



Affiliated to Savitribai Phule Pune University
& Approved by AICTE New Delhi

NASHIK DISTRICT MARATHA VIDYA PRASARAK SAMAJ'S

**Karmaveer Adv. Baburao Ganpatrao Thakare
College of Engineering**

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**First Year Engineering
Science Department
Course outcomes**

Vision:

Engineering science department of NDMVPS'S KBT College of Engineering determines to become a centre of learning in the field of "sciences-in-engineering" and the development of human values to develop engineers those can apply basic knowledge in engineering field to serve society.

Mission:

M1.To produce graduates with strong knowledge of engineering sciences who are anchored on the principles of hard work and integrity.

M2.To cultivate scientific culture with mathematical approach.

M3.To solve the problems in engineering and improve it.

Program Outcomes (PO)

PO1	Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO4	Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
PO6	The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO12	Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

FE Subjects Course Outcomes
ACADEMIC YEAR: - 2018-19
Semester-I

C101 – Engineering Mathematics-I (107001)

On the completion of this course, student will be able -

C101.1	Understand the methods to solve the system of linear equations and Eigen values and eigen vectors arising in engineering fields. .
C101.2	Understand the applications of complex number.
C101.3	Solve n^{th} derivative, convergence and divergence of series.
C101.4	Apply L'Hospital's rule to evaluate limits of indeterminate form and use Taylor's and Maclaurin's series to find expansion.
C101.5	Able to solve ordinary and partial differential equations, apply Euler's theorem to solve homogeneous differential equation.
C101.6	Apply the knowledge of partial derivative to find maxima and minima , error , functional dependence and independence

C102-Engineering Physics (107002)

On the completion of this course, student will be able -

C102.1	Able to understand different concepts of light (inference, diffraction) with its application in Engineering
C102.2	Able to know the importance of architectural acoustics for construction and design of theatres, halls and auditoriums.
C102.3	Able to understand the polarization of light with double refraction, production of laser and measures wavelength of laser
C102.4	Able to understand the formation of energy bands in solids and the importance of Fermi-Dirac probability function, position of Fermi level in intrinsic and extrinsic semiconductors, Semiconductor Conductivity .
C102.5	Able to understand dual nature of wave, significance and normalization of wave function, derivation and Applications of Schrodinger wave equation.
C102.6	Able to learn properties superconducting and Nano materials with applications in technology and day to day life

C103 – Fundamental of Programming Languages-I (110003)

C103.1	Learn the fundamental principles, concepts and construct of Computer Programming
C103.2	Learn and understand basic of programming in C
C103.3	Understand and implement control structure in C
C103.4	Apply programming logic to solve real word problem and decide effectiveness of computer based solutions

C104 – Basic Electrical Engineering (103004)

C104.1	Understand the basic concepts related to electrical.
C104.2	Understanding and demonstrate the fundamentals of electromagnetisms and Faradays law of electromagnetic induction.
C104.3	Apply the concepts of electromagnetism for working of single phase transformer.
C104.4	Understand the fundamentals of AC quantities.
C104.5	Draw phasor diagram for single phase and three phase AC circuits.
C104.6	Provide solution for networks using various laws and theorems.

C105- Basic Civil And Environmental Engineering (101005)

C105.1	Describe the role of civil engineers in various areas of civil engineering with interdisciplinary approach.
C105.2	Illustrate construction materials and components of a structure.
C105.3	Classify types of maps and modern surveying tools with techniques.
C105.4	Summarize environmental concept and the role of civil engineers in sustainable development.
C105.5	Apply principles of building planning and concept of green building.
C105.6	Explain types of energy and environmental pollution

C106 –Engineering Graphics-I (102006)

C106.1	To understand fundamentals of Engineering drawing, projection of point and line.
C106.2	To understand and draw projections of planes.

C106.3	To understand and draw projections of solids.
C106.4	To construct different engineering curves & understand development of solids.
C106.5	To draw orthographic views from 3D pictorial view
C106.6	To imagine and draw isometric view from orthographic projections.

