The Mechanizers

Department of Mechanical Engineering

2020 - 21

International University Collaboration

Infrastructure University
Kuala Lumpur

SYNERGY UNIVERSITY
Moscow, Russia

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Approved by A.I.C.T.E, Ministry of HRD, Govt. of India Affiliated to J.C. Bose University of Science & Technology, YMCA, Faridabad

ARAVALI
COLLEGE OF ENGINEERING & MANAGEMENT
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The Mechanizers

Department of Mechanical Engineering

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Message from the CHAIRMAN

As we all know that education, business, profession, in fact, everything is changing at a fast pace globally. We need to be right there or we will be left behind. Hence the need arises to impart high-quality education along with the latest infrastructure, that is what our college focuses on and we know that by putting the right people on the job we can make it the biggest success story of our times. Our focus is on a balanced education that encompasses the tradition of ethics and the needs of a changing world.

Today, more than at any time in history, technology is changing. It has the power to transform economic, social, cultural and environmental situations of our country, so that our countrymen have food, shelter, education, healthcare and employment within a given time-frame. Aravali College of Engineering and Management, Faridabad, is dedicated to the task of making India a knowledge society by creating scientists, engineers and managers of proven capability.

The main goal is that the child not only becomes a successful individual in this vibrant and dynamic environment but also becomes a better human being that will make him responsible and a good citizen by upholding our values and ethics while maintaining their separate identity. The college aims at holistic development of a child. Our emerging profile is to equip our students and teachers with talent. Technologies and resources are developed so that they are ever ready to help our corporate sectors and leaders in the global market. I invite you to explore this unique and fulfilling field of study and join hands to realize the dream of becoming the next knowledge superpower. Looking forward to your co-operation.

The greatest gifts you can give your children are the roots of responsibility and the wings of independence.

Shri Dhan Singh Bhadana
Chairman

Message from the DIRECTOR

Dear Student,(ME)

Congratulations on joining the Aravali College of Engineering and Management family. I am delighted to welcome you to the ACEM, where we pursue excellence in all the institute activities in an attempt to transform young students into responsible and professional engineers/managers with a sense of social responsibility, human values and concern for the environment. Today, as our society becomes increasingly global, diverse, and technologically complex, we continue to find innovative ways to provide education that will equip you to make your mark on the world.

ACEM is approved by AICTE and affiliated to J.C. Bose University of Science and Technology, YMCA , Faridabad and offers a four-year B.Tech programme in four branches, viz., Computer Science and Engineering, Electronics and Communication Engineering, Mechanical Engineering and Civil Engineering. The contemporary design of our state-of-the-art labs, smart classrooms, meeting spaces, research and teaching areas etc., is an integral expression of our commitment to creating a physical environment that can sustain the production of learning and knowledge in the 21st century. We continuously strive to train the students to become excellent scientists, engineers, technologists, thinkers, managers and leaders of the society. In addition to developing scientific and managerial skills, students are also encouraged for entrepreneurship. For this the college has a full-fledged Entrepreneurship Development Cell.

At ARAVALI, we have created next generation futuristic Value added programs designed specifically to meet the Industry requirements that are backed by World's Leading Software Companies. To strengthen theoretical concepts, the students are given an opportunity to implement the concepts through Laboratory work, and Industry relevant courses. The students are given an opportunity to implement the projects on the latest state of the art technology using Robot, Maglev traction, 3D reduction and addition technologies, Machine learning and computer aided design etc.

The institute has a very active training and placement cell which takes special initiatives to prepare the students for placements with the aim that every student gets at least one offer letter by the time they leave the institute. The future and scope of mechanical engineers in India and abroad are very bright. Students who complete mechanical engineering have a plethora of opportunities in the areas of aerospace, automobile, chemical manufacturing plants, railway coach factory, oil exploration, research and development. Armed forces (Army/ Air Force/Navy), many others look for candidates with ME background.

I sincerely hope that your academic journey with ACEM will be fruitful and enjoyable in every aspect and the experiences you gain here and the moments you spend here will be cherished by you all your life.

Wishing you the very best.

Prof. (Dr) Suresh Kumar Jindal
M.Tech.(IIT Kharagpur), Ph.D

Message from the HEAD OF DEPARTMENT

It is my pleasure and honor to welcome you to the Department of Mechanical Engineering. Mechanical engineering is one of the most comprehensive professional disciplines. Mechanical engineering principles are employed in a wide range of industries such as power generation, manufacturing, energy, robotics, food industries, automotive, petroleum, aerospace, repair and maintenance etc. Regular activities are arranged and encouraged in the department for skill enhancement and interdisciplinary interaction.

We also arrange various seminars by imminent personalities and technocrats on recent developments. We have a very good industry-institute interaction and we organize industrial visits for students periodically to provide an opportunity to the students to interact with working professionals from industry. We believe in holistic development of students and aim at identifying the hidden skills, developing the personality and inculcating human values to mould our students into technically-qualified professionals ready to face the competitive world.

Over the last one decade, we have grown our expertise and competence in the core mechanical engineering and research. Mechanical engineering students usually avail one or more internships during their course of study. The theory classes of many subjects are being supported by the practical work for which different laboratories are established. Our primary importance is to motivate, inspire, build trust and confidence in students and they are also taught interdisciplinary themes such as health, environment, civics and entrepreneurship. I welcome your interest in our department and wish you a very successful and enjoyable experience with us.

