



# BMS INSTITUTE OF TECHNOLOGY & MANAGEMENT

YELAHANKA, BANGALORE-560064

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

**Open Course Title:** Testing of Electrical Machines

**Target Students from Branches:** ECE/TCE/EEE/Mech

**Total duration of the course:** 25 Hours.

**No. of Lecture hours:** 13 hours

**No. of hands on / Practical :** 12 hrs

## Abstract

The electrical machines like DC machine, synchronous machine and induction machine are used in most of the day to day activity. Understanding the working of these machines and its performance capabilities is essential for an engineer.

The tests required on electrical machines are quite varied and may include checks to establish that the machine is in a satisfactory working condition to be connected to the supply, as well as performance tests to ensure satisfactory operation under normal operating conditions. The tests before connecting the machine to the supply will consist of mechanical checks and insulation and continuity tests. The load and efficiency tests are important performance checks, the efficiency of a machine being the ratio of the useful output of energy or power to the total input.

During the course, introduction of instruments used in conduction of tests are also briefed. Practical demonstration will help in conduction and analyzing the test results which can be validated with theoretical results.

## Open Course Details

**At the end of the course students will be able to**

**CO1:** Understand the operation and application of electrical machines.

**CO2:** Test & Analyze the behaviour of machines at different operating conditions.

**CO3:** Compare the performance of different electrical machines.

## Schedule

<b>Day 1:12/02/2019</b>			
<b>Time</b>	<b>Topics</b>	<b>Resource Person Details</b>	<b>CO-PO Mapping</b>
9.30-12.30	Introduction to basics of machines, Classification and working principle	Mrs.Manjula B K & Mr.Babu Naik	CO1- PO2, PO3, PO4
1.30-4.30	Lab session : Demo on Measuring instruments		
<b>Day 2:13/02/2019</b>			
<b>Time</b>	<b>Topics</b>	<b>Resource Person Details</b>	<b>CO-PO Mapping</b>
9.00-12.30	Testing of DC Machines and its performance analysis	Mrs. Manjula B K & Mr. Babu Naik	CO2 -PO4
1.30-4.30	Experiments of different tests of DC Machines		CO3- PO4
<b>Day 3:14/02/2019</b>			
<b>Time</b>	<b>Topics</b>	<b>Resource Person Details</b>	<b>CO-PO Mapping</b>
9.00-12.30	Testing of Transformers and its performance analysis	Mrs. Manjula B K & Mr. Babu Naik	CO2-PO4
1.30-4.30	Experiments of different tests of Transformers		CO3-PO4
<b>Day 4:15/02/2019</b>			
<b>Time</b>	<b>Topics</b>	<b>Resource Person Details</b>	<b>CO-PO Mapping</b>
9.00-12.30	Testing of Induction Machines and its performance analysis	Mrs. Manjula B K & Mr. Babu Naik	CO2-PO4
1.30-4.30	Experiments of different tests of Induction Machines		CO3-PO4
<b>Day 4:16/02/2019</b>			
<b>Time</b>	<b>Topics</b>	<b>Resource Person Details</b>	<b>CO-PO Mapping</b>
9.00-10.30	Application of machines	Mrs. Manjula B K & Mr. Babu Naik	CO3- PO1,PO2,PO3,PO4
11-12.30	Feedback session		