Central Facilities

Sl. No	Lab Name	Equipments	Objectives
1.	Image processing and computer vision research lab	● Motor driven conveyor unit ● Control unit ● Area scan camera ● Lighting system ● Frame grabber ● Workstation ● RGB high resolution monitor ● Table top learning unit ● Air compressor	● To study, analyse and implement various image processing and computer vision problems of real world importance. ● To provide computing facility to promote the research and innovation activities of staff and students
2.	Computational intelligence research lab	● Desktop Computers ● Dell i5 10th Generation ● Windows OS ● Matlab ● Python	● Computational Intelligence Lab empowers faculty and students to learn new skills, conduct research in solving new problems, or solve old problems in new ways by maximizing the use of computational resources. ● To provide computing facility to promote the research and innovation activities of staff and students
3	Cyber security and ethical hacking research lab	● Desktop Computer ● Hardware ● AMD RYZEN 9-5950X processor ● MSI MAG B550 Tomahawk Motherboard ● 512 Gb NVME SSD Gigabyte ● Graphics card Asus Dual RTX3050 OC 8GB DDR6	● Cyber Security and Ethical hacking Research Lab empowers faculty and students to address the root causes of various cyber security threats. It is utilized to provide add on courses and professional training to bridge the skill gap between the academics and industry requirements.

		• Deck Neo • Software • Kali Linux • Windows 10 • Virtual Machine Sotware-Oracle's Virtual Box	
4	Automobile & EV Research Centre	• Racing car Prototype (IC ENGINE) • Racing car Prototype (ELECTRIC) • Wiring diagram of 4-wheeler • 2 stroke engine • 4 stroke engine • Socket & Wrench set • Combination spanner set • Hand Grinder • Hand Drilling machine	• Design and fabrication of low-cost racing cars from scrap. • Design of wings for better forced convection heat transfer in EV.
5	Materials Research Lab	• Profile projector • Tool makers microscope • Metallurgical microscope • Surface Roughness Tester • Autocollimator • Slip Gauge • Metallurgical microscope • Digital stroboscope • Dial Gauges • Vernier caliper • Vernier height gauge • Vernier depth gauge • Depth micrometer • Outside micrometer • Inside micrometer	• Development and Characterization of composite materials for various applications

		• Screw thread micrometer	
6	Thermal Engineering Lab	• Four Stroke Four Cylinder Petrol Engine Test Rig with Hydraulic Dynamometer • Variable Compression Ratio Four Stroke Single Cylinder Petrol Engine Test Rig with Eddy Current Dynamometer • Computer Based Four Stroke Single Cylinder Diesel Engine Test Rig with Eddy Current Dynamometer • Four Stroke Single Cylinder Diesel Engine • Two Stroke Single Cylinder Petrol Engine Cut Model • Flash and Fire Point Apparatus • Redwood Viscometer • Steam Engine Miniature Model • Junker's Calorimeter • Four Stroke Single Cylinder Petrol Engine • Centrifugal Blower Test Rig • Two Stage Reciprocating Compressor Test Rig	To facilitate thermal characteristics of various engines
7	Environmental Engineering Lab	• Autoclave • TDS meter • BOD Incubator • Nephelometer • Flocculator • Waters still with water level cut off	• Environmental monitoring of water leads to assess the pollution level in the natural water bodies, which can be used to impose control measures by the authorities.

		• Muffle furnace • ph,conductivity meter • Spectrophotometer • Electronic, weighing balance • Magnetic Stirrer • Hot Plate Round	
8	E-Yantra	• 3D printer • ATmega2560 Development Board • Raspberry-Pi • Development Board-8051 • Zigbee Modules • Development Board node mcu	• To harness the talent of young engineers to solve problems using technology across a variety of domain. • To solve real problems, to do startups and be inspired to pursue higher level R&D skills
9	Incubation Centre	• Signal Analyzer • Universal Programmer • Spectrum Analyzer • Soldering and De-soldering Stations • Edwin XP EDA Software • LCR-Q Meter • PCB Prototype Machine • IBM Server • Digital storage oscilloscopes	• To develop a pre-incubation and incubation ecosystem for students and staff of KMEA Engineering college as well as to Aspiring entrepreneurs that leads to innovative products for the benefits of the society.
10	Central Computing Facility	• Desktop Computers • Dell i5 10th Generation • Windows OS • Matlab • Python	• To cater to the general computing needs of both students and teachers. • To provide computing facility to promote the research and innovation activities of staff and students