SAIRAM
COLLEGE OF ENGINEERING
Anekal, Bengaluru

Accredited by NAAC
ISO 9001:2015 Certified Institution
Approved by AICTE, New Delhi
Affiliated to Visvesvaraya Technological University
www.sairamce.edu.in

DEPARTMENT OF SCIENCE & HUMANITIES 2022 SCHEME CO's

Course Code	Course Name	CO Code	CO
BMATS101	Mathematics-I for Computer Science and Engineering stream	CO1	apply the knowledge of calculus to solve problems related to polar curves and learn the notion of partial differentiation to compute rate of change of multivariate functions
		CO2	analyze the solution of linear and nonlinear ordinary differential equations
		CO3	get acquainted and to apply modular arithmetic to computer algorithms
		CO4	make use of matrix theory for solving the system of linear equations and compute eigenvalues and eigenvectors
		CO5	familiarize with modern mathematical tools namely MATHEMATICA/MATLAB/ PYTHON/ SCILAB
BPHYS102/202	Physics for Computer Science and Engineering stream	CO1	To study the essentials of photonics for engineering applications.
		CO2	To study the principles of quantum mechanics and its applications in quantum computing.
		CO3	To study the electrical properties of materials.
		CO4	To study the essentials of physics for computational aspects like design and data analysis.
		CO5	To study the Physics of Animation and Statistical Physics for Computing
BMATS201	Mathematics-II for Computer Science and Engineering stream	CO1	Apply the concept of change of order of integration and variables to evaluate multiple integrals and their usage in computing area and volume
		CO2	Understand the applications of vector calculus refer to solenoidal, and irrotational vectors.Orthogonal curvilinear coordinates..
		CO3	Demonstrate the idea of Linear dependence and independence of sets in the vector space, and linear transformation
		CO4	Apply the knowledge of numerical methods in analysing the discrete data and solving the physical and engineering problems
		CO5	Get familiarize with modern mathematical tools namely MATHEMATICA/ MATLAB /PYTHON/ SCILAB.
BCHES102/202	Computer Science and Engineering and allied branches(Chemistry group)	CO1	Identify the terms andapplications processes involved in scientific and engineering
		CO2	Explain the phenomena of chemistry to describe the methods of engineering processes
		CO3	Solve the problems in chemistry that are pert in engineering applications
		CO4	Apply the basic concepts of chemistry to explain the chemical properties and processes
		CO5	Analyze properties and multi disciplinary situations processes associated with chemical substances in sciplinary situations
BPOPS103/203	Principles of Programming using C	CO1	Elucidate the basic architecture and functionalities of a Computer
		CO2	Apply programming constructs of C language to solve the real-world problems
		CO3	Explore user-defined data structures like arrays, structures and pointers in implementing solutions to problems
		CO4	Design and Develop Solutions to problems using structured programming constructs such as functions and procedures

DEPARTMENT OF SCIENCE & HUMANITIES 2022 SCHEME CO's

		CO5	Introduction to files, using files in C, reading and writing data files.
BMATE101	Mathematics-I for Electrical & Electronics Engineering Stream	CO1	apply the knowledge of calculus to solve problems related to polar curves and learn the notion of partial differentiation to compute rate of change of multivariate functions
		CO2	analyze the solution of linear and nonlinear ordinary differential equations
		CO3	apply the concept of change of order of integration and variables to evaluate multiple integrals and their usage in computing area and volume
		CO4	make use of matrix theory for solving the system of linear equations and compute eigenvalues and eigenvectors
		CO5	familiarize with modern mathematical tools namely MATHEMATICA/ MATLAB/ PYTHON/SCILAB
BMATE201	Mathematics-II for Electrical & Electronics Engineering Stream	CO1	Understand the applications of vector calculus refer to solenoidal, irrotational vectors, lineintegral and surface integral.
		CO2	Demonstrate the idea of Linear dependence and independence of sets in the vector space, and linear transformation
		CO3	To understand the concept of Laplace transform and to solve initial value problems.
		CO4	Apply the knowledge of numerical methods in solving physical and engineering phenomena
		CO5	Get familiarize with modern mathematical tools namely MATHEMATICA/MATLAB/PYTHON/ SCILAB
BPHYE102/202	Applied Physics for EEE Stream	CO1	Describe the fundamental principles of the Quantum Mechanics and the essentials of Photonics
		CO2	Elucidate the concepts of conductors, dielectrics and superconductivity
		CO3	Discuss the fundamentals of vector calculus and their applications in Maxwell's Equations and EM Waves.
		CO4	Summarize the properties of semiconductors and the working principles of semiconductor devices.
		CO5	Practice working in groups to conduct experiments in physics and Perform precise and honest measurements.
BCHEE202/202	Chemistry for Electrical and Electronics Engineering stream	CO1	Identify the terms and applications processes involved in scientific and engineering
		CO2	Explain the phenomena of chemistry to describe the methods of engineering processes
		CO3	Solve the problems in chemistry that are pertinent in engineering applications
		CO4	Apply the basic concepts of chemistry to explain the chemical properties and processes
		CO5	Analyze properties and multi disciplinary situations processes associated with chemical substances in disciplinary situations
		CO1	Understand the concepts of DC circuits and Electromagnetism.
		CO2	Understand the concepts of single phase and Three phase AC circuits.