Mr. Praveen Kumar
M.Tech (BITS Pilani), Ph.D(P)

THE DEPARTMENT

Mechanical Engineering department leading to the bachelor's degree in mechanical engineering is a structured program that prepares students for a broad range of career choices in the field of defense, automation and robotics industry, thermal and manufacturing industry. The course is intended for students whose career objective require greater flexibility. Mechanical engineering deals with design and production of tools, machines and all other mechanical equipment to be used in industries.

The department offers many options extending across many interdisciplinary specialties. Students of Mechanical Department in the guidance of their faculty have done projects like pneumatic sheet cutting machine, multi way hexa, pneumatic vice, electric fork lift, vertical axis maglev wind turbine, fire fighting robot with night vision, pneumatic jack for 4 wheel system and robotic arm. The department prepares mechanical engineers who are the driving force behind many of our technologies and industrial processes including innovative products like cellphones, hard drives etc.

Get Ready for **'THE NEXT BILLION'**

VISION

The department of Mechanical Engineering at Aravali college of Engineering and Management believes in providing academic environment to develop the next generation of professionals who are creative, entrepreneurial and capable of meeting industrial demands and important societal needs.

MISSION

1. To give quality education and training to the students and enhance their skills to be competitive mechanical engineers.
2. To produce effective, responsible and skilled engineers.
3. Increase interaction and collaboration with industry.
4. To provide an environment for technical knowledge for holistic development of students.
5. To teach students to adopt engineering approach to conserve natural resources.

FACULTY

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HOD
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Experience: 10 Years of Teaching
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Academic PROGRAMMES

One of the most diverse and versatile engineering fields, mechanical engineering is the study of objects and systems in motion. As such, the field of mechanical engineering touches virtually every aspect of modern life, including the human body, a highly complex machine.

The role of a mechanical engineer is to take a product from an idea to the marketplace. To accomplish this, the mechanical engineer must be able to determine the forces and thermal environment that a product, its parts or its subsystems will encounter, design them for functionality, aesthetics and durability, and determine the best manufacturing approach that will ensure operation without failure. Mechanical engineers play key roles in a wide range of industries including automotive, aerospace, biotechnology, computers, electronics, micro electro mechanical systems, energy conversion, robotics and automation, and manufacturing.

Course Structure

B.Tech Mechanical Engineering

Semester 3:

- Thermodynamics (PCC-ME-201)
- Strength of Material (PCC-ME-203)
- Fluid Mechanics and Machines (PCC-ME-205)
- Basics of Electronics Engineering (ESC-201)
- Engineering Mechanics (ESC-203)
- Mathematics-III (BSC-201)
- Biology (BSC-01)
- Strength of Materials Lab (PCC-ME-207)
- Fluid Mechanics and Machine Lab (PCC-ME-209)
  Workshop -III (SEC-WS-201)

Semester 4

- Applied Thermodynamics (PCC-ME-202)
- Materials Engineering (PCC-ME-204)
- Kinematics of Machines (PCC-ME-206)
- Advance Strength of Material (PCC-ME-208)
- Manufacturing Process (PCC-ME-210)
- Thermal Lab - I (PCC-ME-212)
- Materials Engineering Lab (PCC-ME-214)
- Kinematics of Machines Lab (PCC-ME-216)
- Enviromental Science (MC-02)
- Workshop -IV (SEC-WS-202

Semester 5

- Heat and Mass Transfer (PCC-ME-301)
- Dynamics of Machine (PCC-ME-303)
- Design of Machine Elements - I (PCC-ME-305)
- Advance Strength of Material (PCC-ME-208)
- Refrigeration and Air Condition (PCC-ME-307)
- Open Elective Course- I
- Thermal Lab - II (PCC-ME-309)
- Dynamics of Machines Lab (PCC-ME-311)
- Essence of Indian Traditional Knowledge (MC-03)
- Workshop -V (SEC-WS-301)

Semester 6

- CAD/CAM (PCC-ME-302)
- Manufacturing Technology (PCC-ME-304)
- Design of Machine Elements - II (PCC-ME-306)
- Programme Elective Course - II (PEC-ME-302)
- Programme Elective Course - II (PEC-ME-322)
- Open Elective Course - II (BSC-201)
- CAD/CAM Lab (PCC-ME-308)
- Workshop -VI (SEC-WS-302)

Semester 7

- Automation in Manufacturing (PCC-ME-401)
- Operation Research (PCC-ME-403)
- Programme Elective Course - III (PEC-ME-401-411)
- Programme Elective Course - IV (PEC-ME-421-431)
- Programme Elective Course - IV (PEC-ME-449-460)
- Open Elective Course - III
- Project (Major) (SEC-401)
- Workshop -VII (SEC-WS-403)

Semester 8

- Industrial Training (SEC-402)

Course Benefits

- Mechanical engineering is a secure career with a bright, long-term future.
- Mechanical engineers have high levels of job satisfaction, and would choose the same career path again.
- Opportunities to work with elite organizations like ISRO, DRDO, Indian armed forces, etc.
- Mechanical engineers are multi-skilled.
- Mechanical engineering is at the forefront of developing new technologies for a number of industries including transport, healthcare, construction and robotics.
- Students acquire valuable skills in creative thinking, critical analysis and teamwork.
- Ability to get handy with various design and analysis software like AutoCad, SolidWork and Ansys etc.

