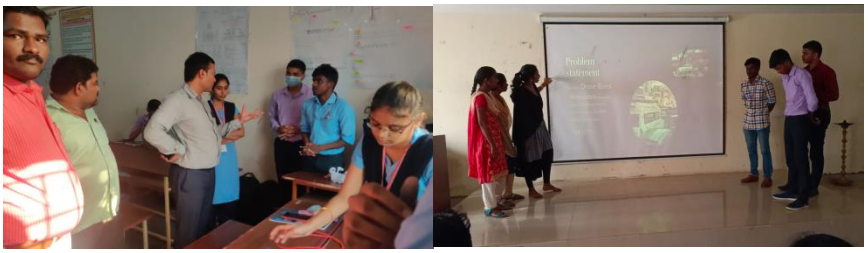
Innovations by the Faculty in Teaching and Learning

Our college uses a combination of current technologies in addition to the more conventional chalk-and-talk teaching methods.

NPTEL Local Chapter:

- A local NPTEL chapter was founded by the institution. Several NPTEL courses that students have registered for are mentored by faculty. This aids students in enhancing their academic performance and knowledge of contemporary mechanical industry technologies. The department where the students can access the learning materials at any time has NPTEL video lectures available.
- The topic faculty distributes the course materials to the students well in advance of the start of class.
- Faculties/Teachers distribute study materials to pupils via email, internet, and other means.
- It is encouraged for students to use numerous e-materials for self-improvement.
- In-class demonstration using working models, charts, components, etc. to facilitate learning.



Smart India Hackathon Project Name - Drone Ambulance

- Working in small groups can help students develop a variety of interactive and collaborative abilities that are frequently challenging to master in individual studysettings and impossible to master in large-group settings like lectures.
- Remedial/backlog lessons as well as particular classes for slow learners are offered to help students learning abilities.
- The Academic Calendar, Class Timetable, Course Syllabus, Course Objectives and Outcomes, Lesson Plan, Lecture Notes, Previous Question Papers, AssignmentQuestions, and Attainment Sheets are all included in the course materials that each Course Instructor prepares for the specific courses that they are handling.
- Usage of current teaching aids like LCD projectors, WiFi enabled laptops are usually utilized in classrooms and other student learning situations.
- The mentor inspires their particular group and makes sure every member excels in both academics and placement.
- Student seminars and workshops are held to help them become better communicators and learners.

"Rocket Science" University College of Engineering Narasaraopet under JNTUK.

- With the Google Classroom forum, students can ask questions at any moment.

The following summary should be used to summarize any teaching and learning innovations made by the faculty.Activities that add to teaching and learning helpstudents learn more effectively. Innovations such as the use of ICT, instruction delivery, instructional techniques, testing, evaluation, and inclusive classroomenvironments may be included in these activities, which result in effective, efficient, and engaging instruction. Any donations to education should meet therequirements listed below:

- It must be open to peer review and criticism.
- It must be reproducible and capable of being expanded upon by other academics.

The organization/department may establish appropriate processes for publicising the efforts, getting feedback on them, and rewarding them. Examples of these includea specific goal statement, sufficient planning, the use of suitable techniques, the significance of the results, an engaging presentation, and critical reflection.

Continuous faculty capacity building programs are essential to maintaining the institutions image as it keeps up with technological advancements and variousinnovative teaching and learning pedagogies.Having said that, the Institute has begun implementing a number of best practices to improve the standard of educationprovided and create an environment that is conducive to both teachers and students overall development.With all these difficulties in mind, a number of programswere launched in the past years to inspire faculty members and advance the idea of ongoing professional development. The establishment of a policy document with aclearly defined SOP has made it possible for all staff members to align themselves with the system. The tasks listed below bring new ideas to teaching, learning, andassessment.

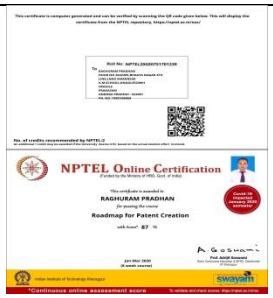
LEARNING RESOURCES

S.NO	COUURSE TOPIC	VIDEO LINK
1	Thermal Engineering-II	https://archive.nptel.ac.in/courses/112/106/112106314/
2	Thermodynamics	https://archive.nptel.ac.in/courses/112/103/112103316/ https://nptel.ac.in/courses/112103016/
3	Heat Transfer	https://archive.nptel.ac.in/courses/112/104/112104313/
4	Heat and Mass Transfer	https://nptel.ac.in/courses/112101097
5	Elements of Metal Cutting, Machine Tools, Gear Cutting &CNC Machining	https://archive.nptel.ac.in/courses/112/105/112105306/

