

INDIAN INSTITUTE OF TECHNOLOGY TIRUPATI
PROFORMA FOR NEW COURSE

1.	Title of the Course	Electrical Machines Laboratory
2.	Course Number	EE3193
3.	Status of the Course	Core
4.	Structure of Credits	0-0-3-2
5.	Offered To	UG
6.	New Course/Modification to	New
7.	To be Offered by	Department of Electrical Engineering
8.	To take effect from	July 2018
9.	Prerequisite	Nil
10.	Whether approved by the Department	Yes
11.	Course Objective: To get an insight into the theory, principle of operation and performance of various classes of electric machinery such as generators, motors and transformers through laboratory experiments. The students are expected to validate the concepts learnt in the theory course in the laboratory through experimentation.	
12.	Course Content: The following are the list of experiments: 1) Open circuit, Short circuit and Load tests on Single Phase Transformer 2) Separation of Losses in a Single Phase Transformer 3) Measurement of inrush currents and B-H loop of Single Phase Transformer 4) Study of Three Phase Transformer Connections and Harmonics 5) No load and Blocked rotor tests on Three Phase Induction Motor 6) Load test on Three Phase Induction Motor 7) Open circuit, Short circuit and Load tests on Three Phase Alternator 8) Infinite Busbar Loading and determination of Maximum power transfer capacity of Alternator 9) Performance characteristics of DC generator (OCC & Load test) 10) Load Test on DC Shunt Motor & Speed Control of Separately excited DC Motor	
13.	Text book(s): 1. Kothari D P and Nagrath U, <i>Electric Machines</i> , McGraw Hill (2006).	
14.	Reference(s): 1. Chapman S J, <i>Electric Machinery Fundamentals</i> , McGraw Hill (2005). 2. Flitzgard A E, Kingsley C J and Umans S D, <i>Electric Machinery</i> , McGraw Hill (1983).	