

**CHOUKSEY ENGINEERING COLLEGE**

**DEPARTEMENT OF ELECTRICAL & ELECTRONICS ENGINEERING**

**B.Tech Fourth Semester**

<b>Subject Name- Electro Magnetic Field</b>	<b>Subject Code-B025411(025)</b>
---	----------------------------------

1. Compute electric field intensity for various charge distribution.
2. Compute Electric flux for various charge distribution.
3. Compute potential for different charge distributions.
4. Compute solution of Laplace and Poisson's equations.
5. Compute magnetic field intensity and magnetic flux density using Ampere's circuital Law and Stoke's theorem.
6. Compute force and torque for various current carrying elements.
7. Enlist Maxwell's equations for time varying fields and solve them for specific regular geometries.

<b>Subject Name- Electrical machine 2</b>	<b>Subject Code- B025412(025)</b>
---	-----------------------------------

1. Understand the construction, working principles of synchronous and three-phase induction machines.
2. Draw the equivalent circuit diagrams under various load conditions.
3. Analyze the load profile, voltage regulations and efficiency in various operating conditions.
4. Understand the needs and requirements of various types of machine operations like starting, speed control, tests etc.

<b>Subject Name- Network analysis and synthesis</b>	<b>Subject Code- B025413(025)</b>
---	-----------------------------------

1. Students will be able to analyze circuits using Kirchhoff's laws and design and conduct experiments using various elements, as well as to analyze and interpret data.
2. To develop the ability of understanding the application of network theorems in reducing complicated networks to simpler ones.
3. Students should have the ability to demonstrate the application of Fourier transform and Laplace transform in networks.
4. Explain and analyze the different types of network functions.
5. To understand the different parameters of one port and two port networks.
6. Derive interrelationship between various parameters.
7. Analyze the stability of network function and interpret time domain behavior of networks from pole zero plots of network function.
8. To develop the ability to identify and synthesize the impedance functions using various techniques of synthesis.
9. An ability to design the low pass and high pass filters.

<b>Subject Name- Electrical Measurement and measuring instruments</b>	<b>Subject Code- B025414(025)</b>
---	-----------------------------------

1. The students should be able to Measure low, medium & high Resistances using suitable bridges.
2. The students should be able to determine the value of inductor and capacitor with the help of A.C. Bridge & they can draw phasor diagram of bridges.
3. The students should be able to test and calibrate ammeter, voltmeter, and Wattmeter and energy meter.
4. The students should be able to select proper instrument for measurement various Electrical elements.

<b>Subject Name- Digital Electronics</b>	<b>Subject Code- B025415(025)</b>
--	-----------------------------------

1. Be able to design, build, test, troubleshoot, and evaluate digital circuits.
2. Be able to utilize computer software such as Electronic Work Bench (Multisim).
3. Be able to evaluate and revise designs as actual performance is reviewed.
4. Be able to prepare a written report that effectively communicates the objective, the design procedure, the experimental results, and the conclusion for any project design.

<b>Subject Name- Electrical Machines II lab</b>	<b>Subject Code- B025422(025)</b>
---	-----------------------------------

1. Recognize the design and operation of three-phase and synchronous induction machines.
2. Create the corresponding circuit diagrams with different loads.
3. Examine the efficiency, voltage restrictions, and load profile under various operating circumstances.
4. Recognize the demands and specifications for different machine operations, such as testing, speed control, and starting.

<b>Subject Name- Electrical Measurement Measuring Instruments lab</b>	<b>Subject Code- B025421(025)</b>
---	-----------------------------------

1. Use the appropriate bridges, and they should be able to measure low, medium, and high resistances.
2. Learn with the aid of the A.C. Bridge, the students ought to be able to calculate the values of the inductor and capacitor and create phasor diagrams for bridges.
3. Test and calibrate energy meters, ammeters, and voltmeters should be imparted to the students.
4. Choose the appropriate tool for measuring different electrical components.

<b>Subject Name- Digital Electronics lab</b>	<b>Subject Code- B025423(025)</b>
--	-----------------------------------

1. Verify the properties of different logic gates.
2. Create, assemble, test, debug, construct and assess digital circuits.
3. Assess and modify designs in light of actual performance evaluations.
4. Construct different flip flops.
5. Learn the operation of BCD counter and asynchronous decade counter.

<b>Subject Name- Virtual Lab</b>	<b>Subject Code- B025424(025)</b>
----------------------------------	-----------------------------------

1. Use timer, counter, and other intermediate programming functions.
2. Design and program basic PLC circuits for entry-level PLC applications.