



CSMSS CHH. SHAHU COLLEGE OF ENGINEERING

KANCHANWADI, AURANGABAD - 431002

DEPARTMENT OF FIRST YEAR ENGINEERING (SEM- I&II) 2025-26

SEMESTER	SUBJECT CODE	NAME OF THE SUBJECT	CO	COURSE OUTCOMES
I	24AF1000BS10	1 Engineering Mathematics-I	CO-1	Apply the matrix technique (Linear algebra) to find solutions of system of linear equations arising in many engineering problems.
			CO-2	Demonstrate the concept partial derivatives and their applications to Maxima/Minima, series expansion of multi valued functions.
			CO-3	Compute Jacobian of functions of several variables and their applications to engineering problems.
			CO-4	Identify and sketch of curves in various coordinate system.
			CO-5	Evaluate multiple integrals and their applications to area and volume
I	24AF1CHEBS1	Engineering Chemistry	CO-1	Students should be able to understand and explain the basic concepts of Water treatment and capable to explain softening processes and water characteristics..
			CO-2	Students should be able to explain analysis, Calorific value of fuel and explain lubricants, its properties and industrial importance.
			CO-3	Students should know the concepts of Electrochemistry and its importance.
			CO-4	Student should be able to understand and explain various instrumental methods of Analysis.
			CO-5	Student should be able to understand and explain properties and uses of engineering materials such as Cement, Gypsum plaster, Rubber etc.
I	24AF1EMES104	Engineering Mechanics	CO-1	To understand the resolving forces and moments for a given force system...
			CO-2	To know and apply Conditions of static equilibrium to analyze given force system
			CO-3	To compute Centre of gravity and Moment of Inertia of plane surfaces.
			CO-4	To compute the motion characteristics of a body/particle for a Rectilinear Motion
			CO-5	To know and discuss relation between force and motion characteristics.



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DEPARTMENT OF FIRST YEAR ENGINEERING (SEM- I&II) 2023-24

SEMESTER	SUBJECT CODE	NAME OF THE SUBJECT	CO	COURSE OUTCOMES
I	24AF1000ES106	PROGRAMMING FOR PROBLEM SOLVING	CO-1	Gain a broad perspective about the uses of computers in engineering industry and C Programming
			CO-2	Understand the use of Types, operators and expressions in programming
			CO-3	Apply the knowledge of flow statements and functions for control based computational algorithms
			CO-4	Understand the concepts of arrays and pointers in C.
			CO-5	Apply the knowledge of structure in OS file management.
	24AF1000VS108L	Workshop Practices	CO-1	To impart knowledge and skills to use tools, machines, equipment and measuring instruments.

I			CO-2	To develop general machining skills.
			CO-3	To educate about safe handling of machines and tools.
			CO-4	To develop a skill in dignity of labour, precision, safety at workplace, team working and development of right attitude.



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SEMESTER	SUBJECT CODE	NAME OF THE SUBJECT	CO	COURSE OUTCOMES
I	24AF1000VS10 9	Communication Skills	CO-1	Students would be more confident while using English
			CO-2	Engage in analysis of speeches or discourses and several articles
			CO-3	Identify and control anxiety while delivering speech
			CO-4	Write appropriate communications(Academic/Business)
			CO-5	Prepared to take the examinations like GRE/TOFEL/IELTS
			CO-6	Identify and control the tone while speaking
			CO-7	Develop the ability to plan and deliver the well-argued presentations
I	24AF1000CC11 1	Yoga Education	CO-1	. Learn Message of Vedas and Upanishads.
			CO-2	Learn Four Streams of Yoga.
			CO-3	Learn Shaddarshanas or the SIX systems of Indian Philosophy.
			CO-4	Understand Life and message of spiritual masters and Indian Culture.
			CO-5	Understand Anatomy and Physiology, Yoga and Exercise Physiology.
II	24AF1000BS2 01	Engineering Mathematics-II	CO1	Discuss the need and use of complex variables to find roots, separate complex quantities, and to establish relation between circular and hyperbolic functions

