

ABOUT THE INSTITUTION

1. OVERVIEW

PSG College of Technology is one of the foremost institutions founded by the PSG & Sons' Charities Trust. The college was established in the year 1951 and the founders wisely decided to locate it in the same campus as the PSG Industrial Institute for effective industry institute interaction. The Golden Jubilee of the college was celebrated during the academic year 2001 – 2002 and the Diamond Jubilee during 2011-2012.

PSG College of Technology has been fortunate to have the guidance of illustrious Managing Trustees, Late.Prof.G.R.Damodaran, Late.Shri.G.Varadaraj, Shri.G.R.Karthikeyan, Late.Shri.V.Rajan, Shri G. Rangaswamy and Shri L.Gopalakrishnan and Principals with foresight and far reaching vision. PSG College of Technology has been in the forefront of innovation in technical education. The founder Principal of the college, Dr.G.R.Damodaran, was instrumental in the planned growth of the institution from humble beginnings in 1951, to the present status as a world-renowned technological institution. The college was conferred with the AUTONOMOUS STATUS by the University of Madras from the academic year 1978 – 79, which was continued by the Bharathiar University and subsequently, by Anna University. PSG College of Technology performs excellently with the dedicated service of more than 558 teaching faculty and 343 supporting staff.

Departments

The college has the following departments: Automobile Engineering, Biomedical Engineering, Civil Engineering, Computer Science and Engineering, Electronics and Communication Engineering, Electrical and Electronics Engineering, Instrumentation and Control Engineering, Mechanical Engineering, Metallurgical Engineering, Production Engineering, Robotics and Automation Engineering, Biotechnology, Fashion Technology, Information Technology, Textile Technology, Computer Applications, Mathematics, Applied Mathematics and Computational Sciences, Apparel and Fashion Design, Physics, Applied Science, Chemistry, English, Humanities and Management Sciences. Totally 64 programmes are offered under various specializations. The overall student strength of the college stands at 7730 which includes 4943 boy students and 2787 girl students. The department of Physical Education and playgrounds are located very close to the hostel premises. A compulsory physical training programme for all the first year students both boys and girls, is being organized for the past several years.

Advanced Centres and Laboratories

There are several advanced centres and laboratories set up with financial support from the Ministry of Human Resources Development, Department of Science and Technology, and other agencies. These include

- PSG TI Centre of Excellence for Medical Electronics
- DST Centre of Excellence for Assistive Technology and Rehabilitation Engineering Solutions (PSG CARES)
- PSG-DHI Centre for Excellence in Welding Engineering and Technology
- PSG-DHI Centre for Excellence in Welding Engineering and Technology
- PSG Siemens Centre of Excellence in Automation
- PSG Danfoss Centre of Excellence In Climate And Energy
- PSG Adept Centre for Robotics
- PSG- Festo Centre for Robotronics

- PSG- EPLAN Centre of Excellence For Efficient Engineering
- PSG-Fanuc Centre for Advanced CNC and Robotics
- PSG-Heidenhain CNC Training Centre
- PSG Pricol Centre of Excellence
- Product Development Centre
- PSG – Keysight Centre of Excellence in Advanced Wireless Technology
- PSG - TI Centre of Excellence for Signal Processing
- PSG - INTEL Centre of Excellence in VLSI System Design (CEVSD)
- CAD/CAM Centre
- PSG-Janatics Centre for Pneumatics and Automation
- PSG-Maxbyte Centre of Excellence for IIoT
- PSG-TRIDENT Centre for Alternative Cooling Technologies
- CARES Centre for Industrial Cyber System Research
- PSG-Prosun Centre of Excellence for Solar PV Systems
- PSG-Lapp Centre for Excellence in Cable Technology
- PSG-NI Virtual Instrumentation Centre
- PSG-Centre for Audio Visual Speech Recording
- PSG-Danfoss Centre for Excellence in Climate and Energy
- PSG-DHI Centre for Excellence in Welding Engineering and Technology

External Collaboration

The courses of the college are recognized all over India and abroad. The college maintains close interaction with several R&D institutions and institutions of higher learning in India and abroad, through institutional network programmes and collaborative research programmes. It also has close collaborative links with industries in the fields of Automotive, Aerospace, Defense, Textile, Machine Tools, Software development, and consumer durables. The college has been the recipient of several prestigious projects and international funding. The college periodically signs Memorandum of Understanding (MoU) with research organizations and industries in order to promote closer interaction between PSG College of Technology and other institutions in technology development, training of students and curriculum update.

Ranked 57 in Engineering category, 63 in Management category of academic institutions in India by the National Institute Ranking Framework (NIRF) as per the survey conducted by Ministry of Human Resource Development, Government of India in 2021 – 2022

Ranked 2nd under the category Colleges/Institutes (Govt. & Govt. aided) (Technical) in Atal Ranking of Institutions on Innovation Achievement (ARIIA) by Ministry of Education, Government of India in 2021

MoU Signed

13 MoUs were signed with various organizations facilitating student training, staff training, consultancy, joint projects, etc.

Research Projects

5 research projects with a total funding of Rs.4,08,90,792 lakhs (4.08 crores) were sanctioned by various organizations like AICTE, SERB and ARDB to PSG College of Technology during this academic year

Conferences / Seminars

Three (3) International Conferences, Seven (7) National Conferences, one hundred and twenty five (125) National Workshops, Seminars, Faculty Development Programmes and Short Term Programmes were organized this year

Accreditation

During this academic year existing accreditation was extended by one year for six UG programmes, namely, Civil Engineering, Mechanical Engineering, Information Technology, Biomedical Engineering, Production Engineering and Computer Science Engineering and ten PG programmes, namely, Energy Engineering, Embedded and real time systems, Information Technology, Structural Engineering, Industrial Engineering, Biometrics & Cyber Security, Computer Science & Engineering VLSI Design, MCA and MBA. As on date 30 programmes (15 UG and 15 PG) are accredited out of 40 programmes which are eligible for accreditation.

Hostel:

PSG Tech Hostel Comprises of Men's Ladies, Main and Additional Hostel with a total capacity of 5700

Scholarships

During the Academic year 2021 – 2022, a sum of Rs. 1,48,58,261/- was disbursed as Scholarship from Central / State Government and other agencies to 1128 students of Under Graduate and PostGraduate.

A GATE stipend amount of Rs. 3,440,892.00/- was transferred by AICTE directly to 28 ME / M.Tech students Bank A/c.

Websites

The web site of PSG College of Technology is available in the Internet at the following address

www.psgtech.edu

Apart from this website, the college has an intranet web server. All the information can be accessed within the campus from the following web site:

intranet.psgtech

DEPARTMENT OF AUTOMOBILE ENGINEERING

The department was established with an undergraduate programme in Automobile engineering in 1999. The faculty of the department has published 200+ technical papers in various National and International conferences and journals from 1999.

The department is well equipped with laboratories like PACE Lab, Vehicle Servicing Lab, PSG Motorsports Lab, Electric Hybrid Vehicle Lab, Engine Trouble Shooting Lab, Vehicle Performance and Characteristic Lab, Two & Three Wheeler Lab, Automotive Steering System Lab, Automotive Simulation Lab, Automotive Electronics Lab, CAD & CAE Lab, Fuel Cell Lab, Centre for Automotive Research and Testing Lab & Centre of Excellence - Industrial & Home Textiles lab . The software packages available in the department include Pro-E, Solidworks, Solid edge, NX, Siemens, CATIA, Unigraphics, ANSYS, ADAMS, LSDYNA for the faculty and aspiring students to pursue their research and project work. The upgraded facilities in the department include sensors, CVT, Automatic Transmission, etc.

Among the various activities of the department, the collegiate chapter of SAE (Society of Automotive Engineers) stands out with its many guest lectures by eminent personalities from academic and industries. In addition, frequent industrial visits to renowned industries is one of the key activities of SAE. The SAE also plays a very important role in mobilizing student participation by conducting various quiz competitions and seminars. The department has a separate library with a collection of various journals, SAE magazines and books. An annual AUTO EXPLODE exhibition organized by the department exhibits most of the Modern Cars, Race Cars and also Students Innovations. The highlights of the exhibits are Intelligent Traffic System, Active Suspension System and Composite Leaf Springs, etc. The Automobile Engineering Association (AEA) is actively conducting various Traffic Awareness programmes, Vehicle Maintenance, and Servicing programmes, Automobile Pollution Check up Camps, etc.

The department maintains a close liaison with a number of Universities and Industries in and out of the country through faculty research and collaborative projects. The department offers consultancy services in Chassis Design, Engine Design, FEA analysis, and CFD simulations. In the near future, the department aims to start Fuel Testing Laboratory, Advanced Automotive Electronics Laboratory, and a Research center for Alternate Fuels.

A Brief on Research Activities

The department is actively involved in various research areas such as new engine technologies (low heat rejection engines, lean burn combustion engines, and variable compression ratio engines), plug-in-hybrid vehicles, automotive emissions, automotive materials, automotive electronics, design for manufacture, etc.

