- **Infrastructure**

| Sr. No. | Item | No./Description |
|---|---|---|
| 1 | Classrooms | 02 |
| 2 | M.Sc. Part I and Part II Laboratories | 02 |
| 3 | Research Laboratories | 05 |
| 4 | Computer Laboratory | 01 |
| 5 | Departmental Library | 400 Books |
| 6 | Ladies Room | 01 |
| 7 | Centre for e-waste management | 01 |

- **Subject Specialization**

  Department offers academic programmes in the frontier areas of electronics. State of art courses in the specialization such as Embedded Systems, Communications, Power Electronics and VLSI have been in corporate in the curriculum.

- # Services

## FACILITIES / SERVICES OFFERED

The departmental library contains around 400 books and 150 data books. A trade magazine 'Electronics For You' is made available in the departmental library. The department has well equipped computer laboratory. All the faculty members and students have access to the Internet facility. Department has also developed writing laboratory

## EXTENSION SERVICES

The department faculty members are keen in extending their expertise for the benefit of university administration in general and the department of technology, internet section, university library and computer science department in specific.

## CONSULTANCY SERVICES

The department has successfully completed following internal consultancy assignments;

- Extending expertise in establishing campus-wide Internet
- Counselling for the entrance examination
- Assistance in designing On-line examination system
- Participation in administrative and technical committees of university
- Extending expertise in establishing Antenna/Microwave Engineering on the campus

- # Instruments

**Hardware Tools**

- Spectrum analyzers
- Oscilloscopes, Power Scopes
- Signal Generators, VHF Generators
- Xilinx, Altera Boards
- 8051, PIC, ARM Microcontroller Kits
- WinCE
- Microstrip antenna measurement system
- Thin film sensor fabrication facility
- Process Control Laboratory tools
- Communication System Diagnostic Tools
- Hardware Testing Tools
- Klystron, Gunn Oscillators, Power Supplies, X, Ku band Microwave Components
- HF, VHF, UHF Signal Sources
- Antenna, GPS, Digital Communication, TV and Satellite trainer kits
- Robot trainer system
- Work-Stations
- DSP Trainer Kit

**Software Tools**

- MATLAB
- COMSOL Multiphysics
- FOSS - Antenna Magus, Ansoft, Ubuntu Linux OS, Scilab, WSN Simulator
- AVR Studio, MPLAB IDE
- C/C++, MikroC Compiler, Keil
- IE3D antenna simulation tool
- Keil. MicroC, WinCE Development tool
- PSIM software with following Modules