Career Possibilities

Some of the career avenues available to students after this program:

- Automobile and auto part manufacturers
- Aerospace industry
- Various government sector undertakings
- Aviation companies
- Steel plants
- Thermal plants and gas turbine manufacturers
- Air conditioning and refrigeration industry
- Shipping industry
- Engineering consultancies
- Armed Forces
- Subject matter expert
- Production engineer
- Design engineer
- Research and development
- Mineral industries
- Plastic industry

Value Added Course / Online Certification

Course-01 (CAD/CAM)

a) Certificate course in CAD

Auto-CAD: AutoCAD is the standard design software used in the engineering, architecture, interior design and construction industries. The following are some of the most common topics covered in AutoCAD design courses: curves, 3D modeling, multiple lines, geometric shapes, isometric drawings, linear dimensions, polar arrays, layers and line types.

Certification:

Autodesk, the company that develops the AutoCAD software, offers two certification levels: AutoCAD User and AutoCAD certified professional. Earning certification involves passing an examination from Autodesk (Price-15000/Per Annum Dated: 31/12/19).

b) Certificate course in CAD-Solidworks:

Dassault Systèmes SOLIDWORKS Corp. develops and markets 3D CAD design software, analysis software, and product data management software.

Different modules in the course are:

Module 1: SOLIDWORKS 2018 Overview.
Module 2: SOLIDWORKS User Experience and Sketching.
Module 3: SOLIDWORKS Detailed Design.
Module 4: SOLIDWORKS Simulation and Flow Simulation.
Module 5: SOLIDWORKS PDM & Electrical.

Certification:

Solidworks Certification Programme

Certification course from Udemy (Rs.481, Dated: 31/12/19) ice- 15000/Per Annum Dated: 31/12/19).

c) Certficate course in (CAD/CAM (DELCAM))

CAD/CAM (computer-aided design and computer-aided manufacturing) refers to computer software that is used to design and manufacture products. CAM software uses the models and assemblies created in CAD software to generate tool paths that drive the machines that turn the designs into physical parts. CAD/CAM software is most often used for machining of prototypes and finished parts.

Certification:

Certification course from Coursera (Free of cost by Autodesk)
Certification course from Udemy (Rs.481, Dated: 31/12/19)

d) Certificate course in Design of Jig and fixture

Jigs and fixtures are manufacturing tools that are employed to produce interchangeable and identical components. They are unique tool-guiding and work-holding devices designed specifically for machining and assembling large number of parts.

Details: Locating elements: Introduction, jigs (production devices), locating principle, locating methods and devices, standard parts and their selection. Design of fixtures : Introduction, design principles of fixtures, types of fixture, general principles of boring fixtures, classification of boring fixture, lathe fixture, milling fixture, inspection fixture.

Certification:

From PDHONLINE (Rs.12000, Dated: 31/12/19)
From ARAVALI COLLEGE

COURSES -02 (AUTOMATION COURSES)

Certificate course in Mechatronics Basics

Mechatronics, which is also called mechatronic engineering, is a multidisciplinery branch of engineering that focuses on the engineering of both electrical and mechanical systems, and also includes a combination of robotics, electronics, computer, telecommunications, systems, control, and product engineering.

Details: Introduction to mechatronics system, mechatronics in manufacturing, product design, measurement systems, Control System, comparison between traditional and mechatronics approach. Mechanical components in mechatronics, force, friction and lubrication, materials, mechanical behavior of materials, mechanisms used in mechatronics, lever and four bar mechanisms, bearing, belt, chain, cam, slider crank, clutches etc. Sensors and transducers: Introduction, performance terminology, displacement, position and proximity, velocity and motion, fluid pressure, temperature sensors, light sensors, selection of sensors.

Certification:

Certificate from Udemy (Rs. 455, Dated: 31/12/19)

COURSE- 03 (ROBOTICS COURSES)

a) Certificate in Basics of Robotics Engineering

Robotics Engineering is a field of engineering which deals with the construction, design, application and operation of robots. Robotics engineering is an interdisciplinary branch of electrical engineering & mechanical engineering.

Details: Introduction history of robots, classification of robots, present status and future trends. Basic components of robotic system. Basic terminology : Accuracy, repeatability, resolution, degree of freedom. Mechanisms and transmission, end effectors, Grippers - Different methods of gripping, Mechanical grippers like slider crank mechanism, screw type, rotary actuators, Cam type gripper, magnetic grippers, vacuum grippers, air operated grippers, specifications of robot, drive systems and sensors drive system like hydraulic, pneumatic and electric systems sensors in robot : Touch sensors, tactile sensor, proximity and range sensors, robotic vision sensor, force sensor, light sensors, pressure sensors.