Major areas of research

Alternate fuels	
Automotive materials	Fuel cells
Advanced vehicle system design	In-cylinder flow analysis Light
Automotive design and styling Battery Management	Weighting
Electric Vehicles	Noise control
Emission	Engine testing
	Surface engineering

DEPARTMENT OF BIOMEDICAL ENGINEERING

Biomedical Engineering (BME), started in the year 2006, is a field that integrates Mathematics, Physics, Chemistry and Biology to solve medically relevant problems. It uses engineering approaches and methodologies to solve problems in medicine. The proliferation of new tools enables biomedical engineering to innovate new technologies for biomedical and therapeutic applications. These powerful technologies offer vast new possibilities for enhancing our understanding of complex living organisms and for preventing diseases, maintaining health and improving the quality of life. Biomedical engineering also brings quantitative analysis and rational design approaches to many other domains such as agriculture, food technology, basic life science and pharmaceuticals apart from biomedical devices.

Examples of Biomedical Engineering activities include medical device design, fabrication and testing, prosthesis fabrication, physiological function monitoring, home health care technology development, biomedical information, functional imaging and tomography, biomaterial development and biocompatibility, artificial tissue and organ fabrication, development of biosensors, telemedicine equipments and Biomedical systems. The demand for engineers with background in biology and medicine is growing rapidly. Biomedical engineers play key roles in designing and developing new instruments, deploying the emerging information infrastructure and creating new biomaterials and medical devices. Exciting new vistas are opening in computational biology and dynamic imaging of organs. Biomedical engineers are highly valued by new companies capitalizing on the revolution of the applications of advanced computers to biomedical problems. Individuals with degrees in biomedical engineering will find rewarding careers in industries, hospitals, medical schools and research institutions.

One of the great advantages of studying biomedical engineering at PSG College of Technology is the opportunity for the students to get hands-on-training at PSG Institute of Medical Sciences and Research (PSGIMS&R) which is an integral part of PSG Institutions managed by PSG & Sons Charities.

A Brief on Research Activities

Our innovative research is transforming healthcare challenges to solve real-world problems. Some of the main areas of research in the department includes Biomedical instrumentation, Bio-mechanics, Bio-robotics, Rehabilitation engineering and assistive technologies, Applied engineering in neurology and neuroscience, Biomedical signal processing, and Medical imaging. The department has several research projects funded by various funding agencies, which includes DST, DRDO, AICTE and UGC etc. The department has successfully executed THREE technology transfers to leading industries for product development, which is the outcome of the research. The faculty members and the research scholars in the department have published more than 200 quality research articles in various international journals and national journals. Current Research mainly focuses towards indigenous technology and application development for the benefit of health care industry.

Major Areas of Research

1. Machine Learning Algorithm development for Imaging Technology
2. Point of Care Diagnostic Devices
3. Development of Lower limb exoskeleton
4. Design of Wearable Devices

5. Development of Assistive Technology for Rehabilitation
6. Development of face mask for sleep apnea patients
7. Development of deep learning based methodology for lesion detection

DEPARTMENT OF CIVIL ENGINEERING

The Civil Engineering department started in the year 1953, offers BE Civil Engineering, ME Structural Engineering since 1963 and PhD programme in Civil Engineering. It also conducts postgraduate programme in Infrastructure Engineering since 2002. The department consists of 20 full-time faculty members out of whom seven are with PhD qualification and the rest are with postgraduate qualification. In addition, one visiting Professor with PhD qualification also augments the department. The fields of specialization of the faculty include Structural Engineering, Geo-Technical Engineering, Environmental Engineering, Town-planning, Geology, Remote Sensing, GIS, Construction Project Management and Hydraulics. The department has organized six international conferences, many summer and winter schools, national conferences, seminars, workshops and short-term courses. It has also established a very good industry-institute interaction by offering consultancy and testing for various government and private organizations. It has successfully completed two batches of two-year foreman training programs in Plumbing and Civil Engineering for ETA-ASCON, Dubai. It was also involved in the conduct of B.Tech - Construction Management Programme for IGNOU. Six Students of Worcester Polytechnic Institute carried out Interactive Qualifying Projects in the department under WPI Global Perspective Program (India Project Program).

The department has its own well-equipped computer center, with more than 70 Pentium computers, laserjet printers, color inkjet printers, multimedia kit, scanners, computer workstation, A1 size color plotter and adequate number of UPS. Software packages available in the department in the areas of structural analysis, design and GIS. The laboratories of the department include Materials and structures laboratory, Concrete laboratory, Soil mechanics laboratory, Environmental engineering laboratory, Survey laboratory, Structural dynamics laboratory, remote sensing & GIS laboratory and Computer laboratory. The department received a laboratory enhancement grant of Rupees Twelve lakhs and books worth Rupees one lakh under library grant of NPEEE of IIT, Kanpur during the academic year 2004-05. The National Board of Accreditation has accredited the undergraduate programme and postgraduate programme in Structural Engineering for five years and three years respectively from 2014 and 2017. Subsequently, the accreditation has been extended by one year (till 2021). The college has signed MoU with AIMIL Limited for the training the students and faculty in testing of the materials. Short-term courses, conferences and training programmes are organized by the department with the support of Association of Consulting Civil Engineers (India) (ACCE (I)) and Builders Association of India (BAI).

A Brief on Research Activities

The department has completed numerous research projects in postgraduate programmes and sponsored projects funded by CSIR, UGC, BARC, DRE, ARDB, MHRD, DST, AICTE, NPEEE etc. Thirty-five PhDs have been awarded and twelve doctoral research works are in progress. The department faculty has published around 615 technical and research papers in various national and international journals and conferences. Since 1963, nearly 630 postgraduate projects have been completed covering various areas of research.

The major areas of research include Artificial neural networks, Composite laminate lay ups, Earthquake resistant structures, Fibre reinforced concrete, Fibre composites, Finite element analysis, Ferro cement concrete, Genetic algorithm, Non-linear analysis of concrete, Object oriented design, Remote sensing and GIS, Stability of thin walled structures.

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

The Department of Computer Science and Engineering, with its dedicated body of well-qualified faculty, technical staff and students, is committed to be an international, multi-disciplinary center of excellence in Computer Science and Engineering through education and research. It has partnerships with other leading Academic Institutions, Government and Industrial sectors. It has acquired generous grants from global organizations like the World Bank, Swiss Development Co-operation for Manpower Development, the Department of Electronics, VSSC, AICTE and the Ministry of Information Technology, DBT, DST, DRDO and UGC. The department carries out consultancy work with organisations like Cloudera, Impiger, Cordys, Agna Inc, Giles Brooker and Verticul

The department envisions to be a global leader in education and perform research for societal benefit.

The mission of the department is to

- Develop high quality Computer Science & Engineering graduates with technical and professional skills.
 - Foster research to solve real world problems with emerging technologies and social consciousness.
- The department has state of art laboratories in Open Source Systems, Networks, Software Engineering, Cloud Computing, Embedded Systems, Artificial Intelligence and Big Data Analytics .The department also hosts center of excellence in Assistive Technologies.

A Brief on Research Activities

The department has undertaken research projects sponsored by AICTE, UGC, DST, DRDO, Nokia, Agna Inc and CORDYS. The department has signed MoUs with CORDYS, Yahoo, HPE, Emurgo, Nokia, Verticurl and Impiger. The department has established specialised laboratories on Open Source Systems, Bigdata & cloud computing, Artificial Intelligence and center of excellence in Assistive devices. The major areas of research and consultancy of the department include Artificial Intelligence & Machine Learning, Cloud Computing, Computer vision, Assistive Devices, Modeling and Simulation, Communication Networks, Privacy & Security, Big Data Analytics. The department has also been granted 2 patents in the area of security and carried out technology transfer in the area of Assistive Technology.

Major Areas of Research

1. Artificial Intelligence including Machine Learning, Deep Learning, Cognitive Computing, Natural Language processing, computer vision and Big Data Analytics
2. Cloud Computing
3. Wireless Sensor Networks and Mobile Adhoc networks
4. Personalized Information Retrieval
5. Database Integration
6. Privacy and Security
7. Embedded systems
8. Assistive Devices

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

The Department of Electronics and Communication Engineering came into existence in the year 1968. The department offers B.E Programme in Electronics and Communication Engineering and PG Programme include M.E Communication Systems, M.E VLSI Design, M.E Wireless Communications and M.Tech Nanoscience and Technology offering high class technical and innovative experience to the students. The department offers doctoral and M.S by research Programme in both part time and full time mode. The department has produced around 113 Ph.Ds. The AICTE-CII Award for the Best Industry linked Institute for the Electronics & Communication Engineering subject stream for the year 2013 strengthened the department's industry-institute relations. BE ECE program has been accredited for 6 years by the National Board of Accreditation (NBA) up to 2024. M.E VLSI Design Course was accredited for 5 years with effect from September 2016. M.E Communication Systems course was accredited for 5 years with effect from April 2017.

A Brief on Research Activities

The major ongoing researchs in the department are as follows Design & Development of Wireless Embedded Microcontroller Based Portable Nano Scale Toxic Gas Sensor System. Design and Development of a Reusable Electrochemical Sensor for Blood Cholesterol Monitoring with Smartphone for Cardiovascular Disease Prevention Design and Development of Indigenous MEMS Based Dry Electrode for Multichannel EEG Recorder with Integration of Internet of Things.

Major Areas of Research

- Wireless systems
- Biomedical Engineering
- Networks
- RFMEMS
- RFIC Design
- Embedded Systems
- Digital Image Processing
- Digital Signal Processing
- VLSI Design
- Machine Learning
- Nanotechnology
- Microfluidics
- Sensors

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Electrical & Electronics Engineering Department was one of the first few disciplines that was started since the inception of the college in the year 1951. New courses were introduced subsequently and the existing ones were restructured to reflect the state of the art.

