



**S.S.G.M.C.E. SHEGAON**

**DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION ENGINEERING**

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**COURSE OUTCOMES OF ALL COURSES OF THE THIRD SEMESTER B.E.  
(ELECTRONICS AND TELECOMMUNICATION ENGINEERING)**

**3ETC01 - Engineering Mathematics-III**

After successfully completing the course, the students will be able to:

CO1	Demonstrate the knowledge of differential equations to solve engineering problems of analog systems.
CO2	Apply Laplace Transform to solve Linear Differential equations.
CO3	Apply the knowledge of vector calculus.
CO4	Comprehend knowledge of complex analysis in terms of complex variables, harmonic functions and conformal mappings.
CO5	Apply numerical method to obtain approximate solutions to mathematical problems.
CO6	Identify and solve certain forms of difference equations as applied to discrete systems. Identify and solve various forms of partial differential equations.

**3ETC02 - Electronic Devices and Circuits**

After successfully completing the course, the students will be able to:

CO1	Comprehend the knowledge of PN-junction diode and its applications in rectifiers, clippers and claspers circuits.
CO2	Analyse different wave shaping circuits and their responses to various signals.
CO3	Understand the construction and characteristics of BJT, JFET, MOSFET and UJT.
CO4	Analyse single stage and multistage amplifier circuits using BJT.
CO5	Analyse negative feedback amplifiers and oscillator circuits using BJT.

### 3ETC03 - Digital System Design

After successfully completing the course, the students will be able to:

CO1	Use Boolean algebra to solve logic functions, minimization techniques number systems and its conversion.
CO2	Identify, analyze and design of combinational and sequential logic circuits.
CO3	Understand digital logic families and their characteristics.
CO4	Use the knowledge of semiconductor memories, programmable logic devices in digital design.

### 3ETC04 - Electromagnetic Waves

After successfully completing the course, the students will be able to:

CO1	Apply vector calculus to understand the behavior of static electric and magnetic fields.
CO2	Formulate and solve problems in electrostatics and magneto-statics in dielectric media.
CO3	Describe and analyze electromagnetic wave propagation in free-space.
CO4	Analyze plane electromagnetic waves at boundaries between homogeneous media.
CO5	Analyze the electromagnetic radiation from localized charges considering retardation effects.

### 3ETC05 - Object Oriented Programming

After successfully completing the course, the students will be able to:

CO1	To understand the important concepts of object-oriented programming like object and class, Encapsulation, inheritance, and polymorphism; compare procedure and object-oriented approach; write the skeleton of C++ program and able to make use of objects and classes for developing programs.
CO2	To apply features of C++ like type conversion, polymorphism and inheritance, constructors, destructors, Friend Functions and Virtual functions etc to develop small programs.
CO3	To analyse and evaluate the use of various concepts of object-oriented programming
CO4	To design and develop the applications using object-oriented programming