a) Motor Drive Module

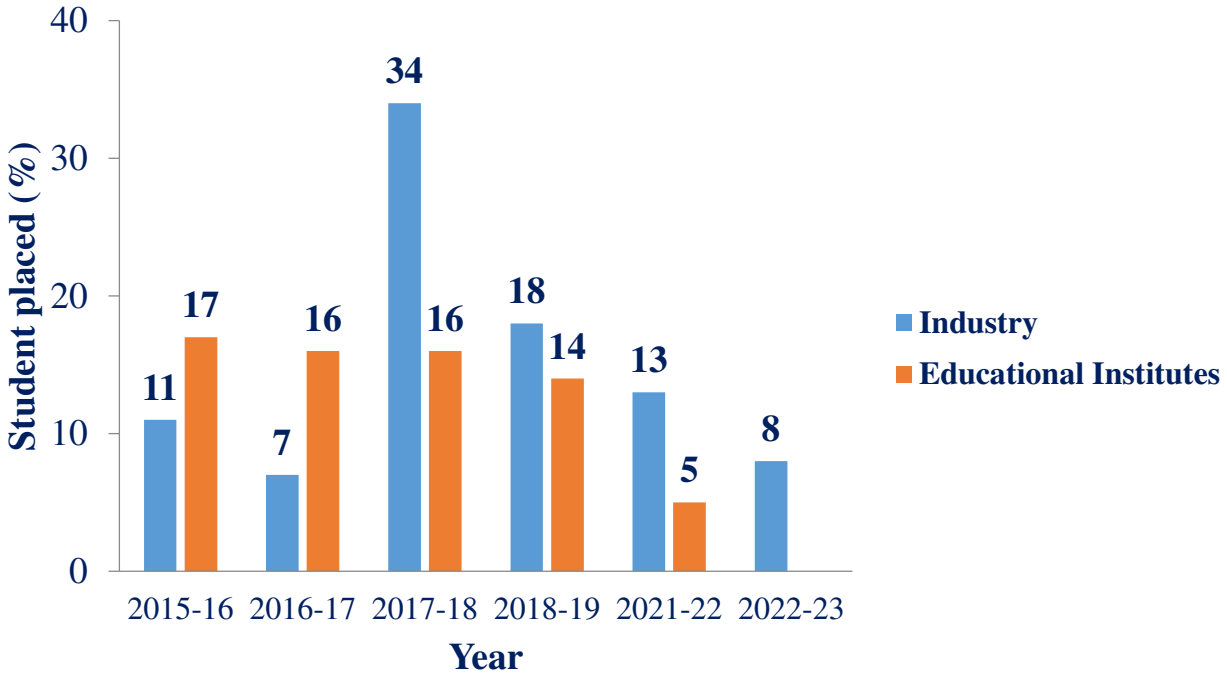
b) Renewable Energy Module

c) ModCoupler

d) SmartControl Module

- Xilinx and Altera EDA tools
- FOSS tools

- **Placement**


40
30
20
10
0
Student placed (%)
11
17
7
16
34
16
18
14
13
5
8
2015-16
2016-17
2017-18
2018-19
2021-22
2022-23
Year
Industry
Educational Institutes

- **Faculty**

| Faculty Name | Designation | Qualification |
|---|---|---|
| Dr. P. K. Gaikwad | Professor & Head | M.Sc., (SET), Ph.D. |
| Dr. R. K. Kamat | Senior Professor | Ph.D. |
| Dr. S. A. Shinde | Associate Professor | Ph.D. |
| Dr. P. A. Kadam | Assistant Professor | M.Sc., (SET), Ph.D. |
| Dr. M. K. Bhanarkar | Assistant Professor | Ph.D. |
| Dr. S. M. Maske | Assistant Professor | M.Sc., Ph.D., (NET-JRF, SET) |
| Mr. M.K.Pandhare | Assistant Professor (Contributory) | M.Sc., (SET) |

- **Publication**

- Patents - 00
- Publications - 5
- Books published - 12

| | |
|---|---|
| Scopus | 239 |
| Citation Index – range / average | 10 – 618 / 88.30 |
| SNI | 0.587 – 1.775 |
| SJR | 0.050 – 0.293 |
| Impact Factor – range / average RG of faculty | 0.1 – 5.8/ 3.42 |
| h-index | 59 (total) |
| Research gate score | 69 |

**Books -**

| Sr. | Name of the Book, Publisher, Publishers | Year |
|---|---|---|
| 1. | Electronic Devices and Circuits. A. S. Vaingankar. Mahalaxmi Publishers. | 2000 |
| 2. | Digital Electronics. Bhanarkar M. K., Shaikh A. A. and Yannawar R.S. :Taj Publication. | 2006 |
| 3. | C Application Progammes and Projects, Dilip Mali and PramodVasambekar: Penram International Publishing (India) Pvt. Ltd. ISBN:81-87972-24-6 | 2007 |
| 4. | Illustrated Programming with C++, Dilip Mali and PramodVasambekarPenram International Publishing (India) Pvt. Ltd., ISBN 81-87972-30-0 | 2009 |
| 5. | Unleash the System On Chip Using FPGAs and Handel C. R.K.Kamat, S. A. Shinde, V.G.Shelke Publishing – U.K.: Springer. | 2009 |
| 6. | Exploring C for Microcontrollers : A Hands on Approach, Parab J.S., Shelake V.G., Kamat R. K., Naik G. M., New Age International, ISBN 978-81-8489-280-2 | 2010 |
| 7. | Harnessing VLSI System Design with EDA Tools.,R.K.Kamat, S. A. Shinde, P.K.Guikwad, H.Guhilot U.K.: Springer. | 2012 |
| 8. | A Monogram on Design & Implementation of: Spatially and Temporally Efficient Visualization Algorithms for Manufacturing Industries. R.S.Kamath, R. K. Kamat Germany: LAP Lambert Academic Publishing. ISBN 978-384811535 | 2012 |
| 9. | A Treatise on Sensor Interfacing: A Developer's Perspective. TukaramDongale, R. K. Kamat . Germany: LAP Lambert Academic Publishing. ISBN 978-3659122330 | 2012 |
| 10. | Zigbee and RFID based System Design. Nilima D. Thombare, T. D. Dongale, Rajnish K. Kamat Germany: LAP Lambert Academic | 2012 |