The Department of Electrical and Electronics Engineering (EEE) has been playing a vital role in producing scientists and technologists of highest caliber ever since it was established in the year 1951. The department offers UG (Regular and Sandwich) programmes, PG programmes (Applied Electronics, Power Electronics & Drives, and Embedded & Real - Time Systems), and Research programmes. The department along with its highly qualified faculty members started functioning right from inception and engages actively in teaching and research in all current areas of Electrical and Electronics Engineering.

State of the art computational and experimental facilities enable the department to undertake basic and applied research and provide support to R&D organizations. The students acquire interpersonal and communication skills from the EEE Association and promote their professional skills through societies like Indian Society for Technical Education (ISTE), and Institute of Electrical and Electronics Engineers (IEEE). The students from the department emerge as sound Professionals serving the society through technology.

A Brief on Research Activities

The department is actively involved in undertaking sponsored research activities from various funding institutions including CSIR, DRDO, DST, DBT, AICTE, UGC, SERB and the like. The department has state of the art research facilities including research laboratories and centres of excellence to carry out research projects.

Major Areas of Research

Flexible AC Transmission System, Power Electronics for Renewable Energy Generation Systems, Power Quality Management, Solar Based Battery Charging Systems for Electric Vehicles, FPGA based System Design, Synthesis of controller for Industrial Control Systems, Drives and Controls, Intelligent Controllers, Electromagnetic Fields, Smart Grid, Advanced Virtual Instrumentation, Digital Control Systems, Distributed Control Systems, Modern Control Systems, Sensors for Engineering Applications, Transducer Engineering, Virtual Instrumentation, Multi-scale Modeling of Nanoelectronic Devices, Digital Image Processing, Medical Image Processing, Soft Computing, Digital System Design and Testing, VLSI Design, VLSI Testing and Testability, Embedded Systems, Real-Time Operating Systems, Advanced Digital Signal Processing, Design for Security, Digital Signal Processing, Wireless Sensor Networks, Big Data Analytics for Efficient Demand side Energy Management, Electronic Devices and Circuits, Energy Management Systems, Generation, Transmission and Distribution, Computer Architecture, Network Security, Machine Vision, WEGs for isolated DC loads/DC Microgrid, Smart Grid Technologies, Evolutionary Algorithms, Multi Objective Optimization, Biomedical Signal Processing, Automotive Embedded Systems, Converters for Fuel Cells Applications in Hybrid Electric Vehicles, Embedded Control System, Hardware Software Co-Design Computer Architecture, Advanced Computer Architecture, Queuing Theory, System Analysing Software, Distributed Generation in Smart Grid, Smart Infrastructure for Renewable Energy System in Grid Connected Applications, Electric Drives Control Soft Computing, Data Mining, Evolutionary Algorithms for Engineering Applications, Microcontrollers and Applications, Optimization Techniques, Cloud Services Framework Computing, Mobile Computing, Wireless Networks, Analog VLSI Circuits, Biomedical Instrumentation, Biomedical Signal Processing, Wearable Electronics, Power Electronics, Special Machines and Controllers.

DEPARTMENT OF INSTRUMENTATION & CONTROL SYSTEMS ENGINEERING

The Department of Instrumentation and Control Systems Engineering was established in the year 2007. The Department provides undergraduate program in Instrumentation and Control and post graduate program in Control Systems Engineering.

Instrumentation and Control Engineering plays a vital role in any modern industry. The Department aims at producing talented Instrumentation and Control specialists who cater to the needs of the modern industries. The Department is fascinating motley of multifarious disciplines of technology such as Electronics, Electrical, and Mechanical measurements, and Process Control Engineering. The curriculum begins with foundation courses in Mathematics, Physics, Chemistry and Electronics. Emphasis is laid on the courses like Transducer Engineering, Micro-controllers, Industrial Instrumentation, Control Systems, PC Interfacing and Telemetry. The focus in the final year is more on advanced electives such as Instrumentation System Design, Robotics, Biomedical Engineering, Intelligent Controllers and Embedded Systems. With a perfect blend of industrial exposure, coupled with good technical base, our students will make their presence felt in various technological domains in all the top-level industries.

The Department strives to produce professionals with high technical knowledge, necessary skills and ethical values and, to be recognized as a point of reference, a catalyst, a facilitator, a trend-setter in the field of Instrumentation and Control Engineering.

The Department encourages student's involvement in several co-curricular activities like group discussions, publication in journals/conferences, workshops and seminars. Students are also exposed to the challenges in taking over as entrepreneurs through the Science and Technology Entrepreneurial Park. Students regularly undertake industrial visits during the semester and vacation, in order to appreciate the field skills and gain confidence. Students also actively participate in sports, games and competitions in collegiate and inter collegiate levels. These activities help the students to improve their communication skills, leadership qualities, team player spirit and to become result oriented.

PSG Rockwell Centre of Excellence in Industrial Automation is set up in the Department in association with Rockwell Automation India Limited and started to function in I&CE Department from June 2013. The centre is equipped with industrial automation systems like PLC, PAC, Industrial drives and control, and HMI panels. Manufacturing Execution which is used to train the engineering students and provide engineers as per industrial requirement in the field of process and factory automation. The centre is utilized by both UG Instrumentation and Control Systems Engineering and, PG Control Systems students for their project work and laboratory courses. Intensive training programmes and faculty development programmes are organized by the centre for students and faculty of engineering and polytechnic colleges.

DEPARTMENT OF MECHANICAL ENGINEERING

The Department of Mechanical Engineering was established as one of the five founding departments of PSG College of Technology, with an undergraduate (UG) programme in Mechanical Engineering in the year 1951. In order to facilitate engineers build on their current abilities and gain specialized knowledge and skills to advance in certain fields, five Masters degree programmes in Engineering Design, Industrial Engineering, Computer Integrated Manufacturing, Energy Engineering, and Lean Manufacturing were introduced during the years 1962, 1978, 1991, 1999 and 2007 respectively. Bearing in mind the burgeoning requirements of industry, the unique Sandwich UG programme was commenced in the year 1983.

The department has continually maintained a close liaison with universities and industries in India and abroad, through strategic collaborations and research projects. In order to pursue industry relevant research and development activities, the department has established laboratories in collaboration with industries. Distinctive, well-equipped facilities such as Festo-PSG Training Centre for Pneumatic Automation, Engineering Design Centre, PSG-Rane Centre for Manufacturing Systems, Machine Tool Research Centre, Wind Tunnel Centre and Industry 4.0 laboratory, enable our student community to gain knowledge and work hands-on on contemporary technologies utilized in industry. Consultancy in the realms of design, analysis and manufacturing, and testing of a range of products as per BIS specifications is also offered to industry. In recognition of this close-knit, comprehensive and continuous interaction with industry, the department was awarded with the prestigious AICTE-CII award for the Best Industry-Linked College in Mechanical Engineering in the year 2012, when the award was given for the first time.

The four year programme in Mechanical Engineering, commenced in the year 1951, is one of the sought after undergraduate programmes by the student community of Tamil Nadu. With a right blend of theory and practice in courses such as mechanics, design of machine elements, manufacturing technology, industrial engineering, CAD/CAM, finite element analysis, thermal engineering, and pneumatics and low cost automation, this programme has entrenched itself as a foremost option for students throughout the nation. The B.E. Mechanical Sandwich programme (5 years) established in the year 1983, is the only one of its kind in India. The objective of this programme is to mould students having theoretical background to be an engineer with extensive exposure to industrial environment. The five year in-plant training includes visits to different industries, orientation towards industrial practices, and a comprehensive skill development programme.

True to its lineage of being one of the foremost in the realm of design, the department instituted the M.E. Engineering Design programme in the year 1962. This programme lays emphasis on Design and Analysis of Mechanical Systems through courses such as Mechanisms and robot kinematics, Vibration engineering, Finite element analysis in mechanical design, Applied elasticity and plasticity, Composite structures and Failure analysis. The M.E. Engineering Design programme is accredited by NBA for 5 years from 2017.

Recognizing the need for engineers to effectively plan operations in industry, the M.E Industrial Engineering programme was subsequently started in the year 1978. Operations management, Supply chain management, Total quality management, Lean manufacturing, Manufacturing simulation, etc., are taught as part of this programme. This programme envisions to mould post graduate engineers into field experts who can redesign manufacturing systems with higher productivity and quality.

The advent of computers, IT systems and robots in industry to automate production led to a necessity for engineers conversant with automation. Hence, the M.E. Computer Integrated Manufacturing programme was started in the year 1991. Salient aspects covered in this programme include CAD/CAM interfacing, CNC programming, Rapid prototyping, and Simulation of manufacturing systems. In

summary, this programme emphasizes the use of computers to aid in design and manufacturing activities undertaken in industries.

The tremendous growth of industries in India led to consciousness on energy efficiency and management and an impetus towards generating sustainable energy. To cater to this growing demand, the M.E. Energy Engineering programme was commenced in 1999. The major areas in which the programme aims to develop competency in graduate students are Energy audit, Environmental engineering, Renewable energy sources and systems, Energy management information systems, Industrial energy conservation and management and CFD analysis for energy efficient system design.

