**17EE2104-ELECTRICAL TECHNOLOGY**

**UNIT-I**

**DC GENERATORS:** Constructionaldetails of DC machines,principle of operation of the generator, EMF equation, types of generators, magnetization and load characteristics

**UNIT-II**

**DC MOTORS:** Principle of operation of DC Motors, Torque equation, Speed control methods and Efficiency calculation by Swinburne’s test and direct load test.

**UNIT-III**

**TRANSFORMERS:** Single phase transformer, principle of operation & types, constructional details, EMF equation, Phasor diagram on no load and loaded Conditions, equivalent circuit, voltage regulation, transformer tests-OC & SC tests.

**UNIT-IV**

**THREE PHASE INDUCTION MOTORS**: Constructional features, principle of torque production, torque equation, slip-torque characteristics, efficiency calculation, starting methods, Autotransformer method & DOL method.

**UNIT-V**

**ALTERNATOR:** Constructional features, operation, EMF equation, estimation of regulation by synchronous impedance method.

**UNIT-VI**

**SINGLE PHASE INDUCTION MOTORS:** Principle of operation, starting methods, types of single phase induction motors and Stepper motor.

**TEXT BOOKS:**

1. “Theory and performance of Electrical machines” by J.B Gupta - SK Kataria

Publishers-2013.

2. “Principles of Electrical Machines” by VK Mehta, Rohit Mehta – S.Chand –

2006.

3. “A Textbook of Electrical Technology: Volume 2 AC and DC Machines”

by Theraja B.L, [Theraja A.K.](http://www.amazon.in/s/ref=dp_byline_sr_book_2?ie=UTF8&field-author=Theraja+A.K.&search-alias=stripbooks) –S.Chand-2006

**REFERENCE BOOKS:**

1. “Electrical Machinery” by P.S Bimbhra - Khanna publishers-2011.

2. “Performance of DC machines” by M.G.Say, Second Edition, CBS Publishers

3. “Electrical machines” by I.J.Nagarath and D.P.Kothari Fourth edition, Tata Mc

Graw-Hill.