DEPARTMENT OF MECHANICAL ENGINEERING

Vision: To emerge as a centre to develop excellent Mechanical Engineering graduates.

Mission:

- Make the programme more practical oriented.
- Develop state of art Laboratories.
- Motivate the students for self-initiative and achievement.
- Create team spirit in teachers and students.
- Build Competence in teachers for target driven research and motivate them to deliver the fruits to the society.

ABOUT DEPARTMENT:

- The Department was started in the Academic year 2010-11 with a student intake of 60 (CVR College of Engineering was started in 2001-02). The current intake for B.Tech. Degree course is 240. The department has well-equipped workshops and laboratories which have been established at a cost of around Rs.3.5 Crores
- Dr. T.A. Janardhan Reddy, former Professor and HOD at Osmania University has been the first Head of the Department in 2011.
- The department has faculty strength of 42 members during 2015-16, with five Professors, five Associate Professors and thirty two Assistant Professors.
- All the teaching staff of the department are post-graduates with first class in UG & PG degrees.

Mile Stones:

2011	: Intake of 60 students under regular admission. Dr. T. A. Janardhan Reddy, former Prof & Head of Mechanical Engineering, Osmania University has taken over as head of the department.
2013	: Entrepreneurship Development Cell was started – AICTE Funded.
2013	: Purchase of CNC turning center at a cost of Rs 20 Lakhs (Production Machine) – Made by ACE Designers, Bengaluru.
2013 - 14	: Intake admission increased from 60 to 120 students
2014 – 15	: First batch of Mechanical Engineering Students graduated.
2014 - 15	: Intake admission increased from 120 to 240 students
2015 - 16	: Purchase of CNC machining center at a cost of Rs. 35 Lakhs (Production Machine) – BFW Make, Bangalore.

INTAKE YEAR WISE AND STUDENTS STRENGTH

YEAR	INTAKE
2015-16	240
2014-15	240
2013-14	120
2012-13	60
2011-12	60

TEACHING STAFF, QUALIFICATIONS, EXPERIENCE WITH SPECIALIZATIONS

Dr. T. A. Janardhan Reddy

Professor and Head of the Department

B.E.(Mech.), M.Tech.(NIT-W), Ph.D. (IIT Madras), FIE,MISTE,MSPE

Specialization: Manufacturing Engineering.

Experience: He was design and Development Engineer at M/s Praga Tools Ltd., for 5 yrs Professor at CBIT for 10 yrs, Professor and Head of the department of Mechanical Engineering, Chairman-BOS, Director-Entrepreneurship Development Cell, at Osmania University for 15 yrs and Prof & HOD at CVR college of Engineering for 5 yrs. Member of AICTE Expert Committee for Inspecting the opening of new Engineering Colleges & Accreditation of the existing Engineering Colleges for about 15 Years.

Publications: *International Journal – 20, National Journal –8, International Conference – 28, National Conferences -34, Books - 1.*

Ph.D. Guided: 7 (completed)+2 (Under Progress)

Cell: 9440491758, Email: thanam.engineer@gmail.com

Dr. S. Deva Prasad

Professor

AMIE(Mech.), M.E.(MNNIT- Allahabad), Ph.D. (IITM), FIE

Specialization: Multi-objective Optimization, Supply Chain Management, Operations Research.

Experience: Research – 8 years, Industry – 4 Years, Teaching - 10 Years

Publications: *International Journal* – 4, International Conference – 5, National Conference – 5, *Books – 1.*

Cell: 8179107081, Email : s.devaprasad@cvr.ac.in

Dr. G. Venkatesha Prasanna

Professor

B.E. (Mech.), M.Tech. (Production Engineering Systems Technology- Mysore Univ.), Ph.D. (Andhra Univ.)

Experience : Teaching -19 years , Industry -2 years

Publications: *International Journal* - 6

Cell: 9493253794, Email : prasannavenkat4g@rediffmail.com

Dr. P. Uma Maheshwera Reddy

Professor

B.Tech. (Mech.), M.Tech. (Maintenance Engineering, V.T.U Karnataka), Ph.D. (BITS – Pilani), MIE MISTE

Specialization: Tribology, Surface Coating, FEM

Experience : Teaching -10 years , Research – 3 years

Publications: *International Journal* – 6, International Conference – 4, National Conference – 4

Cell: 9848484637, Email : maheshpaturi@gmail.com

Dr. M. Venkata Ramana

Professor

B.Tech. (Mech.), M.Tech. (Industrial Metallurgy, NITW), Ph.D. (O. U.)

Specialization: *M*etal Cutting

Experience : Teaching -21 years

Publications: *International Journal* – 12, International Conference – 9, *National Journal* – 3, National Conference - *7*

Cell: 9948084192, Email : ramlalith@rediffmail.com

Mr. B. Appala Naidu

Associate Professor

B.E. (Mech.), M.Tech. (Automation and Robotics -Osmania)

Experience : Teaching -15 years , Industry -4 years

Cell:9440119328, Email : bnaidua@gmail.com

Mr. V. Rajender Kumar

Associate Professor

B.E. (Mech.), M.Tech. (Thermal Engineering- JNTUH), Ph.D. (Pursuing-JNTUH), MISTE

Specialization: Thermal Engineering, Member of BOS in CVRCOE, Member of Research Committee in CVRCOE

Experience : Teaching - 12 years, Industry - 12 years

Cell: 9848437147, Email : vrkraj@yahoo.co.in

Mr. M. Prem Swarup.

Associate Professor

B.Sc. Engg. (Mech.), M.Tech. (Ind. Eng& Mgm't -JNTUCEH), Ph.D.(Pursuing-JNTUH)

Specialization : I.E.&M , Factory Head of Middle East Appliances-Videocon-Muscat Div., Projects coordinator at A1-Shirawi Group-Dubai, Senior Manager at Tecumseh-Hyd.

Experience : Teaching -5 years , Industry -23 years

Publications: National Conference - 2

Cell: 8125770264, Email : premswarup.rs@gmail.com

Mr. K. Naga Raja Rao

Associate Professor

B.Tech. (Mech.), M.Tech. (Thermal Eng.-SVU), MIE, C.E, Dip.T.T., MISTE

Specialization: Thermal Engineering. He was principal at GPW-Nellore, Professor and Head of the Department at Avanthi Engineering College, Spoorthy Engineering College, Vivekananda Engineering College, Industrial Experience at Southern Indian Railway workshops and Thermal Station for nearly 2 years.

Experience : Teaching -30 years , Industry -2 years

Cell: 9949078954 Email kante.nagaraja@gmail.com

Mr. P. V. Ramana

Associate Professor

B. Tech. (Mech.), M.Tech. (Thermal Engineering- JNTUH), Ph.D. (Pursuing-JNTUA), MIE, MIESTE

Specialization: Thermal Engineering

Experience : Teaching - 14 years, Industry - 15 years

Publications: International Journal – 14 International Conference – 3, National Conference -*2, Workshops Attended - 7*

Cell: 9603209550, Email : pvramana1964@gmail.com

Ms. G. Mrudula

Sr.Asst. Professor

B.E. (Mech. - Production), M.E. (Production Eng. –Osmania), Ph.D. (Pursuing - Osmania)

Experience : Teaching -8 years

Publications: International Journal - 4

Cell: 9848725602, Email : mrudula.gudla@gmail.com

Ms. M. Gayatri Vineela

Sr. Asst. Professor

B.Tech. (Mech.), M.E. (Production Engineering -Osmania)

Experience : Teaching -9 years , Industry -3 years

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Ms. V. Sucharitha

Asst. Professor

B.E. (Mech.), M.Tech. (CAD/CAM -Vathsalya)

Experience : Teaching - 5 years

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Mr. S. Rakesh

Asst. Professor

B.E. (Mech. – Prod'n), M.Tech. (Machine Design & Dynamics-IIT Kharagpur)

Experience : Teaching -5 years

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Mr. D. Rambabu

Asst. Professor

B.Tech. (Mech.), M.Tech. (Thermal Engineering-IITM), MISTE

Experience : Teaching - 4 years,

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Mr. G. Bharath Reddy

Asst. Professor

B.Tech. (Mech.), M.Tech. (Advanced Manufacturing Systems- JNTUCEH)

Experience : Teaching -3 years

Publications: International Journal - 3

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Mr. G. Naveen Kumar

Asst. Professor

B.Tech. (Mech.), M.Tech. (CAD/CAM -SRPIST), Ph.D. (Pursuing –BITS, Hyderabad)