| | | |
|---|---|---|
| | Publishing. ISBN 978-3847343660 | |
| 11. | Pathways of Research in Electronics: Reviewing the Last Decade. Tukaram D. Dongale, Vinod G. Shelke, Rajnish K. Kamat Germany: LAP Lambert Academic Publishing | 2012 |
| 12. | Fractal Antenna: Muralidhar Bhanarkar and Ganesh Waghmare: LAP LAMBERT Academic Publishing, ISBN: 9783659897771 | 2016 |

- **Seminars Conferences Workshops**

| Sr. No. | Seminars Conferences Workshops | Total Participants | Name of the Experts | Year | Funding Agencies |
|---|---|---|---|---|---|
| 1 | National Conference Information and Communication Technology for Education **ICTE-2013** | 85 | 1. Prof. Ram Takwale, University of Pune<br>2. Prof. M. B. Deshmukh, Mumbai University<br>3. Prof. Loues Varnal, Goa University<br>4. Dr. Vivek Chavan, Nagpur University<br>5. Ms. Priya Kulkarni, Mentor, ICT learning | 4-5, March, 2013 | UGC SAP & DST-PURSE |
| 2 | National Conference on Latest Advances, Trends in Electronic Science and Technology **LATEST-2014** | 126 | 1. Prof. M. J. Kumar, Fellow IEEE, IIT, Delhi.<br>2. Prof. V. Kumar, Fellow IEEE, ISM, Dhanbad<br>3. Prof. M. V. Pitke, Fellow IEEE, Chair IEEE Mumbai Chapter.<br>4. Prof. A. D. Shaligram, Pune Univ., Pune | 14-15 Feb., 2014 | UGC-SAP & DST-PURSE IEEE |
| 3 | 5 Days Training and **Workshop** on 8051 Microcontroller for College Teacher | 30 | 1. Prof. P. N. Vasambekar<br>2. Prof. R. K. Kamat<br>3. Dr. R. R.M udholkar<br>4. Dr. P. A. Kadam<br>5. Dr. M. K. Bhanarkar<br>6. Dr. S. A. Shinde | Aug., 2014 | Department |
| 4 | National Conference on Emerging trends in Electronics and Computer Science **ETECS-2015** | 100 | Prof. V. Kumar, Fellow IEEE, ISM, Dhanbad | 13-14 Feb., 2015 | UGC-SAP |
| 5 | National Conference on Emerging trends | 80 | 1. Prof. Naik Goa University, Goa<br>2. Prof. A. D. Shaligram, | 09 Feb., 2016 | UGC-SAP |

| | | | | | |
|---|---|---|---|---|---|
| | in Electronics **NCETE-2016** | | Pune University, Pune | | |
| 6 | International Interdisciplinary Conference on Curriculum Reforms in Higher Education: Global Scenario **IICCRHE-2018** | 200 | 1. Prof. Dr. Mohan Gautam Leiden, **The Netherlands**<br>2. Dr. Shubhendru Doiphode Queen Mary University of London, **UK**<br>3. Dr. Aurelio P. Vilbar University of the Philippines, Cebu, Cebu City, **Philippines**<br>4. Prof. Dr. Ajit Thete Director, Centre for Development of Leadership in Education**, India.**<br>5. Prof. Dr. Shefali Pandya University of Mumbai, **India.** | 04 Feb., 2018 | DST-PURSE |
| 7 | **Value Added Course** on ROBOTICS for PG students | 36 | Robotics Industry | 20-25 July, 2018 | DST-PURSE |
| 8. | 5 Days online lecture series on **Green Electronics** under UGC STRIDE | 188 | 1. Dr. Rajani Panchang, Savitribai Phule Pune University, Pune<br>2. Yogesh Dudhpachare, Chandrapur<br>3. Dr. Dhole, Nagpur<br>4. DRDO, Hyderabad.<br>5. Prof. M. D. Sirsath Dr.BAMU Aurangabad | (Feb. 10-14, 2021). | UGC |
| 7 | Webinar on **e-waste management**, under Centre for e-waste management, Shivaji University, Kolhapur | 90 | 1. Dr. Rajesh Shambharkar Nasik<br>2. Dr. Rajani Panchang, Savitribai Phule Pune University, Pune | (March 25, 2021) | SUK |
| 8. | *Webinar on electronic waste and sustainable development* | 215 | 1.Dr. Rania Lampou, greece<br>2. Prof. Siham Kafafi, Newzealand<br>3. Mr. Ashok Nalawade, Advik Hitek Pune | *February 13-15, 2024).* | SUK |