Certification:

Coursera (University of Pennsylvania),
Udemy (Rs.468, Dated on: 31/12/19)

b) Certificate in Robotics Engineering advanced

Details: Kinematics and dynamics of robots 2d, 3D transformation, scaling, rotation, translation, homogeneous coordinates, multiple transformation. Matrix representation, forward and reverse kinematics of three degree of freedom, homogeneous transformations, inverse kinematics of robot, robot arm dynamics, D-H representation of robots, basics of trajectory planning.

Introduction to robot programming

Types - Flex pendant, lead through programming coordinate systems of robot, robot controller : Major components wrist mechanism, interpolation-interlock commands, operating mode of robot, robot specifications, motion commands, end effectors and sensors commands.

Certification:

Udemy (Rs.488, Dated:31/12/19), EDX
Coursera (University of Pennsylvania)

COURSE-04 (MAINTENANCE)

a) Course in Industrial safety

Industrial safety refers to the management of all operations and events within an industry in order to protect its employees and assets by minimizing hazards, risks, accidents, and near misses. Industrial safety is overseen by federal, state, and local laws and regulations.

Details : Importance of safety its policy, fundamentals of safety, classification of accidents, managements responsibility, objectives of safety management, national safety council, employees state insurance act 1948, approaches to prevent accidents, principles of safety management, safety organization, safety auditing, maintenance of safety, measurements of safety performance, industrial noise and noise control, industrial psychology, industrial accidents and prevention. Introduction to OSHAS 18001 AND OSHA.

Certification:

SWAYAM (Free of cost), ITI (Rs.20000)
(Dated on: 31/12/19)

b) Course in Application of Industrial Safety

An industrial safety system is a countermeasure crucial in any hazardous plants such as oil and gas plants and nuclear plants. They are used to protect human, industrial plant and the environment in case the process going beyond the allowed control margins.

Details: Safety in hazardous area, hazard in industrial zones, classification of industrial enclosures for gases and vapors. Mechanical, chemical, environmental and radiation hazards, machine guards and safety devices like slings, load limits, lifting tackles and lifting equipment, hydrostatic test. Industrial toxicology, toxic chemicals and its harmful effects on humans. Factors influencing the effect of toxic materials, units of concentration, control measure, devices for measuring radiation, safety and risk analysis, risk management, first aid, safety measures to avoid occupational diseases.

Certification:

SWAYAM (Free of cost, AICTE), ITI (Rs. 20000),
TPC TRAINING (85 Dollar)(Dated: 31/12/19)

c) Certificate course in Reliability, Maintainability Engineering

Reliability, maintainability, and availability (RAM) are three system attributes that are of great interest to systems engineers, logisticians, and users. Collectively, they affect both the utility and the life-cycle costs of a product or system.

Details: Introduction to reliability availability

and Maintainability (RAM), development of RAM engineering, reliability, availability and maintainability utilization factors, down time consequences, reliability engineering fundamentals and applications, historical perspectives, definition of reliability, application of probability distribution function in reliability evaluation combinational aspects of reliability, Markov models optimization of system reliability, heuristic methods applied to optimal system reliability.

Certification:

ARAVALI COLLEGE OF ENGINEERING AND MANAGEMENT

d) Certificate course in TPM, CBM and RCM.

Maintenance management strategies have been evolving over time and starting from the concept of breakdown maintenance, varied strategies like condition based maintenance, total productive maintenance and reliability centered maintenance are in practice.

Details: Definition concept of TPM, characteristics of TPM, benefits of TPM, losses of TPM, implementing TPM. Philosophy of TPM. Indications of TPM. TPM development: preparation phase, TPM introduction education, TPM promotion organization, TPM policies and goods, TPM master plan, TPM initiatives, implementation phase, consolidation phase. Measuring TPM effectiveness: philosophy of setting goals measuring TPM effectiveness indicators topes, Plant effectiveness quelling and energy saving maintenance measuring TPM benefits.

Certification:

ARAVALI COLLEGE OF ENGINEERING AND MANAGEMENT

d) Course in Applications of Maintenance

Application maintenance is the constant updating, modifying and re-assessing of software applications to correct faults or improve performance. Nowadays, more and more vendors of business applications pick offering the latest fad over offering top-notch

Details: Design activity: design modules, what makes for good design, design levels. Systems engineering. M+R parameters that can be usefully used in design.

Certification:

TPC TRAINING (80 Dollar), ITI (Rs.10000) (Dated on:31/12/19)

COURSE -05 (QUALITY)

a) Course in Industrial Drawing

Industrial drawing also known as technical drawing, is the act and discipline of composing drawings that visually communicate how something functions or is constructed.

Technical drawing is essential for communicating ideas in industry and engineering. To make the drawings easier to understand, people use familiar symbols, perspectives, units of measurement, notation systems, visual styles, and page layout.

Details:

1. Dimensional scales, sizes and folding of sheets, specification box, orthographic views and representations in sections and cuts in industrial and mechanical design

2. Dimension of a part according to the dimensioning standards, assembly draw (specification box, parts list, identification of the single parts)

Certification:

UDEMY (Rs.488).

b) Course in Metrology and Caliberation

Engineering metrology is the use of measurement science in manufacturing. The study of metrology is highly valuable for the students and practitioners, specifically from mechanical and allied engineering stream.