Experience : Teaching -3 years

Publications: International Journal - 5

Cell: 9985728410, Email : gnkumarmtech@gmail.com

Mr. P. Srinivasa Reddy
Asst. Professor
B.E (Mech.), M.Tech (NIT -Bhopal)
Specialization: Thermal Engineering
Experience: Teaching: 3 Years Industry: 6 Years
Publications: International Journal -2
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Mr. V. Rahul
Asst. Professor
B.E. (Mech.), M.E. (Manufacturing - Anna Univ.)
Experience : Teaching - 3 years , Industry – 6 Months
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Mr. M. Srinivas Reddy
Asst. Professor
B.Tech. (Mech.), M.Tech. (Thermal Engineering -JNTUCEH)
Experience : Teaching - 9 years, Industry -12 years
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Mr. T. Dinesh Kumar
Asst. Professor
B.Tech. (Mech.), M.Tech. (Thermal Engineering-NIT Calicut)
Experience : Teaching -5 years
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Mr. M. Udaya Kiran
Asst. Professor
B.Tech. (Mech.), M.Tech. (Applied Mechanics -IITM)
Experience : Teaching -1 year
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Mr. S. Venkata Sai Sudheer
Asst. Professor
B.Tech. (Mech.), M.Tech. (Thermal Eng.-Lakkireddy Balreddy), Ph.D. (Pursuing - NITW)
Experience : Teaching - 4 years
Publications: International Conference -1
Cell: 9642938100, Email : svsscvr@gmail.com

On Study Leave

Mr. M. V. B. Krishnam Raju
Asst. Professor
D.Met-E, AMIIM(Metallurgy), M.Tech.(Industrial Metallurgy- JNTUCEH), MIIM *MSFA(Member in society for failure analysis)*
Specialization : Industrial Metallurgy
Experience : Teaching -15 years , Industry -7 years
National Conference- 6, workshops: 4

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Mr. P. Lava Kumar
Asst. Professor
B.E. (Mech. - Prod'n), M.Tech. (Materials Engineering-NIT, Surathkal)
Experience : Teaching -4 years
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Ms. T. Gayathri
Asst. Professor
B.E. (Mech.), M.E. (Machine Engineering-Vignan Guntur)
Experience : Teaching -1 years ,
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	**Mr. S. Anand Kumar** ***Asst. Professor*** ***B.Tech. (Mech.), M.Tech. (Thermal Engineering -Brilliant)*** **Specialization: Thermal Engineering** **Experience :** Teaching -3 years Cell: 7386642996, Email : srirangam.anandkumar@gmail.com
	**Mr. M. Kishore Kumar** ***Asst. Professor*** ***B.E. (Mech. - Prod'n), M.Tech. (Fluids & Thermal Eng.-IIT Guwahati)*** **Experience :** Teaching -1 year Cell: 8121181720, Email : kishore123450@gmail.com
	**Ms. Nalli Ankitha** ***Asst. Professor*** ***B.Tech. (Mech.), M.Tech (Thermal Engineering-JNTUCEH)*** **Experience :** Teaching – 1 years Cell: 9032450928, Email : graceankitha@gmail.com
	**Ms. G. Vanya Sree** ***Asst. Professor*** ***B.Tech. (Mech.), M.Tech. (Thermal Engineering-JNTUCEH)*** **Experience :** Teaching – 1 years Cell: 9391791395, Email : vanyahoney7@gmail.com

	**Ms. Ch. Vijaya Lakshmi** ***Asst. Professor*** ***B.Tech. (Mech.), M.Tech (Thermal Engineering, JNTUCEH)*** Cell: 9000452129, Email : vlakshmichunduri.mech@gmail.com
	**Mr. K. Srikanth** ***Asst. Professor*** ***B.E. (Mech.), M.S. (Product Design-Dalarna University -SWEDEN)*** **Experience :** Teaching – 7 years , Industry – 3 years Cell: 9010943074, Email : srikanth1412@yahoo.com
	**Mr. A. L. N. Arun Kumar** ***Asst. Professor*** ***B.Tech. (Mech.), M.E(CAD/CAM-Osmania)*** **Specialization : CAD/CAM** Cell: 9030245216, Email : aln.arunkumar@gmail.com
	**Mr. P. Raju** ***Asst. Professor*** ***B.Tech. (Mech.), M.Tech. (Materials Technology - NITW)*** **Experience :** Teaching - 4 years Cell: 9701449849, Email : praju.ra@gmail.com

Ms. P. Bhargavi

Asst. Professor

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Experience : Teaching -3 years

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Mr. Srikanth Chillal

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B.E. (Mech. - Prod'n) M.Tech. (Machine Design- Vathsalya)

Experience : Teaching -1 year

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Mr. Neeraj Kumar Jha

Asst. Professor

B.E. (Mech.), M.E. (Tool Design –CITD, OU)

Experience : Teaching -3 years

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Mr. K. Sriker

Asst. Professor

B.Tech. (Mech.), M.Tech. (Engineering Design –JNTUH(VMEG))

Experience : Teaching – 1 years , Industry – 1 years, R&D-1

Publications: International Journal –2, International Conference – 2, National Conference -*1, Workshops Attended - 1*

Cell: 8985206122, Email : sriker3655@gmail.com

	**Mr. Lokeswar Patnaik** ***Asst. Professor*** ***B.Tech. (Mech.), M.E. (Tool Design –CITD, OU)*** **Experience :** Teaching – 1, Industrial- 2 Cell: 8790873704, Email : lokesh.nits@gmail.com
	**Mr. P. Ravi Kumar** ***Asst. Professor*** ***B.Tech. (Mech.), M.Tech. (Machine Design, Nova Engineering College, JNTU K)*** **Experience :** Teaching – 3 years , Industry – 5 years Cell: 9948673620, Email : ravikumar.patibaudla@gmail.com
	**Mr. Yasin Pathan** ***Asst. Professor*** ***B.Tech. (Mech.), M.Tech. (CAD- CAM, NIET)*** **Experience :** Teaching – 1 years Cell: 8125746731, Email : p.yasin339@gmail.com
	**Ms. B. Sravya Reddy** ***Asst. Professor*** ***B.Tech (Mech.), M.E. (Tool Design –CITD, OU)*** **Experience :** Industry – 1 years, Teaching – 1 years Cell: 7893784991, Email : beeramsravya@gmail.com

	**Ms. Rupasri** ***Asst. Professor*** ***B.E (Mech.), M.Tech. (Automation, VNRVJIT)*** **Experience :** Teaching – 1 years Cell: 9618480949, Email : mada.rukmini@gmail.com
	**Mr. Sunil Kumar** ***Asst. Professor*** ***B.Tech. (Mech.), M.E. (Tool Design –CITD, OU)*** **Experience :** Industrial- 2 Cell: 9451730650, Email : sunilou13@gmail.com

PROGRAM EDUCATIONAL OBJECTIVES (PEOs):

Program Educational Objectives are broad statements for the Mechanical Engineering that describe the Career and Professional accomplishments that the program is preparing graduates to achieve.

PEO 1: Preparing graduates to be creative and innovative to meet society's needs with their knowledge of Mechanical Engineering.

PEO 2: Enable the students with strong fundamentals in principles of Mechanical Engineering and methods of synthesis to work in design analysis and execution of Mechanical Systems

PEO 3: To create an ambiance that promotes creativity among the students and faculty, which encourages professional ethics for global welfare.

PEO 4: To create inquisitiveness among students so that they spread the thoughts towards research

PEO 5: To equip students with a sound foundation in the mathematical, scientific and engineering fundamentals necessary to formulate, solve and analyse problems to prepare them for higher studies.

PROGRAM OUTCOMES (POs): Program Outcomes are narrower statements that describe what students are expected to know and be able to do by the time of graduation. These relate to the skills, knowledge and behaviour that the students acquire through the program.

1. Graduates will demonstrate the ability to use basic knowledge in mathematics, science and engineering and apply them to solve Mechanical Engineering field problems.
2. Graduates will demonstrate the ability to design and conduct experiments, interpret and analyse data and report the results (Information retrieval skills).
3. Graduates will demonstrate the ability to design a mechanical system that meets the desired specifications and requirements (Creative skills).

4. Graduates will demonstrate the ability to function as a coherent unit in multidisciplinary design teams and deliver results through collaborative research (Teamwork).
5. Graduates will perform the ability to identify, formulate and solve mechanical engineering problems of a complex kind (Engineering problem solving skills).
6. Graduates will create an understanding of their professional and ethical responsibilities, and use technology for the benefit of mankind (Professional integrity).
7. Graduates will be able to communicate effectively in both verbal and written forms (Speaking / Writing skills).
8. Graduates will have the confidence to apply engineering solutions in global and national contexts (Engineering impact assessment skills).
9. Graduates should be capable of self-education and can clearly understand the value of life-long learning (Continuing education awareness).
10. Graduates will develop an open mind and have an understanding of the impact of engineering on society and can create awareness of contemporary issues (Social awareness).
11. Graduates will be familiar in applying software methods and modern computer tools to analyse mechanical engineering problems (Software hardware interface).
12. Graduates will have the ability to recognize the importance of professional development by pursuing post graduate degree or by facing competitive examinations that offer challenging and rewarding careers in Mechanical Engineering (Successful career and immediate employment).
13. Graduate will be able to design a system to meet desired needs within the environmental, economic, political, ethical, health, safety, manufacturability, management knowledge and techniques to estimate time and resources to complete a project (Practical engineering analysis skills).