Accredited by NAAC
ISO 9001:2015 Certified Institution
Approved by AICTE, New Delhi
Affiliated to Visvesvaraya Technological University
www.sairamce.edu.in

SAIRAM
COLLEGE OF ENGINEERING
Anekal, Bengaluru

DEPARTMENT OF SCIENCE & HUMANITIES 2022 SCHEME CO's

BEEE103	Elements of Electrical Engineering	CO3	Apply the basic Electrical laws to solve circuits.
		CO4	Understand the concepts of measurements and measuring Instruments
		CO5	Explain the concepts of domestic wiring, electricity billing, circuit protective devices and personal safety measures.
BBEE103/203	Basic Electronics (For ECE and Allied Branches)	CO1	Develop the basic knowledge on construction, operation and characteristics of semiconductor devices
		CO2	Apply the acquired knowledge to construct small scale circuits consisting of semiconductor devices
		CO3	Develop competence knowledge to constructbasic digital circuitby make use of basic gate and its function
		CO4	Construct the conceptual blocks for basic communication system.
		CO5	Apply the knowledge of various transducers principle in sensor system..
BMATM101	Mathematics-I for Mechanical Engineering stream	CO1	Apply the knowledge of calculus to solve problems related to polar curves.
		CO2	Learn the notion of partial differentiation to compute rate of change of multivariate functions
		CO3	Analyze the solution of linear and non-linear ordinary differential equations.
		CO4	make use of matrix theory for solving the system of linear equations and compute eigenvalues and eigenvectors
		CO5	familiarize with modern mathematical tools namely MATHEMATICA/ MATLAB/ PYTHON/SCILAB
BMATM201	Mathematics-II for Mechanical Engineering stream	CO1	Apply the knowledge of multiple integrals to compute area and volume.
		CO2	Understand the applications of vector calculus refer to solenoidal, irrotational vectors, line integral and surface integral.
		CO3	Demonstrate partial differential equations and their solutions for physical interpretations.
		CO4	Apply the knowledge of numerical methods in solving physical and engineering phenomena
		CO5	Get familiarize with modern mathematical tools namely Mathematica/MatLab/Python/Scilab
BPHYM102/202	Applied Physics for ME Stream	CO1	Elucidate the concepts in oscillations, waves, elasticity and material failures
		CO2	Discuss the fundamentals of Thermoelectric materials and their application.
		CO3	Summarize the low temperature phenomena and generation of low temperature
		CO4	Explain the various material characterization techniques

SAIRAM
COLLEGE OF ENGINEERING
Anekal, Bengaluru

Accredited by NAAC
ISO 9001:2015 Certified Institution
Approved by AICTE, New Delhi
Affiliated to Visvesvaraya Technological University
www.sairamce.edu.in