Details:

1.Introduction to metrology : Definition, types, need of inspection, terminologies, methods of measurement, selection of instruments, measurement errors, units, measurement standards, calibration, statistical concepts in metrology

2. Linear metrology: Steel rule, calipers, vernier caliper, vernier height gauge, vernier depth gauge, micrometers, universal caliper.

3. Limits fits and tolerances: Interchangeability, selective assembly, limits, fit and tolerances, limit gauging, design of limit gauges, computer aided tolerance.

Certification:

Udemy (Rs.480) (Dated on: 31/12/19)

c) Course in Statically Quality Control

Statistical quality control (SQC) is defined as the use of statistical techniques to control a process or production method. SQC tools and procedures can help you monitor process behavior, discover issues in internal systems, and find solutions for production issues. Statistical process control is often used interchangeably with statistical quality control (SQC).

Details:Quality, quality control, factors affecting quality, methods of control, chance causes and assignable causes. Quality control and quality assurance, quality costs, organization for quality, quality circles, and statistical process control.

Statistical process control – control charts for variables and attributes. Process and machine capabilities. Six sigma concept.

Types of sampling, sampling inspection, inspection by attributes and variables, role of acceptance sampling , procedure for sampling inspection, single, double, multiple sequential sampling plans, O.C. curves, quality indices for acceptance sampling plans , acceptance sampling by attributes, AQL , LTPD , AOQL sampling plans.

Certification:

SWAYAM

d) Course on SIX SIGMA and its tools

Six Sigma is a disciplined, statistical-based, data-driven approach and continuous improvement methodology for eliminating defects in a product, process or service. Six Sigma can also be thought of as a measure of process performance, with Six Sigma being the goal, based on the defects per million.

Details:

Introduction to Six Sigma probabilistic models-Six Sigma measures like Yield, DPMO and quality level. Reliability function using Six Sigma. MTTF using Six Sigma. Maintenance free operating period. Availability using Six Sigma. Point availability, achieved availability, operational availability.

Introduction - Product life cycle and the Six Sigma design-quality issues-changes in product design-changing traditional design communications and supplier involvement-design process communications needs.

Certification:

Simplilearn (Rs.1299), Udemy (Rs.360), Coursera (University systems of georgia) (Dated on: 31/12/19)

Awards & Achievements

J.C. Bose University (YMCA)

Rank Holders

Pradeep Sharma

Yogesh Sharma

Kunal

Gaurav Bainsla

Nittin

Department in the NEWS

On 9th October 2019, VLCI module 3 Modern Manufacturing Basic - Knowledge & Skills was conducted by Department of Mechanical Engineering. On this occasion, Mr.T S Rana (Anand Group), Mr. Rahul Jain (Chairman, Paragon Autotech Pvt Ltd Bhiwadi) & Mr. Naresh Kumar (Gabriel Group) were the chief demonstrators.

Publications

Mukesh Kumar, Mohsin Khan (2020). Cooling Load Evaluation in Air Conditioning System,DREFT,2020,27Feb2020, 46-51

Nitin, Hitesh Dixit, Asif Raza & Parveen Kumar (2020). Experimental Study on Vertical Axis Maglev Wind Turbine,DREFT,2020,27Feb2020,59-62

Mohsin Khan, Mohammad Zunaid, Usmani Azfar Kalam, Mukesh Kumar (2020). Review of High Velocity Oxy-Fuel Spray Coating Processes and Applications ,DREFT,2020,27Feb2020, 130-136

Rehan Saifi ,Gambhir Singh ,Rohit Kumar & Parveen Kumar (2020). Fire Fighting Robot with Night Vision Camera. DREFT,2020,27Feb2020,163-167

Mukesh Kumar, Kr.Abhishek Tiwari , Bablu Kumar, Rajbhushan Shrivastav, Sateya Prakash Kaushik (2020). Multiway Hacksaw Machine Based on Scotch Yoke Mechanism. DREFT,2020,27Feb2020,173-178

Anshu Sinha, Birju Kumar Jha, Kr.Abhishek Tiwari, Ajay Singh, Parveen Kumar (2020). Experimental Study of Pneumatic Jack System. DREFT,2020,27Feb2020, 182-185

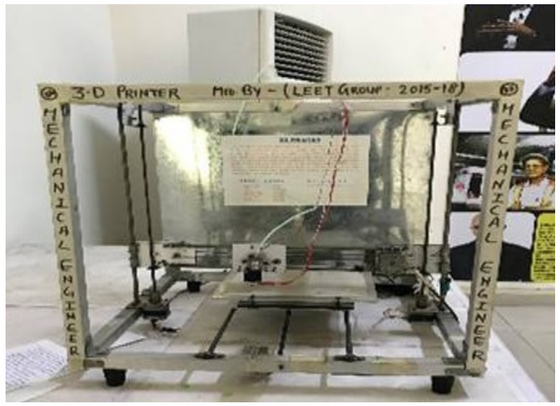
Sharma, R., & Sharma, S. (2019). Energy, Exergy, and Economics (3-E) Analysis of Thermal Power Plant Systems:- A State of Art Literature Review. International Journal of Scientific Research and Review, 7(8), August 2019.