Course Outcomes:

B.Tech. II Year I Semester

Course	Course Outcomes
Environmental Studies	CO1: Environmental Studies (ES) is an interdisciplinary program and students from all disciplines can focus on the study of the relationship between humans and environment. CO2: By integrating various disciplines students develop scientific acumen for understanding the environmental processes, appreciation of nature, beauty, holistic thinking to solve some of the major challenges like climate change and Global warming. CO3: Students will learn about the importance of natural resources and learn how they meet our needs, explore how our actions affect natural resources. At the same time they understand the strategy underlying the conservation and replenishment of our finite natural resources. CO4: ES can be used as a primary and supplemental tool by engineering students for understanding public and society related aspects of Energy conservation, Public administration, Urban planning, Wild life conservation, Biodiversity protection effectively which helps their capacity in policy making.
Electrical and Electronics Engineering	CO1: Students will be able to solve basic electrical circuits with the help of various analytical methods. CO2: Students will be able to analyse electrical machines like motor, generators, transformers and 3-ϕ machines with the help of electrical equivalent circuits. CO3: Students will have an idea about various measuring instruments and its operation to measure electrical quantities. CO4: Students will have an ideal about basic electric components and its importance in the circuit operation. CO5: Students will be able to understand basic parameters and methods involved in operation of CRO to observe electrical quantities.
Mechanics of Solids	CO1: Understand the theory of elasticity and Hooke's law. CO2: Analyse beams to determine shear force and bending moments. CO3: Solve torsion problems in bars and deflections at any point on a beam. CO4: Analyse and design of structural members subjected to combined stresses. CO5: Apply various failure criteria for general stress states at points.
Thermodynamics	CO1: Understand the various thermodynamic terms and be able to distinguish between various forms of energy, properties and processes. CO2: Analyse problems on enthalpy and entropy. CO3: Understand and analyse the properties of pure substances. CO4: Explain perfect gas laws and Psychrometric processes. CO5: Apply the concepts of power cycles and refrigeration cycles.
Metallurgy and Material Science	CO1: Understand the crystal structures of materials, defects and correlating the structure with the properties. CO2: Understand the concept of solid solutions and interpret different type of phase diagrams. CO3: Understand different types of Heat treatment techniques. CO4: Acquire knowledge on ferrous non-ferrous alloys. CO5: Understand the importance and application of composite and ceramic materials.
Open Elective – I	CO1: Study other faculty subjects based on his personal interest and taste.
Metallurgy and Mechanics of solids Lab	CO1: Get expertise on specimen preparation for metallography examination and in using the Metallurgical microscope. CO2: Understand microstructures of different materials like ferrous, non-ferrous alloys and pure metals. CO3: Study the effect of different heat treatment techniques on microstructure of materials. CO4: Calculate mechanical properties of materials. CO5: Calculate material properties like Young's modulus and rigidity modulus.

Course	Course Outcomes
Electrical And Electronics Engineering Lab	CO1: The characteristics of Separately Excited D.C. Generator under no load condition can be analysed by conducting Open Circuit Characteristics. CO2: The performance characteristics (electrical and mechanical Characteristics) of D.C. Shunt Motor can be analysed by conducting Brake test on it. CO3: The performance of D.C. Shunt Machine can be analysed separately when running as a Motor and Generator by conducting Swinburne's test on it. CO4: The performance characteristics of 3-phase Induction Motor can be analysed by conducting Brake test on it. CO5: The equivalent circuit thereby the performance in terms of efficiency and voltage regulation can be analysed by conducting Open circuit and Short Circuit tests on single phase Transformer. CO6: The student will be able to obtain equivalent circuit and analyse the electrical circuit by conducting various theorems. CO7: After conducting the experiment the student will be able to understand and study the characteristics of PN junction and Zener Diodes. CO8: After conducting the experiment the student will be able to understand and study the Various Input output characteristics of Transistor. CO9: After conducting the experiment the student will be able to analyse the outputs of Half and Full wave rectifiers with and without Filters.
IT Workshop Lab	CO1: Student should be able to identify the peripherals of PC (Personal Computer), assemble and disassemble PC components. CO2: Student should be able to install the system software such as MS Windows, Linux and required device drivers. CO3: Student should be able to work with productivity tools for word processing, spread sheet and presentations. CO4: Students should be able to design basic web pages.
Verbal Ability Lab	CO1: Introduction to the Sounds of English – Vowels, Diphthongs & Consonants. To help students learn correct pronunciation, a key to successful conversation. CO2 Situational Dialogues/Role Play and to train them to converse effectively and use appropriate language for functional usage. CO3 Oral Presentations-Prepared and Extempore Enables to enhance their confidence levels and prepare them to actively participate in Paper Presentations. CO4 'Just A Minute' Sessions (JAM) to develop their creative thinking ability and time management

B.Tech. II Year II Semester

Course	Course Outcomes
Probability and Statistics	CO1: Ability to apply probability and statistics to solve engineering problems. CO2: Ability to identify, formulate and solve engineering problems and interpretation of the data.
Production Technology	CO1: Describe Moulding, Casting and solidification processes. CO2: Understand the application of different joining techniques and able to select an appropriate technique according to a specific requirement. CO3: Acquire knowledge about metal forming under different conditions and in various processes. CO4: Exhibit the best and most current knowledge of plastic materials, processes and related technologies.
Applied Thermodynamics-I	CO1: Demonstrate the ability to perform analysis of various power cycles using different working fluids. CO2: Perform the analysis of different type of compressors. CO3: Understand the changes in various thermodynamic properties using a suitable equation of state. CO4: Analyse the combustion process in SI and CI engines.

Course	Course Outcomes
Production Technology Lab	CO1: Understand Moulding, casting and solidification processes. CO2: Understand the application of different joining techniques. CO3: Able to select appropriate welding technique. CO4: Get Hands on experience in various metal forming techniques.
Mechanics Of Fluids And Hydraulic Machinery	CO1: Understand the basic principles of fluid flow. CO2: Recognize the particular flow regime present in a typical engineering system. CO3: Identify, formulate and solve engineering problems related to hydraulic machines. CO4: Understand concept of Hydraulic pumps.
Machine Drawing	CO1: Recognize the conventional representations of materials and various machine components. CO2: Understand different types of drawings. CO3: Draw various components, sub-assemblies and Assembly drawings.
Open Elective - II	CO1: Study other faculty subjects based on his personal interest and taste.
Mechanics Of Fluids And Hydraulic Machinery Lab	CO1: Apply the concepts of fluid flow. CO2: Calibrate Venturi and orifice meters based on coefficient of discharge obtained. CO3: conduct various performance tests on Hydraulic pumps and turbines.
Thermal Engineering Lab	CO1: Obtain practical knowledge on performance of Petrol and Diesel engines. CO2: Do the performance analysis of air compressors. CO3: demonstrate the ability to design various types of boilers. CO4: Understand the mechanism of 2- stroke and 4 - stroke engines.
Reasoning and Logic Lab	CO1: Students can succeed in competitive skills. CO2: Students can improve their logical thinking levels. CO3: Students can improve their reasoning knowledge.

B.Tech. III Year I Semester

Course	Outcomes
Managerial Economics and Financial Analysis	CO1: To understand the basics of Business Economics at Micro level and Demand analysis in particular. CO2: To understand Production patterns and various Costs involved. CO3: To learn different types of Markets, Business organizations and Pricing strategies. To enrich students with basic concepts of Financial Accounting. CO4: To understand Evaluation of Long-term Investment Proposals. To increase Competence of Analysing Financial Statements.
Metrology and Surface Engineering	CO1: Identify the uncertainties in dimensional metrology, explain the effect of environmental conditions on the accuracy of measurements. CO2: Correct method for adjustment and calibration of various measuring devices. CO3: Use various gauges and standards effectively. CO4: Understand the concept of limits and tolerances. CO5: Analyse the use of various surface treatment methods.
Dynamics of Machinery	CO1: Understand the importance of gyroscope. CO2: Analyse the planar mechanisms under forces and synthesis of linkages. CO3: Demonstrate the working of clutches, fly wheels and governors. CO4: Use effective methods of balancing of masses. CO5: Understand the concept of vibrations.
Machine Tools	CO1: Understand the role of the method of metal cutting for surface finish. CO2: Understand the working of various machine tools like lathe, milling machine etc. CO3: Understand the difference between various surface finishing operations. CO4: Design various clamping and work holding devices.
Design of Machine Members -1	CO1: Understand concept of simple and complex stresses. CO2: Study the effect of fatigue loading and various failure theories. CO3: Design riveted, welded, bolted and axially loaded joints. CO4: Design of shafts, shaft couplings and mechanical springs.