6	Introduction to Robotics	https://archive.nptel.ac.in/courses/112/104/112104298/
6	Refrigeration and Air Conditioning	https://archive.nptel.ac.in/courses/112/105/112105128/ https://nptel.ac.in/courses/112105128
7	Basics of Finite Element Analysis - I	https://archive.nptel.ac.in/courses/112/104/112104193/
8	Basics of Finite Element Analysis - Ii	https://archive.nptel.ac.in/courses/112/104/112104205/
9	Introduction To Machine Learning - IITKGP	https://archive.nptel.ac.in/courses/106/105/106105152/
10	Introduction To Machine Learning	https://archive.nptel.ac.in/courses/106/106/106106139/
11	Kinematics of Machinery	https://nptel.ac.in/courses/112104121
12	Fluid Mechanics and Machinery	https://nptel.ac.in/courses/112105171
13	Strength of Materials	https://nptel.ac.in/courses/112107147 https://nptel.ac.in/courses/112101095
14	Dynamics of Machinery	https://nptel.ac.in/courses/112104114 https://ocw.mit.edu/courses/16-07-dynamics-fall-2009/pages/lecture-notes/ https://ocw.mit.edu/courses/16-61-aerospace-dynamics-spring-2003/pages/lecture-notes/
15	Design of Machine Elements	https://nptel.ac.in/courses/112105124
16	Engineering Metrology & Measurements	https://nptel.ac.in/courses/112106138 https://nptel.ac.in/courses/112106140
17	Industrial Engineering	https://nptel.ac.in/courses/112107143
18	Robotics	https://nptel.ac.in/courses/112101099
19	Computer Graphics	https://nptel.ac.in/courses/106106090

List of some our Faculties & Students got SWYAM NPTEL Certificates

S.No	Name of the Faculty /Student	Title of the course	Certificate

1	Yarram Srinivasa Reddy	IC Engines and Gas Turbines	
2	Dr.Raghuram Pradhan	Robotics	
3	Dr.Raghuram Pradhan	NBA Accreditation and Teaching - Learning in Engineering (NATE)	
4	Dr.Raghuram Pradhan	Roadmap for patent creation	
5	Yarram Srinivasa Reddy	Introduction to Machine Learning	
6	Yarram Srinivasa Reddy	Mechanical Measurement Systems	
7	Mrs.P.Shushma	Teaching and Learning in General Programs: TALG	

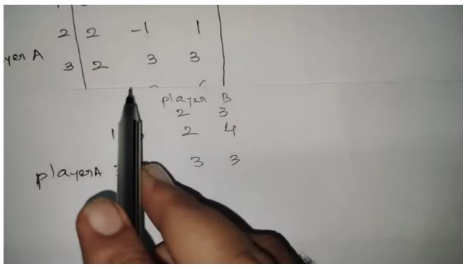
8	Mr.PacharuPothuRaju	Power plant engineering	
9	Mr.MunthaGuruSwamy	Robotics	

Coehesive Teaching Learning Practices-

An innovative student-centric teaching-learning (T- L) model called Cohesive Teaching Learning Practices (CTLP) is introduced to break up the routine of traditionallecture-based teaching in order to align classroom delivery with outcome-based education. (OBE). Academic calendars are created well in advance of the start ofclasses, and the members of IQAC occasionally review and ensure compliance with the aid of various committees (Academic Monitoring Committee) to make sure thesystems and procedures are in place.http://192.168.0.252/moodle/course/index.php?categoryid=6

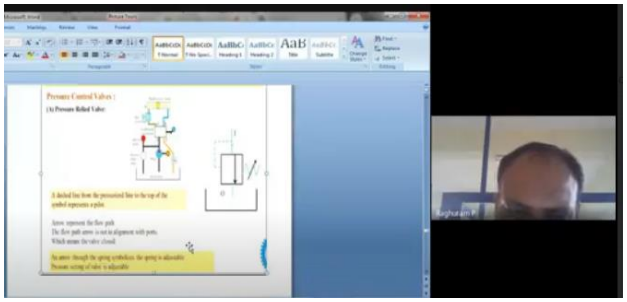
Video Lectures-

The teaching members are encouraged to create e-content in the video format as an addition to the classroom delivery.The effect of these video courses on studentswas seen during the COVID-19 season, when the educational system realizedthe importance of digital learning, and now the members of IQAC are volunteering as aresult of it being rewarded and regularly monitored in one of the organizationsinitiatives.



https://youtube.com/@Ajaykumar-dv3yk?feature=share8

YOU TUBE VIDEOS LINK



https://drive.google.com/drive/u/1/folders/1UdasBetbIVD3ZZAMv9h5eGFBw5Uo9dhg

Integrated Course-

With the idea of layered learning, integrated courses are specifically created to offer students a singular educational experience. This gives them the opportunity to putwhat they are learning into practice. The basic curriculum for these courses, which will be evaluated for 130 marks, is intended to combine both theory and laboratorycomponents.