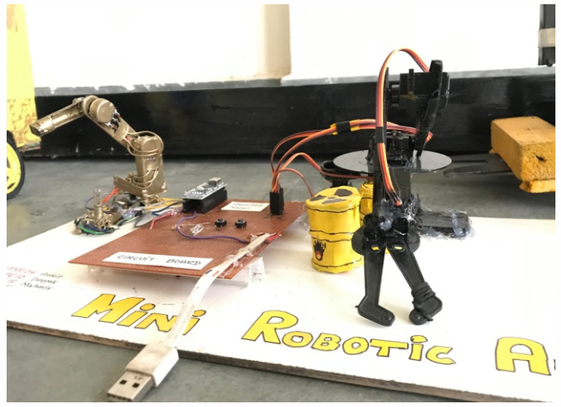
Mukesh, Amit (2019). Evaporative cooling: A review of the fundamentals, materials, India past land, cooler brands and applications, vol-4, Issue-6

Classroom Projects

A Project exhibition was held on the 19th of November, 2019 wherein students showcased all the mechanical projects done by them. The students presented their projects prepared in the semester under their respective supervisors from the department as a part of project based learning theory and as a curriculum for the semester. The objective was not only to inculcate a scientific attitude and research-mind but also practical based learning. A total of 11 projects were presented in the exhibition out of which 4 projects were pneumatically working projects.

- Mechanical HOD Parveen Sharma took the initiative of encouraging the students to put up a wonderful and enlightening exhibition.
- Project exhibition was witnessed by the Chairman, Director and Dean who appreciated the participants. The dignitaries had serious discussions regarding the project followed by their valuable feedback, suggestions and improvement. The response from the dignitaries had made a positive impact on the participants which boosted their confidence for their next project in the coming semesters.
- The presence of HODs and faculties from other departments made the exhibition a grand success and they assured to work together for upcoming projects.





Workshop and Seminars

- Expert lecture by Mr. Naveen kurmar on implementation of 5-S model.
- Seminar under VLCI (Vissionary Learning Community of India) course by Mr. Rahul Jain (Chairman, Paragon Autotech Pvt. Ltd, Bhiwadi), Mr. T.S. Rana (Manager, Anand Group, Automotive components Manufacturer, New Delhi), Mr. Naresh Kumar (Manager, Gabriel India Limited, Gurugram)
- Seminar on quality tools and management by Mr. Uma Shankar Gautam (Former Quality Trainer, Honda and Sona Steering, Gurugram)
- Industrial visit to Bharat Gears, Faridabad.
- Industrail visit to Ronald Offset, Faridabad.
- Industrial visit to Times of India, Sahibabad.

Out Of The Classroom Project

- Participated in project exhibition held at DPGITM, Gurugram.
- 3-D Printer project was done with the association of Paragon Autotech Pvt. Limited, Bhiwadi

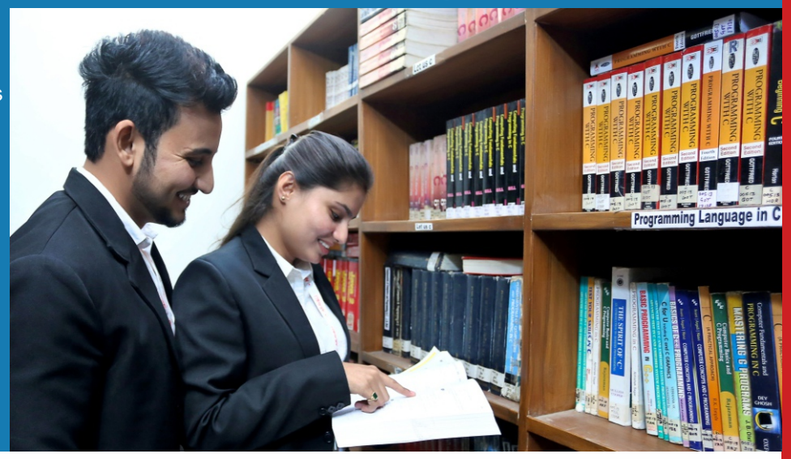
Infrastructure

The college is spread over an area of 10 acres in the interiors of Greater Faridabad, covering all amenities and resources to generate a conducive learning environment. The college infrastructure includes spacious campus building, state of the art classrooms, laboratories and other amenities that help in enhancing the students academic learning and education as a whole. The campus has a cafeteria that serves nutritious food. It also has a medical room providing treatment in case of any emergency and maintains liaison with the doctors of the local hospital. The entire campus and hostel is wi-fi enabled and has round the clock security arrangements with CCTV and trained guards monitoring the area.

Library

Aravali College of Engineering & Management has one of the largest library in the region with more than 20,000 books and thousands of National and International journals. Students and Faculty have free access to the library where they can study various titles for any particular topic. The library is also a hub for all college research oriented activities.

- Fully air conditioned library
- More than 20,000 books
- National /International online journal
- Vast collection of e-books and online catalogue



Laboratory facilities

The Department of Mechanical Engineering has over 16 laboratories including thermal engineering, heat-transfer, dynamics, metallurgy, metrology, strength of materials, CNC trainer etc. Modern computing facilities are available for students at the Computer Aided Design and Computer Programming laboratories. The department has fully equipped labs supervised by experienced faculty members. There are trained technicians to help the students in performing the experiments.