Course	Outcomes
Applied Thermodynamics - II	CO1: Revise the concepts of steam power cycles and combustion of fuels. CO2: Understand classification, working principle applications of different boilers. CO3: Understand the working and analysis of steam nozzles, turbines and condensers. CO4: Revise the concepts of gas turbine analysis. CO5: Understand the concept of jet propulsion and working of turbo jets and rockets.
Machine Tools and Metrology Lab	CO1: Demonstrate the ability to choose right measuring instruments and technique. CO2: Understand the concept of machine tool alignment. CO3: Get hands on experience of various metal cutting operations. CO4: Appreciate the relation between tool geometry, tool life and surface finish.
Advance English Communication and Soft Skills Lab	CO1: Students can succeed in competitive exams. CO2: Students can improve their logical thinking levels. CO3: Students can improve their reasoning knowledge.
Data Interpretation Lab	CO1: Graduate will demonstrate skills to use modern engineering tools, software and equipment to analyse problems. CO2: Graduate will able to apply the acquired knowledge in real life.

B.Tech. III Year II Semester

Course	Outcomes
Operations Research	CO1: At the end of the course a student would develop skills to represent an engineering problem as an appropriate operations research model. CO2: Able to collect and analyse data in an engineering problem using different operations research methods. CO3: Able to draw conclusions after analysing the data and implementing them in the engineering problem.
Finite Element Methods	CO1: Understand the basic concepts of FEM and the relationship between Stress, Strain and Rayleigh Ritz methods. CO2: Understand the applications of global stiffness matrix and formation methods. CO3: Formulate Stiffness Matrix and its application to truss elements and space truss. CO4: Solve 2D problems applied to beams and heat transfer.
Design of Machine Members -II	CO1: Be able to analyse the stress and strain on mechanical components; and understand, identify and quantify failure modes for mechanical parts. CO2: Demonstrate knowledge on basic machine elements used in machine design; design machine elements to withstand the loads and deformations for a given application, while considering additional specifications. CO3: Be able to approach a design problem successfully, taking decisions when there is not a unique answer. CO4: Be proficient in the use of software for analysis and design.
Heat Transfer	CO1: Understand the basic Laws of heat transfer and explain mechanisms of heat transfer. CO2: Analyse problems on steady state heat conduction in simple geometries. CO3: Develop solutions for transient heat conduction in simple geometries. CO4: Understand the fundamental of convective heat transfer process. CO5: Evaluate problems on radiation.
Production Drawing	CO1: Gets knowledge on Production Drawing, Dimensioning standards and Conventional Representations of engineering parts. CO2: Understand the importance of limits, tolerances, allowances, fits, surface finishes, process planning etc., CO3: Develop part Drawings and process sheets from the given assembly drawing.
ELECTIVE - I	
Automobile Engineering	CO1: Understand different types of Automobiles. CO2: Understand the different types of systems and mechanisms in an Automobile. CO3: Understand different types of engines based on fuel usage, on the number of strokes and also based on mechanisms. CO4: Understand the faults in maintenance of Automobiles. CO5: Analyse the advantages and disadvantages of various material usages in production of Automobiles.

Course	Outcomes
Artificial Neural Networks	CO1: Learn knowledge representation, concepts of artificial intelligence and Neural Networks. CO2: Understand Learning process models. CO3: Apply single layer and Multilayer perception to the knowledge. CO4: Understand back propagation and prepare self-organization maps. CO5: Model neuro dynamics.
Composite Materials	CO1: Understand the types of composite composites materials. CO2: Learn about various types of reinforcements and manufacturing methods of composites. CO3: Understand the micro and macro mechanical analysis of lamina and failure theories. CO4: Learn the macro mechanical, failure analysis and design of laminates.
Renewable Energy Sources	CO1: Learn about different types of energies available and its applications. CO2: Get knowledge about types of radiation occurring in nature. CO3: Learn the manufacturing process of solar panel and its types. CO4: Do projects on Solar Energy.
Engineering Acoustics	CO1: Understand the principles of acoustics. CO2: Assess complex occupational and environmental noise problems using acceptable assessment criteria. CO3: Understand the importance of protecting the community from excessive noise and how it damages the hearing mechanism. CO4: Use instrumentation for noise measurement and understand the type of measurements appropriate for various situations. CO5: Understand noise source types and of how sound propagates outdoors. CO6: Understand sound fields in rooms and how they may be controlled.
Heat Transfer Lab	CO1: Understand qualitatively the concepts of Conduction, Free and Forced Convection and Radiation. CO2: Design Shell and Tube heat exchangers using LMTD method. CO3: Do preliminary calculations on shell and tube heat exchangers using the NTU method. CO4: Solve radiation problems involving view factors, shape factors and radiative exchange between surfaces using Kirchhoff's Law.
Team Projects Lab	CO1: Outcome based learning by doing simple Projects. CO2: Students encouraged to prepare working models using knowledge of their curriculum.
Quantitative Ability Lab	CO1: Students can succeed in competitive skills. CO2: Students can improve their quantitative thinking levels. CO3: Students can improve their knowledge.

B.Tech. IV Year I Semester

Course	Outcomes
Power Plant Engineering	CO1: Understand the sources of energy and their contributions to the energy and power needs of the nation and the world. CO2: List the methods and advantages of reheating of steam and explain the advantages of regeneration. CO3: Describe construction, working principles and advantages of a Steam power plant, Diesel Power Plant, combined gas turbine steam turbine power plant and Nuclear Power plants. CO3: Define load factor, demand factor and methods of plant selection. CO4: Make a load-duration curve analysis of a power plant and Estimate fixed and running cost of a plant and its depreciation.

Course	Outcomes
Refrigeration and Air Conditioning	CO1: Analyse various Refrigeration systems. CO2: Understand the working of Evaporators and Expansion devices. CO3: Classify Refrigerants. CO4: Understand the working of Air-conditioning Systems.
Computer Aided Design & Computer Aided Manufacturing (CAD/CAM)	CO1: Understand Computer Hardware. CO2: Understand various modelling techniques. CO3: Write Part programs for simple components and manufacture using CNC machines. CO4: Understand the concepts of Group Technology, CAPP and CIM systems.
Measurement and Control Systems	CO1: Student will be able to know the basics of measurement system CO2: Student will be able to improve skills in selecting a suitable transducer for a given application CO3: Student will be able to understand different functional elements in control system CO4: Student will able to calculate transfer functions of physical systems
INTERDISCIPLINARY ELECTIVE	
Robotics	CO1: Select Robot for particular tasks and Select particular type sensors to be used with Robot. CO2: Understand the application of robot in manufacturing and non-manufacturing. CO3: Design a variety of robot tasks by application of Robot programming. CO4: Design proper actuator to the Robot joints. CO5: Finding the coordinates of end- effector Location with respect to the base of Robot. CO6: Understanding of basic motion Robot Wrist.
Entrepreneurship	CO1:By the end of the course, a student is able to hone entrepreneurial problem-solving and decision-making skills CO2: The student is able to explore the opportunities for establishing and managing start-ups
Engineering Optimization	CO1: Develop the skills of finding the approximate solutions to the problems having no analytical solutions to the problems having no analytical solutions in different context of Engineering CO2: Optimize single variable or multi-variable constrained or unconstrained non-linear functions. CO3: solve optimization problems using geometric and integer programming. CO4: Develop the skills of finding approximate solutions using simulation and non-traditional algorithms.
Intellectual Property Rights	CO1: Understand the process of getting intellectual property rights and managing the IP assets strategically. CO2: Broaden thinking perspective of the students that will enhance their long term planning and decision making capabilities as an R&D/Technology manager or as an Entrepreneur. CO3: Think on this legal as well as management aspect. CO4: Know patent filing, acts & rules, Patent portfolio analysis. CO5: Explain the details of Right to Information Act.
Nano Technology	CO1. Present a holistic view of Nanotechnology CO2. Explain the overview of nanoscale Physics CO3.An Follow procedures of the fabrication process as it applies to manufacturing technologies CO4. Follow the characterization procedures for nanomaterials, components and packaged devices. CO5. Follow the procedures for nanolithography and nano-manipulation.
Object Oriented Programming through C++	CO1: To prepare object-oriented design for small/medium scale problems CO2: To demonstrate the differences between traditional imperative design and object-oriented design CO3: To explain class structures as fundamental, modular building blocks CO4: To understand the role of inheritance, polymorphism, dynamic binding and generic structures in building reusable code

