Programme (TEQIP – III):
 2. 1. TEQIP – III sponsored National Level Programme on Reform in Technical Education: Perspective of National Education Policy from 4th to 6th March 2021.

ACCREDITATION

The institute has received accreditation by the National Board of Accreditation up to June 2022 for the undergraduate Civil and Mechanical Engineering Departments

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Students who have secured admission in MS programme:

1. Mr. Kiran Naik from B. Tech Civil dept has been accepted for M. Tech in Civil Engg program at Indian Institute of Science (IISc), Bangalore.
2. Mr. Mithilesh Raikwad from B. Tech Civil dept has been accepted for MBA program at IIT Bombay - Shailesh J. Mehta School of Management.
3. [*] Mr. Aniket Shinkar from B. Tech Civil dept has been accepted for MS in Advanced Construction Management at NICMAR.
4. Mr. Akash Munjani from B. Tech Civil dept has been accepted into Lakehead university for MSc in Civil Engineering program.
5. Ms. Anuja Damodar from B. Tech Electrical dept has been accepted into Purdue university for MS in ECE – Power and Energy systems.
6. Mr. Aakash Deshpande from B. Tech Electrical dept has been accepted for MS Research in Electrical Engineering at IIT Indore.
7. Mr. Aman Kundra from B. Tech Electrical dept has been accepted into XLRI Delhi-NCR for Post Graduate Diploma in Business Management.
8. Ms. Sanskruti Takalkhede from B. Tech Electrical dept has been accepted for MBA program at IIM Lucknow.
9. Ms. Vanshika Sangidwar from B. Tech Mechanic.
10. Ms. Girisha Agrawal from B. Tech Mechanical dept has been accepted into Cranfield university, UK for MSc in Advanced Motorsport Engineering.
11. Mr. Faiz Khwaja from B. Tech Mechanical dept has been accepted into University of Southern California, Northeastern University for MS in Data Science.
12. Ms. Aboli Patil from B. Tech Mechanical dept has been accepted into North Carolina State University for MS in Industrial Engineering.
13. Mr. Viraj Patil from B. Tech Mechanical dept has been accepted into Wayne State University for Master's in Mechanical Engineering.
14. Mr. Aash Shah from B. Tech Mechanical dept has been accepted into Clemson University for MS in Automotive Engineering.
15. Mr. Ameya Gidh from B. Tech Mechanical dept has been accepted into Northeastern university for MS in CS Align.
16. Mr. Rahul Kapse from B. Tech Mechanical dept has been accepted into IIT Madras for Direct PhD in Aerospace Engineering.
17. Mr. Vedant Rade from B. Tech Mechanical dept has been accepted into IIT Indore for MSc (Research) in Mechanical Engineering.