			CO-2	Solve first and higher order differential equations and apply them as mathematical modeling in electric and mechanical systems.
			CO-3	Determine Fourier series representation of periodic functions over different intervals.
			CO-4	Demonstrate the concept of vector differentiation and interpret the physical and geometrical meaning of gradient, divergence & curl in various engineering streams.
			CO-5	Apply the principles of vector integration to transform line integral to surface integral, surface to volume integral & vice versa using Green's, Stoke's and Gauss divergence theorems.
			CO-1	Familiar with the principles of acoustic design of a hall and also methods of production of ultrasonic and its applications in various fields and also understand the concept of dielectric and polarization types.
			CO-2	Acquire the basic knowledge of interference, polarization. Students are able to understand the light propagation in fibre and use of Laser in Science and Engineering.
II	24AF2PHYBS202	Engineering Physics	CO-3	Apply the knowledge of quantum mechanics to set Schrödinger's equations.
			CO-4	Understand key principle and application of nuclear physics. Identify planes in crystal and characteristics measurements of cubic system.
			CO-5	Assimilate wide scope of advanced materials in modern developments and its role in emerging innovating applications



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SEMESTER	SUBJECT CODE	NAME OF THE SUBJECT	CO	COURSE OUTCOMES
II	24AF2EGRES204	Engineering Graphics	CO-1	Understand the basics of engineering graphics and its applications.
			CO-2	Describe the common terms used in design and drawing
			CO-3	Construct the positions of line for given conditions
			CO-4	Visualize the 2D and 3D views of the object
			CO-5	Ability to apply orthographic, sectional, auxiliary and isometric view in engineering drawing

			CO-6	Understand the geometries of development of engineering projects
II	24AF1000ES206 L	Basic Electrical and Electronics Engineering	CO-1	Apply fundamental concepts and circuit laws to solve simple DC and AC circuits
			CO-2	Interpret the construction and working of different types of electrical machines
			CO-3	Analyze building blocks of basic dc power supply.
			CO-4	Outline the principle of BJT as an amplifier.
			CO-5	Apply the knowledge of measuring instruments in electronic instrumentation system.



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SEMESTER	SUBJECT CODE	NAME OF THE SUBJECT	CO	COURSE OUTCOMES
II	24AF2CMEES208	Basic Civil and Mechanical Engineering	CO-1	Identify various Civil Engineering materials and choose suitable material among various options.
			CO-2	Apply principles of surveying to solve engineering problem
			CO-3	Identify various Civil Engineering structural components and select appropriate structural system among various options
			CO-4	Explain and define various properties of basic thermodynamics, materials and manufacturing processes.
			CO-5	Know and discuss the working principle of various power consuming and power developing devices
II	24AF1EEEEES209	Energy and Environmental Engineering	CO-1	Know and understand about components and segments of environment, ecosystem and its types.
			CO-2	Understand power consuming and power developing devices for the effective utilization
			CO-3	Understand and to explain types of Energies such as wind energy, solar energy, hydro energy etc.
			CO-4	Understand and explain various types of air pollution, their effects and control measures.
			CO-5	Know the various types of water pollution, sources, waste water treatment, effect of water pollution on health and soil pollution
II	24AF1000VS211	Design Thinking	CO-1	Compare and classify the various learning styles and memory techniques and apply them in their engineering education.
			CO-2	Analyze emotional experience and Inspect emotional expressions to better understand users while designing innovative products.
			CO-3	Develop new ways of creative thinking and learn the innovation cycle of Design Thinking process for developing innovative products.

			CO-4	Propose real-time innovative engineering product designs and Choose appropriate frameworks, strategies, techniques during prototype development.
			CO-5	Perceive individual differences and its impact on everyday decisions and further create a better customer experience.



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	24AF1000CC21 2A	Integrated Personality Development	CO-1	To provide students with soft skills that complement their hard skills, making them more marketable when entering the workforce.
			CO-2	To enhance awareness of India's glory and global values, and to create considerate citizens who strive for the betterment of their family, college, workforce, and nation
			CO-3	To inspire students to strive for a higher sense of character by learning from role models who have lived principled, disciplined, and value-based lives.

Dr. S. L. Dhondge

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