Open Book Examination-

Open Book Exams are a component of assessment in order to gauge a student's thorough understanding of the topic. The students will be asked difficult questions forwhich there are no straightforward or obvious solutions in the text. The book or other authorized materials may be brought into the exam room by the pupils. Thequestions are written in a way that will allow students to respond in a more critical and thoughtful manner based on their knowledge of the course material. Thistechnique of evaluation encourages higher order thinking in the students and motivates them to learn material thoroughly. The question setting is the difficult portion.The instructors received specialized instruction on how to create questions for open-book exams.

Open Book exam for 2nd year students for TD subject

ICT tools-

Use of ICT tools, such as graphic tablets, projectors, active-pens, interactive projectors, etc., by faculty members are well-versed in order to facilitate simplelearning and show the information in various interactive modes. Students are drawn to this visually appealing instructional strategy. The animated visuals make itsimple for students to connect concepts to them, and the audio-visual senses of students are targeted to effectively absorb information.

Regular Class Work by Traditional Method & also with ICT tools

Activity based learning-

Every weekend, co-curricular and extracurricular activities are held to energize the students and enhance their problem-solving skills, leadership potential, teamworkcooperation, awareness of professional ethics, and management of stressful circumstances. These include group discussions, webinars, aptitude training, social welfarecamps, problem-solving exercises, entrepreneurship development programs, and many more.






Our Students Participated In Various Activities Like Group Discussions, Webinars, Co-Curricular And Extracurricular Activities etc

Tutorial sessions for Analytical and Programming subjects-

Tutoring programs can assist students in acquiring the learning and study skills necessary to succeed in school and in life.Tutoring programs have a variety of benefits,including Individual and distinctive learning experiences, one-on-one attention, improved academic performance, improved attitude towards learning, encouraged self-paced and self-directed learning, improved self-esteem and confidence, encouraged independence and responsibility, assisted in overcoming learning challenges, andencouraged the freedom to ask
questions

Conducted A one day awareness program on Mechatronics, Automation And Robotics For Mechanical Students By Andhra Pradesh State Skill Development Corporation (Apssdc)

National Level Workshop on Software & Applications of 3D Printing by Dr Ravi Kumar Dept. Of Mechanical Engineering Nit Warangal

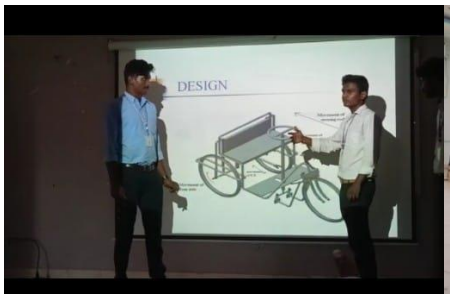

Difficulty subjects explain personally or one to one

Assignments-

Students are offered assignments based on current engineering problems so they can comprehend them and find solutions. To help students discover how to learn ontheir own and work in teams, group assignments are also given.

Project-based learning-

The Departments curriculum is structured so that through a variety of projects, including major and side projects as well as hobby projects, students can learn how todevelop and build complex hardware solutions. The teamwork among the pupils is also frequently encouraged by project-based learning.




Mechanical Engineering Major&Mini Projects Ideas

Seminars and Technical Presentation-

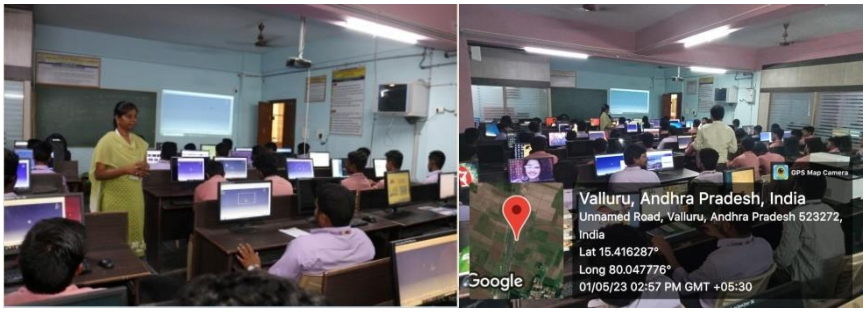
Students are encouraged to present at different national and international technical events on any technical subject related to their area of interest in order to shareknowledge and get over stage fright. Term papers are included in the syllabus to help students with their communication skills, which are crucial to their professionaldevelopment.

Our students getting 1st&2nd places Technical Presentation-outside campus

Our students getting 1st &2nd places Technical Presentation-inside campus

Value Added Course-

Apart from the core curriculum, these courses are conducted by department to give key knowledge to students in a specific advance in core field. It improves theemployability skills and promote profession and life-oriented skills of the students.



Value Added Course-conducted by ndhra Pradesh State Skill Development Corporation (APSSDC)

Full Semester Internship-

To close the knowledge divide between academic theory and hands-on training in a real-world setting, full semester internships have been added to the curriculum.During the training, the

pupils are able to comprehend organizational structure and industrial practices.

Our students have done internships in various industries

Our students visited various industries