In order to reinforce traditional engineering skills with analysis techniques and customer centric value addition for products, the M.E. Lean Manufacturing programme was established in 2006. This programme provides students with a unique blend of management skills to complement their technical abilities. The student thereby develops a comprehensive understanding of day-to-day manufacturing operations in addition to developing a broad perspective on multifarious industries as a whole.

In recognition of the departmental competencies, the National Board of Accreditation has twice accredited various courses in the department with grade for three years in the year 2001 and for three more years in the year 2006. Five department programmes are accredited in which UG Mechanical Engineering programme and two PG programmes on Engineering Design and Computer Integrated Manufacturing have been accredited for five years.

A Brief on Research Activities

Since its inception, the department has grown from strength to strength. Special emphasis is placed on performing research relevant to industry and societal needs. The department is an approved research centre under Anna University, Chennai for pursuing Ph.D. in both full time and part time modes. Masters and Ph.D. programmes under Quality Improvement Programme (QIP) of AICTE are also offered for faculty members from engineering colleges and practicing engineers working in government organizations of our nation. Salient areas of research include:

Major Areas of Research

- Development of alternate materials for improving dynamic response and damping properties of machine tool structures.
- Structural integrity assessment of components of nuclear power plant
- High speed machining
- Hybrid renewable energy systems
- High temperature materials
- Energy Harvesting
- Additive manufacturing
- Incremental forming
- Machining of composites
- Supply chain management
- Logistics and operations
- Ergonomics
- Simulation in manufacturing and service
- Optimization techniques in engineering
- Inventory management

DEPARTMENT OF METALLURGICAL ENGINEERING

Department of Metallurgical Engineering was established in the year 1974. The Department possesses excellent faculty as well as infrastructure and laboratories to train the students for academic, industrial and R&D requirements in various fields of metallurgical engineering like Physical Metallurgy, Extractive Metallurgy, Mechanical Metallurgy, Metal Casting, Metal Joining, Metal Forming, Powder Metallurgy, Heat Treatment, Testing and Quality Assurance, Advanced Materials, Computer Simulation, Modelling & Simulation, etc. The Department has the state-of-the-art facilities in core laboratories like materials characterization, mechanical testing, nondestructive testing, welding metallurgy, foundry metallurgy, metal forming, heat treatment, corrosion & surface engineering. In addition, the students are given practical training in PSG industrial institute and PSG & Sons' Charities Metallurgy & Foundry Division during the course of their academic programmes. The Department is actively involved in testing and consultancy services to a large number of engineering industries. A large number of continuing education programs are being arranged by the Department for the benefit of practicing engineers and teachers of other engineering colleges. A PG certificate programme on "Welding and Quality Engineering" is being conducted since 2009 in collaboration with BHEL Educational Society, Tiruchirapalli. The Department has active interactions with premier research institutions like ARCI, DMRL, Hyderabad; IGCAR, Kalpakkam; VSSC-ISRO, NIIST, Thiruvananthapuram; BHEL, BHEL-WRI, Trichy; GTRE, HAL, Bangalore etc. Students are encouraged to take up their Project Work in the leading industries as well as in various research institutes in our country. A Centre of Excellence in Welding Engineering and Technology (COEWET) funded by Department of Heavy Industry, Government of India has been established in the Department in the year 2016. The centre houses the latest facilities like Gleeble thermo-mechanical simulator, ThermoCalc software, SysWeld Welding simulation software, welding machines and materials characterisation equipment. The BE Metallurgical Engineering programme of the Department has been accredited for 6 years by the National Board of Accreditation (NBA) in the year 2018.

A Brief on Research Activities

Our Department faculty members are carrying out research in different areas of Metallurgical and Materials Engineering. R&D projects supported by funding agencies like DST, DRDO, AICTE, BRNS, NRB, UGC and DHI have been carried out in the Department. Almost all faculty have PhD in these areas of surface engineering, welding metallurgy of HSLA and stainless steels, aluminium metal matrix composites, diffusion bonding, bainitic steel development, super austenitic stainless steels, MIAB welding of steel pipes, nanomaterials, biomaterials and ceramics. More than 60 research scholars obtained their PhD from the Department; and another 20 scholars pursuing research work.

Major Areas of Research

- Additive Manufacturing
- Biomaterials
- Ceramic materials
- Development of welding consumables •
- Foundry metallurgy
- Functionally graded materials •
- High nitrogen stainless steels •
- Heat treatment
- High strength steels
- High temperature ceramics •
- High temperature coatings
- Materials modeling
- Metal matrix composites •
- Mechanical alloying
- Nanomaterials
 - Phase field modeling
- Powder metallurgy
- Semisolid casting
- Severe plastic deformation •
- Surface modifications
- Superaustenitic stainless steels •
- Thermomechanical simulation •
- Weldability studies
- Weld simulation

DEPARTMENT OF PRODUCTION ENGINEERING

As manufacturing activities play a major role in the development of the country, PSG College of Technology envisaged the need for trained manpower in the field of manufacturing and thus, the undergraduate programme in Production Engineering was started in the year 1975. Subsequently, the department grew in several dimensions of academic excellence with time. The programme has been accredited by the National Board of Accreditation. All the laboratories of the department are approved for carrying out research, leading to Ph.D Degree (full time and part time) programmes by Anna University, Chennai and under QIP-AICTE, New Delhi. A good number of researchers receive Ph.D through Anna University, Chennai by pursuing research in the department under Full time / Part time modes. The department offers consultancy in manufacturing processes, design and testing a range of products, including product styling. The department maintains a close liaison with a large number of universities and industries within the country and across overseas through faculty research and collaborative projects. The teams of dedicated faculty members nurture the programme and actively contribute towards the creation of a persuasive and a high quality learning environment. There is a strong interaction with industry majors like M/s Larsen & Toubro, General Electric, Bangalore, Ashok Leyland, TAFE, Tata Consultancy Services Ltd. and a few more.

As the BE Programme in Production Engineering (Regular) was received well by the industry, an innovative planning resulted in the creation of BE-Production Engineering (Sandwich) programme, in the year 2002. The students of this programme undergo industrial training in addition to the academic process that is provided in the regular BE programme. As a result, the students are equipped with skills that make them ready to be deployed on the job. They undergo internships in several industries. There is a well planned curriculum for industrial training that smoothly transforms the students to an employable professional.

A Brief on Research Activities

The need for post graduate engineers in production engineering was felt in order to strengthen the research base of the industry so that the manufacturing industry can assimilate the latest design and make manufacturing to be cost effective. Thus, the post graduate programme in Production Engineering commenced in the year 1964. For the benefit of the practising engineers ME-Production Engineering (part time) programme was also started in the year 1964 with the same curriculum as the full time programme.

Production engineering is a specialized field taking inputs from several areas of engineering and science, a curriculum that covers knowledge on materials, manufacturing processes, material selection, optimization techniques, economics, CAD/CAM, and Finite element applications which are shaped by the industry contribution with the involvement of industry. There are well equipped laboratories where the students can work in depth to gain knowledge in selected domains of manufacturing. Students of this programme are hired by IT firms, manufacturing companies and academic institutions for teaching and research.

The advent of internet and information technology created an impact on business in general. As a result, new paradigms like e-business and e-commerce were evolved. In the domain of product design and development, new philosophies like Collaborative Product Design, Collaborative Product Commerce, Product Data Management, Product Life Cycle Management and Knowledge Management became the jargons. To cater to the needs of the industry with market conditions with time compression and mass customization as their priorities, a new PG programme on (Collaborative) Product Design and Commerce, a blend of IT and core engineering was started in the year 2002. Students of this programme are absorbed by several OEMs to take care of their IT

enabled product development services.

The past decade has seen developments in several areas of industry such as of CAD/CAE and CAM. From the perspective of a complete representation of a system for decision making the CAD/CAE/CAM solutions were found insufficient and the need for visualization was felt. Thus, CAD neutral visualization products were developed. But the complete interaction with a virtual product or a system in an immersive environment was found to be very powerful in decision making and compressing development time. This class of manpower with such knowledge and interest in pursuing research in the area of developing virtual environment for specific cases was not found as there were no programmes offered at the master level with the necessary inputs. As a result, ME Programme on Virtual Prototyping and Digital Manufacturing was started in the year 2012. Defence laboratories of Govt. of India, Ship building industries, Aviation, Automotive, Infrastructure development, Facility planners for townships, Architecture, Medical education and training institutes for health care are the beneficiaries of this programme. The courses are handled by experts in the field of CAD/CAE/CAM and Virtual reality with good industrial experience. Now PSG College of Technology is the nodal centre for coordinating National Doctorate Fellowship Scheme of AICTE which promotes full time Ph.D for research scholars all over the country.

The research activities of the department span across several domains of manufacturing. These include CAD/CAE/CAM, Product Lifecycle Management, Lean Manufacturing, Six Sigma, Agile Manufacturing, Composites, Ergonomics, Tribology, High Speed Machining, Non-traditional Machining Processes and Virtual Reality. The laboratories are equipped with state of the art hardware and software to pursue research in the above areas. Research scholars under Quality Improvement Programme and research scholars under Anna University pursue M.S. and Ph.D under the guidance of faculty members of the department. Department offers full time and part time programmes in research.