TECHNICAL SOCIETY

"**Educating** the mind without educating the heart is no education at all."
- Aristotle

More About the Department

The society aims at providing exposure of ongoing technologies to the students of ACEM. We strongly feel that each one of us is blessed with creativity and innovation which is required to be expressed. Mechanical society is a society dedicated to techno enthusiast.

There are 3 technical clubs in the department to motivate students and to provide a platform for research and innovation. These clubs are chaired by esteemed faculty members of the department and the student president. Each club represents highly enthusiastic, motivated students to spread their knowledge through various innovative activities. These club organize many technical events on regular basis.

Technitude (technical debates)

Technitude society organizes technical quiz, technical GK session, and debates by student president under the guidance of HOD and concerned faculty in-charge.

Designaire (softwares)

Designaire club organizes workshop to enhance the technical design skill of the students eventually preparing them for industry needs. Softwares like Pro-E, Catia, Solidworks are available in the institute where students are allowed to easily access the software for their practice. Competition are also organized at regular intervals to maintain their confidence for the software.

ACEM (VLCI)

Visionary Learning Community of India organizes workshop based on the modules at regular interval for sorting out the grievances given by students for their development.

Students initiative

Project Exhibition and Debates

Project Exhibition

A project exhibition was organized by 7th semester students namely Bhupender, Rohit Tomar, Gaurav Bainsla, Yogesh Sharma, Aakash on the 19th of November, 2019 under the guidance of HOD mechanical, wherein students showcased all the mechanical projects from 3rd, 5th, 7th semester. The students presented their projects prepared in the current semester under their respective supervisors from the department as a part of project based learning theory and as a curriculum for the semester. The objective was not only to inculcate a scientific attitude and research-mindedness but also practical based learning. A total of 11 projects were presented in the exhibition after the final run presented before the head of the department out of which 4 projects were pneumatically working projects.

Debate Session

Debate session was organized at regular intervals during zero hour by the students of 7th semester where they expressed their views for and against the topics. The main purpose behind the session was to enhance the communication skills, build confidence and to overcome stage phobia.

DEPARTMENT ALUMNI

Krishna Kant (14ME33), 2014 Batch

Aravali acted as basic foundation of my life where I got the platform to hone my skills/personality. It prepared me to face the hurdles in life. The college took care about the health, safety and discipline. Faculty members were cooperative to provide absolute mentorship. It was a very good experience with my faculty and learning buddies.

“Life is unpredictable”, it might be good or bad but you expect anything to happen so be prepared for it.

At last, Proud to be an ARAVALIAN!!!

Sushant Bhat (14ME87), 2014batch

The college infrastructure is very good and facilities are really awesome. Students of every year are encouraged to participate in all extracurricular activities. Every semester industrial visits are arranged to give students exposure towards working environment. Being a mechanical engineer it is important to gain practical knowledge which I learned in Aravali College.

At last, I am really thankful to all my faculty for giving me such valuable knowledge of mechanical engineering.

Recent Placement

Vivek Kumar Rajput
Placed in
Apex Plastics Pvt Ltd

Vivekposwal
Placed in
Jainsons Engineering Pvt Ltd

Pradeep Sharma
Placed in
Mahabir Plastics Pvt Ltd

Yogesh Kumar
Placed in
Jainsons Engineering Pvt Ltd

Pradeep Sharma
Placed in
Oswal Castings Pvt Ltd

Sahil Raj
Placed in
Mahavir Die Casters Pvt Ltd

Sidarth Sangwan
Placed in
3Dexter Edu Tech Pvt Ltd

Sanjeev Kumar Ghosh
Placed in
Oswal Castings Pvt Ltd

Nittin
Placed in
Art N Glass Inc

Rohit Kumar
Placed in
Jainsons Engineering Pvt Ltd

Rohit Tomar
Placed in
Mahabir Plastics Pvt Ltd

Sachin
Placed in
Alumax International

Yogesh Kumar
Placed in
Apex Plastics Pvt Ltd

Vivek Kumar
Placed in
Mahavir Die Casters Pvt Ltd

Sudheer Singh
Placed in
3Dexter Edu Tech Pvt Ltd

Suraj Pandey
Placed in
Oswal Castings Pvt Ltd

Lalit
Placed in
Jainsons Engineering Pvt Ltd

Ankit Upadhyay
Placed in
Art N Glass Inc

Ankit Yadav
Placed in
Alumax International

Gaurav Bainshla
Placed in
Jainsons Engineering Pvt Ltd

Amit
Placed in
Alumax International

Jeevesh
Placed in
Alumax International

Kamaljit Nanda
Placed in
Mahavir Die Casters Pvt Ltd

& many more...