DEPARTMENT OF SCIENCE & HUMANITIES 2022 SCHEME CO's

		CO5	Practice working in groups to conduct experiments in physics and perform precise and honest measurements.
BCHEM202/202	Applied Chemistry for Mechanical Engineering stream	CO1	Identify the terms and applications processes involved in scientific and engineering
		CO2	Explain the phenomena of chemistry to describe the methods of engineering processes
		CO3	Solve the problems in chemistry that are pertinent in engineering applications.
		CO4	Apply the basic concepts of chemistry to explain the chemical properties and processes
		CO5	Analyze properties and multidisciplin arysituations processes associated with chemical substances in.
BEMEM103/203	ELEMENTS OF MECHANICAL ENGINEERING	CO1	Explain the role of mechanical engineering in industry and society, fundamentals of steam and non-conventional energy sources
		CO2	Describe different conventional and advanced machining processes, IC engines, propulsive devices, air-conditioning, refrigeration
		CO3	Explain different gear drives, gear trains, aspects of future mobility and fundamentals of robotics
		CO4	Determine the condition of steam and its energy, performance parameters of IC engines, velocity ratio and power transmitted through power transmission systems
		CO5	Acquiring a basic insight into future mobility and mechatronics and robotics.
BCEDK203/203	Computer Aided Engineering Drawing (Common to All)	CO1	Drawand communicate the objects with definite shape and dimensions
		CO2	Recognize andDraw the shape and size of objects through different views
		CO3	Develop the lateral surfaces of the object
		CO4	Create a Drawing views using CAD software.
		CO5	Identify the interdisciplinary engineering components or systems through its graphical representation.
BENGK106-206	Communicative English	CO1	Understand and apply the Fundamentals of Communication Skills in their communication skills.
		CO2	Identify the nuances of phonetics, intonation and enhance pronunciation skills.
		CO3	To impart basic English grammar and essentials of language skills as per present requirement..
		CO4	Understand and use all types of English vocabulary and language proficiency.
		CO5	Adopt the Techniques of Information Transfer through presentation.
BPWSK206-106	Professional Writing Skills in English	CO1	To understand and identify the Common Errors in Writing and Speaking.
		CO2	To Achieve better Technical writing and Presentation skills..
		CO3	To read Technical proposals properly and make them to Write good technical reports.
		CO4	Acquire Employment and Workplace communication skills.
		CO5	To learn about Techniques of Information Transfer through presentation in different level

SAIRAM
COLLEGE OF ENGINEERING
Anekal, Bengaluru

DEPARTMENT OF SCIENCE & HUMANITIES 2022 SCHEME CO's

BKSKK107-207	Samskrutika Kannada	CO1	Contents related activities (Activity-based discussions)
		CO2	For active participation of students instruct the students to prepare Flowcharts and Handouts
		CO3	Organising Group wise discussions Connecting to placement activities
		CO4	Quizzes and Discussions, Seminars and assignments.
		CO5	Kannada Language and Literature.
BKBKK107-207	BaLake Kannada	CO1	To understand the necessity of learning of local language for comfortable life.
		CO2	To speak, read and write Kannada language as per requirement.
		CO3	To communicate (converse) in Kannada language in their daily life with kannada speakers.
		CO4	To Listen and understand the Kannada language properly..
		CO5	To speak in polite conservation..
BICOK107-207	Indian Constitution	CO1	Analyse the basic structure of Indian Constitution.
		CO2	Remember their Fundamental Rights, DPSP's and Fundamental Duties (FD's) of our constitution.
		CO3	know about our Union Government, political structure & codes, procedures.
		CO4	Understand our State Executive & Elections system of India
		CO5	Remember the Amendments and Emergency Provisions, other important provisions given by the constitution.
BIDTK158/258	INNOVATION and DESIGN THINKING	CO1	Appreciate various design process procedure
		CO2	Generate and develop design ideas through different technique
		CO3	Identify the significance of reverse Engineering to Understand products
		CO4	Draw technical drawing for design ideas
		CO5	To discuss the methods of implementing design thinking in the real world.
BSFHK108-208	Scientific Foundations of Health	CO1	To understand and analyse about Health and wellness (and its Beliefs) & It's balance for positive mindset.
		CO2	Develop the healthy lifestyles for good health for their better future.
		CO3	Build a Healthy and caring relationships to meet the requirements of good/social/positive life.
		CO4	To learn about Avoiding risks and harmful habits in their campus and outside the campus for their bright future.
		CO5	Prevent and fight against harmful diseases for good health through positive mindset.