**Guest Lectures/Webinars**

| Sr. No. | Program Name | Name of the Experts | Year |
|---|---|---|---|
| 1. | Guest Lecture on Career Opportunities in Electronics | Dr. Shashikant Sadistap<br>Chief Scientist<br>CSIR-CEERI Pilani, Rajasthan | 2024 |
| 2. | Guest Lecture on Intellectual Property Rights | Dr. S. B. Sadale<br>Director<br>IPR Cell, Shivaji University, Kolhapur | 2023 |
| 3. | Webinar on Electronics: Trends & Opportunities | Prof. A. D. Shaligram<br>Emeritus Professor,<br>Savitribai Phule Pune University, Pune | 2021 |

- **Photo Gallery**

International Interdisciplinary Conference on Curriculum Reforms in Higher Education: Global Scenario, Organized by Department of Education, Department of Electronics, Department of Computer Science & Internal Quality Assurance Cell, Shivaji University, Kolhapur, February 04-06, 2018

National Conference on Emerging Trends in Electronic and Computer Science, February 11-12, 2015


Mega Job-Expo-2016

Mega Job & Skill Fair 2018

Bicycle Rally from Shivaji University, Kolhapur to Panhala Fort to create awareness of energy and environment 2014


One Week NSS Camp on Digital Literacy, Varanage, Dist. Kolhapur (January 16-22,2017)

Alumni Meet 2020


Departmental Campus Cleaning Program


Celebration of Chhatrapati Shivaji Maharaj Jayanti


Sardar Vallabhbhai Jayanti


Teachers Day Celebration with superannuated 2019


Inauguration of Centre for E-waste Management 2024

International Webinar on Electronic Waste and Sustainable Development
Feb.12, 2024

National Science Day Celebration 2024, Student competitions held: Project Competition, Essey Competition, Elocution, Quiz Contest; each competition held at three levels - UG level, PG level and research level.

Guest Lecture on Career Opportunities in Electronics by Dr. Shashikant Sadistap, Chief Scientist, CSIR-CEERI Pilani, Rajasthan, 2024


Guest Lecture on IPR, 2023


Students Visit Air Quality Monitoring Van, 2023


Pandit Dindayal Upadhyay Jayanti, 2022


Welcome Function of M.Sc. I Students, 2023

Welcome Function of M.Sc. I Students, 2022


Alumni Meet, 2023


Alumni Meet, 2022


Teacher's Day Celebration, 2023

Campus Cleaning Drive. 2023

# HOME

**UGC SAP AND RUSA RECOGNIZED**

**DEPARTMENT OF ELECTRONICS**

**SHIVAJI UNIVERSITY, KOLHAPUR**


**ESTABLISHED IN JUNE 1987**

# ABOUT US

Department of Electronics, Shivaji University, Kolhapur is at the forefront of the academics, research and development work in the field of Science and Technology. The Department has been recognized at National level by the UGC since 1987 and recently appeared on the national quality radar with the UGC Special Assistance Program (SAP) from year 2012. Currently M.Sc., M.Phil. and Ph.D. programs are offered.

The Department is largest in terms of the faculty strength (2 Professors, 1 Associate Professor and 5 Assistant Professors) perhaps at national level. All of them are active in research. Under the academic flexibility and choice based credit system (CBCS) framework from June 2007, M.Sc. syllabus is thoroughly revised from time to time with structural modifications and inclusion of new additional theory papers and practical work component. The recent revision in 2019 incorporates outcome based approach with POs, PSOs and COs in place. All the faculty members are actively involved in the syllabi revision program, introduced in 2003-04 till today.