Course	Outcomes
Database Management Systems	CO1: Perform conceptual modelling and logical design of centralized databases. CO2: Implement the relational database logical design using normalization procedure and data modelling using entity-relationship (ER) model. Demonstrate the use of constraints and relational algebra operations. CO3: Demonstrate Data Manipulation operations using Structured query language and also using stored procedures, sequences and triggers. CO4: Discuss the database transaction processing and concurrency control Learn backup and recovery techniques.
Indian & International Business Environment	CO1:The Students are able to analyse the relationship between firms and their business environments CO2:The students become familiar with the differences and similarities between regional, national and international environments, including political, legal, economic and cultural elements
Elective - II	
Unconventional Machining Process	CO1: Need of conventional machining Processes. CO2: Utilization of particular energy for metal removal. CO3: Differences between conventional and Unconventional Machining Processes. CO4: Analyse suitability, applications & advantages of Unconventional Machining Processes to various products.
CNC Technology	CO1: Understand the concepts of computerised Numerical by controlled machines (CNC) and their constructional features including automatic tool changing. CO2: Learn the manual part programming methods and automatic part programming system. Capable to do exercises. CO3: Study direct numerical control of NC Machines (DNC) by central servers. And understands the automatic changing of cutting parameters to suit work piece conditions. CO4: Able to understand of micro controllers and their physical elements and Programmable Logic Controllers applications in CNC manufacturing environment.
Gas Dynamics	CO1: Calculate the changes in thermodynamic variables associated with both reversible and irreversible changes of state of ideal gases. CO2: Apply the conservation equations for fluid. CO3: Determine the thermodynamic state of the gas behind normal and oblique shock waves. CO4: Compute the effects of heat addition and friction on a compressible flow. CO5: Compute thermodynamic and flow variables for one-dimensional converging-diverging nozzle flows with various pressure ratios. CO6: Calculate the wave pattern and resulting pressure due to two-dimensional wave interactions.
Computational Fluid Dynamics	CO1: Develop an understanding for the major theories, approaches and methodologies used in CFD. CO2: Build up the skills in the actual implementation of CFD methods (e.g. boundary conditions, turbulence modelling etc.) in using commercial CFD codes. CO 3: Gain experience in the application of CFD analysis to real engineering designs.
Tool Engineering	CO1: Learn the geometry of single point cutting tool. CO2: Understand the geometry of multipoint cutting tools. CO3: Learn the effect of tool geometry and cutting parameters on metal removal rate. CO4: Understand the importance of sheet metal working and different parameters. CO5: Understand the importance of locating and clamping devices & economics of machining.
Introduction to Aircraft Systems	CO1: Understand development of aircraft industry and its advances. CO2: Learn principles of flight, types and basic components of aircraft. CO3: Acquire aircraft body dynamics and aero foil nomenclature. CO4: Analyse stability, control parameters and performance of air craft. CO5: Know the mechanical systems of air craft.

Course	Outcomes
CAD/CAM Lab	CO1: Design and draft the product drawings. CO2: Analyse, synthesize and control the design parameters to manufacture highly reliable products. CO3: Identify potential changes in design as they are altered and influenced by advancements in manufacturing processes. CO4: Understand the constructional features of a CNC machine. CO5: Write a manual part programming to manufacture a product on CNC Machines.
Measurement & Control Systems Lab	CO1: Student will be able to know the basics of measurement system CO2: Student will be able to improve skills in selecting a suitable transducer for a given application CO3: Student will be able to understand different functional elements in control system CO4: Student will be able to work on laboratory and multidisciplinary tasks.
Industry Oriented Mini Project	CO1: Students will demonstrate abilities to model a manufacturing a component & sub-components. CO2: Students will demonstrate ability to design mechanical engineering components and conduct lab-oriented experiments, analyse obtained data and interpret the results for any corrections to obtain practical designs. CO3: Students can able to visualize and work on multidisciplinary tasks.

B.Tech. IV Year II Semester

Course	Outcomes
Industrial Management	CO1: Understand the structure of Organization and its functions. CO2: Realize the need of Entrepreneurship. CO3: Get familiar with various material management techniques. CO4: Get familiar with various project management techniques. CO5: Get exposure to ISO, TQM concepts etc.
Elective – III	
Production Planning & Material Handling	CO1: Gets familiar with forecasting and planning techniques. CO2: Gets familiar with Routing, Scheduling, and Dispatching techniques. CO3: Justify the selection of site for an Industry. CO4: Understand ABC Method of material planning and Break Even Method for Cost Estimation.
Reliability Engineering	CO1: Students will be able to Demonstrate Knowledge of Maintenance and Reliability Engineering Plants etc. CO2: Students will get the knowledge about structured decision logic to analyse current and determine future maintenance tactics.
Maintenance & Safety Engineering	CO1: Learn the concepts of maintenance management and the needs. Various stages of machines life and techniques of prolonging useful life span. Prevention maintenance concepts and methods. CO2: Understand the concept of inventory control and methods of control. Reducing the cost of inventory. CO3: Able to relate between quality of maintenance and quality of production output. CO4: Understand the importance of industrial safety in terms of life and cost saving. CO5: Introduced to importance of improving the maintenance methods to enhance the reliability of machines, also understands concepts and methods of improving maintain ability of mechanical design.
Mechanical Vibrations	CO1: Analyse the mathematical model of a linear vibratory system to determine its response. CO2: Ability to obtain linear mathematical models of real life engineering systems. CO3: Ability to use Lagrange's equations for linear and nonlinear vibratory systems. CO4: Ability to determine vibratory responses of SDOF and MDOF systems to harmonic, periodic and non-periodic excitation.

Course	Outcomes
Cryogenic Engineering	CO1: Understand the importance of Cryogenics and its basic concepts. CO2: Get knowledge on Cryogenic measurement systems and cryogenic insulations. CO3: Know the applications of cryogenic systems. CO4: Study various Gas Liquefaction, Separation and Purification Systems. CO5: Realize the hazards and dangers associated with cryogenics and able to understand the safety measures to be taken in handling of Cryogens.
Elective - IV	
Jet Propulsion & Rocket Engineering	CO1: Revise basic Thermodynamic power cycles. CO2: Understand the concept of Jet Propulsion and get to know its history and importance. CO3: Get knowledge on Turbo props, Turbo Jets, Ram Jets and Rocket Technology. CO4: Study the working of various rocket components.
Automation in Manufacturing	CO1: Understand the importance of automation implementation in manufacturing. CO2: Analyse the automated flow lines. CO3: Perform Line balancing of assembly systems. CO4: Understand the importance of automated storage and retrieval systems, Automated industrial control. CO4: Get knowledge on various concepts like ERP, Concurrent Engineering, and Rapid Prototyping etc. CO5: Understand the latest advances in the manufacturing perspective.
Design for Manufacturing	CO1: Understand general design rules for manufacturability. CO2: Learn selection of materials and its importance. CO3: Comprehend general design recommendations for machined parts, castings, joining processes. CO4: Acquire design guidelines for forging, extrusion, sheet metal work and Plastics. CO5: Apply design for assembly concepts.
Mechatronics	CO1: Employ the basic mathematical skills needed to solve routine engineering problems. CO2: Demonstrate knowledge of electrical circuits and logic design. CO3: Implement engineering solutions and techniques to solve design problems. CO4: Demonstrate knowledge of statics, dynamics and solid mechanics relevant to Mechatronics. CO5: Design mechatronic components and systems. CO6: Select the appropriate mechatronic device for a given application.
Rapid Prototyping	CO1: Describe the different types of rapid prototyping and additive manufacturing. CO2: Identify the key features of rapid prototyping. CO3: Create two-dimensional and three-dimensional products and design using appropriate tools, materials, methods and techniques. CO4: Use techniques, processes, and tools needed in the product development practice. CO5: Identify the technological developments of rapid prototyping. CO6: Understand the applications and advantages of rapid proto-typing.
Project Seminar	CO1: Students will be trained to become proficient in report writing and presentation of his concept. CO2: Students will gain the knowledge of communication skills. CO3: Students will demonstrate knowledge of professional and ethical responsibilities.
Comprehensive Viva	CO1: Student will be able to communicate effectively and be able to face the panel confidently. CO2: Student will show the understanding of engineering subjects learnt in their four year graduation course. CO3: Student will benefit from revising all the four year subjects for their future competitive exams.
Project Work	CO1: Student will be able to identify an engineering problem, devise a means of solving and exhibit the ability to execute the solution. CO2: Student will demonstrate knowledge of professional and ethical responsibilities. CO3: Student will show the understanding of impact of engineering solutions on the society and also will be aware of contemporary issues. CO4: Student will be able to communicate effectively in both verbal and written form. CO5: Student will develop confidence for self-education and ability for life – long learning.

LABORATORIES OF THE DEPARTMENT

Following Laboratories were established in the Department at a cost of Rs. 3.5 crore.

1.	Machine Tools Lab.
2.	Metrology Lab.
3.	Fluid Mechanics and Hydraulic Machinery Lab.
4.	Production Technology Lab
5.	Metallurgy and Material Science Lab.
6.	Computer Aided Design/Computer Aided Manufacturing Lab.
7.	Mechanics of Solids Lab
8.	Thermal Engineering Lab.