Major Areas of Research

1. CAD/CAM
2. Systems Simulation
3. Concurrent Engineering
4. Foundry Engineering
5. Automated Visual Inspection
6. Welding Technology
7. Total Productive Maintenance
8. Total Quality Management
9. Six Sigma
10. High Speed Machining
11. Area Manager System Development
12. Lean Manufacturing
13. Leagile Manufacturing
14. Agile Manufacturing
15. Computer Aided Process Planning
16. Tolerance Analysis of Precision Assemblies
17. Vibrations
18. Composites
19. Value Engineering
20. Manufacturing Systems and Cost Analysis
21. Decision Support Systems
22. Ring Rolling Process
23. Direct Ceramic Ink Jet Printing
24. Micro Machining

DEPARTMENT OF ROBOTICS & AUTOMATION ENGINEERING

The Department of Robotics and Automation Engineering was established with an undergraduate programme in "Robotics and Automation" and was formally inaugurated on Monday, 25th July 2011 by Mr. Srinivas Sundararajan- Head, OEM Business, Precise Automation, California, USA in the presence of Mr. C. R. Swaminathan, Chief Executive, PSG Institutions, Dr. R. Rudramoorthy, Principal, PSG Tech, Dr. P. Radhakrishnan, Director, PSG Institute of Advanced Studies and Dr. B. Vinod, HoD - In Charge of the Department.

The Department of Robotics and Automation Engineering was established to meet the growing demand for trained engineers in the field of Industrial Automation. Automation Engineering is a cross-sectional discipline that requires sound, proportional knowledge in hardware as well as software development and their applications. This unique programme is tailored to prepare quality Automation Engineers for various application segments like manufacturing, defence, food, aerospace, medicine and other services.

A Brief on Research Activities

The department is currently engaged with 13 research projects and few project proposals are submitted for funding. The projects in progress are sponsored by various sponsoring agencies that includes ARDB, AICTE-RPS, Avon Corporation, BHAVINI, BRNS, CSIR, DAE, DHI, DST-SERI; GITA, DRDO, RCI, SERB etc. The department facilitates innovations through fully equipped laboratories and Center of Excellence in collaboration with industries. These centers are operational within the premises of the institute and it supports training, project works and research needs of students and faculty members and researchers in the area of Robotics. These centers consist of various kinds of robots like Industrial Robots, Mobile Robots, Robotic Arm and Flying Robots that aids in the development of various robots for the desired applications. Currently, the department has few Ph.Ds. and faculty members pursuing research. Additionally, the department also has laboratories for academic purposes which could be utilized for research activities also.

Major Areas of Research

- Industrial, medical and mobile Robotics, Material Handling Systems, Field & Service Robotics
- Welding Technology, Additive Manufacturing, Fluid Power Engineering, Hydraulic and Pneumatic Systems, Lean Manufacturing, Mechatronics System Design, Vibratory feeders, Structural Integrity
- Electric Circuits, Synthesis of controller for Industrial Control Systems, Drives and Controls, Non-Linear Control, Electrical Machine Design, Energy Sources and Utilization, Utilization of Electrical Energy
- Computer Vision, Neural Networks, Artificial Intelligence, Machine Learning, VLSI, FPGA Algorithms, Embedded Control Systems, Industrial Networking
- Security and Standards, Microcontrollers and Applications

A Brief on Consultancy and Testing Activities

The consultancy activities of Robotics and Automation Engineering Department are carried out under the guidance of Dr. B. Vinod, Dr. Jonah and Dr. S. Prabhakaran. The consultancy is based on Welding, Testing of Pumps functioning, Lectures and quality training for welders, Automation

Systems and mobile robots. They analyze, sort out the issues and meet the requirements of clients.

DEPARTMENT OF BIOTECHNOLOGY

The Department of Biotechnology at PSG College of Technology was started in the year 2000 and began its efforts by offering the B. Tech. degree program in Biotechnology. The activities of the department has expanded to offer M.Tech (from 2006), MS (from 2006) and PhD programs as well. An efficient team of highly qualified, trained and dedicated professionals is available to provide quality training and excellent research opportunities to the students enrolled. There search environment in the department is excellent due to its well equipped laboratories. The college has been able to produce well trained engineering graduates in biotechnology who are uniquely talented in analytical sciences, modern life sciences and engineering.

A Brief on Research Activities

The Department of Biotechnology was started in July 2000 with the mission to create and transmit state-of-the-art knowledge in biosciences and technology. The department is offering a four-year undergraduate programme (B.Tech.Biotechnology), two-year masters programme (M.Tech.Biotechnology) and research degree programmes (M.S.and Ph.D.).The B.Tech Biotechnology programme of the department was accredited by the National Board of Accreditation (NBA), New Delhi for a period of three years from Feb.2009.

The department has good facilities with modern equipments like Fermentors, Gas Chromatograph, High Performance Liquid Chromatography, Ion Exchange Chromatography, Thermal Cyclers, Gel Documentation Systems, Phase Contrast/Dark Field Microscopes, Stereo Microscope, ELISA Reader, CO₂ Incubator, Lyophilizer, Freeze Drier, Nano-Spectrophotometer, Deep freezer and Spray Dryer. The department also has well established bioinformatics laboratory with Windows and Linus OS installed desktop computers.

The department has established the following laboratories: Bioprocess Engineering, Bioinformatics, Genetic Engineering, Immunology, Microbial Technology, Plant tissue culture, Chemical engineering. A small scale green house and Zebra fish setup had been installed the department. Ongoing researches in the department are in the fields of bio-fuel, photocatalysis, prosthetics, waste water treatment neurodegenerative disorders, transcription control, plant molecular biology, molecular genetics, molecular pathology, bio-MEMS, bioinformatics and computational biology, tissue engineering and phytoremediation

Major Areas of Research

BioMems and Bio Sensors, Tissue Engineering, Biofuels, Value Enhancement of Agricultural Residues, DownStream Engineering, Enzyme Engineering and Technology, Environmental Science and Engineering, Material Science, Nanomaterials Textile Chemical Processing Technology, Genetic Engineering, Industrial Waste Management, Protein Engineering, Tools and Algorithms in Bioinformatics, Phytoremediation, Plant Biotechnology Insertion sequence based typing of Drug resistant clinical pathogens, Malaria, Molecular epidemiology, Next Generation Sequencing, Tuberculosis, Cell and Tissue Biology, Neuro Science, Mathematical Modelling of Biological Systems, Plant Molecular Biology. Bio Inoculants for Organic Agriculture, Human Genetics, Cancer Biology, Plant Genomics, Neuroscience, Diagnostic devices, Genetic Engineering and Recombinant Products, BioSensors, Molecular Genetics Oxidative stress and neuro degenerative diseases, Bioprocess Engineering, Drug Resistance Plant Molecular Biology.

DEPARTMENT OF FASHION TECHNOLOGY

The Department of Fashion Technology is a new department which has been constituted in the year 2007. It offers the following undergraduate programmes:

Bachelor of Technology- B.Tech - Fashion Technology

B.Tech. Fashion Technology Programme has been developed distinctively to train the students to strive and excel in understanding and integrating the areas of technology and management for Apparel Manufacturing. The programme will develop Complete Professionals for the Apparel industry with wide competence in the entire range of functions in the industry and in addition with specialization in particular functions to meet their individual needs and aspirations.

A Brief on Research Activities

The Department of Fashion Technology, PSG College of Technology is actively engaged in research activities in fashion and apparel sectors under various criteria's such as Faculty Research Paper publications, sponsored research and consultancy, Patents, Research Workshops and seminars, Book/Chapter publications and students projects every year. Every year the Department conducts a Research board meeting wherein the faculties will furnish their research plans for the academic year and they will proceed according to the research plan and succeed in meeting the requirements according to the research plan. The college level research council meeting will be accompanied by the HOD and Research Coordinator and the Instructions will be delivered to the department faculties by the Research coordinator.

Major Areas of Research

Technical Textiles, Textile and Apparel Quality Evaluation, Textile Fibers, Textile Technology, Yarn Manufacture, Textile Chemical Processing, Functional Knit Garment Technology
Industrial Engineering, Medical Textile, Apparel Laundry and Dry-cleaning, Sustainability in Fashion, Odour and Textiles, Odour analysis in intimate apparel, Knit Fabric Technology, Textile Composites, Pattern Engineering, 3D Printing
Garment FIT Analysis, Apparel Machinery and Equipment, Apparel Marketing and Merchandising, Apparel Merchandising, Fabric Structure and Design, Speciality fabrics and Technology

A Brief on Consultancy and Testing Activities

The department is undertaking consultancy and testing activities in the areas of apparel testing, Designing of school uniforms, fabric design development for apparels and skill development on tailoring and embroidery.

DEPARTMENT OF INFORMATION TECHNOLOGY

The Department of Information Technology offers an excellent atmosphere for students to learn and acquire the necessary skills demanded by the industry. The department has experienced faculty members who are fully committed to teaching and research. The students have access to well equipped, state-of-the-art laboratories. A wide range of research activities undertaken in the department allow the students to gain contemporary knowledge about real-life problems in the industry. The well thought out curriculum requires the students to take up a broad spectrum of courses, while simultaneously allowing emphasis on desired areas of specialisation. Hence, the Department has brought out outstanding engineers in the past and will continue in doing so in the years to come. It is our honour to say that all our programmes, B.Tech -IT, M.Tech - IT and M.E - BCS are accredited to Washington accord

A Brief on Research Activities

The department is actively involved in research activities by means of peer reviewed paper publications, sponsored projects, providing consultancy to industries, visiting foreign countries and creating a research forum by conducting and attending conferences. The department holds 19 doctorates and others are pursuing PhD. The department is up to the hilt involved in research by conducting research seminars and periodic reviews on various researches going on.

