



KDK COLLEGE OF ENGINEERING, NAGPUR

Department of Electrical Engineering

Additional facilities and Industry Sponsored laboratories

Table

Sr. No.	Facility Name	Name of the Lab. in which the facility is provided	Reason(s) for creating facility	Utilization	Areas in which students' are expected to have enhanced learning	Relevance to POs and PSOs
1	Solar Roof Top	College Premises	<ol style="list-style-type: none">1. To give exposure about utility of renewable source (Solar).2. Green Campus.3. Low carbon Emission.4. Saving in College Electricity Bill.	Local site visit and associated learning	Detailed analysis of Solar System.	PO 1, 2, 3, 4, 5, 6, 7, 9, 10, 12 PSO 1
2.	Facility for study of Renewable Energy (Sponsored by Windsun Renewables Pvt. Ltd.)	Project Lab	<ol style="list-style-type: none">1. To provide hands on experience with working with design, installation and maintenance of Solar power generation.2. Knowledge about net metering when connected with grid.	To observe instantaneous amount of solar radiations and corresponding energy generation.	Working with Renewable Sources of Energy	PO1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12 PSO 1
3	Transmission line and transformer protection panel (Developed in the college)	Switchgear and Protection	To give exposure to different faults occurring on transmission line and transformer and their protection.	To get exposure to different accessories used in conjunction with equipment protection	Transmission line faults, Transformer faults and clearing mechanism	PO 1, 2, 3, 4, 5, 6, 7, 9, 10, 12, PSO 1
4	Synchronization of Alternator using Microcontroller	Electrical Machines	<ol style="list-style-type: none">1. To Synchronize Alternators using Microcontroller2. For final year project work.	To understand Microcontroller application to control the voltage and frequency of the incoming alternator while synchronization.	In the analysis of Captive Power Stations.	PO1, 2, 5, 12 PSO1
5	BLDC Motor	Electrical Machines	<ol style="list-style-type: none">1. Make students aware of Special Machines.2. For final year projects.	To study special machines	Advanced technology in Electrical Machines.	PO1, 2, 3, 5 PSO1



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6	Load- Manager	Measurements and instrumentation	1. To give practical knowledge. 2. For final year project work.	To measure power, power factor, voltages, frequency of supply.	Demand Side Management studies	PO1, 2, 3, 5 PSO1
7	DSO	Power Electronics	1. To test and analyze different signals and waveforms 2. For final year project work	For measurement of digital signals and to know their history in the power electronics laboratory experiments.	Analysis of digital signals	PO1,2, 3, 5, 9, 10 PSO1
8	Spectrum Analyzer	Network Analysis	1. To bring about familiarity with analysis of the spectra of electrical signals, dominant frequency, power, distortion, harmonics, bandwidth, and other spectral components of a signal. 2. For final year project work	For the measurement of power of the spectrum of known and unknown signals	Power Measurement of Known and Unknown signals	PO1, 2, 3, 5, 9, 10 PSO1
9	Parts of electrical machines, Specimens of power transmission cables and Insulators.	Electrical Workshop	1. To bring familiarity about the different parts used to electrical machines. 2. To make aware of different power transmission cables and their ratings.	Beyond the course study.	Working with electrical machines and power transmission area.	PO1, 6, 8, 12 PSO1
10	Previously Completed projects, Power Supply, soldering facility, Measuring Instruments etc...	Project Laboratory	To convert innovative ideas into projects / products.	For developing projects/products.	Development of Prototype models Publishing Quality Technical papers.	PO1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 PSO1
11	Computing Facility with Internet access	Electrical Computer Lab I, Electrical Computer Lab II	1. To provide familiarity with various software 2. To carry out projects	To conduct training programs, add on courses, skill based activities , ICT Learning etc.	Ability to up skill with latest technological advancements.	PO1, 2, 3, 4, 5, 9, 10 PSO2
12	Video's From NPTEL	Displayed in the Electrical Computer Lab	Understanding the Video oriented Teaching and learning.	Per semester 10 hrs	Better Understanding the subject. In depth knowledge beyond Lab.	PO1, 6, 12 PSO1



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13	Licensed Software's	MATLAB, PSIM, PSCAD and Visio	For conducting simulation Experiments and project works	In Electrical Computer Lab 1 and Computer 2	Students will gain good knowledge on simulation related project works	PO1,2, 3, 4, 5, 12 PSO1
14	Internet	30 Mbps speed available in campus	To access internet	Students can avail internet at any time	Students can enhance their knowledge in an effective manner with extra information	PO1, 5, 12 PSO1
15	Departmental Library	Having collection of the following 1. Total Books- 472 2. Total Audio-Visual CD's- 31 3. Project/ Seminar reports	1. To meet the needs of students 2. To provide reference facilities 3. To refer advanced information for seminar, laboratory projects 4. To support and strengthen the educational quality 5. To distribute the information through books, Journals, magazines.	Throughout the semester	Self learning	PO 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 PSO 1, PSO2
16	Equipments Supported by MAHATRANSCO.	Switch Gear & Protection Laboratory	For conducting Experiments and project t works.	For understanding different relays used in Transmission system.	Detailed study of Switchgear and Protection.	PO1, 2, 3, 5, 9, 10 PSO1
17	AI Instruments Pvt. Ltd. Equipments	Electrical Installation and Design Laboratory	To familiarize the students about electrical installations guidelines and equipment.	For understanding Installations thoroughly.	Enhanced learning in Electrical Installation and Design.	PO1, 2, 3, 5, 9, 10 PSO1