9.	Heat Transfer Lab.
10.	Workshops
	• Carpentry
	• Tin-smithy
	• Fitting
	• Foundry
	• Welding
	• House Wiring
	• Black Smithy
	• Plumbing

Machine Tools Laboratory (major equipment)

- Capstan's and Turret Lathe
- Slotting Machine
- Belt Driven Cone Pulley Lathes
- Precision Lathe Machines – G.D.Weiler
- Medium Precision Lathe Machines – Jinega
- Horizontal Milling Machine –BFW
- Radial Drilling Machine –Batliboy
- Surface Grinding Machine
- Hydraulic Power Hacksaw Machine –IFCO
- Pillar Type Drilling Machine –IFCO
- Shaping Machine –Sagar
- Cylindrical Grinding Machine –Micromatic
- Box Column Drilling Machine –IFCO
- Precision Centre Lathe –PINACHO

Machine Tools Laboratory

Radial Drilling Machine

Horizontal Milling Machine

Metrology Laboratory (major equipment)

- Electric Digimatic Vernier Calliper
- Vernier Height Gauge
- Dial Vernier Caliper
- Inside Micrometer Caliper
- Gear Tooth Micro Meter
- Lever Type Dial Test Indicator
- Depth Micro Meter
- Bevel Protractor
- Sine Bar
- Surface Finish Tester–Portable With Standard Accessories
- Bore Gauges
- Tool Maker's Microscope
- Three Wire Set With Micrometer Holder For Thread Mount Micro Gauge
- Profile Projector
- Surface Plate (Granite)
- Precision Bench Centre

Optical Projector

Tool Makers Microscope

Fluid Mechanics & Hydraulic Machinery Laboratory (major equipment)

- Pelton Wheel turbine
- Francis turbine
- Multi Stage Centrifugal Pump
- Bernoulli's Apparatus.
- Turbine Flow Meter.
- Impact of Jet on Vanes
- Kaplan turbine

Production Technology Laboratory (major equipment)

- Air compressor
- AC/ DC TIG Welding Machine
- Trunk Folding machine
- Hydraulic press
- Pipe bending machine
- Semi-automatic injection moulding machine

Metallurgy and Material Science Laboratory (major equipment)

- Single disc polishing machine
- Belt Grinder
- Binocular Metallurgical microscope
- Muffle Furnace
- Jominy end quench Apparatus
- Specimen Mounting Press
- Cut off Machine
- Specimen Drier

Computer Aided Design (CAD) / Computer Aided Manufacturing (CAM) Laboratory (major equipment)

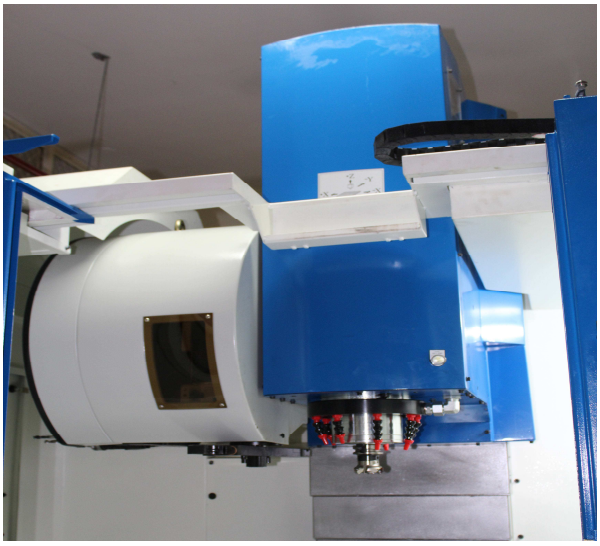
CNC Machine

- Horizontal turning centre (ACE Designers)
- Vertical Machining centre (Bharath Fritz Werner –BFW)

CAD Software

- Master cam X7
- Creo 2.0
- Ansys 15
- AutoCAD 2014

CNC Horizontal Turning Center (Make: Ace Designers)



Vertical Machining Centre (Make: Bharat Fritz Werner)

Mechanics of Solids Laboratory (major equipment)

- Binocular Metallurgical microscope
- Muffle Furnace
- Brinell Hardness Testing machine
- Compression Testing Machine
- Universal Testing Machine
- Torsion Testing Machine
- Rock-Well hardness Tester
- Spring Testing Machine
- Impact Testing Machine

Universal Testing Machine

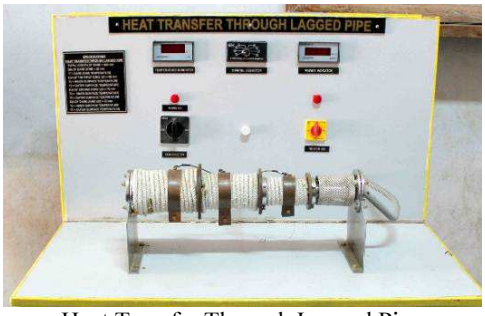
Thermal Engineering Laboratory (major equipment)

- Cut section of Various Engines
  - 2 stroke petrol engine
  - 4 stroke petrol/diesel engine
- Single cylinder 2 stroke petrol engine with eddy current dynamometer
- Multi cylinder 4 stroke petrol engine test rig with hydraulic dynamometer (MPFI) with Mohr's test
- Single cylinder 4-stroke diesel engine test rig with Retardation test
- Variable compression ratio petrol engine test rig with DC generator
- Single stage Reciprocating air compressor test rig
- Demo models of various types of boilers

Multi cylinder 4 stroke petrol engine test rig with hydraulic dynamometer (MPFI) with Mohr's test

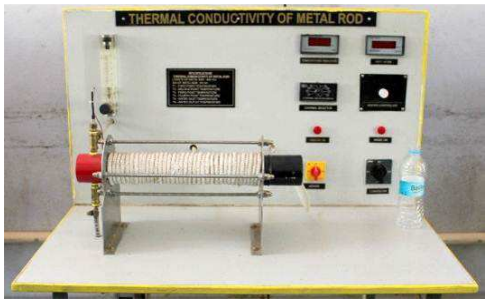
Heat Transfer Laboratory (major equipment)

- Heat transfer through composite wall
- Thermal conductivity of metal bar
- Heat transfer from pin-fin
- Unsteady state heat transfer apparatus (Transient heat conduction)
- Heat transfer in natural convection
- Parallel /counter flow heat exchanger
- Emissivity measurement apparatus
- Heat pipe demonstration
- Condensation in dropwise /film wise from model"HT11 with stainless steel boiler and pressure release wall
- Heat transfer through lagged pipe
- Thermal conductivity on insulating powder(concentric sphere)
- Heat transfer in forced convection
- Stefan's Boltzmann apparatus
- Critical Heat flux apparatus
- Boiling heat transfer unit(Two phase flow)

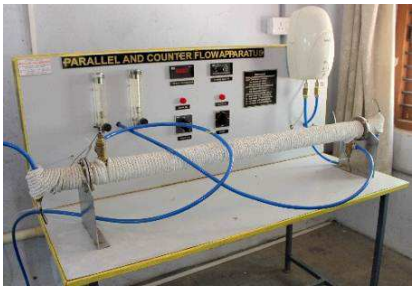


Heat Transfer Through Lagged Pipe

Stefan Boltzman Apparatus



Thermal Conductivity of Metal Rod



Parallel and Counter Flow Apparatus

Basic Engineering Workshop (major equipment)

- Power Hack Saw M/C
- Hand Shearing Machine
- Marble/Wood Cutter M/C
- Electric Wood Planner M/C
- Angle Grinder M/C
- Drill Machine
- Rotary Hammers (Drilling)
- Arc Welding m/c
- TIG Welding m/c

HIGHLIGHTS OF THE DEPARTMENT

- **Society of Automotive Engineers (SAE) Club:** Inaugurated in the year 2014-15. The inauguration of SAE Club was held on 19-09-2014 and followed by a two days' workshop on Automotive Mechanics by Robo Sapiens. Present strength of SAE Club is 55 members which includes II, III and IV year mechanical B.Tech. Students.

CVR - SAE Club Members with
Chief Guest Mr.Vijay A Deshmukh, TS Industrial Infrastructure Ltd., Hyderabad.

Members of CVR - SAE Club

- **Team Projects Laboratory:** Team Projects Lab, based on learning outcomes was introduced in the II semester of III B.Tech, in the Academic year 2014-15. The main intension of this laboratory is to encourage the students to prepare working models using knowledge of various subjects and laboratories they have studied in their curriculum. In the present Academic year a total of 12 projects were executed. It was an exciting experience for the students.