Major Areas of Research

Data Mining, Data Analytics, Computational Intelligence, Optimization Techniques, Internet of Things (IoT), Distributed Systems, Machine Learning, Deep Learning, Wireless Sensor Networks, IoT Security, Bioinformatics, Neural Networks, Cloud Services, Wireless Networks, Quantum Computing, Wearable Devices for Medical IoT, Privacy Preserving Data Mining, Cognitive Security, Medical image processing etc. are the research domains of the department.

A Brief on Consultancy and Testing Activities

The department offers consultancy to various industries, hospitals and educational institutions. The faculty members and students play a vital role in bridging the gap between academia and industry. Moreover, the department has signed MoUs with leading industries and based on that, internships are provided and projects are undertaken by students mentored by the academic faculty and the industry person.

DEPARTMENT OF TEXTILE TECHNOLOGY

The Department of Textile Technology educates undergraduate and graduate students for careers in the fibre, textile, apparel, technical textile, retail and also in interdisciplinary application industries. The department by offers Bachelor of Textile Technology (full-time & part-time), Master of Textile Technology (full-time & part-time), and Doctoral programme (PhD). The department is one of the oldest departments started in the year 1965. National Board of accreditation of AICTE has accredited B.Tech and M.Tech Textile Technology Programmes for maximum years since 1997, and the latest is 6 years for B.Tech from 2018 to 2024 and M.Tech from 2017 to 2023.

These programs are designed to provide the student with a thorough knowledge in fundamental concepts and the students will have the ability to serve the technology and management by defining and solving the challenging technological and managerial problems. An essential component of the department's activity is the development of new knowledge through research and the subsequent transfer of this knowledge to both the textile industry and society.

All the laboratories in the department are fully equipped with state of Art Machineries and equipments.

The department library has about 527 Indian and International books for reference. So far 74 PhDs have been completed and 14 are in progress in the department. The proximity of a large number of textile industries in and around Coimbatore ensures mutual growth of the department and industry. The department is well known for its extensive extension activities, in several key sectors of Textile Technology including industrial textiles, nonwovens, hosiery, silk and non-traditional areas like jute and coir based products. There are several sponsored projects currently being undertaken in the department and the signature amount achievement is the Centre of Excellence on Industrial and Home Textiles Sponsored by MoT for 30 crores. . The major facilities in the department include Dry Jet Wet Spinning Machine, Nuovo Pignone Flexible Rapier loom with Stauble Electronic Dobby, Grosse Electronic Jacquard Air jet loom, Ruti-C high speeds automatic loom, Braiding machine, Two for one twister, Open end spinning machine, Sulzer Ruti Flexible Rapier Loom, DILO Nonwoven needle punching machine, Resin Transfer moulding machine, Zwick Roell Universal Tensile Tester 10kN and 100kN, Contact Angle Tester, Kawabata Fabric Handle Evaluation system, Air Permeability Tester, Thermal Conductivity Testes, Mini RF dryer, Spectrophotometer with Computer Colour Matching system.

A Brief on Research Activities

Triumphant convergence of the Research Centre of Excellence, Sponsored Projects, forms a narrative of unparalleled transformation of the department of Textile Technology leading to Sustainable growth.

Fostering Research and Development and evolving innovative applications of technology have been part of the main activities of Department of Textile Technology. Research activities are carried out in the following ways:

- * Research work as part of Post Graduate and Doctoral Dissertation
- * Basic/Applied Research work funded by Government Agencies
- * Joint Industrial Research funded by Government Agencies and Textile Industry * Research Work undertaken through the Centre of Excellence for Industrial Textiles and Incubation activities

The department has been sanctioned with Rs.25 crores for the establishment of the Centre of Excellence for Industrial Textiles and Home Textiles and FIC for 2.85 crores for plug and play model for incubation activities by Ministry of Textiles, GOI. Also the department has got funding from

Ministry of Textiles, DST, SDC, AICTE, DMRL, DBT, UGC and DRDO.

PSGTECHS COE INDUTECH, Neelambur was formally inaugurated on 21st January 2016 by Shri.Santosh Kumar Gangwar, Honourable Minister of State (IC), in the presence of Dr.Kavita Gupta, IAS, Textile Commissioner, and Smt.Anu Garg, IAS, Joint Secretary, Ministry of Textiles, Government of India.

PSGTECHS COE INDUTECH has MOUs Signed with the following industries Carborundum Universal (CUMI), Chennai, Shakthi Knitting, Tiruppur, Sauber Intech, Coimbatore for the development of products, training and the department collaborates with various Foreign Universities like Hof University of Applied Sciences, Germany, University of Leeds, United Kingdom, University of Manchester, United Kingdom, Deakin University, Australia.

Products Launched under PSGTECHS COE INDUTECH:

A products namely baby beds, face mask and wipes are manufactured & branded under the brand. An MOU has been signed between PSGTECHS COE INDUTECH, PSGII and Sauber Intech, Coimbatore on 19.03.2018 for marketing of the products. The products will be commercially marketed under the registered Comfey Care brand by Sauber Intech, an incubatee of PSGTECHS COE INDUTECH. Many such MoU's are in functional for varrous product development and testing.

Major Areas of Research

- Industrial packaging solutions.
- Natural fibre nonwovens for various technical applications
- Anti-microbial finish for textiles using herbals
- Dimensional stability of knitted fabrics
- Colour measurement of textiles
- Nano finishing of fabrics
- Development of surgical sutures
- Healthcare and hygiene textiles
- Wearable electronics / Textile based Sensors
- Development of photo fabrics and multi layered textiles duotone
- Electromagnetic shielding using textile materials
- Production of kapok non woven fabrics for oil sorption and acoustic applications
 - Composites development for various technical applications
 - Bioprocessing of fabrics
 - Design and Development of Effluent Pre-filters
 - Nonwoven Abrasives development
 - Eco-friendly Thermal Insulative Materials development
 - Coir based acoustic products development
 - Coated and laminated products
 - Baby bed protector and extreme weather clothing
 - Acoustic Textiles
 - Filtration Textiles

DEPARTMENT OF APPAREL & FASHION DESIGN

The Department of Apparel & Fashion Design is constituted as a new department in the year 2014. It offers M.Sc. FASHION DESIGN & MERCHANDISING. M.Sc. Fashion Design and Merchandising is the first of its kind at the university level offered to meet the creative and technological man power needs of the industry. This programme primarily aims at equipping the students to face the intellectual demands imposed by the complex fashion and apparel industry.

A Brief on Research Activities

The department is actively involved in various research areas such as sustainable handicrafts, revival of arts & crafts of India, fabric finishing, consumer behavior, etc. The faculty members have published quality research articles in various national and international journals which include Springer, Elsevier, Woodhead publishing etc.

Major Areas of Research

Apparel retailing
Research on Extreme Cold Weather Clothing using Nonwoven
Adaptive Clothing for elderly
Denim Clothing
Sustainable Fashion
Multi styling in Clothing
Sustainable fashion [finishing of jute blends]
Apparel Size and fit
Ergonomics in Clothing design
Functional Finishes
Handicrafts

A Brief on Consultancy and Testing Activities

A consultancy work on Ergonomic Study and design development of work wear for operators and managers is carried out for M/s ITC Ltd, Foods Division, Viralimali, Trichy. The objective is to conduct the study and design an ergonomic wear for the operators and workers for their improved performance and comfort.

DEPARTMENT OF APPLIED MATHEMATICS & COMPUTATIONAL SCIENCES

The Department of Applied Mathematics and Computational Sciences comprises of dedicated faculty members who are undoubtedly the assets worth of mention. The Department is known for its discipline and for the importance it gives to the overall development of students in nurturing them towards becoming good software professionals and research scientists.

A Brief on Research Activities

The department is actively involved in research activities by means of paper publications, sponsored projects and conferences. The faculty and research scholars of the department so far have published more than 150 papers in International Journals and conferences. Faculty members have attended various conferences both at the National and International levels and have presented papers. The doctoral research students of the department are pursuing research in the areas of Graph Theory, Soft Computing, Cryptography, Data Mining, Epidemic Modeling over Complex networks and Queueing Theory. The department has also been conducting regular R & D Seminars, on a weekly basis, to foster research activities. Dr.G.Sai Sundara Krishnan is the department research coordinator.