Student Name	Company Name
Sanjeev Ghosh	Oswal Castings Pvt Ltd
Pradeep Sharma	Oswal Castings Pvt Ltd
Suraj Pandey	Oswal Castings Pvt Ltd
Ankit Upadhyay	Art N Glass Inc, New Delhi
Nittin	Art N Glass Inc, New Delhi
Yogesh Sharma	Apex Plastics Pvt Ltd, Faridabad
Vivek Kumar Rajput	Apex Plastics Pvt Ltd, Faridabad
Sudheer Singh	3Dexter Education Pvt Ltd
Siddarth Sangwan	3Dexter Education Pvt Ltd
Rohit	Mahabir Plastics Pvt Ltd
Pradeep Sharma	Mahabir Plastics Pvt Ltd
Sahil Raj	Infinity Imports LLP
Vivek Kumar Rajput	Infinity Imports LLP

Student Name	Company Name
Kamaljeet Singh	Infinity Imports LLP
Lalit	Jainsons Engineering Pvt Ltd
Bhupender	Jainsons Engineering Pvt Ltd
Vivek Poswal	Jainsons Engineering Pvt Ltd
Gaurav Bainshla	Jainsons Engineering Pvt Ltd
Kunal Singh	Jainsons Engineering Pvt Ltd
Rohit	Jainsons Engineering Pvt Ltd
Yogesh Sharma	Jainsons Engineering Pvt Ltd
Avinash (2019 Batch)	Jainsons Engineering Pvt Ltd
Jeevesh	Alumax International, (For Training)
Mayank Gautam	Alumax International, (For Training)
Amit	Alumax International, (For Training)
Sachin	Alumax International, (For Training)
Ankit Yadav	Alumax International, (For Training)

Placement Adviser and Coordinator

Initiatives taken under the charter of Training & Placement cell:

- Employability check for final year students
- Industry Readiness Training for 2nd & 3rd year students of B.Tech.
- Membership of internshala
- Membership of CII
- Collaboration with Barclays for the training & placement of the students
- Regular participation in various events organised by BITS and IIT's
- Entrepreneurship development
- Online aptitude test preparation for students
- Live projects with Edugrad and Innolabz
- Seminars & industry visits

Training and Placement Officer

Devendra Kumar

ME Department Placement Coordinator

Mr. Ombir Singh

HOW IT WORKS?

Corporate Mentoring

ACEM holds professional engineering lecture sessions via industry members. These insightful lectures offer students peek into a real - life engineering industry and what is expected of them.

Industry Internships

The students learn in real-world environment through organized industry internships that allow them to understand the practical application of the engineering education. These internships are a great way to network in the chosen field that eventually reflects on the resume during final placements.

Pre-placement Sessions

To be successful, there is a need to know the audience. With these sessions, students get to know what skills are important to get placed in their dream company.

Our Recruiters

3D EXTER · ALUMAX · Art-N-Glass · MARQUE IMPEX. · LiDO · MAHAVIR · APEX · ESCORTS · OSWAL · MPI · BYJU'S The Learning App · Perfect aspire, achieve. · Jainsons Engineering Pvt. Ltd. · AIS Asahi India Glass Ltd. · genpact

Pride of Indian Education Awards for Outstanding Placement Record

in Delhi/NCR

In the presence of

Ms. Mandira Bedi

Excellence in Student Placement Award

from **Dr. Manish Kumar**, CEO, National Accreditation Board for Education and Training at Higher Education Summit, New Delhi.

Prime Time Global Icon Awards for Education Excellence

(Engineering and Management Studies)

for the year 2019 in NCR.

SCHOLARSHIPS

A high-quality education is a significant and important investment for future. To make this incredible opportunity more affordable, we offer various scholarships.

Aravali Scholarship Test (AST)

To provide an opportunity to bright inquisitive young minds from across the country to study in most challenging and diverse academic environment, Aravali College of Engineering & Management conducts an entrance test for admission to various courses. AST is aimed at rewarding the brilliance and potential of young aspirants to win scholarships and study in courses of their choice.

Institute Level Scholarship

% of Marks	Scholarship
86% Above	100 % of Tuition Fee
81-85.99%	70 % of Tuition Fee
75-80.99%	50 % of Tuition Fee
70-74.99%	20 % of Tuition Fee

HOW TO REGISTER?
Log on to - www.acem.edu.in

Please Note - Scholarship is not applicable to reserved category.

SUPER ACHIEVER SCHOLARSHIPS

Scholarship based on All India rank in JEE Mains

All India Rank (AIR)	Scholarship
Less than 50000	**100% of Tuition Fee**
50001 to 75000	**75% of Tuition Fee**
75001 to 100000	**20% of Tuition Fee**
100001 to 125000	**10% of Tuition Fee**

Note - 5% of Total Seats will be offered under the above scheme

Scholarship based on marks in 10+2

% of Marks	MALE	FEMALE
90% Above	100%	100%
86-90%	50%	70%
81-85.99%	30%	50%
75-80.99%	20%	25%
70-74.99%		10%

Note:

- Scholarships given on tuition fee
- Terms and conditions apply

How To Apply

S. No.	Name of the Programme	Duration	FEES (Per Annum)	Minimum Eligibility Criteria	Criteria for Selection
1.	Mechanical Engineering (ME)	4 Yrs	95,000	Passed 10+2 examination with at least 45% marks in aggregate in 5 subjects. Eligibility is on the basis of percentage of aggregate marks in Physics, Chemistry(or any equivalent subject) & Mathematics.	Short listing of candidates on the basis of score in JEE Mains 2020 / SAT/ AST 2020 / XII Qualifying Examination.

University Charges of 8,500 INR (Per Annum) applicable separately for all courses

Hostel : AC Room Rs 75,000 INR (Per Annum)
Non AC Room RS 65,000 INR (Per Annum)

Life At Aravali