- **Entrepreneurship Development Cell (EDC):**

Starting an EDC at CVR College of Engineering:

- The Indian Industrial policy of 1990 and consequent economic growth has thrown ample opportunities for innovation and enterprise promotion.
- Andhra Pradesh produces 2.5 Lakh graduate engineers and a greater number of diploma engineers every year. This large number of Technical personnel is an added advantage to the state in building up its prosperity through entrepreneurship.
- Entrepreneurship is one important avenue that can give self- employment to some and generate employment to others. It creates sustainable wealth to the nation.
- CVR College of Engineering established an Entrepreneurship Development Cell (EDC) in the year 2011 to create interest and motivation in young graduates.
- AICTE, New Delhi sponsored the EDC and granted Rs 4.5 Lakhs for the cell.
- EDC Conducted 3 awareness camps in the college, with the help of Osmania University.
- Apart from motivating its own graduates, the college aims to help rural people in the surrounding areas to promote their own business ventures.
- Dr. T.A. Janardhan Reddy, Professor of Mechanical Engineering is the chief coordinator of the EDC.

Participants at Entrepreneurship Awareness Camp 2014

VARIOUS PROGRAMMES ATTENDED BY FACULTY AT OTHER COLLEGES/ CENTRES/ COUNTRIES

1. Dr. S. Deva Prasad attended State Level workshop on “Quality improvement in Engineering Education”, organized by Annamacharya Institute of Technology and science, Rajampet, Kadapa, Andhra Pradesh. 2010.
2. Mr. Prem Swarup attended International Conference on “Earth Sciences & Engineering" at Malla Reddy Engineering College in Hyderabad on 21st August 2010.
3. Mr. Prem Swarup attended a work shop on “Recent Developments in Mechanical Engineering" at Malla Reddy Engineering College, on 12th & 13th Feb 2011.
4. Mr. M. V. B. Krishnam Raju attended 2 Days workshop on “Teaching methodologies” at Malla Reddy College of Engineering and Technology, Hyderabad, July 2011.
5. Mr. Prem Swarup attended a work shop on "Computational Lab" held at MREC in Hyderabad on 8th and 9th August 2011.
6. Mr. Prem Swarup attended a Seminar on “College Environment Awareness and Action Programme” at MREC, Hyderabad on 14th Aug 2011.

7. Mr. M. V. B. Krishnam Raju attended 2 Days workshop on “Research methodologies” at JNTUH affiliated engineering college (MRCET), December 2011.
8. Mr. M. V. B. Krishnam Raju attended 2 Days course on “Failure Analysis” at JNTUH affiliated engineering college (MGIT), February 2012.
9. Mr. Prem Swarup attended a National Level workshop on "Recent Trends in Computational Fluid Dynamics" held at MREC in Hyderabad on 24th and 25th March 2012.
10. Mr. Prem Swarup attended a FDP Program on “effective teaching” at MREC in Hyderabad on June 2012.
11. Mr. S Venkata Sai Sudheer attended 2-Week ISTE workshop on “Engineering Mechanics” Conducted by Vignan Institute of Technology and Science (VITS), Deshmukhi, Nalgonda Dist, November 2012.
12. Mr. M. V. B. Krishnam Raju attended a course on “Powder Metallurgy” at JNTUH affiliated engineering college (MGIT), December 2012.
13. Mrs.G.Mrudula attended 3-day workshop on “Engineering Research Methodology” Conducted by University College of Engineering, Osmania University, 26th -28th August 2013.
14. Mr. M. V. B. Krishnam Raju attended 5 Days work shop on “Electron Micro Scope” at national institute of technology, Warangal (NITW), December 2013.
15. Mr.M.Srinivas Reddy attended one day workshop on “Outcome-based Education" conducted at JNTUH in December, 2013.
16. Mr. M. Srinivas Reddy attended a seminar on “Recent Trends in Power Production" at Vardhaman College of Engg., Shamshabad, December, 2013.
17. Mr. K. Chandra Sekhar attended a workshop on “Advances in CNC” at Osmania University, 2013.
18. Mr. V. Rajendra Kumar attended a one day National level workshop on “Outcome Based Education (OBE)” conducted by School of Information Technology (SIT), JNTUH Hyderabad, A.P, 2013.
19. Mr.V.Rajendra Kumar attended a one day workshop on “Engineering Research Methodology” at CVR College of Engineering, Telangana. Jan-2014.
20. Mr. M. V. B. Krishnam Raju attended 2 Days workshop on “Composite Materials” at JNTU KAKINADA, February 2014.
21. Mr. M. Srinivas Reddy attended “A workshop on Innovation at Grassroots" conducted at JNTUH, Kukatpally, February, 2014.
22. Dr. T. A. Janardhan Reddy and Mr. P.Srinivas Reddy attended an International conference organized by Wuhan College of Engineering, Wuhan, China and presented a paper on “Outcome Based Education – Some Initiatives” in Oct 2014.
23. Mr.V.Rajendra Kumar attended 5 Days course work on “Research Methodology” at JNTUH, Telangana. 08th to 12th Dec-2014.
24. Mr.K.Chandra Sekhar attended workshop on “3D modelling and simulation” organized by Autodesk at Vignana Bharathi College of Engineering, Ghatkesar, 2014.
25. Mr. M. Prem Swarup attended a FDP on “English and communication skills” at CVR College of Engineering, 2014.
26. Mr. G. Naveen Kumar attended and presented a paper “Dynamic analysis on Electric pole using GFRP material” at International Conference (ICSTM 2015), in New Delhi, 2015.
27. Mr.G. Bharath Reddy attended and presented a paper at International Conference (ICSTM 2015), in New Delhi, 2015.
28. Dr. T. A. Janaradhan Reddy and Mr. P.Sadanandam attended a one day conference on “Entrepreneurship” at New Delhi, Organised by MHRD, Govt. of India in 2015.
29. Dr. S. Deva Prasad attended a one day awareness workshop on “Outcome Based Education and Accreditation” organised by JNTUH in collaboration with NBA on 14th September 2015.
30. Dr. T. A. Janaradhan Reddy, Dr. S. Deva Prasad and Mr. M. V. B. Krishnam Raju attended international manufacturing technology exhibition IMTEX 2016, Bangalore on 23rd January 2016.

DETAILS OF GUEST LECTURES/ SEMINARS/ WORKSHOPS/AWARENESS CAMPS CONDUCTED BY EXTERNAL EXPERTS

A Guest Lecture on Sustainable Future Environment (11-11-2011)

Dr. B.G.Krishna Reddy – Guest Speaker, Former Professor, NITW

Entrepreneurship Awareness Camp (02-02-2012 to 04-01-2012)

Entrepreneurship Awareness Camp (20-12-2012 to 22-12-2012)

CAD/CAM for Enhanced Quality
(21-02-2013 to 23-02-2013)

Guest Speaker - Sri K. Sujayath Khan
Principal Director, CITD, Balanagar,
Co-ordinator Ms. M. Gayathri Vineela

Learning Outcomes (16-03-2013)

Guest Speaker -Prof Dr. P.G. Sastry,Former Professor, NITW

The Science of Aircraft (23-01-2014 to 25-01-2014)

Co-ordinator Mr. S. Rakesh

Engineering Research Methodologies
(17-01-2014 to 18-01-2014)

Co-ordinator Mr. H. Krishnamurthy Dora and
Ms. M. Gayatri Vineela

ROBO GRAVITY (28-02-2014 to 01-03-2014)

Co-ordinator Mr. Abhilash

A Guest Lecture on 3D- Printing (21-08-14)

Guest Speakers - Mr. C. Somasekhar and Srinivasan Ramanan, Open Brick Systems Pvt Ltd

Entrepreneurship Awareness Camp
04-09-14 to 06-09-14

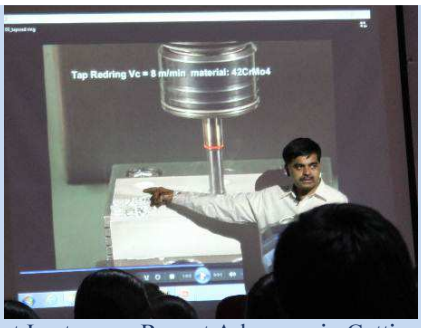
Co-ordinators Ms. M. Gayatri Vineela, Mr. P. Sadanandam and Mr. P. Srinivas Reddy

SAE Club Inauguration (19-09-2014)

Mr.Vijay A Deshmukh –Chief Guest, TS Industrial Infrastructure Ltd., Hyderabad
Co-ordinators Mr. S. Rakesh, Mr. G. Naveen Kumar

Workshop on Automobile Engine Mechanics
(19-09-2014 to 20-09-14)

Organised jointly with Robo sapians, New Delhi



A Guest Lecture on Recent Advances in Cutting Tools (24-09-2014)

Guest Speaker - Mr. S.K.L.N. Prasanna,
Officer – Training & Communication (Technical),
Guhring India Pvt. Ltd, Bengalur.