Major Areas of Research

Data Mining, Queueing Theory, Software Architecture, E Learning, Stochastic Models, Data Analytics, swarm intelligence, Data Structures Design and Analysis of Algorithms, Differential Equations, Queueing Models, Security Protocols and Formal Methods, Authentication Protocols for WSN and RFID, Analysis of Electronic Voting and Payment Protocols, vehicle Routing, TCP/IP Networks and Applications, Information Security, Network Security, Machine Learning, Medical Image processing, Optimization Techniques, Advanced data structures Graph theory and its applications, Swarm Intelligence, Data Mining, XML Structural Mining, Machine Learning, Pattern Recognition, Computational Intelligence Meta heuristic Algorithms, Swarm Intelligence , Sentimental Analysis, Deep Learning Natural Language Processing, Machine Learning, Fuzzy Soft set Applied Mathematics, TOPOLOGY, Cryptography, Cloud Computing, investigations on exploring the efficacy of Distributed Pair Programming in academic environment (Agile Methodology), Wireless Sensor Networks, Cryptography, High Performance Computing, Architecture Dependent Compiler Optimization Techniques, GPGPU Computing, Recommender Systems, Information Retrieval, Wireless Networks, Intelligent Information Retrieval, Image and Video Processing, web security, Wireless Sensor Networks, Graph Theory, Graph Algorithms, Design and Analysis of Security Protocols,

Software Design, Software Patterns, Software Reuse Data Management in Pervasive Computing Environment, Cloud Computing, Cryptography and Network Security, Component Based Software Engineering, Service Oriented Architecture and Web Services, Artificial Intelligence, Soft Computing, Epidemic Models, VANET, Computer Vision, Computational Neuroscience, Cognitive Modelling and Analysis, Social Network Analysis, Graph Data Mining

DEPARTMENT OF APPLIED SCIENCE

The department of Applied Science has 15 faculty members with expertise in diverse areas of Chemistry, Mathematics and Physics. The Department typically has more than 150 students pursuing their under graduate programme. The three-year B.Sc Applied science programme offered by department, since 1971, well reputed and is designed to expose students to all-important branches of Science. New Curriculum and Syllabus are in place for the B.Sc Applied Science programme from June 2018 onwards. Core theory and laboratory courses are offered during the first five semesters and electives cum highly specialized courses in the sixth semester. The core theory and laboratory courses are designed to expose the students to fundamental theory and practical knowledge in all the areas of Science. Further, the department aims to provide opportunities to all the students to get placement in well-recognized Core Industries, Science Laboratories and in Software Industries. In addition, the department promotes students to do research in High Performance Institutions such as IITs, IISc., NITs and other reputed Universities in India and Abroad.

A Brief on Research Activities

The department has received funding from various governmental agencies such as DST, AICTE, UGC, CSIR and AERB to carry out research in the areas mentioned below. The facilities available are used to synthesize and characterize a wide variety of materials for both research and industrial applications.

Major Areas of Research

- Electro-optics, PC Based Instrumentation Cyber- physical systems
- Thin films for Solar cells and thermoelectric applications
- Plasma processing for the development of functional materials
- Piezo electric composites and devices
- Spintronics
- Lithium Batteries and fuel cell
- Polymer science & Technology -photo- polymers ,flame retardant polymer
- Development of bio based polymer composites
- Advanced Textile chemical Processing
- Textile Chemistry
- Fuzzy Algebra
- Optimization
- Fuzzy Epidemic Models
- English language Teaching, Task- based Language Teaching, Computer- assisted Language Teaching, English Language Testing and Assessment.

DEPARTMENT OF CHEMISTRY

The Department of Chemistry was established in 1951. The department actively supports the engineering departments of the college in teaching and research. Courses of interest, being offered by the department for various UG and PG programmes include Corrosion Engineering, Fuel cells, Polymer technology, Nanomaterials chemistry, Electrochemical sensors, etc. The department offers Ph.D. programmes in various fields of chemistry. Research laboratories have been established in the fields of Bio-electrochemistry, Electrochemical and Photoelectrochemical water treatment, corrosion engineering and advanced materials to enable faculty to take up effective research. The department also takes up industrial consultancy.

A Brief on Research Activities

The faculties of the department actively participate in contributing towards research through procuring funded projects and publishing quality articles in reputed and peer-reviewed journals. The projects and publications focus on almost entire areas of research in chemistry. It is focused on the fundamental understanding of materials through physical chemistry methods, synthesis of organic or organometallic compounds and also polymers. The research in department also focuses on development of nanotechnology based sensors.

Major Areas of Research

Electrochemistry, Polymer Science, Co-ordination chemistry, Textile Chemistry, Nanotechnology, Metal Organic frameworks for energy applications, Supramolecular complexes for optical applications, Drug delivery systems, Photophysical Chemistry, Fluorescence spectroscopy, Pharmaceutical Technology, Heterogeneous catalysis, Inorganic catalysts for organic reactions, Material Science, Environmental Chemistry, Organometallic Chemistry, Semiconductor Science, Superhydrophobic coatings for solar panels, Clean energy materials, Gas Sensors and ion selective sensors

A Brief on Consultancy and Testing Activities

The department has taken up testing and consultancy work based on instruments such as, Electrochemical station and Ultraviolet-Diffuse Reflectance Spectroscopy. Dr. M. Kumaravel and Mr. S. Subramanian have carried out Potentio dynamic and Polarization studies for various academic institutions and industries amounting to Rs. 9000. Dr. S. Vadivel have carried out UV-DRS analysis amounting to Rs. 3300. Dr. Maruthamani have provided water quality assessment test amounting to Rs. 3000.

DEPARTMENT OF ENGLISH

The department, established in tandem with PSG College of Technology in 1951, has been rendering eminent services to the institution ever since its inception. Initially, it was started with the objective of developing English language skills. The department holds the unique responsibility of enriching the language and Professional Skills of the students. Further it facilitates the students to hone their soft skills and exhibit their linguistic abilities to meet the expectations of the industries.

The department provides a profound knowledge to the students both in and beyond the classroom in a broad perspective. The pedagogy comprises the activities of thinking, understanding and learning. They have been given exposure to soft skills, group discussions, oral presentations and mock interviews. In addition to these professional skills, the students are given adequate practices in professional and academic writing

The department is equipped with qualified and dedicated team of faculty sharing their expertise in various fields of English Language Teaching and curriculum development. The department often conducts training programmes to industry personnel, students and faculty. Further, the department equips students to appear for the certificate programmes such as Business English (BEC), International English Language Testing Scheme (IELTS), Test of English as a Foreign Language (TOEFL) and other competitive examinations.

Future plans of the Department

The department envisions the plans that include the extension of library facility with e information, to encourage students in creative writing and to organize seminars and workshops for entrepreneurship development among students.

A Brief on Research Activities

The department endeavours to promote research in various domains of academic process like curriculum design, innovative teaching methodology, updation of course materials, exploration of new electives and one credit courses, and analyses of industry requirements. A sustained and concerted focus is given for publishing research papers and encouraging faculty to become doctorates. The other trust areas are organizing training programmes and exploring new projects.

Major Areas of Research

English Language Teaching, Language Testing and Assessment, Task-based Language Teaching, Computer-assisted Language Learning, Educational Technology

A Brief on Consultancy and Testing Activities

The department is involved in providing consultancy services in Language Training and Assessment

DEPARTMENT OF HUMANITIES

The Department of Humanities is functioning as a full fledged department for the past seven decades in the campus. At present 10 faculty members serve in the department. The department offers Economics for Engineers as a regular course and Indian Constitution as a mandatory course for all BE & B. Tech programmes. The department also offers Principles of Management and Entrepreneurship for MCA and M. Sc five year integrated programmes. The department offers a course on Professional Ethics for the first year BE Production Engineering students. The department also conducts value added courses like 'Emotional Intelligence' and 'Accounting and Financial Statements' for the students. Once in four years the department organizes National Level Conference on "Integrating Humanistic Values and Ethics with Higher Education". Two faculty are recognized supervisors for the PhD programmes. At present four full time scholars are pursuing PhD in the department.

A Brief on Research Activities

The Department of Humanities has four full time doctoral research scholars. The members of faculty publish research papers in various refereed journals. The faculty members are striving to get funds for projects from various funding agencies like ICSSR, UGC, National Commission for Women etc. Two major project proposals are submitted to UGC STRIDE entitled Role of Small Scale and Cottage Industries in Tamil Nadu and Women Empowerment An Analytical Study• and Small banks of India: An Assessment of their Role in Achieving Financial Inclusion• to the tune of Rs.48 lakhs addition to that a proposal submitted to National Commission for Women with the Rs. 18.8 lakhs with the project titled A Research Study of Mental Stress among Women in the Rural vs Urban Setting and the Role of Health Care Providers in Coimbatore District.

Major Areas of Research

Economics, Marketing, Human Resource Management, General Management and Financial Management.

DEPARTMENT OF MATHEMATICS

The Department of Mathematics at PSG College of Technology has seen a phenomenal growth and success over the past 60 years. It has achieved the highest standards in both research and teaching. The department is designed to provide students with a solid grounding in advanced pure mathematics and also the mathematical logical foundations of computer science. The department also trains engineering students in strong mathematical background to enhance and apply their skills to find solutions to their field specific problems.

At present the department consists of 26 faculty members, 18 with doctorate degrees in various fields. A wide range of seminars is being organized within the department from time to time. An annual feature of the department is the organization of symposiums in memory of the mathematical legend, Srinivasa Ramanujan.

A Brief on Research Activities

The department actively takes place in various research fields in wide applications of pure and applied mathematics. The emphasis on practice infused fundamental science and mathematics which offers ample research opportunities both in theoretical and experimental field. Department is actively participating in research activities like publishing research papers, conducting research seminars and conferences. Faculty members and research scholars have published more than 150 papers in various national and international journals.