Teaching-Learning in the Department includes smart classroom and MOODLE. Students are encouraged to participate in sports and extracurricular activities. Teachers in the department are encouraged to attend professional development programs. The Department enjoys industry partnerships in the niche area of research and development, which include extended support given by various MNCs in the field of VLSI, Communication, Embedded system, Power electronics and Soft computing. The department is hosting centre of excellence in VLSI-IoT system design in the partnership with industry with grants in aid support by RUSA.

**Vision**

We aspire to be a premier centre of higher education and research in Electronics

**Mission**

Educating our students and training them to excel in work and life

**Goals of the Department**

- Setting up a research centre to meet requirements of Science and technology
- Offer new technology oriented specializations
- Offer short term PG diploma relevant to the industrial requirements
- Create societal awareness regarding the current technology and to become a change agent by taking the technology to rural area
- Foster ties with Industries

**Core Values**

- To hand held and capacity building of the students which will enable to place in reputed industries/institutes and blue chip companies.
- Faculty members are actively engaged in forefront research areas.
- ICT based techniques are used in teaching and learning
- Students are encouraged to follow ethics and lifelong learning
- Department engaged activities for national integrity

# OUR COURSES

**Name of programs offered**

- M.Sc.
- M.Sc. T&D
- M.Phil.
- Ph.D.

# RESEARCH AREA

- Embedded systems and VLSI design
- Microwave and ferrite sensors
- Power Electronics
- Antenna design and analysis
- Wireless sensor network
- Internet of Things
- Optoelectronics
- Control Systems

# RESEARCH FACILITY

- **National/State recognition**

  - Embedded Systems and VLSI design Laboratory

  - Soft Computing Laboratory

  - Solid State Sensors Laboratory

  - Antennas and Microwave Technology Laboratory

- **Special research laboratories sponsored by / created by industry or corporate bodies**

  - RUSA- Industry Sponsored Center for VLSI Design

  - VLSI Design laboratory has received EDA tools as donation from Xilinx Inc., USA under the University Program worth 24 Lakhs

  - Altera Inc. also donated EDA tools and the kits of VLSI Design worth Rs. 40 Lakhs

# PROJECTS AND FUNDING

| Sr. No. | Title of the Project | Amount | Principal Investigator | Funding Agency | Duration |
|---|---|---|---|---|---|
| 1. | Development, testing and prototyping of Wireless sensor network for Earthquake early warning system | 14.88 Lac | Prof. R. K. Kamat<br>Dr. S. A. Shinde | UGC, New Delhi | 2012-15 |
| 2. | Studies on Thermal Compensation Technique for high speed Precision Machine | 9.59 Lac | Prof. R. R. Mudholkar | UGC, New Delhi | 2015-18 |
| 3. | Development of soft ferrite thick film gas sensors | 9.61 Lac | Prof. P. N. Vasambekar | UGC, New Delhi | 2015-18 |
| 4. | Design and development of fiber optic displacement sensors and their applications | 1.45 Lac | Dr. S. M. Maske | SUK | 2018-20 |
| 5. | Prototype development of smart cities using Internet of Things (IoT) and Big data analytics | 2.8 Lac | Dr. S. A. Shinde | SUK | 2018-20 |
| 6. | Design and development of super microstrip antenna for wireless communication. | 2.65 Lac | Dr. M. K. Bhanarkar | SUK | 2018-20 |
| 7. | Design, Analysis and Development of Control System for Industrial Processes | 3.0 Lac | Dr. S. M. Maske | SUK | 2023-25 |

| Sr. No. | Title of the Scheme | Amount | Principal Investigator | Duration |
|---|---|---|---|---|
| 1. | DST PURSE Phase I | 42.32 Lac | Prof. M. D. Uplane<br>Prof. P. N. Vasambekar | 2011-15 |
| 2. | DST PURSE Phase II | 3.47 Lac | Prof. R.K. Kamat<br>Prof. P. N. Vasambekar | 2018-20 |
| 3. | UGC SAP (DRS-1) | 58.32 Lac | Prof. M. D. Uplane<br>Prof. P. N. Vasambekar | 2012-17 |
| 4. | MHRD-PMMMNMTT Induction Programme For Fresh Teachers | 696.05 Lac | Prof. R.K. Kamat | 2018-20 |
| 5. | RUSA- Industry Sponsored Center for VLSI Design | 120 Lac | Prof. R.K. Kamat<br>Dr. S. A. Shinde | 2018-20 |