Geometric Dimensioning and Tolerances (23-02-2015) Guest Speaker- Sri.G.V.N. Murthy, Former DGM- HMT, Hyderabad.

Rebuilding of Automotive Engines (10-03-2015)

Guest Speaker -Sri.Y.Vijay Kumar, Former MD, APSRTC

Advances in Manufacturing in Aeronautical Field
(24-03-2015)

Guest Speaker -Dr.J.John Rozario Jegaraj,
Scientist, DRDL

Hydraulic and Solar Power in Telangana State(21-08-2015)

Guest Speaker - Mr. C. Radha Krishna, Project Director, TSGENCO

Staff Development Program (SDP) on A hands on session on Solid Works (04-06-2012)	Mr. Sameer and Mr. Vishwanath Srinivas
SDP on Practice Oriented course on UniGraphics (02-07-2012)	Guest Speaker -Mr. D. Sandeep Kumar
A Guest Lecture on Nano Materials: Wonders of Science & Technology (16-08-2012)	Guest Speaker -Dr. B.V. Reddi
A Guest Lecture on Outcome Based Engineering Education for enhanced Employability (11-12-2012)	Guest Speaker - Prof Dr. P.G. Sastry Former Professor, NIT Warangal
Health Awareness Camp for women (13-12-2012)	Guest Speaker -Dr. Mrs. T. Dedeepya Reddy MBBS, MS(USA), MD (USA)
Entrepreneurship Awareness Camp (19-09-2013 to 21-09-2013)	Co-ordinator Mr. H. Krishnamurthy Dora

DETAILS OF GUEST LECTURES DELIVERED AT OTHER COLLEGES BY OUR FACULTY

1. Prof.T.A. Janardhan Reddy delivered guest lecture at Guru Nanak Engineering College, Hyderabad on the Topic Flexible Mfg. Systems, June 2011.
2. Dr.S.Deva Prasad delivered a guest lecture on "Multi objective Optimization – Research in Scheduling" delivered at Sree Vidyanikethan Engineering College, Tirupati, Staff Development Program, 2014.
3. Dr.S.Deva Prasad delivered a guest lecture on "Multi objective Optimization – An introduction and Research Trends" delivered at AITS, Staff Development Program, 2011.
4. Dr.S.Deva Prasad delivered a guest lecture on "Publishing Technical Paper and Technical writing" National Workshop on Research Methodology in Engineering, 2011, Annamacharya Institute of Technology and Science, Rajampet, Kadapa, Andhra Pradesh.
5. Mr. M. V. B. Krishnam Raju delivered a guest lecture on Engineering material and their Heat treatment along with applications at learning and development centre of infotech enterprices Maniconda, Hyderabad, 2014.
6. Mr. M. V. B. Krishnam Raju delivered a guest lecture on tooling Materials and their Heat treatment at central institute of tool design (CITD) Balanagar, Hyderabad, 2014.
7. Mr.PremSwarup Delivered a Guest Lecture on "Recent Developments in Mechanical Engineering" at Malla Reddy Engineering College, Hyderabad, 2011.
8. Mr. Neeraj Kumar Jha delivered a guest lecture on Engineering Drawing for Faculty in Faculty Development Programme at JBREC, Hyderabad in January 2015.

INDUSTRIAL VISITS

DATE	INDUSTRY VISITED
12-10-2012	Nagarjuna Sagar Dam Hydel Power Plant
15-10-2012	Srisailam Dam and Hydel Power Plant
10-06-2014	HMT Praga Division. Hyderabad
12-01-2015	HMT, Bala Nagar, Hyderabad
18-03-2015	Nuclear Fuel Complex, Hyderabad
18-03-2015	Dolphin Foods (India) Ltd., Brahmanpally, RR Dist.
02-04-2015	NRB Bearings, Hyderabad
16-04-2015	BHEL, Hyderabad
09 and 10-08-2015	KTPS, Kothagudem
18-08-2015	Dolphin Foods (India) Ltd., Brahmanpally, RR Dist.
11-12-2015	Vizag Steel Plant, Visakhapatnm
23-01-2016	IMTEX 2016, Bangalore
22-02-2016	Pennar Steels Ltd, Patancheru, Hyderabad
24-02-2016	Srisailam Left Canal Power Plant, Srisailam

Industrial Visit by 3rd Year Students to HMT Balanagar, Hyderabad (12-01-2015)

Industrial Visit by 3rd Year Students to KTPS, Kothagudem (09 & 10-08-2015)

Industrial Visit by 4th Year Students (2012 batch) to Vizag Steel plant (11/12/2015)

Six faculty members namely Dr. T.A Janardhan Reddy Prof. And HOD, M.Krishnamraju Asst Prof, P. Lava Kumar Asst. Prof, S.Udaya Kumar Asst. Prof, B. Sravaya Reddy Asst. Prof, N.Rajshekhar Academic assistant accompanied the group.

Three Faculty members Dr. T.A Janardhan Reddy Prof & HOD, Dr. S. Deva Prasad Prof, M.Krishnamraju Asst. Prof visited to industrial exhibition IMTEX 2016, Banglore.

Industrial Visit by 3rd Year Students (2013 batch) to Pennar Steels Ltd (22/02/2016)

Four faculty members namely M.Krishnamraju Asst Prof, M.Udaya Kiran Asst. Prof, N Ankitha, Asst. Prof, G Vanya Sree accompanied the group.

Industrial Visit by 2nd Year Students (2014 batch) to Srisailam Power Plant (24/02/2016)

Four faculty members namely M.Krishnamraju Asst Prof, ALN Arun Kumar Asst. Prof, MRS Roopa Sree Asst. Prof, B. Sravaya Reddy Asst. Prof, and L Prashanth Lab Asst. accompanied the group.

SPECIAL CONTRIBUTIONS/ AWARDS/ ACHIEVEMENTS OF FACULTY

Dr. T. A. Janardhan Reddy

- Introduced a new subject entitled "**Team projects Lab**" at III year Level for B.Tech Mechanical Students, 2014-2015
- B.Tech Final year project entitled Design of Four directional pedestal fan won the gold medal of the college, 2014.
- Established eight (8) Laboratories in the college for B.Tech Mechanical at the cost of Rs. 3.5 Crore, with the cooperation of staff and encouragement from management.
- Established Entrepreneurship Development Cell at O.U., as well as at CVR College of Engineering, with the grant of Rs. 4.5 Lakhs by AICTE (2013-14).
- Manufactured machine tool accessories, by establishing his own enterprise.
- Fellow of Institution of Engineers (India) Kolkata.

Dr. S. Deva Prasad

- Organizing committee Member, AICTE Sponsored Staff Development Program (1 week), 2011, "Recent Trends in Manufacturing Systems, Department of Mechanical Engineering, Annamacharya Institute of Technology and Science (AITS), Rajampet, Kadapa, Andhra Pradesh.
- Organising committee Member, National Workshop on Research Methodology in Engineering, 2011, AITS, Rajampet, Kadapa, Andhra Pradesh.
- Organization and Operation Committee member 15th IEEE -International Conference on Advanced Computing Technologies (ICACT-2013), Annamacharya Institute of Technology and Science, Rajampet, Kadapa, Andhra Pradesh.
- Organising Secretary, International Workshop on Advances in Thermal Power Generation systems 27 - 28 December, 2013, Department of Mechanical Engineering, Vardhaman College of Engineering, Hyderabad.
- Recognised as a Fellow of Institution of Engineering (India) Kolkata, 2013.
- Joint Organizing Secretary, International Conference on Advanced Manufacturing Systems, Jan 2014, Department of Mechanical Engineering, Vardhaman College of Engineering, Hyderabad.

Mr. M. Prem Swarup

- Organized Industrial visits to the students to the companies namely HMT, HMT-Praga, KTPS, Dolphin Food Industries, HAM Radio, etc.

Mr. M.V.B Krishnam Raju

- Organized Industrial visits to the students to the companies namely BHEL, HMT, CITD, VSP, NRB Bearings, Sonali Castings, etc.

Mr. P.Srinivas Reddy

- Attended The World Conference on Engineering & Technology at Wuhan, china by the travel grant received from UGC.

DETAILS OF TEXT BOOKS WRITTEN BY FACULTY

1. Dr.T.A.Janardhan Reddy co-authored a text book entitled Production Drawing Practice to meet the curriculum requirements of B.Tech. Course (III year) in Production Drawing.
2. Dr. S. Deva Prasad published a text book entitled Multi-Objective Flowshop Scheduling: A Genetic Algorithmic approach, Lambert Academic Publishing (LAP), ISBN-10: 3659239860, ISBN-13: 978-3659239861, 2012.

PERFORMANCE / CAREER OPTION OF STUDENTS

Academic Year	Total Number of Students	% Students awarded degree with first class	Jobs offered through Placement	Opted for higher studies (MS/M.Tech/MBA)
2014-15	59	96.61	14	27

CONTACT US:

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