Major Areas of Research

Control Theory
Soft Set and Fuzzy Soft Set
Differential Equations
Fluid dynamics
Discrete Structures
Fractional Calculus
Fuzzy sets and Systems
Cryptography and Network Security
Queuing Models
Stochastic Models
Probability and Statistics
Optimization Techniques
Reliability Analysis and Stochastic Models,
Graph theory and its applications
Operator theory
Linear Algebra

DEPARTMENT OF PHYSICS

The Department of Physics was established in the year 1951. The department has been working towards fulfilling its mission through a synergistic combination of teaching and research. Apart from handling classes for the under-graduate, post graduate engineering programmes, the department has also been conducting short term continuing education programmes for participants from educational institutions and industries. The mission of the department is to contribute to the training of a wide spectrum of students of engineering and technology by offering relevant curricular inputs related to applied physics. Research & development and consultancy activities are being carried out to achieve self-sufficiency in Hi-Tech Materials, devices and instruments. Research work in the area of thin film devices, MEMS, solar cells, crystal growth and non-linear dynamics are in progress

A Brief on Research Activities

Research Interests:

Complex oxides for clean energy applications such as Solid oxide Fuel cells, thermoelectrics, photocatalytic hydrogen generation, solar photovoltaics, transparent conductors. Nanomaterials for clean energy applications.

Transmission Electron Microscopy, crystallography, structural and morphological analysis of materials, analysis of structure-property relationships

Major Areas of Research

Nanomaterials for biomedical applications, Applied Physics (Optical materials, White LEDs), thermoelectric thin film based on chalcogenide materials.

Functional coatings for cutting tools, Third generation thin film solar cells, Materials Science (Laser crystals, luminescent glasses), Condensed Matter Physics, Thermoelectric materials. Metal oxide Thin films and nanostructures for gas sensors, semiconductor physics and optoelectronics, Analytical Techniques in Materials Characterization, Applied Physics white LEDs and optical materials

Materials Science, Semiconductor nanocrystals for optoelectronics and 2D transition metal dichalcogenides, Functional Materials, Thin Films : Solar Cells, Organic Spintronics. Electronic applications of semiconductor, Nano Technology, Ceramic and Composite Materials, Nano Science and Technology, Properties of Matter, Non Linear Dynamics, Condensed Matter Physics.

DEPARTMENT OF COMPUTER APPLICATIONS

The Master of Computer Applications (MCA) programme was a unique programme envisioned by the Department of Electronics (DOE), Government of India in the 1980s, anticipating the rise of India as an Information Technology superpower and the impending manpower requirements that would be needed to handle the global and in-house demands. Initially the 3-year MCA programme(1980-till 2019) and the 2-year MCA programme(2020 onwards) was well conceived to target and train graduates from the Sciences, Arts and Humanities stream in the discipline of Computer Science and Applications as prospective IT workers.

PSG College of Technology was one among 14 institutions selected by the DOE, across India, to run the programme. It was the second institution to have started the programme in India and the first in South India. The programme was inaugurated by (Late) Dr M G Ramachandran, former Chief Minister of Tamilnadu. The programme is funded by the State Government and the first AICTE approval for the programme was obtained in 1983. The National Board of Accreditation has also accredited the programme for 2 years in the year 2019.

A Brief on Research Activities

Research is carried out in the department in various areas like Deep Learning, Internet of Things, Computational Intelligence, Computational Finance, Data Mining, Machine Learning, Mobile and Pervasive Computing, Wireless Sensor Networks, Computer Vision, Social Network Analysis and Network Flow Optimization. The faculty and research scholars have published various research papers in International and National journals and conferences. The department had undertaken research projects sanctioned by DST, UGC, AICTE in the areas of Wireless Sensor Networks and Green House Environment. To foster research, in collaboration with CDAC, PSG CDAC High Performance Computing Lab was established in the year. The Supercomputer Param Shavak facilitates research in the areas of High Performance Computing and Parallel Programming. The department has established well equipped laboratories with high end systems. Faculty members have been active members of various international bodies and societies such as IEEE, ISTE, ACCS and Supervised several candidates for Ph.D. and M.Phil. research programmes. Faculties had published books (monographs and edited) and contributed Book chapters.

Major Areas of Research

Information Security, Internet of Things (IoT), Machine Learning, Web Methodologies, Wireless Networks, Wireless Sensor Networks, Cloud Services Framework Computing, Applied Soft Computing, Artificial Intelligence, Vehicle Routing, Data Mining and Morphing, Swarm Intelligence, Computational Intelligence, Computational Finance, Intelligent Information Retrieval, Soft Computing, Pattern Recognition, Component Based Software Engineering, Software Defined Networking, Data Analytics, Data Management in Pervasive Computing Environment and Model Driven Software Development .

PSG INSTITUTE OF MANAGEMENT

PSG IM is one of the oldest B-Schools in India and is ranked 53rd in the NIRF rankings of 2021. It was started as the Department of Management Sciences under the PSG College of Technology in the year 1964 to cater to the ever growing need of management graduates in this region which witnessed an industrial and entrepreneurial leap of faith that continues till today. The Department was granted the 'autonomous status' by the University of Madras and the University Grants Commission (UGC) in 1978 and metamorphosed into a full-fledged institute called the PSG Institute of Management in 1994. With the PSG & Sons Charities evincing a keen interest in management education, the Institute grew wings and expanded its reach with international alliances and collaborations and became a most sought after business school. The ingraining of entrepreneurship in its wards is perhaps one of the best achievements of this institution which has churned out innumerable entrepreneurs and corporate citizens who have left a trail in the industrial and corporate corridors of this nation.

PSGIM was the first B-school in India to achieve the ACBSP International accreditation which certifies that the teaching and learning processes within PSGIM meet rigorous educational standards. Housed in an independent five storey building, PSGIM currently has 650 students pursuing their management programmes. As a leading business school, PSG Institute of Management works with faculty, students, alumni and organizations to create a thriving and challenging community to work and learn.

Dr. GRD MEMORIAL LIBRARY

Our Dr. GRD Memorial Library has rich collection of books, journals and e-resources catering to students, research scholars and faculty members. Presently, over 2.67 Lakhs books, 12675 CDs/DVDs and 217 printed journals are possessed by the library access to more than 9000 online electronic journals. The library is automated having an online portal that can be easily accessed by the users. The library implemented PSG-ILMS which is an integrated Library Management System that supports all housekeeping operations of the library. There is a separate Digital Library having 60 computers running on high speed internet. The library system and staff is meticulously focused for providing comfortable, user friendly environment so as to enables learning and knowledge creation.

The objectives of the department are

- To Enrich the Knowledge of our Potential Users with Prospective Resources at our Library • Enhancing the research and technical innovations by fostering updated technology embedded environment
- Enriching the value of education by techno based training and learning platforms in Library • Providing the best place of perfect ambience to read and refer the resources.

DEPARTMENT OF PHYSICAL EDUCATION

The Department of Physical Education covers an area of five acres located near the hostel premises. The departments have infrastructure facilities for all the indoor and outdoor games. The department is headed by a Physical Director, assisted by two Assistant Physical Directors and two Physical Training Instructors along with four markers as supporting staff and two sweepers to carry out Indoor cleaning works. The activities are held throughout the year, every day, from 6.30 am to 6.30 pm.

The department has sufficient facilities for both indoor and outdoor games for the students to practice and to conduct Intra-Collegiate, Inter-Collegiate tournaments, Intramural Sports and Coaching Camps. The infrastructure includes a Football field and a Hockey field, indoor stadium with two Basket ball courts with lighting facility, two Handball courts with gallery, Three synthetic Tennis courts with gallery, five Volleyball courts, one Throwball court, two Ball Badminton courts, two Sepaktakraw courts, two Tennikoit courts, one Kho-Kho court, three Cricket pitches for net practice and one pitch for playing matches. An open air stadium with a stage and a pavilion on both the sides with a balcony which can accommodate about 1000 students is also available.

The facilities in the department enable students to participate in indoor games. There are two games halls with each measuring 80' x 40'. The games halls has the provision for playing Table Tennis, Chess and a gym is also attached with the games halls. The gym has been equipped with number of single and multi-stationed machines and other weight training accessories are also available to provide the students an arena to keep themselves fit. The physical director's office and store rooms are also available in this hall. In addition to one old indoor badminton court (80' X 40') which is available with a seating capacity of about 500, two more new courts were established by our management (100'x40') with a seating capacity of 500. Facilities such as parallel bars, a pull-ups bar, climbing rope and roman rings are also available for the students to develop their physique.

The Personality and Character Development Course have been conducted for the first the first year BSc & MSc (five year integrated courses) students through. The students are being taught about the various types of conditioning exercises to develop their physical fitness. Talent identification among the first year students to identify the potential players in various games and athletics events will be conducted every year. Training on advanced skills and tactics are being conducted for the college team players by inviting eminent coaches. The girls are encouraged to a great extent to participate in various games & sports. The students have set up an impressive and consistent record of performance in almost all games and sports. They take part in the Inter-collegiate, Inter-University and various other local tournaments and have won many laurels. Students are given exemptions in attendance while they represent our college and participate in the competitions. The students have been exhibiting good discipline and co-operative spirit throughout the year. To encourage and recognize the students who attain individual honours such as representing university, district, state and country, they are honoured with the Star Sports Person Award during the Annual Sports Day.

The facilities available in our campus provide an arena for district, state and national sports bodies to utilize it to train sports persons of various disciplines, by the way we develop good rapport with the official sports bodies and this helps in organizing the national and state level tournaments successfully.