

FUTURE INSTITUTE OF ENGINEERING & MANAGEMENT

Department of Electrical Engineering

Electrical System Design Laboratory

Description: System Design Lab is well equipped with various electrical designing equipments like transformer winding machine, motor winding machine, prototypes of electrical wiring setup etc. which covers all academic experiments. The students get hands-on experiences in designing of electrical equipments like transformer, single phase induction motor (fan), three phase induction motor. The students are also introduced to transformer and induction motor designing software tool, Techmo-Techtran.

Major facilities/equipments : Equipped with all hardware and software facilities.

Faculty In-Charge : Mr.Santanu Bera , M.Tech, Assistant Professor

Technician : Mr.Manjur Alam Khandaker, B.Tech

Area : 73.81sq.m

No. of experiments : 11

Courses conducted : System Design Lab (11)

Exclusive / Shared : Exclusive

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List of Major Equipment

Sl. No.	Major Equipment	Quantity
1	Transformer Winding Machine	3
2	Ceiling Fan Winding Machine	1
3	Electrical Wiring Setup	2
4	Clamp meter	1
5	Digital Multi-meter	1
6	Cut section of DC machine with Armature and Pole Model	1
7	Cut section of 3 phase squirrel cage induction motor	1
8	Cut section of single phase Induction motor	1
9	Cut section of 3 phase Transformer	1
10	Cut section of AC Synchronous motor	1
11	Cut section of Ceiling Fan	1
12	Cut section of Single Phase Transformer	1
13	3 phase Induction motor for demonstration	2
14	Induction motor (squirrel cage for winding)	1
15	Techmo-Techtran software package	

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List of Experiment as per Syllabus

Sl. No.	Name of the Experiment
1	Designing a heating element with specified wattage, voltage and ambient temperature.
2	Designing an air-core grounding reactor with specified operating voltage, nominal current and fault current.
3	Designing the power distribution system for a small township.
4	Designing a double circuit transmission line for a given voltage level and power (MVA) transfer.
5	Wiring and installation design of a multi-storied residential building (G+4, not less than 16 dwelling flats with a lift and common pump)
6	Designing of a substation
7	Designing an ONAN distribution transformer.
8	Designing a three phase squirrel cage induction motor.
9	Designing a three phase wound rotor induction motor.
10	Designing a split phase squirrel cage induction motor for a ceiling fan or a domestic pump.
11	Designing a permanent magnet fractional hp servo motor .