C107 – WORKSHOP PRACTICE (111007)

C107.1	To understand and tackle various carpentry tools..
C107.2	To understand and perform the welding process.
C107.3	To understand the importance of safety in the workshop.
C107.4	To understand forging, moldings and various machine tools.

FE Subjects Course Outcomes
ACADEMIC YEAR: - 2018-19
Semester-II

C108 –Engineering Mathematics II (107008)

C108.1	Implement different methods to solve ordinary differential equation
C108.2	Able to make Modeling of various physical systems such as Newton's Law of cooling, L-C -R Circuits, rectilinear motion, mass-spring systems heat transfer etc.
C108.3	Design and analyze of continuous and discrete system where knowledge of Fourier series and Harmonic analysis is required.
C108.4	Apply advanced techniques to evaluate integrals, measure of arc lengths of various curves.
C108.5	Able to understand the Sphere, cone and cylinder that arise in vector calculus, electro-magnetic field theory etc.
C108.6	Apply the knowledge of the multiple integrals which are used in calculating areas, volumes, mean and RMS values, mass, moment of inertia and centre of gravity.

C109 - Engineering Chemistry (107009)

C109.1	Understand technology involved in improving quality of water.
C109.2	Understand basic concepts of Electro analytical techniques.
C109.3	Understand polymers and will be able to compare its mechanism, characteristics and applications.
C109.4	Able to do study of fossil fuel and derived fuel, its properties and applications.
C109.5	Able to describe and categorize nano and composite materials of Carbon and Hydrogen for specific applications.
C109.6	Understand mechanism of corrosion and select a proper method for controlling corrosion based on environmental conditions

C110 – Fundamental of Programming Languages-II (110010)

C110.1	Introduces the more advanced features of the C language structure, enumeration, union and typedef .
C110.2	Learn fundamental knowledge and develop Object Oriented Programming concepts
C110.3	Design and develop web pages using HTML

C110.4	Design and develop Mobile Application using Android SDK and simple Application using Embedded Programming
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C111 – Engineering Mechanics (101011)

C111.1	Determine the resultant force and moment for a given system of forces
C111.2	Understand the concept of various motion and problem related to Newton second law of Motion
C111.3	Calculate the motion characteristics of a body subjected to a given force system
C111.4	Determine the conservative and non-conservative forces
C111.5	Apply the knowledge of principle of equilibrium and problem solving
C111.6	Analyze planar systems to determine the forces in members of trusses, frames and problems related to friction

C112 – Basic Electronics Engineering (104012)

C112.1	Understand the basic of diodes and able to build regulated power supply.
C112.2	Understand the basics and applications of transistor.
C112.3	Demonstrate linear ICs (OpAmp IC 741, Timer IC 555, Voltage Regulator IC 78XX/79XX)
C112.4	Demonstrate basic logic gates and its applications and understand MC & MP blocks.
C112.5	Understand power devices (SCR, DIAC, and TRIAC) and Transducers.
C112.6	Understand basic block of communication system and GSM System.

C113 – Basic Mechanical Engineering (102013)

C113.1	Student will be able to understand fundamentals of mechanical engineering.
C113.2	Student will be able to understand concept of design in mechanical engineering.
C113.3	Student will be able to learn various manufacturing processes and their applications
C113.4	Student will be able to Understand working principles of various machine tools.
C113.5	Student will acquire knowledge of basic concepts of thermodynamics applied to industrial applications
C113.6	Student will be able to Understand laying principles of energy conversion systems and power plants.

C114 – Engineering Graphics II (102014)

C114.1	Students will become familiar with AutoCAD and can draw projection of solids.
C114.2	Students will be able to draw a simple curves using CAD software.
C114.3	Students will be able to improve their visualization skill and solve problems of development using CAD.
C114.4	Student will be able to draw a 2D geometry using CAD software.
C114.5	Student will be able to draw a 3D geometry using CAD software.